

The present case concerns a boy aged six years, whose left eye had been inflamed and blind for ten days. In the highly inflamed eye a foreign body about 1 cm. long and 2 mm. wide could be seen, and as this appeared to be the source of irritation, the anterior chamber was opened under general anaesthesia and the object removed. The eye then made a rapid and uneventful recovery. Examination of the foreign body removed showed it to be the larva of a gadfly (*hypoderma bovis*).

The case reported agrees in the main with those described by Behr, and the youth of the patient is in support of Behr's view that the thinness of the tunics of the young eye allows the larvae to bore their way into the eye. The favourable result obtained in the present case is also in agreement with the previously recorded cases, for the cases of the anterior variety of the condition did well, but the two recorded cases of ophthalmomyiasis interna posterior led to severe reactions, ultimately necessitating enucleation. One feature of interest in the present case is the fact that on recovery the lens of the affected eye was seen to be subluxated. The author believes that this is to be explained by the larva having bored its way through the suspensory ligament and thus having damaged it. A localised opacity in the lens is likewise ascribed to the action of the larva.

A. SOURASKY.

CORRESPONDENCE

CIRCULATION

To the Editor of THE BRITISH JOURNAL OF OPHTHALMOLOGY.

SIR,—The interesting experiment of perfusing an isolated head with watered blood, so skilfully carried out by Mr. and Mrs. Duke-Elder and published in August, 1929, in this journal, affords a striking instance of the inadequacy of the canal of Schlemm to maintain normal equilibrium and to prevent hypertension, under the conditions of the experiment. It also seems to lend support to the view that the aqueous humour passes from the eye mainly by the venae vorticosae and that the rôle of the canal of Schlemm is subsidiary. If one assumes, and the steadiness of capillary function during the experiment seems to justify this, that the water in the blood has not caused oedema of the cells, the increase of intra-ocular pressure will tend to promote the flow of fluid through the canal of Schlemm, while the decrease of both colloid and

crystalloid in the blood will greatly lessen the molecular attraction of the venous blood for water. If there be increase of molar flow through the canal and decrease of molecular flow through the veins, clearly then, so far as increased intra-ocular pressure depends upon interference with the outflow from the eye, this will be due to decrease of the outflow through the veins. As the amount of chloride of sodium in tissue fluid is the same as that in the aqueous humour, absorption from the eye will take place under the same conditions as in the general circulation, except that as the eye has no lymphatics, the amount of fluid to be absorbed will be relatively larger, while as the aqueous humour contains less colloid than tissue fluid the rate of absorption will be greater. If the venous pressure in the eye be slightly greater than the intra-ocular pressure, there will be movement of fluid through the canal of Schlemm during systole only, any slight reflux being checked by the oncoming systole, while molecular movement toward the veins will be largely independent of the normal variations of intra-ocular pressure.

The pectinate ligament, at its narrow apex, is scarcely in contact with the canal of Schlemm, while throughout its length and at its relatively broad base it is in contact with tissue which drains through the venae vorticosae and its structure and relations favour movement of fluid towards these veins by onkotic pull.

As the origin of hypertension in the experiment is largely in the vitreous chamber, even if the saturated vitreous colloids exert no onkotic pull, the first barrier to the movement of fluid will be the suspensory ligament. It has not been determined whether insufficiency of this ligament or direct pressure of the ciliary body causes the shallow anterior chamber found in glaucoma, but the blood-carrying system is a relatively isolated one running through the eye and the experiment shows that the increased pressure is due to obstruction to the aqueous flow as there is no evidence of venous congestion.

Our views of circulation generally seem to be in some danger of becoming confused. The Almighty, apparently can and does maintain unstable equilibrium, involving three and even more variables, almost as a matter of routine. Generally speaking, mathematicians are unable to furnish formulae demonstrating the actions of three variables nor the resultants derivable from them, so that the outlook for a comprehensive quantitative statement of circulation does not seem hopeful. The Great Architect, however, so far as we can judge, does not employ cumbrous methods and it seems safer to conclude that it is our standards that are unsuitable. Ordinary weights serve commercial purposes well enough, but are ill-adapted to measure the to and fro transferences of minute

quantities of ions and molecules, characteristic of the reversible chemical reactions, underlying the unstable equilibrium upon which circulation and physical life depend. Fortunately there are indications that it may be possible to measure these reactions, so feeble to our ordinary standards, in electro-magnetic units and to state the problem in much simpler terms.

Yours truly,

RICHARD KERRY.

MONTREAL.

NOTES

Death

WE regret to announce the death of Professor H. Snellen, of Utrecht.

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Appointment

MR. W. BAINBRIDGE, M.B.(Edin.), D.P.H., has been appointed hon. ophthalmic surgeon to the Hull Royal Infirmary.

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Corrigendum

IN the special report of the International Ophthalmological Congress at Amsterdam, 1929, an error occurs on page 15, where the paper on "A survey of the methods employed in Scotland for the control of ocular disease of venereal origin," is attributed to Mr. A. G. A. Mackay. The author of this paper is Dr. George Mackay. The mistake, which we greatly regret, was due to the Secretariat in Holland.

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Royal London Ophthalmic Hospital Dinner

THE annual dinner of the past and present students of the Royal London Ophthalmic Hospital will be held at the Langham Hotel, on Thursday, February 13, at 7 for 7.30 p.m. The Chairman is Mr. J. Herbert Fisher, consulting surgeon to the hospital. Tickets (excluding wine) 15/-. Applications for tickets should be addressed