

exhibit very rapid changes in orientation. Lastly, it may be mentioned that the eye is by no means the only organ which cannot expand and contract with varying blood and lymphatic pressures and that in such organs special regulating structures should be likewise found. In this connexion attention may be drawn to the frequent passage of vessels through bony and other resisting canals.—I am, Sir, yours faithfully,

Regent's Park-road, N.W., March 9th, 1918. J. C. MOTTRAM.

To the Editor of THE LANCET.

SIR,—Dr. F. W. Edridge-Green's explanation of the cause of myopia, though extremely valuable and interesting, does not seem to go to the root of the matter. An intermittent increase in intra-ocular tension, combined with an interference with the drainage system of the posterior lymph-passages, is probably another auxiliary factor in the production of myopia, just in the same way as the causes commonly given in the text-books are not the essential cause of the disease, but simply predisposing conditions.

In the last few months I have acted as ophthalmic surgeon to the Edinburgh National Service Recruiting Boards, and I hope at some future date, if I have the time and opportunity, to publish an analysis of some of the material which one is thus able to obtain, especially in relation to the etiology of myopia. My experience certainly strengthens in some aspects Dr. Edridge-Green's position. Myopia is found not even as commonly, but much more commonly, among the labouring classes than it is among those who follow sedentary occupations.

The question we have to decide is, What is the main essential cause of myopia? and I would like, with all diffidence, to put forward the following hypothesis:—

1. That the usual causes given in the text-books and also Dr. Edridge-Green's recent explanation of the condition are certainly factors in its production, but predisposing factors only.

2. That the essential cause is due to a post-natal mal-development of the tissue of the sclerotic. I am aware, of course, that this is an old explanation. Professor Roemer, of Greifswald, has termed this degeneration a scleromalacia in analogy with the similar degeneration of osseous tissue known as osteomalacia.

3. Now what is the cause of this degeneration? As far as I have seen, no satisfactory explanation has been given, and I would like to put forward the theory that it is due to the action of a toxin resulting from the presence in the organism of the tubercle bacillus. That it is, in fact, in a sense a scrofulous condition. How the toxin acts I am not at present prepared to say, but the suggestion certainly seems in many respects to square with the following facts:—

(a) We know that the tubercular toxins have a very serious detrimental influence on the development of structure and that they do lead to tissue degeneration elsewhere. Also that they have a special affinity for the eye membranes.

(b) Myopia occurs in the class which are specially liable to tubercular infection—i.e., town-dwellers and persons living under bad hygienic conditions.

(c) It is very often associated with general debility and maldevelopment. The higher the degree of myopia often the more marked is this pathological correspondence.

(d) Myopia is frequently an inherited condition, and so is the tubercular tendency.

(e) The conditions which have produced the greatest effect in reducing the incidence of myopia are simply those which place the individual in better hygienic conditions as regards good food, fresh air, and suitable exercise.

I can at present see no practical application of this theory beyond the following important points. Firstly, that rapidly advancing cases of high myopia should be treated on the same lines as cases of latent tuberculosis, and that, secondly, we have another urgent reason for the speedy adoption of a higher standard of hygiene both in the life and surroundings of our town-dwellers.

I am, Sir, yours faithfully,

J. KIRK, M.D. Edin.,

Oculist to the Edinburgh National Service Medical Boards.
Edinburgh, Feb. 27th, 1918.

To the Editor of THE LANCET.

SIR,—Dr. F. W. Edridge-Green's contribution is valuable, based as it is on clinical observation, but the heading is not happily worded, as myopia may have more causes than one. But to establish any one of them for certain is a definite step forward. His clinical observations have experimental support. Georg Levinson¹ carried out experiments on two

apes. His theory is that when by bending the head and trunk the globe is brought into a dependent position, the pull of its weight on the optic nerve entrance in the sagittal and nasal directions must result in axial myopia with its characteristic changes such as have been unexceptionably produced experimentally. He concludes that high myopia and so-called school myopia differ only in degree but not in kind.

Under experimental conditions Levinson found no rise of intra-ocular pressure in the ape's eye by manometric measurement. Though Dr. Edridge-Green's occupational conditions correspond, more or less, with Levinson's experimental conditions, the latter's theory of myopia has a surer foundation than the former's. It is difficult to conceive how there could be such increase of intra-ocular tension due to lymphatic congestion as to produce permanent elongation of the eye-ball without producing symptoms of acute glaucoma or distension of the tough sclerotic coat, while the optic disc, as pointed out by Mr. J. A. Wilson, does not suffer. As either under the occupational conditions of Dr. Edridge-Green or the experimental conditions of Levinson, congestion of the globe, whatever its degree may be, is unavoidable, when, according to Levinson's explanation, the dimensions of the globe increase, the congestion probably helps to damage the choroid and retina. If Dr. Edridge-Green's theory is to be accepted, one has to assume that the optic disc is more resistant to increased intra-ocular pressure than the sclerotic, and that the yielding of the latter to it so concurrent with the increase as to produce no symptoms of acute glaucoma.

I am, Sir, yours faithfully,

Eastbourne, Feb. 25th, 1918.

D. V. GILL.

THE TREATMENT AND PREVENTION OF MALARIA.

To the Editor of THE LANCET.

SIR,—I have read with much interest the leading article in THE LANCET, Feb. 23rd, on quinine in the treatment and prevention of malaria. During a three years' residence in South Africa I attended some hundreds of cases of malaria, generally of the benign tertian or quartan type, and found a combination of quinine (5-7 gr.) with 1-2 minims of acid carbol. liq. pur., administered three or four times daily, of the utmost value. The addition of the carbolic acid seemed greatly to enhance the effects of the quinine, and this view was shared with me by the late Sir Starr Jameson, whom I attended during a severe malarial attack. The dosage of the combination must vary with the severity of the case, the condition of the blood, and whether the fever is of a benign or malignant type.

I am, Sir, yours faithfully,

Worcester, Feb. 27th, 1918.

J. NELSON MATTHEWS, M.D.

THE CASE OF DR. J. HENDERSON BELL.

To the Editor of THE LANCET.

SIR,—I regret the delay in despatching the copies of the printed précis relative to the above case. They will be sent off the moment they are received from the printer. Much interest is being taken in this case, judging from the many applications received for copies of the précis. I shall be happy to despatch copies to anyone who sends me a stamped addressed envelope to this address.

I am, Sir, yours faithfully,

A. G. PENTREATH.

Adderley Rectory, Market Drayton, March 12th, 1918.

ROYAL DENTAL HOSPITAL.—The Bishop of London has kindly consented to preside at the annual general meeting of governors on Tuesday next, at 3 o'clock. The Bishop's visit is a fitting celebration of the sixtieth year of the hospital's existence, it having been founded in Soho-square in 1858, and it is hoped there will be a large attendance of all those who are interested in the excellent work which is being done at the hospital. Part of the hospital is devoted to the treatment of the troops of the London District, and in this section many thousands of men have been treated and made fit for active service, and this without detriment to the civilian patients treated as usual in spite of the depleted staff. Lieutenant-General Sir Francis Lloyd, General Officer Commanding London District, will speak in testimony of the value of this work.

¹ Levinson (Berlin): Arch. f. Ophthalmologie, lxxviii., August, 1914.