

that the psychological explanation of this phenomenon lies in the possession by these ruling classes of practically unrestrained power, which has caused them to adopt methods of cruelty.

This system of military domination, being inherently unstable, ultimately began to break down,

and the peoples of Western Europe, released to some extent from the restraints imposed on mankind for so long by their ruling classes, were enabled to begin once more that progressive conquest of Nature which has so often and so rudely been interrupted in the past.

Obituary.

WE record with much regret the death of DR. W. IRNSIDE BRUCE on March 21 at the early age of forty-four. Dr. Bruce was educated at the University of Aberdeen, obtaining the degrees of M.B. and Ch.B. in 1900, and then served as civil surgeon in the South African Field Force. Here he took much interest in the application of X-rays for the diagnosis of war injuries, and afterwards became assistant to the late Sir J. Mackenzie Davidson at Charing Cross Hospital, and on the death of the latter succeeded as medical officer in charge of the X-ray department. Dr. Bruce was intensely interested in the scientific developments of his subject, of which he acquired a very complete knowledge. He published "A System of Radiography with Atlas of the Normal," and in process of time became president of the section of radiology, Royal Society of Medicine, and took a considerable share in the establishment of the diploma in radiology, now given by the University of Cambridge. Some months ago the condition of his health gave rise to anxiety, and it was later found that he was suffering from a severe type of aplastic anæmia, from which he died. Evidence has accumulated that this condition may be caused by the more penetrating radiations both from X-ray tubes and from radium, and there is little doubt that he succumbed as a result of his continuous work in radiology—another X-ray worker who may be described as a martyr to his science.

Lord Lonsdale has received the following letter from Buckingham Palace: "The King has learnt with much regret of the tragic death of Dr. Ironside Bruce, radiologist to the Charing Cross Hospital, and I am commanded to convey to you and the hospital staff his Majesty's sincere sympathy

in the loss of so brilliant a physician, who sacrificed his life in the cause of science and humanity."

SCIENCE and industry alike have suffered a loss by the recent death, at Southall, of MR. S. H. BLICHFELDT, a director of the Maypole Margarine Co. Mr. Blichfeldt was only forty-four years of age. He was of Danish birth, and took up a position as chemist at the Maypole works at Southall in 1906 after having worked for some years at Jørgensen's laboratory in Copenhagen. He was a strong advocate of the application of science to industry, and throughout his work demonstrated the importance of scientific methods in the factory, and the manufacture of margarine in the Maypole Co.'s works was gradually placed upon a really scientific basis as the result of his labours. Mr. Blichfeldt's abilities as a chemist and bacteriologist were widely known to the scientific world, and it is pleasing to note that the Maypole Co. recognised the value of research in industry, and appointed him a director of the company in 1916.

Science for March 11 announces the death on February 2 of PROF. T. MIYAKE, of the Agricultural College of the Imperial University of Tokyo, who was the author of an important work on the entomology of Japan; and on February 24 of DR. F. J. V. SKIFF, director of the Field Museum, at the age of sixty-nine years.

THE death is announced, at eighty-three years of age, of MR. JOHN BURROUGHS, the inspiring American writer on natural history subjects.

Notes.

LECTURING before the Royal Society of Medicine on March 22, Lt.-Col. Nathan Raw gave an account of his work and views on immunity in human tuberculosis. Col. Raw agrees with other investigators that man is attacked by two fundamentally different tuberculous viruses, the human and the bovine. The former is conveyed from person to person by direct infection and mainly attacks the lungs; the other is conveyed by milk from tuberculous cows and develops in the first few years of life. These two types of tubercle bacilli will not live in the body at the same time, and, further, an attack by one virus produces an immunity to the other. The bacilli may be attenuated by cultivating for years outside the body, so that they no longer convey the disease on inoculation into susceptible animals. Vaccines can be pre-

pared from these attenuated cultures, and may be employed for the treatment of tuberculosis in man. Cases of infection with the human bacillus treated with the vaccine of the bovine virus have shown considerable improvement. Animals may be completely immunised against tuberculosis by the use of these attenuated cultures, and Col. Raw expressed the opinion that if all children with a tuberculous family history were vaccinated with the attenuated cultures, an entirely safe procedure, they would be in a much better position to resist infection in after years.

No section of scientific medicine has developed more rapidly in technique than those dealing with vaccines, sera, toxins, antitoxins, and related substances. The real science of these "biologic products" is scarcely a generation old. The use of