of long hours in school may be minimised; but the importance of fresh air, exercise, and out-of-door occupations and relaxations must not be overlooked, not only from their influence in maintaining the general health and tone of the system, but from the condition of rest given to the ocular muscles by looking at out-of-door and moderately distant objects.

In a report on the education of the young in Alsace-Lorraine, extracts from which have been published in some of the medical journals (*Lancet*, October 7th, 1882), it is stated that boys of thirteen years of age have, on an average, about eight hours' study a day. It would be too much to suppose that any mechanical arrangements of desks or windows could neutralise the effect upon eyesight, as well as upon the general health, of such an amount of close application at the very time of life when growth ought to be most active, and the physical development most carefully fostered; and it causes little surprise when we read, further, that amongst the young men who have of late years passed the educational standard that qualifies them for voluntary military service, no fewer than 80 per cent. were physically unsuited for the army, whilst the extreme prevalence of myopia has long been well known. Higher culture is too dearly purchased at such a price as this, and there does not appear to be at present any fear that our youth will be subject to such a discipline, the tendency is rather the other way; but since it can be clearly demonstrated that, even under our own mild educational system, myopia does arise during school-life, and under conditions that are well known and apparently removable, it becomes a matter of special interest to all those engaged in educating or training boys for the navy or mercantile marine to make themselves acquainted with the circumstances under which short sight may be induced, and how it may be best prevented.

ON SOME RECENT METHODS OF TREATING GRANULAR LIDS.

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THE difficulties attending the effectual treatment of granular conjunctivitis (trachoma) have been demonstrated by long experience. They are found almost equally formidable, whether the disease be recent or of long standing, acute or less severe; and thus we naturally turn with avidity towards any new remedy that may be recommended.

I venture to lay before the members of the Association a summary of my recent experiences of the treatment—first introduced into Europe, from the natives of Brazil, by De Wecker of Paris (*Annales d'Oculistique*, pages 86 and 211)—inoculation by jequirity (the *Abrus precatorius* of the natural order Leguminosæ).

The seeds, which are extremely hard and tough, are first broken and freed from their shell. They are infused for two hours in cold water, in the proportion of 1 to 50; by this time they are so softened as to be easily pounded up, after which they are soaked in the same water for twenty-two hours more. The solution now requires only careful filtration to be ready for use. It is applied to the everted lids, or, when this is impossible, between the lids, thrice daily, till a severe conjunctivitis, of a purulent or diphtheritic type, is produced. I append a brief summary of certain cases, which may indicate, to some extent, the relative value of this and other methods of treatment.

CASE I.—A. B., aged 10, was admitted into Guy's Hospital on account of sago-like granulations on the conjunctiva of both lids of each eye. There was considerable pain and photophobia. The corneæ were clear. The disease was of ten months' standing only. Following a recent suggestion of Galezowski, the left eye was treated by excision of the much diseased oculo-palpebral fold; but, for the right, the mitigated nitrate of silver stick was used freely. On the fourth day, both were treated with the stick, and this was continued for two months. At the end of this time, the improvement was greatest in the unoperated eye. But, as the sago-like granulations were still there, together with some pain and photophobia, it was decided to treat with jequirity. After the ninth application, there was chemosis, with some increase of pain. The inner surface of the lid was lined by a thin lympho-purulent layer, which could be readily detached without causing bleeding. At no time was there a free purulent discharge from between the lids. On ceasing the inoculation, the inflammation gradually subsided, till, one month later, the pain and photophobia were gone. Sago-like granulations are, however, still present, though in diminished number.

CASE II.—W. B., aged 17, sailor, was admitted into Guy's Hospital on December 6th, 1882. The left eye was normal, but the right was severely affected with trachoma of both lids, and great corneal vascularity. For the first two months of his stay in the hospital, he was treated with bi-weekly applications of mitigated nitrate of silver stick, after the performance of syndectomy. The improvement of the lids being but slight, and the cornea still retaining its vascularity, it was decided to use jequirity. After the seventh application, there was severe pain, with abundant transparent, slightly yellowish, scalding discharge. A thin membranous, or so-called diphtheritic-looking layer, lined both lids, to within two millimetres of their free edge. For the last two nights he had no sleep, on account of the pain and discomfort. The inoculations were now ceased, as the membrane was still becoming thicker, though the conjunctiva was never edematous. On the seventh day, the layer was soft and purulent-looking; and from this time it gradually disappeared. There was, however, never any great amount of purulent discharge. Henceforward the eyes gradually improved till, one week later, he went to a convalescent home. Six weeks later, his eyes and general condition were much improved. The iris and pupil were now for the first time visible through the cornea. There were, however, still some sago granulations on the conjunctiva.

CASE III.—C. H., aged 15, a pallid undersized girl, had had trachoma of both eyes for nine years. On admission, both corneæ were vascular, and only semi-transparent. The palpebral conjunctiva in each eye presented, besides occasional areas of cicatricial tissue, some sago-like granulations. She had pain and photophobia one year ago. She was treated as an in-patient, for five weeks, by Mr. Bader, with injections of ointment of yellow oxide of mercury beneath the lids, from which she received benefit. She was re-admitted on October 17th, 1882, when mitigated nitrate of silver stick was applied every fourth day. At the end of two months, she went out somewhat benefited. On March 17th, she was re-admitted, as the right eye had somewhat receded, being now considerably injected. The left eye, on the other hand, had improved since her discharge. Inoculation with jequirity was now tried, but did not take well, producing only slight so-called diphtheritic infiltration, and afterwards scanty purulent discharge. She was sent out very considerably improved, notwithstanding that a considerable number of vascular granulations still remained.

The result of these and other cases shows that, in jequirity, we have a drug of decided value. Though it does not, in ordinary cases, immediately destroy all the granulations, it diminishes very considerably the pain and photophobia, and has a decided influence in clearing the cornea. Nor does it appear to affect this tissue injuriously, in which respect we must admit it to be decidedly superior to inoculation from cases of ophthalmia neonatorum. At first, I had considerable hesitation about introducing cases of inoculation with jequirity into the general eye ward; but I have not found that it makes any difference to the progress of other cases, whether operative or not. Though precautions against contagion have naturally been taken, we have not succeeded in inoculating into the sound eye the ophthalmia produced by this agent.

CASES OF PENETRATING GUNSHOT WOUND OF THE ABDOMEN.

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THE following examples of the above injury may prove of interest when read with Professor George Buchanan's case published in the BRITISH MEDICAL JOURNAL of March 31st. They both came under my notice in the Hull Infirmary, during the years 1879-80; and I am indebted to my friend Mr. Craven, under whose care they were, for permission to record them.

J. T., aged 36, chief engineer on board a steamship, was admitted into hospital on September 11th, 1879. Whilst examining a loaded revolver on board his ship, one of the barrels exploded, and the contents were lodged in his abdomen. He was brought some distance in a cab, and arrived at the hospital half an hour after the occurrence of the accident. He walked to his ward, and was at once placed in bed. On examining the abdomen, a clearly-cut linear wound, with slightly inverted edges, was found two inches below the umbilicus, and two inches to the left of the middle line. The patient complained of considerable pain all over the abdomen; his skin was cold and moist, breathing short, pulse small and very rapid. In order to ascertain the precise direction taken by the bullet, a probe was cautiously passed into the opening, and it was at once deflected to

the right in the direction of the umbilicus, but immediately before reaching that point it was again suddenly deflected in the direction of the abdominal cavity, which it unmistakably entered. The most careful examination of the parietes failed to discover the further course of the bullet, and it was considered to have embedded itself in the liver. The worst view of the case was taken, and the patient's friends were sent for. Thirty minims of tincture of opium were at once administered with brandy and water, given in small quantity, and occasionally repeated. Vomiting of a bilious character came on shortly afterwards; and, as the patient suffered severely from the abdominal pain, referred more particularly to the region of the liver, it was decided to place him thoroughly under the influence of morphia, administered hypodermically. This was accordingly done, commencing with a quarter of a grain, afterwards increased to a third of a grain; and it was repeated, on an average, every five or six hours, or as soon as the patient complained of a return of the pain. There was no external hæmorrhage from the wound, and it was dressed with wet lint. The patient recovered from the collapse towards evening, when his pulse was 88, and his temperature 100°. Beyond small quantities of milk and soda-water, no nourishment was attempted to be given, and even that was returned. After a somewhat restless night his temperature next morning was 99°, and pulse 124, weak and threadlike. He complained of pain over the region of the liver, and with this was a slight tinge of jaundice in the conjunctivæ, and discoloured urine. The patient constantly maintained a sitting posture in bed. During the following three or four days his condition remained much the same, with the exception of his temperature, which fell to 97.4° on one occasion, being on an average 98°. His pulse, too, reached as high as 136. His stomach refused almost entirely to retain the simplest nourishment, and occasional enemata of brandy and essence of beef were given. These, too, were only partially retained. By September 17th, his condition began to show signs of improvement, and on the 20th his bowels acted for the first time. On the 23rd he was able to take fish to his dinner, and on the 29th he sat up out of bed. The wound, which had required next to no attention, was healed completely. A close examination of the parietes, more especially the lumbar region, was again made, but without any positive result. The patient being anxious to return to his home, which was at Gateshead-on-Tyne, he was discharged on the twenty-third day after the injury, and passed under the care of Dr. Frederick Page, of Newcastle. He consulted Dr. Page very shortly afterwards, for an attack of vomiting, which was considered to be due to peritoneal irritation. This subsided, and in a few weeks the man returned to his duties on board ship, and he has pursued them ever since, three and a half years, without the least further intimation of the locality of the bullet. His physical condition is so satisfactory that I believe he has lately married.

In December 1880, another case, in many respects similar to the first, came under my notice. This patient was a chimney-sweeper, about twenty-eight years of age, and he also had been wounded in the abdomen by the accidental discharge of a revolver, which had been stolen by a friend from a ship's cabin. On this man's admission into hospital, he was suffering severely from collapse, almost to insensibility. He was almost pulseless, constantly expressed a desire to defæcate, and kept his hands tightly grasped over his abdomen. On examination, an opening was found in identically the same position as in the former case, that is, two inches below the umbilicus, and two to the left of the mid-line; but its edges were more confused and inverted. There was no hæmorrhage externally, and the wound was treated as in the previous case; indeed, the same general treatment was followed throughout. The parietes were carefully examined, but the opening was not probed, the intense collapse rendering it almost certain that the ball had penetrated the abdominal cavity with the worst results. The pain was kept under by repeated hypodermic injections of morphia, but vomiting, generally bilious in character, remained persistently. This patient's temperature also became subnormal, and his pulse reached 150. There was no action of the bowels, though the desire was always more or less present. On the seventh day after the injury, the patient's temperature was 96.6°, and shortly after it was taken he died.

I examined the body some hours afterwards, and, before opening it, I attempted to pass a long probe into the track of the bullet. The wound was completely healed, and, almost immediately after breaking my way through the cicatrix, I encountered some obstacle, which eventually stopped my search. On opening the body, the obstacle proved to be the small intestine in one clotted mass, the coils being firmly held together by thick tough lymph. No trace of

the bullet's track could be found in this, and the most careful examination of the entire small and large intestine failed to discover any sign of injury done to those organs in the form of a perforation. Nor was there any trace of extravasation of their contents. The search was continued further, but, beyond what appeared to be a graze on the right side of the body of the first lumbar vertebra, no trace of the bullet could be found in the abdominal organs or the lumbar muscles, though, doubtless, it was embedded somewhere in the latter.

REMARKS.—The treatment adopted in these cases was what the late Surgeon-General Otis called the "ostrich-line" of treatment; but the alleviation of suffering by the morphia injection, as evidenced by the first patient's craving for it on the return of pain, must have had some share in effecting the satisfactory termination of that case. The bullet used in both revolvers was very small, hardly larger than a pea, and conical in form. It would be interesting to know whether the evident difference in the direction of the tracks were due to difference in aim, or simply to the proverbial eccentricity of small-arm projectiles, the points of entrance coinciding so exactly. The first case is probably an instance of how these missiles may become encysted; in this case, no doubt, in the liver. The final resting-place of the bullet in the second remains wrapped in obscurity, no aperture of exit existing.

TRANSPOSITION OF VISCERA.

By WM. JULIUS MICKLE, M.D., Bow.

IN January, 1882, I made the necropsy of W. P., a sign-writer, who died, at the age of 40, of general paralysis of about three years' duration. On admission, his height was 69 inches, his weight, 144 lbs. During life, the transposition of the areas of percussion-dulness of the liver and spleen had been noticed; and of the necropsy only so much will be here related as refers to the transposition of viscera.

The heart was more erect, and more under cover of the sternum, than usual. Its chambers had, as it were, changed sides; the thicker and stronger ventricle, connected with the aorta, concerned in the systemic circulation, and forming the cardiac apex, being on the right side; while the ventricle operative in the pulmonic circulation, and through the pulmonary artery, was on the left side. The auricle receiving the systemic veins was on the left side, its appendix was directed forward and to the right. A thin septum, situated posteriorly, separated this auricle from the other, except where a patent foramen ovale, one third of an inch in diameter, kept open communication between the two. The ventricle on the left side, with a tricuspid flap well to the left, opened into the pulmonary artery upwards, forwards, and to the right; and, springing from this point, the pulmonary artery curved round to the right under the aortic arch. The auricle receiving the pulmonary veins was to the right and posteriorly; its appendix, directed to the right and somewhat forwards, nestled under the pulmonary artery. The mitral valve had anterior and posterior flaps. At the right ventricular summit, and in front, was the aortic opening. Of the aortic valve, one segment was on each side, and one posteriorly, but not exactly so. Behind the right segment the larger coronary artery made exit; behind the left, the lesser. The aortic arch was directed towards the right, thence it curved down to the vertebral column, on the anterior and right aspect of which it descended through the thorax. Similarly, the gullet coursed down the left anterior aspect of the dorsal column; but, below, it crossed to the right to gain the œsophageal opening in the diaphragm. The lung in the left chest had a very imperfectly divided-off third, or middle, lobe. The lung in the right chest, however, had a small imperfect middle lobe. The spleen was in the right hypochondrium. The position of the liver was reversed, its larger lobe lying in the left hypochondrium and epigastrium, and its smaller lobe extending rightwards to the spleen.

Of the stomach, the cardiac opening and the cardiac end were to the right of the middle line, and the pylorus to the left of the same. The duodenum was also to the left, and the convexity of its horse-shoe curve was directed to the left. The end of the ileum, the cæcum, and the appendix vermiformis, were in the left inguinal region. Thence arose the ascending colon on the left; then came the transverse arch of the colon; the descending colon, on the right side; the sigmoid flexure, in the right iliac fossa; and the rectum, entering the true pelvis slightly to the right side. The kidney of the left side weighed 5 ozs.; of the right, 4½ ozs.

Note.—The local destructive inflammation of the left lung may