

one molecule. The interpretation by the results of X rays of the structure of these crystal units in space of three dimensions promises to yield more and more perfect knowledge of the physical properties of matter in the gross, since it is evident that these physical properties are nearly all implicit in and traceable to the crystal unit itself. We have, therefore, a new conception of a physical reality in the shape of a unit from which existing properties of crystalline matter can be deduced, facts about it can be more closely related, and possibilities more reasonably predicted than could be done with any of the earlier configurations of the molecule familiar to the chemist.

Again, there is the wonderful development which may be very briefly described as the progressive use of light of shorter and shorter wave length. Where the microscope fails, even with ultra-violet light, to reveal structure and the nature of structure, the shorter wave lengths continue the story right down to the very molecules and atoms, so that we seem almost now to be able to see them—at least, we can see models of them which are based on very sound observations and deductions. I have chosen this illustration because these things might perhaps not be of special interest to medical students; but if further development of all this work with the utilisation of a larger range of short wave lengths carries the investigations from crystals to all such substances as cellulose, horn, tendon or muscle, which have definite structure, there can be no question that the time will come when it will all be a matter of profound interest to medical men.

I need do no more than mention to this audience the great developments that are taking place in psychology, in physiology, in other departments of biology and in biological chemistry; and on this occasion—the commencement of a session—I feel that one may indeed congratulate those who are entering on the study for their profession that they are doing so at a period when there has probably never been a feeling of greater hope of wonderful new discoveries or greater enthusiasm exhibited in the search for them.

Obituary.

ANNE FENTON CLEAVER, L.R.C.P. EDIN.,
D.P.H. CAMB.

Dr. Anne F. Cleaver, Assistant Medical Inspector of Schools under the Transvaal Education Department, died at Johannesburg on Sept. 4th. She was a member of a well-known Orange Free State family, and had been a hospital nurse before qualifying L.R.C.P., L.R.C.S. Edin., and L.R.F.P.S. Glasg. from the London (R.F.H.) School of Medicine for Women. In 1903 she held an appointment as senior house surgeon at the Clapham Maternity Hospital, and then, taking up public health work, she proceeded to University College and took the D.P.H. Camb. in 1904. A year later she returned to South Africa and started private practice at Johannesburg. She felt a keen interest in public affairs, and was appointed one of the members of the first school board on the Rand, in which capacity she did excellent service. In 1915 she was appointed assistant medical inspector of schools, in charge of the Witwatersrand area, a position which she held up to the time of her death. In addition she was departmental examiner in physiology and hygiene, and director of the new school clinic, an institution which practically owes its existence to her insistence on the necessity of following up and treating defective school-children.

Dr. C. Louis Leipoldt, Chief Medical Inspector of Schools, Transvaal Education Department, writes: "Through the death of Dr. Cleaver the department loses a conscientious and highly capable official, to whose energetic efforts the success of school medical inspection in the Transvaal is largely due. Her personal charm and large heartedness endeared her to all who

had to work with her, and her popularity, both as an inspector and as a lecturer, made her a very welcome visitor in all the schools under her charge. She did excellent pioneer service, especially in regard to the investigation of malaria, ankylostomiasis, and bilharziasis in the low veld. The malarial survey of our schools was started when she entered the service in 1915, and she was responsible for the investigation of the disease in the Rustenburg and Pietersburg areas—a work that entailed travelling on an average 1200 miles by motor car per month, camping on the veld, and exposure to considerable danger of infection. The results of her inquiry are collated in the report on malaria published in 1920; the results of her investigations into bilharzia and ankylostomiasis still await publication. Her contributions to the medical journals were few, and owing to her diffidence in publishing the results of her work the data she accumulated on such interesting subjects as the onset of puberty in South African girls—an investigation which she started as soon as she became medical inspector—the incidence of rheumatic fever in Transvaal children, and the association between rheumatic fever and chronic malaria have not yet appeared. She took a broad view of the possibilities of medical inspection of schools, especially in connexion with the prevention of defects by ante-natal effort and by vigorous propaganda work. At the school clinic—a fine institution which she had helped to plan and which she had been largely instrumental in establishing while I was absent in the Cape Province—she instituted a modern, up-to-date ante-natal clinic (a feature of which was the systematic routine blood testing of every patient), besides devoting every Saturday morning to the treatment of minor ailments, and latterly, every Wednesday to ionisation treatment of children suffering from otorrhœa. As a colleague she was keenly interested in the development of the service, and indefatigable in her efforts to cope with an enormous area with its 1500 scattered schools. Her death is a great loss to us and to the service, for she was an ideal medical inspector, and a pioneer whose record is an inspiration for those who will have to follow her."

THOMAS DAVEY LUKE, M.D.R.U.I.,
F.R.C.S. EDIN.

Dr. T. D. Luke, who died on Sept. 25th at the age of 49, was well known in the West of England for his interest in hydrotherapy. He studied medicine at Belfast, Dublin, London, and Edinburgh, and graduated M.B. at the Royal University of Ireland in 1894. In 1902 he took the F.R.C.S. Edin. and six years later proceeded to the M.D.R.U.I. His first interest after qualification was anæsthetics. He was appointed lecturer in anæsthetics in Edinburgh University and later wrote a Guide to Anæsthetics, and, in conjunction with J. S. Ross, Anæsthesia in Dental Surgery, which has gone through four editions. He soon became interested in hydrotherapy and he was made resident physician successively at Smedley's Hydro at Matlock, at the hydro at Grange-over-Sands, and at Peebles Hydro. Later he became medical director of the Ochil Hills Sanatorium at Kinross. Dr. Luke wrote the article on Hydropathic Treatment in Osler and Murphy's Encyclopædia of Medicine and several other publications on his special subject, including a Guide to British Health Resorts, which appeared in 1919. His last work, a Manual of Physio-Therapeutics, described a number of methods of treatment not employed as they might be by medical men generally. He had exceptional opportunities for the study of physical agents and did much to popularise them.

CARNEGIE HERO FUND.—A medallion has been awarded to Dr. J. W. L. Spence, also an annuity of £130, in recognition of his valuable work in electro-medical research and radiology. Dr. Spence, in spite of an amputation of his right forearm necessitated by X ray dermatitis, still carries on his work as medical officer in charge of the electrical department of the Royal Hospital for Sick Children, Edinburgh, and radiologist to other institutions.