

THE BIOLOGICAL ACTION OF SUNLIGHT.

The most priceless things in the world are, by nature's plan, free to all. Fresh air, pure water, and sunlight. But our modern civilisation tends to deprive all but the wealthy of fresh air and sunlight, and to make a plentiful supply of pure water extremely difficult of access, with the result that our sunless, airless slums and crowded tenements are the breeding places of tuberculosis, which is essentially one of the diseases of darkness. We are in entire agreement with the Medical Correspondent of the *Observer*, who, in a most interesting article, entitled "Sunlight against Death," writes that "the restoration of sunlight to our malurbanised millions, now mostly bleached, blackened, and blighted in slums and smoke, is the next great task of hygiene in our country."

In 1913 we drew attention to the marvellous effects of the sun cure of tuberculosis as practised by Dr. Rollier at Leysin, and we have also frequently referred to the successful work in the treatment of various forms of tuberculosis carried on at Lord Mayor Treloar's Hospital at Alton, and now also at Hayling Island, under the highly expert and sympathetic direction of Sir Henry Gauvain.

Our contemporary points out, in this relation, that "the facts are indisputable, and of the highest importance, but no one can explain them, and it is clear that the fundamental physiology of the subject has not been explored. Empirical results of such a kind as these are admirable enough, in all conscience; but to elucidate the biological principles on which they depend would certainly enable us to extend the powers of hygiene and therapeutics incalculably."

We therefore welcome the announcement that the Medical Research Council has appointed a Committee to guide it upon researches into the biological action of sunlight and other forms of light in relation to human health and disease, with Professor W. M. Bayliss, of University College, as chairman. "At this moment the most wonderful cures of desperate disease anywhere recorded are being regularly obtained wherever the sun cure is practised, and no one knows the alphabet of their *modus operandi*."

THE INFLUENCE OF LIGHT ON NUTRITION.

Another astonishing fact recently brought to light by Dr. A. F. Hess and his fellow-workers at Columbia University, New York, and embodied in a series of papers to which our contemporary refers, is the influence of

light on nutrition. Its Medical Correspondent writes on this subject: "Already Dr. Sonne, of the Finsen Institute, Copenhagen, has shown that sunlight can be, and is, absorbed by the blood and made available as heat in a curiously specific manner, due to the fact that unique absorptive affinity exists between blood and sunlight. But the American workers have found that sunlight is more definitely still the equivalent of food. By a long series of experiments upon the lower animals, and observations on human infants, they have shown that sunlight can prevent or cure rickets, even when the diet is such as otherwise invariably produces the disease. We are not to say that 'fat-soluble vitamin A,' accepted by our Medical Research Council as the anti-rachitic factor, is unworthy of attention, but we are to recognise that, even in its absence, sunlight will have an efficient and equivalent anti-rachitic action, and that, in darkness, an abundance of vitamin A may not prevent rickets. Further, these authors can indicate a measurable equivalence between certain doses of sunlight and certain doses of cod-liver oil in their influence on nutrition; and, for the first time, they have demonstrated a chemical (as distinguished from a merely calorific or heating) action of sunlight on the blood, in terms of the blood content of phosphorus, which is most markedly increased by sunlight. These discoveries are of the most fascinating kind, from the standpoint of science; they are of the most important kind, from the standpoint of applied public health; and they furnish an entirely new warrant for my inclusion of rickets, in these columns two years ago, in my category of 'diseases of darkness.'"

Another offence against modern hygiene and therapeutics, against which the Smoke Abatement Society is striving, is the coal smoke curse. The Minister of Health recently received a deputation on the subject, and was "evidently in instructed sympathy with the objects of the deputation. But Sir Alfred Mond did not promise to draft a Bill nor to adopt the Bill of the Coal Smoke Abatement Society, which is to be congratulated on its responsibility for the deputation. The deputations were sent away with expressions of sympathy, but without promise of help. Meanwhile," says the Medical Correspondent of the *Observer*, "the treatment of tuberculosis, the prince of the powers of darkness, remains a costly and tragic farce in this country; a mixture of blindness and cruelty about which words too mordant and too bitter could not be used."

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