OBITUARIES

Mr. C. J. P. Cave

C. J. P. CAVE, who died suddenly after a short illness on December 8, was one of the pioneers in the investigation of the upper air, initiated by a joint committee of the British Association and the Royal Meteorological Society. Cave was born in 1871, educated at the Oratory School, Edgbaston, and Trinity College, Cambridge, and elected a fellow of the Royal Meteorological Society in 1899. Four years later he saw a letter in *The Times* from W. N. Shaw, chairman of the Committee mentioned, inviting the co-operation of voluntary observers, living in open country remote from towns, in flying kites carrying meteorographs for recording pressure, temperature and humidity. Cave volunteered, and provided, at Ditcham Park, Hants, his own gear for winding the miles of piano wire used in flying the kites, which, as well as the meteorographs, were designed by W. H. Dines. Soon, however, Cave felt the need for information about the wind at higher levels than kites could reach, and began a series of observations with pilot balloons. He used the theodolites invented by A. de Quervain and a base nearly two miles long. Already in 1908 he was able to show from his observations that the normal increase of wind with height stopped at the tropopause and was replaced by a rather rapid decrease in the stratosphere—a result in agreement with, though in advance of, the theoretical deduction from the reversal in the stratosphere of the horizontal temperature distribution in the troposphere. His book "The Structure of the Atmosphere in Clear Weather", published in 1912, was based mainly on his own observations at Ditcham Park.

During the First World War, Cave was commissioned as captain and, after a short period of service in France, he took charge of the training of personnel for service with the meteorological sections in France and the Middle East. In this work his special knowledge of the upper air was particularly valuable.

Cave was an expert photographer of clouds; he published some of his photographs in 1926 in his small but enlightening book on "Clouds and other Weather Phenomena", a new edition of which was issued in 1943. In later years, he applied his skill to the photography of the roof bosses, the sculptured keystones of the arched roof-ribs, in medieval churches. A selection of these (354 British and 12 French) was published in 1948, with seven descriptive and critical chapters of text in a book which had an enthusiastic reception.

Cave was twice president of the Royal Meteorological Society, president of the Hampshire Field Club and Archaeological Society, and chairman of the Petersfield divisional bench of magistrates. His quiet, courteous bearing and generous nature endeared him to all who knew him.

E. GOLD

Mr. Guy O. Harrison

THE death on December 5 is announced of Mr. Guy O. Harrison, for many years senior technical assistant in the Department of Physics in the University of Birmingham. He was associated with J. H. Poynting in the old Mason College days, when Poynting was still engaged in his studies of gravitation, and remained until his retirement in 1938. He

was an ingenious and skilful craftsman, especially in the construction of apparatus for research. His resourcefulness was indeed necessary at a time when the only machine tool in the Physics Department workshop was a second-hand lathe driven by an old gas-engine.

Harrison became an expert glass-blower, and when Röntgen discovered X-rays, Poynting instructed Harrison to make an X-ray tube; with this tube he took some of the earliest radiographs made in Great Britain. The opportunity was eagerly seized by distinguished surgeons associated with the Queen's and General Hospitals at Birmingham for the application of the new discovery to surgical practice, and Harrison's radiographs must have been some of the first of their kind. The surgeons were enthusiastic when a needle was precisely located in the hand of a girl, and more requests for help in diagnosis flowed in. More fortunate than his contemporary, Hall-Edwards, another Birmingham man and a pioneer in X-radiography, Harrison narrowly escaped the dermatitis which was contracted by Hall-Edwards.

On the discovery of quartz fibres by Boys, Poynting asked Harrison to make some of these useful articles, an operation in which he soon became proficient. He gave valuable help in the construction of the apparatus for the researches of Poynting and Barlow on the pressure of waves of light, and in Poynting's last work, on the changes in dimensions of steel wires on twisting and on the pressure of torsional waves in steel; Harrison not only made the apparatus but also assisted in the observations. He was, in fact, one of those necessary adjuncts to a physics department whose value is to-day recognized by the authorities who control wages—a recognition which was of very tardy growth.

Mr. Harrison's wife died in March last, and he never quite recovered from the shock. He is survived by his elder son, his younger son having been killed in the War.

G. A. SHAKESPEAR

Mr. Percy Good, C.B.E.

HAVING known Percy Good intimately for more than forty years, and imagining him quietly recuperating at home from much overwork, it was a great shock to learn of his death on December 2.

Percy Good was born in London in November 1880. He left the City of London School in 1897, and the City and Guilds Central Technical College in 1900 with the diploma for electrical engineering. He was later elected a fellow of the College.

He and I were together for a couple of years in the old Thames Iron Works, after which he took up an appointment under the late Dr. Alexander Russell at Faraday House as superintendent of the testing department. Subsequent to this, he started in private practice as a consultant. His work for the most part was concerned with the installation of electric light and power in large private houses and public buildings, in which he was very successful.

Percy Good joined the Engineering Standards Committee, as it was then called, in 1913, and later became assistant secretary in charge of all the electrical work being carried on by the Committee. In 1916 the Committee suffered the great loss of its first secretary, Leslie Robertson, who went down in H.M.S. *Hampshire* when she was torpedoed in the North Sea on her way to Russia with Lord Kitchener. I succeeded him, and Percy Good became, as it were, second in command. With his initiative and genius