

**THE DEATH OF HERBERT SPENCER.**

On December 8 Herbert Spencer, heralded as the "last of the great thinkers of the Victorian age," passed away at the age of eighty-three.

Herbert Spencer was born at Derby on April 27, 1820, the son of William George Spencer, a distinguished teacher of mathematics. He was educated by his father and by his uncle, the Rev. Thomas Spencer, a liberal-minded clergyman. At the age of seventeen he worked for the London and Birmingham Railroad as a civil engineer, following the profession with some little success. He assisted his father in philosophical experiments; and on his own account he began an enthusiastic study of the insect world, which resulted in a splendid collection of winged insects. The study of botany engaged no little of his time. He invented a new style of botanical press, and devised other improvements in botanical apparatus. His inventive faculties also found expression in the construction of printing presses and the making of type by compression of the metal instead of by casting. He was the inventor of the glyptograph style of engraving.

It was in 1852 that Spencer began to write his elaborate essays on the evolution theory, with which his name will ever be associated. At first his written work met with scant success. The publisher of his "Social Statics, or the Condition Essential to Human Happiness," had the first edition on his shelves for fourteen years before he sold it. The edition of "Principles of Psychology," one of the best known of his books, was disposed of only after the lapse of twelve years.

Although the public was slow to recognize Spencer, it must be confessed that English philosophers held out a helping hand to him. John Stewart Mill offered to assist him in circulating his writings by raising a guaranty fund to indemnify the publishers. Spencer declined the offer, preferring to allow his books to win recognition on their own merits.

It was in 1860 that he first announced his celebrated philosophical system of evolution. Coming, as it did, soon after the appearance of Darwin's "Origin of Species," when the public's interest was more or less aroused in the subject, his views met with somewhat heartier accord than had been their lot before.

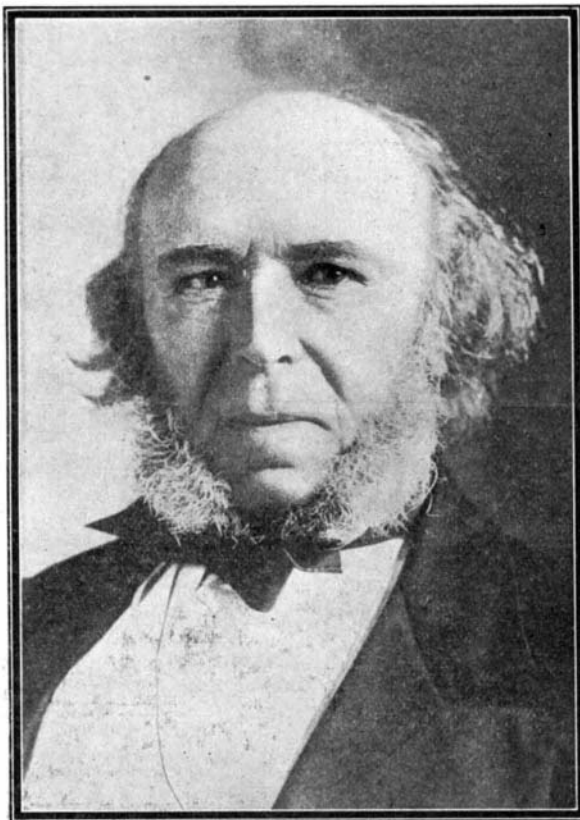
To the credit of Americans be it said that they were among the first to appreciate properly the philosophical merit of Spencer's work. Indeed, American students have been among his most ardent supporters. They enthusiastically adopted his views, bought his books, and fought for his ideas. How great was the appreciation of Americans for Spencer's contribution to the theory of evolution was shown at the time of the philosopher's visit to America in 1882, an event rendered memorable for a remarkable address on relaxation. It was in this address that he divided social life into three stages—war, work, and relaxation—and declared that men were overworking themselves absurdly. "We hear too much of the gospel of work," he said. "It is time to preach the gospel of relaxation." He himself carried out his own theories of relaxation, working in late years only three hours a day—work which was spent on his "Synthetic Philosophy," published in 1896. The Athenæum Club was the scene of his recreations. There he went to drink tea, to smoke mild cigars, and to play billiards, a game in which he had acquired no little mathematical skill in planning his shots. It was in the Athenæum billiard room where an epigram was uttered which has since become famous. Spencer had been playing billiards with a member who knew little of mathematics, but who did know how to play billiards. The unmathematical member beat the mathematical Spencer at the first game of billiards. Spencer tried again. The second game was another defeat for the philosopher. Spencer walked over to the rack, put his cue up, and remarked to his opponent: "Sir, to play a good game of billiards is a mark of a well-rounded education; to play too good a game of billiards is a mark of an ill-spent youth."

It hardly falls within the province of this journal to give an estimate of Herbert Spencer's philosophical work—work which was done largely in the field of speculative rather than in applied science. What the world owes to him chiefly is the destruction of old prejudices and traditions, the forcing of educators to make allowances for youthful immaturity in the bringing up of children. He did what he could to introduce a more rational consideration of things, particularly in the sphere of religion. Perhaps the book by which he is best known is his "First Principles," issued at his own expense in 1862—a book which brought him into notice, it is true, but which made him the object of a storm of abuse from philosophical conservatives. His argument that force never disappears, but is only transferred, is now a commonplace scientific axiom, but in his day it was the height of impiety. His "Principles of Psychology" shows how much he owed to Darwin, particularly in the physiological point of view which he took. It was only after he had issued the prospectus of his "System of Syn-

thetic Philosophy" that he was recognized as a teacher of the doctrine of evolution.

Herbert Spencer was an Englishman to the manner born—cold, self-contained, rather narrow in his point of view toward foreigners. He never deigned to learn a foreign language. Perhaps his rather contemptuous dismissal of Kant's philosophy may be partly explained by this singularly British attitude. He refused membership of all scientific academies. For him it was most remarkable that he ever undertook to travel to America. The reason is probably to be found, as we have said before, in the enthusiastic reception accorded by America to his work. He was not much of a reader, although his works are erudite to a degree. Most of the facts presented were collected by assistants. His intensely British character caused him to become a most vigorous opponent of socialism. He looked upon mankind as the highest form of specialization in nature, and would hear nothing of restricting the liberty of the individual more than was absolutely necessary for the cohesion of society. Of the works composing his philosophical system, the following deserve particular mention:

"First Principles," 1862 (seventh edition, 1889); "The Principles of Biology," two volumes, 1864 (fourth edition, 1888); "The Principles of Psychology," two volumes, 1872 (fifth edition, 1890); "The Principles of Sociology," one volume, 1876 (third edition, 1885); "Ceremonial Institutions," 1879 (third edition, 1888); "Political Institutions," 1882 (second edition, 1883); "Ecclesiastical Institutions," 1885 (second edition, 1886); "The Data of Ethics," 1879 (fifth edition, 1888); "Principles of Ethics," 1892. Mr. Spencer's other works published since 1860 were as follows:



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"Education—Intellectual, Moral, and Physical," 1861 (twenty-third edition, 1890); "Essays—Scientific, Political, and Speculative," two volumes, 1858-1863 (fourth edition, three volumes, 1885); "The Classification of the Sciences, to Which Are Added Reasons for Dissenting from the Philosophy of M. Comte," 1864 (third edition, 1871); "The Study of Sociology," 1873 (eleventh edition, 1885), and "The Man versus the State," 1884 (eighth thousand, 1886).

**DEATH OF REAR ADMIRAL BANCROFT GHERARDI.**

Rear Admiral Bancroft Gherardi, retired, died at Stratford, Conn., on the 10th instant, where he had lived for several years. He retired from active service in 1894. He was born November 10, 1832. His father was of Italian descent, and his mother was a sister of George Bancroft, the historian. He was a graduate of the Annapolis Academy. In 1858 he was navigating officer of the "Niagara" at the laying of the first Atlantic cable.

During the civil war, in July, 1862, he became lieutenant-commander while attached to the South Atlantic blockading squadron, and was first engaged in active war at Fort Macon.

In the battle of Mobile Bay, Gherardi's vessel, the "Port Royal," which was, with the "Richmond," lashed to Captain Jenkin's vessel, was ordered cast off and gave chase to the rebel gunboats "Morgan," "Gaines," and "Selma," drawing their fire from the United States fleet, and materially assisting in Farragut's victory. In this action he distinguished himself for his coolness and bravery.

In 1866, becoming commander, he was stationed at

the Philadelphia navy yard and remained there till 1870. In August, 1887, he was commissioned to the rank of rear admiral and was ordered to the command of the New York navy yard. In 1889 he became commander in chief of the North Atlantic Squadron. In 1893 he, with the flagship "Philadelphia," had command of the naval parade in the North River, which was very successfully carried out.

Admiral Gherardi was at the Barbados when the trouble with Chile occurred, and distinguished himself by the celerity with which he assembled our naval forces in readiness for threatened war. His last public appearance in Stratford was when he represented on the platform the United States navy at the union church McKinley memorial services, September 19, 1901. He was conspicuous in promoting the development of the present modern navy.

**SCIENCE NOTES.**

The cinematograph seems to have been rather successfully used by Paris surgeons for a very novel purpose, namely, that of exhibiting to medical students how typical surgical operations should be carried out.

Alcohol, suitable as a substitute for ordinary alcohol, is obtainable, according to a German inventor, from faces by submitting the faces to dry distillation, absorbing the gases produced in water, and distilling the mixture thus obtained. The residues from this last distillation may be used as the medium for absorbing the gases.

In a recent dissertation President Eliot, of Harvard, states that "the whole store of knowledge now available is too vast for any man to master, though he had a hundred lives instead of one, and its growth in the nineteenth century was greater than in all the thirty preceding centuries put together. . . . Culture, therefore, can no longer imply a knowledge of everything—not even a little knowledge of everything. It must be content with general knowledge of some things, and a real mastery of some small portion of the human store."

Roman relics have recently been dug up in the heart of Paris. The distinguished French archaeologist, Charles Magnew, has made excavations in the Rue Cassini, where he had long suspected there lay remains of old Roman glories. He discovered the cover of a tomb on which is sculptured in bas relief a Roman blacksmith, wearing his apron. In his left hand he brandishes a long pair of pincers and a forceps. The right arm is broken off, but probably held a hammer. Mr. Magnew judges from the style of the work and from a piece of money of the time of Nero found near the tomb, that the work is of the first century.

**THE CURRENT SUPPLEMENT.**

On December 19, the great bridge which for the past seven years has been in course of construction across the East River was opened with appropriate ceremonies by the Mayor of New York. The bridge spanning the river from the foot of Delancey Street, Manhattan, to the foot of South Fifth and South Sixth Streets, Brooklyn, has a total length of 7,200 feet. From anchorage to anchorage this huge structure has a clear width of 118 feet, providing two elevated railway tracks, and two 18-foot roadways, two footpaths, and two bicycle paths. There is no bridge in the world that can compare with this in carrying capacity. In the current SUPPLEMENT, No. 1459, will be found what may well be considered one of the most exhaustive accounts of the construction of this bridge from the engineering standpoint, an account which is the result of a constant study of the bridge from the time excavation was first begun to the time when Mayor Low dedicated it to the public. Among the other articles of the issue may be mentioned a most interesting one by Prof. Fischer on "Mechanics as Exemplified in the Human Frame." The Lebaudy airship disaster is described and illustrated. The usual trade notes and miscellaneous notes will be found in their customary places.

The death is reported of James N. Skinner, the inventor of the well-known Skinner chuck and a number of other mechanical contrivances. At different times he was connected with the Springfield Armory and Howe Sewing Machine Company; but afterward went with the E. Horton Company, at Windsor Locks, builders of chucks. He was with this concern fourteen years, during which time Mr. Skinner took out a number of patents, relating principally to chucks. He engaged in the manufacture of chucks of his own design in 1880, and seven years later the Skinner Chuck Company was organized, and since that time he had been with the company in the capacity of superintendent and director. Mr. Skinner's death took place on November 8 at New Britain, Conn.