

by the action of light. Among these substances is cholesterol, a solid alcohol, which is very widely prevalent in Nature and is a constituent of the natural grease of the animal skin. Irradiated cholesterol, it was soon proved, contains Vitamin D, whereas cholesterol which has not been irradiated may not contain it.

"This work revealed something of the manner in which sunlight acts on the skin. The ultra-violet and violet rays do not shine through the skin; they shine on it, and by shining on it they charge the cholesterol of the skin with Vitamin D, which can be gradually drawn away from the skin by the blood as occasion demands.

The Real Sunlight Sponge.

"The study had reached this point when it was discovered that pure cholesterol will not produce Vitamin D under the influence of light. Working at the National Institute of Medical Research at Hampstead, Dr. Rosenheim and Mr. Webster proved that the really important substance is an impurity usually combined with cholesterol, a distinct substance, called ergosterol. Ergosterol is the real 'sunlight sponge.' This remarkable discovery, part of the credit of which belongs also to Professor Windavys, of Göttingen, to Professor Heilbron, of Liverpool, and to Dr. Hess, of New York, is likely to revolutionise all our ideas about diet."

Ergosterol.

Ergosterol is described by Mr. A. Webster as "a white crystalline substance, first isolated by the French chemist Tauret from the fungus, ergot of rye. Later it was found to be plentiful in the fat obtained from certain yeasts. It is composed of many atoms of carbon and hydrogen together with one atom of oxygen linked up in a complex ring structure. It differs from all other known sterols in having three unsaturated double bonds. After a short period of radiation, ergosterol changes from a white crystalline solid to a pale yellowish, oily substance which possesses the highest Vitamin D potency of any known substance. It is at least 100,000 times as strong as the best cod-liver oil. A daily dose of one-hundredth million of a gramme will produce normal calcification of the bones in a rat fed on a rachitic diet. It is equally efficient in human beings.

"The manufacture of this substance is now an important British industry, and large quantities of active material are now available. It is now possible to incorporate measured amounts, large or small, of Vitamin D in a variety of foodstuffs, such as butter, bread, margarine, and milk. The natural method of procuring Vitamin D is to eat foods containing ergosterol and then to have this activated in the skin by the ultra-violet rays of the sun. Indoor life, clothes, and smoke pollution of the air prevent this natural process.

"Vitamin D is known as the antirachitic vitamin and is principally associated with the cure and prevention of rickets. It is, however, well known that in this country the adult population lives on a diet with a bare minimum of calcium. Calcium is fundamentally concerned in all cell metabolism and a slight deficiency is a great drawback, especially in the case of illness. It may be stated with truth that a daily dose of Vitamin D throughout the winter would greatly improve the health of our adult population."

Many other questions of absorbing and fascinating interest are dealt with in the remarkable number (Sunlight and Health) of *The Times*, such as Schools in the Open Air, Sky-shine, Sunlight Clothing, Artificial Daylight, Sunlight Milk, Industrial Hygiene, the League of Nations and Health, Light Treatment in Hospitals, and many others. But enough has we hope been said to inspire our readers with the determination to procure this number and to study it from cover to cover.

THE PUBLIC HEALTH.

CONFERENCE ON RHEUMATIC DISEASES.

An important Conference on Rheumatic Diseases, presided over by Sir George Newman (Chief Medical Officer of the Ministry of Health), was held at Bath, on May 10th and 11th. Each of the three Sessions had its separate chairman, namely, "Social Aspects," Lord Dawson of Penn; "Causation," Sir Humphry Rolleston, Bart.; and "Treatment," Sir Farquhar Buzzard, respectively.

The *British Medical Journal*, which reports the Conference at length, states that "during the day and a half of the meeting thirty communications were presented. Their authors were in most cases compelled to make a severe condensation—a task evidently neither easy nor congenial—but only so could time be allotted for general discussion. Even as it was, the great mass of written material, as well as the shortness of time available, rather hindered that free interchange of views and experience which the word 'conference' implies. The Organisation Committee had taken the greatest pains for months past in planning every detail, with the result that all the papers were printed in advance and were available for distribution, and will be published subsequently in a volume."

Campaign for the Conquest or Control of Rheumatism

Sir George Newman, in his presidential address, said that "the Conference had assembled to consider the nature of the campaign to be organised for the conquest or control of rheumatism. The urgency of this matter had been made manifest by the advance of knowledge of the heterogeneous group of morbid joint conditions and by the data furnished for the first time by the school medical service and the health insurance system. It was now known that acute rheumatism of children was sowing seeds of a growing harvest of disease of the heart and nervous system, and that the chronic forms of rheumatism were seriously crippling many hundreds of thousands of people. The disease was a drag on industry, a heavy handicap on the worker, a source of oppressive financial loss to the State, and a potent cause of excessive mortality and ill-health. The main difficulties were three: (1) neither the respective relation of the varied forms of rheumatism to each other, nor their distribution over the world generally or in this country, could as yet be exactly defined; (2) the *causa causans* of this morbid group was not known with certainty; (3) the varied medical experience was not yet in working accord as to the best means of treatment. Happily advances were being made in all three directions, but they awaited integration. 'In treatment some swear by heat and light, and others by water, some by massage and manipulation, and others by rest, and some, rightly enough, swear not at all, but proceed from case to case with tentative empiricism.' The hypothesis which at present held the field was that acute rheumatism was the reaction of the human body to the presence of the *Streptococcus viridans*, possibly a constant habitant of the body, in which event attention must be concentrated on the conditions, circumstances, or predispositions, external or internal, which induced it to assume an activity resulting in rheumatic fever. Speaking broadly, the attempt must be made steadily to improve the personal and environmental hygiene of childhood, a closer and more vigilant supervision must be exercised over susceptible children by the infant welfare and school medical services, and the methods of diagnosis and treatment of those found suffering from the beginnings of this disease must be organised. In chronic rheumatism of the adult there must be further intensive and comprehensive investigation, not only in the laboratory, but at the bedside, and even in the factory and workshop. As in acute rheumatism, so here research was needed into the social and

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