

extent independent. Thus an individual may be rejuvenated, without at the same time becoming capable of begetting offspring. This would naturally occur if vasoligation was performed on both sides. The unilateral operation, or gland transplantation, on the other hand, might lead to renewed activity in the individual's own glands, with the production of spermatozoa and a further period of fertility.

In the female, apart from gland transplantation, which may lead to renewed activity in the individual's own ovaries, the sex cells may be destroyed by irradiation with the X-rays; in the latter case rejuvenation, due to increased activity of the interstitial cells of the ovary, is of course accompanied by sterility.

One other possible method of the future may be mentioned, and that is rejuvenation by the ad-

ministration of potent extracts from the sex-glands. In the case of the female, the hormone which produces 'heat' can be extracted in a, probably crude, condition from the ovaries of a number of animals and is effective on subcutaneous injection. No such active extract has yet been obtained from the testis. At any rate, the effect of the former upon the general bodily condition has not yet been studied.

By some one of these methods, used in time, it may become possible to prolong the span of life. In the case of the rat, death has been postponed for a period equal to one-fourth its average length of life. No information is available in the case of man, but it is claimed, as Crew points out, that senility in a rejuvenated individual is sudden, and death, when this phase of life is reached, soon supervenes.

Obituary.

COLONEL C. H. T. MARSHALL.

COL. CHARLES HENRY TILSON MARSHALL died in London on Jan. 20 in his eighty-sixth year. He was born on July 8, 1841, and was the eldest son of W. Knox Marshall of Hereford. He entered the Indian Army in 1859, and on arrival in India was attached to the 35th Royal Sussex Regiment. On leaving this regiment he joined the 3rd Sikhs, Punjab Frontier Force, but saw little military service, being appointed in 1865 to the Punjab Commission. After filling various appointments with exceptional ability, he was finally made Assistant Commissioner of Lahore, retiring in 1896.

Col. Marshall was best known to Indian and other ornithologists not so much as a scientific worker but as a field naturalist. Wherever he was posted, and his districts were many, he made copious observations and notes on the local birds, and it was his extensive knowledge of game birds and his high reputation as a small-game shot that induced Hume to obtain his collaboration in the "Game Birds of India" in 1879. The three volumes composing this work are full of Marshall's field notes, and the business portion of the work, such as arrangement of plates, etc., also fell to his share. Marshall was, however, never fond of publishing his vast stores of bird lore, and never brought out any book in his own name alone for the benefit of his brother workers. At the same time, "Stray Feathers," Hume's journal of ornithology, which ran through eleven volumes, contains many of his notes, which also appeared from time to time in other Indian papers and journals. In 1877 his brother, then Capt. G. F. L. Marshall, R.E., brought out a book entitled "Bird Nesting in India," and in this volume much of the valuable information compiled was obtained from Col. Marshall. They were also associated in bringing out "The Monograph of the Capitonidæ or Scansorial Barbets," 1870. Their name has since been given to one of the most beautiful of Indian barbets, *Megalæma marshallorum*.

After his retirement in 1896 Col. Marshall returned to England, and since that date, with the

exception of a few articles in English papers, he ceased to write upon ornithology. His brother, General Marshall, who survives him, is, of course, well known to ornithologists and botanists not only in India but also elsewhere. His son, Dr. G. A. K. Marshall, is now Director of the Imperial Bureau of Entomology.

WE regret to record the death on Feb. 18, at Oxford, in his seventy-fifth year, of Mr. Frederick Eden Pargiter, the well-known oriental scholar. Mr. Pargiter was educated at Taunton Grammar School and Exeter College, Oxford, where he took a first class in both Moderations and the final schools. He was also Boden Sanskrit scholar. He entered the Indian Civil Service in 1876 and served as district and sessions judge and was a judge of the Calcutta High Court, retiring in 1906. He was an active member of the Asiatic Society of Bengal, of which he was successively secretary and president. On his retirement, he became closely associated with the work of the Royal Asiatic Society, serving for some years on its council and later becoming one of its vice-presidents. In his oriental studies he showed great originality. His "Dynasties of the Kali Age," published in 1913, was a work which initiated the critical study of the semi-historical, semi-legendary Puranas. This study he carried further in his annotated translation of the Markandeya Purana and "Ancient Historic Indian Tradition." He was a frequent contributor to *Epigraphia Indica* and prepared for the press the centenary volume of the Royal Asiatic Society issued in 1923.

WE regret to announce the following deaths:

Dr. A. W. Crossley, F.R.S., who had just resigned the post of Director of the British Cotton Industry Research Association, on Mar. 5, aged fifty-eight years.

Dr. Ira Remsen, president emeritus of Johns Hopkins University, Baltimore, who was largely responsible for the organisation of chemical teaching and research in the United States, and was also the author of well-known text-books on chemistry, aged eighty-one years.