

three parts of the series. Perhaps one of the most interesting features arising out of this work was the final demonstration that there are two distinct *o*-dinitrobenzidines yielding distinct acetyl derivatives and distinct dinitrodiphenyls, phenomena which, it is suggested, are due to a form of isomerism which depends on the limitation of the free rotation of the singly linked carbon atoms.

During the war Cain placed his services where they were most needed, and as chief chemist to the Dalton Works of British Dyes, Ltd., at Huddersfield, he was responsible for much of the work which has led to the reorganisation of our dye industry. He also, for a short time, acted as superintendent to H.M. factory at Hackney Wick. The services he rendered to the Chemical Warfare Committee were especially valuable, because to him was allotted the task of searching the literature for substances likely to be of a noxious character. This, to the writer's knowledge, he did in no uncertain manner.

During recent years Cain produced a new edition of the "Chemistry of the Diazo-Compounds," a valuable and interesting book on the "Intermediate Products," and a revision of vol. i. of "Roscoe and Schorlemmer." It will be seen, therefore, that Cain was an organic chemist of no mean order, especially in connection with the theory and practice of his favourite subject. That he was an editor who carried out the duties of his editorship with the thoroughness which characterised all his actions the publications of the Chemical Society for fifteen years bear witness; but it will be neither as an organic chemist nor as an editor that he will be remembered best, because he occupied a position alone, in that he possessed a knowledge of chemistry and of chemical data which can only be described as encyclopædic. He was, in fact, a living "Beilstein," and no question seemed to come to him amiss. Woe betide the man who ventured to ignore the previously published work of others, Cain soon pointed out his error to him. The writer can recall an instance in which he had happened to forget a previous paper published by himself on the same subject and to which Cain at once directed his attention.

Cain had an exceedingly lovable disposition. His loss to his friends will be grievous, and to science one which it will be hard to repair.

J. F. T.

CHARLES EDWARD FAGAN, C.B.E., I.S.O.

MR. C. E. FAGAN, secretary of the Natural History Departments of the British Museum, died at his residence in West Kensington on January 30, after an illness which commenced about a month earlier. A short account of the value of his services to the museum was published in NATURE of January 13, p. 638, in a notice of
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his impending retirement, which was to have taken place on March 31 next.

Mr. Fagan's immediate ancestors were in the Diplomatic Service, and he himself possessed to a remarkable degree qualities which might well have led to high distinction in the same career if he had adopted it. He was born at Naples on Christmas Day, 1855, when his father was Secretary of the Legation in that city. At the age of nine he came to England and was placed under the charge of Sir Anthony Panizzi, being sent to school at Leytonstone. After Sir Anthony's retirement from the post of principal librarian of the British Museum, Mr. Fagan was frequently at his house, where Mr. W. E. Gladstone sometimes joined them in a game of whist. In 1873 he entered the British Museum, and he afterwards followed the natural history collections to the South Kensington branch, where the remainder of his work was done. He became assistant secretary in 1889, and he was appointed secretary of the Natural History Departments in 1919, in special recognition of his services, as a part of the reorganisation consequent on the retirement from the directorship of his contemporary, Sir Lazarus Fletcher, who died on January 6 last.

Mr. Fagan was a man of wide and varied tastes. He had a strong love for natural history; but he was also interested in art, on which he was well informed, and in European history. He could speak with authority of the Napoleonic campaigns, on which he had a good library, and he had also a wide knowledge of the history of the Victorian era. He was joint-author with Mr. Andrew W. Ture of a book on this subject, entitled "The First Year of a Silken Reign." He was interested in every form of sport, and he never missed a University boat race from the year in which he came to London to the last year of his life. His knowledge of the history of English racing was of good service to the museum in the formation of a collection of distinguished racehorses. During the recent war he organised propaganda work, which was important in informing our Allies of the efforts made by this country in the great struggle. In view of his ancestry, which was partly Italian, and of his artistic tastes, it is not surprising that he had a special affection for Italy, which he often visited.

It is impossible to speak too highly of the services Mr. Fagan rendered to the Natural History Museum. Events beginning with Sir William Flower's illness while still director placed important responsibilities in his hands, and the administrative experience thus gained was of the greatest use to Flower's successors in that post, while he worthily upheld the interests of the museum during periods of interregnum. He possessed conspicuous tact and remarkable insight, and he had an extraordinary capacity for forming a correct judgment on a difficult question. These qualities gave him an exceptional position in the museum, and his colleagues who sought his assist-

ance rarely left him without feeling that they had gained by hearing his opinion. The view which he took of the functions of the National Museum was a broad one. Its obvious purposes were to serve as a treasure-house for the accumulation of specimens and to educate students and the general public in all that pertains to natural history. But he thoroughly realised the importance of making it a centre of research, and there can be no question that his initiative was responsible for many new departures which have materially assisted in the advancement of knowledge. In his opinion, an institution supported out of public funds had the responsibility of giving practical service to the nation, and he welcomed opportunities of showing that this could be done. The consultative functions of the museum have been increasingly appreciated in recent years, and particularly during the war, a result largely due to his influence. Its advice has been repeatedly sought by other Government Departments in such matters as the protection of birds and other animals in our Colonial possessions, the part played by insects and arachnids in the spread of disease, and the extraordinary development of the whaling industry during the last fifteen years, in questions relating to fishery problems, and in many other practical applications of zoology, botany, geology, and mineralogy.

On many occasions Mr. Fagan was specially concerned in promoting scientific expeditions, among which may be mentioned those to Ruwenzori, 1907, and to Dutch New Guinea, 1909-11 and 1912-13, the collections in the museum being largely augmented in these ways. By his personal influence he was responsible for inducing private benefactors to present numerous collections and important specimens. He was hon. treasurer to the International Ornithological Congress in 1905 and to the Society for the Promotion of Nature Reserves, British representative on the International Committee for the Protection of Nature in 1913, and a member of the Council of the Royal Geographical Society and of other scientific bodies. He organised the exhibits of the British section of the International Shooting and Field Sports Exhibition, Vienna, 1910, of the Festival of Empire and Imperial Exhibition (game fauna section), Crystal Palace, 1911, and of the British section, Ghent Exhibition, 1913, illustrating the relation of entomology to tropical diseases.

At the age of twenty-one Mr. Fagan married Miss Stroaach, who died in 1905, and he leaves one son. His career was one long record of single-minded service, strenuously and successfully performed. His influence on the Natural History Museum, from the commencement of its existence as an independent branch of the British Museum, has left a permanent mark on its character. His disposition was essentially sympathetic, and he never permitted himself to express uncharitable opinions of others. He is deeply mourned by his

many friends, and particularly by his colleagues, who recognised his lovable qualities and the great value of his services to the museum and to science.

SIDNEY F. HARMER.

C. SIMMONDS.

WE regret to announce the death, on January 15, of Mr. Charles Simmonds, one of the Superintending Analysts in the Government Laboratory. Born at Stourbridge in 1861, Mr. Simmonds was educated privately, and, selecting the Civil Service as a career, secured one of the chemical studentships at South Kensington established by the Commissioners of Inland Revenue for training the staff of their laboratory, then at Somerset House. This was afterwards raised to the status of a separate Government Department under Sir Edward Thorpe as the first "Government Chemist." Mr. Simmonds was entrusted (*inter alia*) with the investigation into the composition of "Pottery Glazes and Fritts" for the information of the Royal Commission appointed to report on that subject, and contributed an article under this title to Thorpe's Dictionary of Applied Chemistry, as well as several papers of a kindred nature to the Journal of the Chemical Society, viz. "Lead Silicates in relation to Pottery" (1901); "Constitution of certain Silicates" (1903); "Reduced Silicates" (1904); and (in conjunction with Sir Edward Thorpe) "Influence of Grinding upon the Solubility of Lead in Lead Fritts" (Manchester Memoirs, 1901). Mr. Simmonds was also the author of a treatise on "Alcohol," published by Messrs. Macmillan and Co., which is admittedly the most up-to-date and comprehensive work in English on the subject, and he was up to the last a frequent contributor to the pages of NATURE.

MR. EDWARD C. BOUSFIELD, whose death is announced, received his professional training at St. Bartholomew's Hospital, and after qualifying spent a number of years in general practice, at the same time carrying out a good deal of research work in microscopy and bacteriology. He was one of the first to take up photomicrography, and published a useful manual on the subject. He afterwards established a clinical research laboratory, and became bacteriologist to the metropolitan boroughs of Camberwell and Hackney.

It was reported from Copenhagen on February 1 that the official Soviet Press Agency had denied the report of the death of Prince Kropotkin, whose obituary notice we published last week. We have been hoping that later messages would confirm this news; but a wireless Press report from Moscow states that Prince Kropotkin died there on Tuesday, February 8.