One fact of importance may be noticed in this place: I refer to Table II. It there appears in a note that three cases—No. 11, vaccinated four months ago; No. 132, vaccinated two and a half years ago; and No. 214, vaccinated six years and four months ago—did not again become sensible to vaccine at this short interval.

The inferences to be deduced from a consideration of these experiments are the following:—

I. That three cases re-vaccinated within seven years were not again susceptible to vaccine.

II. That vaccine, after the interval of from eight to seventeen years, does not prevent the reception of vaccine again, except in 22-174 per cent.

III. That the distinctness or imperfection of the vaccine cicatrix does not materially alter these results.

IV. That variola does not prevent the formation of the vaccine vesicle, except in about 23-53 per cent.

V. That the occurrence of small-pox subsequently to vaccination does not destroy the susceptibility of the human system to again receive the vaccine poison, except in about 10 per cent.

VI. That in all the previous cases, whenever the secondary vaccine vesicle assumed its perfect form, its subsequent history was the same as if the system had not previously laboured under vaccine variola or varioloid.

VII. It is probable that the protective influence of vaccination has diminished in consequence of repeated transmission of the vaccine matter through the human body.

VIII. It is desirable that re-vaccination should be extensively followed, as one means of giving additional protection to the masses.

IX. That when possible, the stock of vaccine should be renewed by going back to the original source.

32, Old Market Street, Bristol, March 1853.

CONGENITAL OCCLUSION OF DUODENUM: EXCRETION RESEMBLING MECONIUM PASSED FOR EIGHTEEN DAYS.

By FREDERICK MASON, Esq.

(Read before the Quarterly Meeting of the Bath and Bristol Branch, March 24th, 1853.)

CASE. M. O., born on December 31st, 1852. She was said to have appeared weakly, and to have cried but feebly, and vomited soon after birth. Her mother was attended during labour by a woman. I first saw her on the evening of January 7th, 1853. She appeared to be a small and delicate infant, and was said to have frequently vomited (from the day of birth) a dark brown matter. Besides suckling, she had been fed on gruel, etc. The bowels were not much acted on, but that which passed was said to be quite black. I directed her to be fed only from the breast, and to have a small quantity of hydrargyrum cum cretâ and rhubarb.

January 8th. By daylight she appeared jaundiced, the skin and conjunctiva being very yellow. She winced and showed signs of pain when pressed gently over the right hypochondriac region: the mother had noticed the same when washing her. She had not rejected either medicine or milk; yet there was still frequent vomiting of a dark chocolate-coloured matter, resembling coffee-grounds. The bowels had acted; the evacuations being black, or very dark green, of the colour and appearance of meconium, but somewhat stiffer in consistence. The tongue was clean and red, and constantly thrust out between the lips, rolled round, and drawn in again. She did not appear to have any inclination or sufficient strength for suckling. I prescribed two grains of hydrargyrum cum cretâ three times daily. This treatment, with the addition of a dose of castor oil, was continued for about three days, when the yellowness of the skin disappeared, and it acquired a natural colour; still the coffee-ground vomiting and the dark-coloured motions continued, and she became more and

more emaciated. There was no abatement of these symptoms before her death, which occurred on January 17th.

POST MORTEM EXAMINATION, fifteen hours after death. The body was very much emaciated. On laying open the abdomen, the first things which attracted notice were the stomach and duodenum; they were enormously distended, contrasting strongly with the very empty and shrunken condition of the remaining portion of the intestines. On raising the liver, the rudiments of a gall-bladder were seen lying flat, and like a small membrane, on the liver. On carefully dissecting the bile-ducts, the cystic was found to be impervious and threadlike. The hepatic and common ducts were pervious, and entered into the distended portion of the duodenum. The stomach and duodenum were filled with a dark greyish fluid; and when removed from the body, the duodenum at first appeared to be only a *cul-de-sac*. When the remainder of the intestines was removed, and the duodenal end sought, it was found very transparent and thin, and had inadvertently been separated by the knife from the duodenum. The interior of the stomach and duodenum was now examined, and a complete septum was found stretching across the duodenum, which completely closed it, and prevented the passage of anything into the jejunum. The whole of the intestines below the septum was in a normal condition. The other organs were healthy.

REMARKS. One of the most remarkable symptoms in this case appears to be the fact, that, notwithstanding that all communication between the portion of intestines below the duodenum was cut off from the stomach and duodenum, and also from the liver, by means of the septum in the lower part of the duodenum, yet an excretion, resembling meconium in colour, but differing from it in being thicker and more pasty in consistence, continued to be discharged from the bowels frequently during each day, until the time of the infant's death. On the morning of this day (17th January), there was one evacuation; and this must have completely emptied the bowel, as after death nothing remained in any part below the duodenum.

On referring to the second edition of Müller's *Physiology*, page 165, I find it stated that "it is the excrementitious matter of the bile of the foetus, which collects together with intestinal mucus in the lower part of the canal, forming the meconium."

In this case it would appear that the bile could have had nothing to do with the formation of this excretion, all communication with the liver being cut off by the occlusion of the duodenum below the entrance of the bile-duct.

5, Cleveland Place East, Bath, March 1853.

CASE OF STOMATITIS MATERNA DURING PREGNANCY.

By WILLIAM HENRY CULLEN, M.D.

THE following case seems to bear on others contained in an article in the *Periscope Review* at p. 213 of the *ASSOCIATION JOURNAL* for 11th March, entitled "Stomatitis Materna". I send it for publication, as you therein express a wish to have an account of any similar cases which may have occurred in the experience of members.

CASE. In May 1849, I was called to see Mrs. J., who was suffering severely from salivation, in the sixth month of pregnancy with her sixth child. The discharge was so profuse as to compel her to have always a small basin at hand to receive the stream of saliva which would produce vomiting if she attempted to swallow it. No mercury had been taken, and, with the exception of slight heartburn, the general health was good. I prescribed antacids with some relief. In June, the symptoms all returned with increased severity. The tongue and lining membrane of mouth were unnaturally clean, of a deep red colour, and covered with small ulcers. The sides of the tongue were furrowed with deep cracks or fissures, so that talking produced great pain. Only gruel and arrowroot could be taken, (though the appetite was

good,) and that only when nearly cold. I gave mild mercurials as the liver was inactive, applied the solid caustic freely to the tongue and apthæ: and finding no directions in any work I could refer to as to the treatment of so severe a form of stomatitis materna, and that antacids in every variety and combination failed to give the least relief, I prescribed on the 6th July the following:

Rx.—Pulveris tragacanthæ comp. 3j.

Tincturæ hyoscyami 5j.

Infusi pareire 3iv. M.

Fiat mistura ejus capiat partem 4tam bis terve die.

Marked relief followed the use of this, which was persevered in till the middle of August, when she was delivered of a daughter after a very easy labour, and made a rapid recovery. If the pareira was left off for more than a day, and she attempted to take meat, or even a boiled chicken, a relapse was sure to follow. There was no symptom, as in the American cases, of any affection of the mucous follicles of the intestines. The symptoms entirely disappeared after delivery.

Sidmouth, Devon, April 1853.

PERISCOPIC REVIEW.

OPHTHALMOLOGY.

ON COLOUR-BLINDNESS.

IN the *Athenæum* for January 29th, Mr. W. H. TYNDALL pointed out the danger arising from the use of colour signals on railways; where red signifies danger; green, caution; white, safety.

White light, it is well known, consists of three primary colours, red, blue, and yellow; any two of these producing the secondary colours; thus, red and blue give violet, the complementary colour of which is yellow: red and yellow give orange, to which blue is complementary: whilst blue and yellow give green, of which red is the complementary: hence it follows that when a secondary is mixed with its proper complementary colour, white light results. Now, with the colour-signals used on railways, it so happens, as will be evident from the foregoing, that if the danger and the caution colours, viz., red and green, are combined, the safety colour, or white light, is produced. (On putting this to the test of experiment, Mr. Tyndall found that when a pointsman, stationed at one end of a tunnel some four hundred yards in length, was directed to report the signals made by a man placed at the other extremity of the tunnel, who was furnished with two lamps, a green and a red one, and directed to flash them together, the pointsman, a practised hand, declared that the light was white, indicating safety; nor could he be persuaded that the red and green lamps were used, in spite of subsequent explanation. Thus the very means now adopted for attaining safety, in practice involves the greatest risk; since the danger and caution colours, when seen together, or in rapid succession, at a distance, produce the impression on the retina of the safety signal; and may, probably, already have actually been the cause of the most frightful accidents, when we remember the contradictory evidence given on inquests with respect to the colour of the signals.

Dr. George Wilson, of Edinburgh, author of *The Life of Cavendish*, in a letter to the same journal of the week before last, directs attention to an additional source of danger arising from this use of coloured signals on railways, owing to the frequency of Daltonism, *Chromatopseudopsis*, or colour-blindness, which, since the interest excited by Dalton's publication of a defect in his vision, which led him to confound scarlet with green, has been found to be far more prevalent than might be imagined, and thus increases the probability of danger arising from use of coloured signals. He first of all remarks that colour-blindness is a very common affection; Prevost declaring that it occurs in one male among twenty; whilst Seebeck found five cases among forty youths in Berlin. Dr. Wilson states, that amongst his own pupils (in chemistry) this winter he has detected two marked instances, and that five others have made themselves known to him; one of the two pupils having four relatives also subject to this affection. Professor A. Thomson, of Glasgow, made a similar investigation some years since, and arrived at the conclusion that from the frequency of colour-blindness, the use of coloured signals on railways, or elsewhere, is fraught with peril to the public.

Further investigation amongst the students at Edinburgh shows that 1 in 37 or 38 are defective in the appreciation of colour, this defect appearing to be almost exclusively confined to males, amongst whom are to be found painters (artists), dyers, stationers, surgeons, a shawl-manufacturer, and an enamel-maker, employments we should have presumed to require the nicest appreciation of colour.

It also would seem that this defect is usually so great as to incapacitate those who are subject to it from distinguishing some colours, and especially red from green, and green from red, the railway signal colours; thus four of Dr. Wilson's own cases were unable to distinguish these colours; three instances observed by Professor Kelland were similar to and as marked as Dalton's own case; one of the surgeons, above alluded to, betrayed his defect by his inability to distinguish the scarlet of the berries of the mountain-ash from the green of its leaves: another supplied himself in Paris with a *bonnet-rouge* in lieu of a green cap as he intended, and still worse, brought home a flamingo-coloured dress to a lady who had requested him to procure her a green one. Others are unable to distinguish ripe from unripe strawberries but by the touch; one stationer offered blue sealing wax for red, others made continual blunders about the colours of the bindings of books, the colours of pink and green tinted paper, etc.; all of these proving the frequency of this inability among the community to distinguish between red and green colours.

Dr. Wilson also finds that, in the cases he himself has observed, and also, he thinks, in those of Professor Kelland, there was not merely *chromatopseudopsis*, but actual colour-blindness; so that they did not merely confound green with red, but doubted about every colour; and, on different occasions, gave different names to the same colours; betraying an imperfect appreciation of all colours, confusing one with another. On these grounds, he recommends a speedy investigation of all the railway officials who are entrusted with or observe signals, in order to detect the cases of colour-blindness which probably occur amongst them, with a view to remove this cause of public peril, or, at any rate, an alteration of the signals employed, so as to avoid the danger thus incurred; concluding by requesting statistics on this subject from all who may feel interested in it, for which purpose we subjoin his address,* that such of our members who may be so disposed may communicate the results of inquiries in their own practice to a quarter where these results may be tabulated, and probably lead us to some interesting conclusions upon this singular optical affection. The comparative freedom of females from this affection is very remarkable; Dr. Wilson stating that only six female cases are as yet on record.

ASSOCIATION INTELLIGENCE.

MEDICAL BENEVOLENT FUND.

At the last monthly meeting of the Committee, it was announced by the Treasurer, that one of the annuitants, who was blind, had lately died, leaving his widow and child in great distress. Voted £10.

Letters of acknowledgment of the receipt of monies, voted at the previous meeting, having been read, the Treasurer stated, that since July 1852, the sum of £500 15s. had been received in annual subscriptions, and £206 14s. in donations; that the expenses had been £51 12s. 3d., and that £409 had been spent in grants, leaving the sum of £20 due to the Treasurer.

The following cases were presented:—

i. The widow of a surgeon of Nottingham, who died in February last, having practised there thirty years, leaving eleven children, eight of whom are unprovided for. Voted £25.

ii. The wife of a physician lately practising in London. Left in great distress. Voted £5.

iii. The wife of a medical man, whose husband is imbecile, and who supports herself, husband, and two children, by letting lodgings. Relieved twice previously. Voted £5.

iv. The widow of a medical man, also relieved previously. She supports herself by going out as a governess, and her two daughters, who are in bad health, endeavour to support themselves by working as milliners. All at present in difficulties. Voted £10.

[We did not receive this report till Monday, the 11th current.—EDITOR.]

* Dr. G. Wilson, 24, Brown Square, Edinburgh.