

phenomena has been demonstrated by Mr. David Lack, who has shown that the robin, while able to distinguish its mate from other individuals, will yet sometimes attack the headless remains of a stuffed specimen in which little more than the breast is visible.

In conclusion, it is to be noted that the study of all æsthetic characters is not devoid of application to everyday matters. Just as the form of fishes and birds has in the past been invoked to assist the marine architect and the aircraft designer, so, it may be hoped, will the coloration of cryptic animals read a much needed lesson on

the principles and practice of concealment to those responsible for the applications of camouflage in time of war.

HUGH B. COTT.

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Obituary Notices

Cavaliere Filippo De Filippi, Hon. K.C.I.E.

CAVALIERE FILIPPO DE FILIPPI, who died at his home near Florence on September 23 at the age of sixty-nine years, is probably best known in England as the leader of the Italian Scientific Expedition to the Himalayas, Karakorum and Chinese Turkestan in 1913-14.

This Expedition, probably the largest and best equipped that has ever visited Central Asia, was the conception of, and entirely organized by, De Filippi. His basic idea was the connexion of the gravimetric surveys of India and Russian Turkestan by a chain of stations across the mountain ranges—the Himalayas, Karakorum and Kuen-Lun—which separate them. This involved the accurate determination of the astronomical and geodetic co-ordinates of the stations, necessitating the use of instruments and methods of much greater accuracy than those normally used for survey work in such areas. The use of wireless time signals for the determination of the differences in longitude was the pioneer experiment in this method, and was highly successful. The anomalies of gravity deduced from the determinations made by the Expedition confirm the general conclusions drawn from those made by the Survey of India and the Russian Geodetic Service.

Complete sets of magnetic observations were made at each gravity station, and in addition, throughout the period November 1913–August 1914, full meteorological records were taken three times daily. These were extended to hourly readings from 6 a.m. to 8 p.m. during June 1914 and for the whole 24 hours during July, during which time the observers were on the Depsang Plateau. Observations for solar radiation and of the velocity and direction of the higher air currents were also made when weather permitted.

The geology of the whole area traversed was thoroughly examined by the two eminent geologists who accompanied the Expedition, and at the same time anthropological and ethnological studies were made. A topographical survey of the country was

also carried out and the very interesting geographical discovery made that the Rimu glacier divided on the Central Asian watershed. The main branch forms the source of the Shyok, the largest tributary of the Indus River, while a large but subsidiary one, extending to the north, is the source of the Yarkand River, which eventually loses itself in the deserts of Central Asia.

Dr. De Filippi was responsible for all the preliminary organization of the Expedition, and during it, in addition to his work as leader and medical officer, took charge of the transport and supply work, thus leaving the scientific officers free to devote their whole energies to their own special work. All his arrangements worked without a hitch, and the success of the Expedition was undoubtedly due to his great forethought and organizing abilities, and his tact in handling all sorts and conditions of men. He had a most charming manner and made friends with everyone he met, who must all deplore his death.

The results of the Expedition have been published in Italian in seventeen large volumes, but only the general narrative has been translated into English.

Dr. Josef Rosenthal

DR. JOSEF ROSENTHAL, formerly of Munich, died at Hampstead on August 7 last. As a young physicist, Rosenthal was one of the first to recognize the importance of Röntgen's discovery to medicine, and he devoted his life to the development of the X-ray tube, with special regard to its medical use.

Rosenthal's first experiments were reported to the Deutscher Naturforscher- und Aerzte-Tag in Braunschweig in 1897 in a paper "Ueber Röntgenbilder". In the same year, he began to work with H. Rieder, the medical radiologist, and this collaboration, which lasted for more than thirty years, led to many important results. One of Rosenthal's constant aims was to reduce the exposure time necessary for X-ray photography. This made possible two of the outstanding results of his work with Rieder, namely,