

## MR. C. E. BENHAM.

MR. CHARLES EDWIN BENHAM, of Colchester, whose sudden death on April 1, at sixty-eight years of age, we regret to record, was a representative of the type of scientific amateur of which British science has reason to be proud. He followed scientific pursuits, and studied natural processes and events, purely for the love of Nature in all her ways, and by faithful observation and original mind he was able to make some notable contributions to knowledge.

Mr. Benham was for many years editor of the *Essex County Standard* and spent most of his life in the town of Colchester, where he took a leading part in educational and other movements. It is not surprising that "William Gilbert of Colchester" should have attracted his literary and scientific attention, for Mr. Benham's methods were of the same experimental and independent character as those of Queen Elizabeth's learned physician. In an excellent little book published in 1902 he showed what manner of man Gilbert was, wherein lay his genius, and the spirit of his work, which was "that all scientific knowledge must be founded on practical experiment and observation alone, instead of upon speculations and theories evolved out of inner consciousness."

In 1895 Mr. Benham devised a colour-top by which a curious optical illusion is produced which is not easy to explain. Half of a white cardboard disc is coloured black and on the other half a number of black lines are drawn as arcs of a circle. On rotating the disc, and viewing it in a bright light, the arcs of some of the circles appear coloured. On reversing the rotation the order of the colours reverses. The subjective colour effects then exhibited were the subject of a number of letters in *NATURE* at the time the top was produced, and Mr. Shelford Bidwell devoted a paper to them which was published in the *Proceedings of the Royal Society* of Dec. 17, 1896.

On the experimental side also, Mr. Benham developed the twin-elliptic pendulum and published a number of papers on harmonic vibrations and vibration figures. He was the author of many communications published in *NATURE*, *Knowledge*, *Science Progress*, *Engineering*, and other scientific journals, and the subjects covered a wide range of practical inquiry, including thermographs, atmospheric electricity, electroscopes, alarum sundials, and iridescent glass. Mr. Benham was in addition an artist whose water-colour drawings are of real distinction, and the author of works on local Essex dialects and the history of Colchester. He was an ardent lover of knowledge in all its highest aspects, and his death will be regretted by a wide circle of students who have been stimulated by his work, as well as by his numerous personal friends.

## PROF. F. KEHRMANN.

DR. FRIEDRICH KEHRMANN, professor of organic chemistry at the University of Lausanne, died on Mar. 4. We are indebted to the *Chemiker-Zeitung*

for the following details of his career. Born at Coblenz in 1864, Kehrmann became deeply interested in chemistry while still a boy, but being at first unable through lack of means to attend regular classes, he studied by himself. He became so proficient in analytical work that he obtained a post as analytical assistant to Fresenius at Bonn. In 1887 he graduated at Basel under Nietzki, with whom he carried out an investigation of quinones. After graduation he became assistant to Claus at Freiburg, where from his observations upon di-ortho-substituted quinones he formulated the well-known hypothesis of 'steric hindrance,' a generalisation which has been very extensively applied in the study of other branches of organic chemistry.

Kehrmann's hypothesis was based upon the hindering effect of two ortho-substituents upon oxime-formation, and in support of his idea he quoted many other well-known examples of inhibited reactions, which had hitherto remained unexplained. He was even able to foresee the discovery of steric hindrance in the ortho-substituted benzoic acids. This prediction was verified shortly afterwards by the work of V. Meyer, but for some reason or other Kehrmann's claim to priority seems to have been overlooked.

Kehrmann moved to Aix-le-Chapelle and thence to Geneva, where he found in Graebe's laboratory a congenial atmosphere and inspiring companions. At Geneva his chief interest was in dyestuff chemistry, to which he made many notable contributions, particularly in the field of azines, thioazines, and oxazines. To him may also be attributed the origin of the theory of the oxonium salts. For a short time he held a post with the firm of Casella and Co., but ill-health compelled him to relinquish it. Later he took up a teaching appointment at the Municipal School of Chemistry at Mülhausen in Alsace, and in 1910 he was appointed to the chair of chemistry at Lausanne. His collected works, which include the spectroscopic examination of whole classes of dyestuffs, have been published in five volumes.

WE regret to announce the following deaths:

Mr. W. Worby Beaumont, honorary consulting engineer of the Royal Automobile Club, for ten years a joint-editor of *The Engineer* and author of several well-known books on motor car engineering, on April 14, aged eighty years.

Prof. F. S. Earle, sugar cane technologist at the Tropical Plant Research Foundation at Herradura, Cuba, and president in 1906 of the American Botanical Society, on Jan. 31, aged seventy-two years.

Mr. Charles Hunt, an honorary member and past president of the Institution of Gas Engineers, aged eighty-six years.

Prof. Clemens von Pirquet, professor of pædiatrics in the University of Vienna, known for his studies of the mathematical relationship of body measurements to nutritional requirements and for his cutaneous tuberculin reaction, aged fifty-four years.

Dr. Paul Sarasin, president of the ethnographical section of the Natural History Museum of Basle, on April 7, aged seventy-three years.