removed. I must refer anyone who wishes to examine this subject more carefully hereafter to the published tables. I can only say now that, of the twenty-four cases where the tumours were removed, only nine of the patients recovered, and fifteen died; while of the twenty-one cases of incision, puncture, or partial removal, only one died, and twenty recovered from the operation, some of them more or less relieved by it. I ask your attention to this mortality of sixteen deaths in forty-five operations, because this represents the results of my practice before adopting, in these operations, the Listerian details of antiseptic surgery. Since the delivery of the lectures, I have operated antiseptically, and I have had ten cases of removal, with three deaths and seven recoveries; and five cases of incision and puncture, all recoveries; or three deaths in fifteen operations. My whole experience, then, amounts to sixty cases: thirty-four of removal, with eighteen deaths and sixteen recoveries; twenty-six of incomplete operation, with only one death. The smaller mortality since adopting antiseptic precautions is certainly remarkable; but I do not wish to enter on this wide question now. I rather desire to discuss the indications which should guide us in deciding whether to leave a patient to her fate, or to medical treatment by ergotin or anything else; or to advise her to submit to the risk of abdominal section. It must be remembered that the risk—very small indeed if the attempt end in incision and puncture only—is now considerably smaller than it was a few years ago, and may be expected to become much smaller as experience increases, and the details of the different steps of the operation are more carefully studied and more frequently practised.

I have very little to add to the remarks on the operation which may be found in the report of my lecture (BRITISH MEDICAL JOURNAL, vol. ii, 1878, page 130), beyond attempting to enforce as strongly as I can adoption of the principle of uniting divided edges of peritoneum to each other. Whatever doubt some may entertain as to the value of my experiments on animals, and practice on women, in leading most operators in the present day to bring divided edges of peritoneum together whenever they have been separated by wound or by operation, I myself have no doubt whatever about it. And just as strongly as I assert that it is and must be better, when the abdominal wall is divided, to bring the peritoneal edges and surfaces of the opening together, restoring the complete closure of the peritoneal cavity, than to leave the cavity free to the admission of fluids oozing from wounded muscle, fat, and cellular tissue, and to allow contact of intestine and omentum with anything more than peritoneum, so strongly—more strongly, if I could—would I insist that the peritoneal edges of the divided uterine wall, or of the connecting part of the outgrowth with the uterine wall, should also be carefully brought together. In the only case of Cæsarean section I ever did, I sewed up the wound in the uterine wall by uninterrupted suture; and I still believe that the recovery of the patient was in a great measure due to this protection of the peritoneal cavity from the uterine discharges. Opinions will differ, of course, on this as on every other question; but my own opinion is quite clear. And so, after cutting away an uterine tumour—whether an outgrowth with a pedicle, or a growth which can be enucleated after incision of the fundus, or which leads to removal of so much of the fundus and body of the organ as to open the uterine cavity—I would strongly advise the operator to bring the peritoneal edges of the divided uterine wall together by many sutures, or by uninterrupted suture along the whole extent of the gap. In one of my published cases, where a solid tumour weighing seventy pounds was successfully removed, I put in at least twenty-four points of uninterrupted suture, the gap in the uterine wall and broad ligament having been more than a foot in length.

Schroeder, of Berlin, writes to me that, when he has opened the uterine cavity, he uses two rows of sutures: first, one row which close the mucous surfaces of the uterine cavity, and are left to pass away downwards by the vagina; and another row which brings the peritoneal edges of the fundus and broad ligament together.

Hegar, of Freiburg, writes to me saying that he has returned to the extraperitoneal treatment in these cases, and has had a series of ten successes. But he is especially careful to close the peritoneal edges of the lower part of the opening in the abdominal wall very accurately around the peritoneal edges of the uterine stump. He sews the two surfaces together by passing sutures all round the stump, fixing it securely to the abdominal wall by many points of suture, tying it up like the mouth of a purse. He carefully dries and disinfects the stump which is left between the edges of the lower angle of the united incisions, just as in extraperitoneal ovariectomy; but he believes that if disinfection were imperfect, and putrefaction occurred, the peritoneal union would serve to protect the patient from infection. Before I resorted to antiseptics, I was in favour of the extraperitoneal treatment of the stump after removal of uterine tumours, or of portions of the uterus; but, since antiseptics, I certainly prefer the intraperitoneal

treatment, provided the divided edges of peritoneum are accurately brought together. Unless additional facts alter my opinion, I am not inclined to follow the example of my friend Schroeder, and sew up the divided edges of mucous membrane when the cavity has been opened. Last month, I removed a large fibro-cystic tumour which involved the fundus and part of the body of the uterus. It was not necessary to interfere with either of the ovaries. The patient was over sixty years of age, and had long ceased to menstruate. But I cut away nearly all the supravaginal portion of the uterus, and of course opened the cavity. I carefully stitched together the peritoneal edges of the divided uterine wall, and I believe that the opening left for a little oozing of blood through the vagina, which went on for the first two or three days, was useful. If I had prevented this by suture, something like a hæmatocele might have formed, or blood might have found its way, in spite of the sutures which I had used, into the peritoneal cavity. This patient recovered without any febrile elevation of temperature. My present feeling, then, is in favour of intraperitoneal treatment of the stump or uterine wound; and, if the cautery should not become, as it doubtless may become, the favourite resource, then I would strongly advise complete union by suture of the divided peritoneal edges of the uterine wall.

There were several other operative details which I thought I might bring before you; but the time allotted to me has expired, and I may, at the close of the discussion perhaps, in replying to some question which may be asked, give such further information as may be desired and as I may be able to offer.

EXAMINATION OF COLOUR-PERCEPTION AT THE CAMBRIDGE MEETING.

By HERBERT W. PAGE, M.A. Cantab., F.R.C.S. Eng.,

Assistant-Surgeon to St. Mary's Hospital; Clinical Assistant to the Royal London Ophthalmic Hospital; etc.

THE proposed examination by Holmgren's method of the colour-perception of members of the British Medical Association, attending the meeting at Cambridge, was carried out on August 11th, 12th, and 13th, by Mr. Berry, Mr. Frost, Mr. Nettleship, Mr. Pye, Mr. Swanzy of Dublin, and myself. I thank these gentlemen for the invaluable aid so freely given by them—given not without much self-denial, inasmuch as the examinations took them away from the sectional meetings which all had been wiseful to attend. Nor can I omit to thank Dr. Brailey for great help given to us in obtaining the sanction of the Executive and the use of the room in the new museums, and for the trouble he took in having had printed and posted the numerous directions and appeals which met the eye at every bend and corner of the buildings where the meetings were held.

The object of the examination, as suggested by me in the BRITISH MEDICAL JOURNAL (1879, vol. ii, page 651), was to discover the proportion of congenitally colour-blind amongst a large number of educated and intelligent men. Want of time rendered it impossible to make more minute inquiries, either into the family history of those who were colour-blind, or as to their ability to distinguish the colours of different signal-lamps placed at a distance from them. At the hour when the examination closed, 920 had entered their names in the reception-room at the Guildhall. There voluntarily presented themselves for examination 745—of whom at least 700 were members of the profession, the remainder being undergraduates (some of them medical students) and other members of the University.

Of the 700 members of the profession, 12 were completely colour-blind, 6 red-blind, and 6 green-blind; and 2 were incompletely colour-blind, one red, and one green—in all 14. Of 4 others, who were not colour-blind, it may be said that their chromatic sense was feeble. In the whole 745 examined, there were 15 colour-blind*—one of the undergraduates (a green-blind) making the additional number.

All the colour-blind knew of their defect; but it should not be forgotten that they were educated men; and it is not unlikely that amongst ignorant persons, whose faculty of observation is extremely limited, the defect may never be discovered, unless they have undergone colour-education at school. A large number who presented themselves expressed a belief that they were colour-blind, whose colour-sense was yet found on examination to be normal. In nearly all these cases, the belief arose from a difficulty experienced in correctly naming the shades of blue and green, which merge imperceptibly into each other. The readiness with which the colours were chosen was exceedingly variable; but only in one or two instances was there any sign of what is called colour-stupidity, which makes the examination of uneducated persons so much more difficult.

* Any of the colour-blind who are willing to assist in the scientific investigation of the subject, by submitting to further examination, are requested to communicate privately with Mr. W. A. Frost, 77, Wimpole Street.

It has been objected that the statistical results of the Cambridge examination would be valueless unless all members attending the meeting were examined. That may, of course, be so; but it may be remarked that, if 4 is the true percentage of congenital colour-blindness amongst males—and Dr. Joy Jeffries has found 4 per cent. to be rather below it—there should have been amongst the 920 who attended the meeting 37 or 38 colour-blind. Fifteen were found, and it seems extremely improbable that so many as 22 or 23 should have absented themselves. The result of the examination at Cambridge must be taken for what it is worth; and it is only right to call attention to the fact that the percentage at Cambridge is much below that which has been found by Professor Holmgren, Dr. Joy Jeffries, and others, by the same method of examination, in many thousands of males.

Whatever may be the true percentage of congenital colour-blindness amongst males, one great result must arise from the examination at Cambridge. Several hundred members of the profession, taken from all parts of the land, have had this congenital defect, and its examination brought more prominently under their notice than could, perhaps, have been otherwise possible.* Many of them may be called upon, some time or other, to make the medical examination of men who seek employment by land or sea, when a right perception of colours (as used in signals) is of essential importance for the safety of the travelling public; and it is hoped that, both directly and indirectly, this examination at Cambridge may become the means of drawing greater attention to the existence of colour-blindness amongst males than in this country it has yet received, and to the vast importance of the compulsory examination of all railway servants and sailors, so as to prevent the possibility of future accidents by excluding from positions of responsibility all whose colour-sense is in any way defective.

It should be especially observed that this examination has dealt only with congenital colour-blindness, and has taken no account of the colour-blindness which is a symptom of various pathological states, notably of the amblyopia due to chronic tobacco-poisoning, which may affect those whose colour-perception has been perfectly acute. The existence of such a condition, and it is by no means uncommon, shows how great is the necessity that the examination of railway-men and sailors should be made, not only before they enter their respective services, but should be also periodical, and conducted by competent observers, amongst all who are so employed.

* Those who wish for further information will find it clearly and fully set forth in Dr. Joy Jeffries' *Colour-Blindness: its Dangers and its Detection* (London: Trübner and Co.). Worsteds, matching as nearly as possible those of Professor Holmgren, may be had of Messrs. Pickard and Curry, 195, Great Portland Street, W.

THE Canada Medical Association has held its thirteenth annual meeting, in Ottawa, during the present week.

BOLTON.—A striking feature in this report is the graphic representation (in the shape of three plates, drawn in the way that Mr. Pridgin Teale's little book has made famous) of the dangers which arise to inhabitants of houses from imperfections in branch drains, together with the manner in which these dangers may be avoided. Probably, a pictorial warning of this sort does a hundred times more good than lengthy written descriptions, which few people read, and fewer still understand. Mr. Sergeant has made his report to include the twelve months ended the 30th September: a fashion that he would do well to avoid in the future, for all opportunity of useful comparison with other towns is thus lost. During the twelve months ended the 30th September, 1879, 3,897 persons were born, and 2,233 died at Bolton. These figures are equal to rates of 37.0 and 21.2 per 1,000 of the population. The mortality amongst children can hardly be considered as "eminently satisfactory" when it constitutes 42.85 per cent. of the total mortality, though it is doubtless an improvement on the high rates of former years. As compared with 1878, there is a diminution of 55 uncertified deaths; but a proportion of such deaths equal to 8.5 per cent. of the total deaths is far too high, and suggestive of a great amount of criminal neglect. Amongst the deaths was one of a female at 92, one at 96, and one male at the age of 101 years. Zymotic diseases were less fatal than in any year yet recorded, a result stated to be largely due to the early information which is given to the health-officials under the terms of the local Act requiring compulsory notification of infectious cases. We are sorry, however, to see that the town is still without a hospital for infectious diseases. Whooping-cough was the most fatal of the zymotic diseases. It caused in all 97 deaths, or 36 more than in the preceding year. Fever caused 42 deaths, the disease being most prevalent in the autumn. In connection with this subject, Mr. Sergeant draws the attention of his authority to the imperfect state of the sewerage in certain parts of the district. The Sale of Food and Drugs Act seems to be working in the borough with satisfactory results.

FORTY-EIGHTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

Held in CAMBRIDGE, Aug. 10th, 11th, 12th, and 13th, 1880.

PROCEEDINGS OF SECTIONS.

SUBJOINED are abstracts of the papers presented to the several Sections at the annual meeting, and of the discussions thereon.

SECTION C.—OBSTETRIC MEDICINE.

Wednesday, August 11th.

THE Chair was taken by the President, W. S. PLAYFAIR, M.D., F.R.S., Professor of Midwifery in King's College, who delivered an address, which was published at page 261 of the JOURNAL for August 14th.

DISCUSSION ON UTERINE HÆMOSTATICS.

The discussion on this subject was opened with a paper by Dr. LOMBE ATTHILL (Dublin), which, in his absence, was read by Dr. Ingle, one of the secretaries of the Section.

Dr. ATTHILL said that he would confine his remarks to the means of arresting hæmorrhages from the unimpregnated uterus. He said that the most common causes giving origin to uterine hæmorrhage unconnected with the actual existence of pregnancy were:—1. The various forms of cancer; 2. Tumours of the uterus; 3. Imperfect involution of the uterus after labour or abortion; 4. Granular erosion of the cervix uteri; 5. A granular condition of the intra-uterine surface; 6. Retention of a portion of the ovum after abortion. 1. Cancer was placed first on the list of causes, because its treatment by the administration of Chian turpentine, as advocated by Mr. John Clay of Birmingham, had attracted general attention. Dr. Atthill's opinion of the drug as a hæmostatic in some cases of cancer was very favourable; but he could not confirm to the full extent Mr. Clay's views as to its curative powers in malignant disease of the uterus. It seemed to exercise its greatest power in cases of epithelioma of the cervix, and to have comparatively little influence in the medullary form of the disease. The value of turpentine in cancer of the uterus seemed to be mainly due to its action in diminishing the blood-supply. Dr. Atthill related the case of a lady who came under his care in September, 1879, suffering from a severe attack of uterine hæmorrhage, which proceeded from an epithelioma of the cervix uteri. The hæmorrhage was checked by the application of the strong solution of perchloride of iron; but, as the disease steadily progressed, the diseased structures were removed with the scoop and knife on December 1st. The patient rapidly recovered; but in February the hæmorrhage recurred, and the disease was found to have extended into the cavity of the uterus. The diseased mass was removed; but the hæmorrhage continued in spite of the use of perchloride of iron. In March, Dr. Atthill began to administer pills of three grains of Chian turpentine with two of sulphur, eight to be taken daily. For some time, the hæmorrhage was much lessened, and almost disappeared; but lately there had been a return of the bleeding to an alarming extent. The patient had taken the Chian turpentine daily from the time of its first prescription. The small supply of Chian turpentine, and the difficulty of obtaining it pure, were serious objections to its use. Dr. Atthill believed that a pure oil of turpentine, administered in from ten- to twenty-drop doses three or four times a day, was as a hæmostatic quite as good; and that, if carefully rubbed up with powdered gum arabic or tragacanth, it was likely to agree with most patients. He had also administered the confection of turpentine with advantage. 2. To restrain the hæmorrhage from fibrous tumours, the injection into the uterus of the liquor ferri perchloridi, and of the tincture of iodine, had been advocated. This method was sometimes followed by satisfactory results; but it was not absolutely safe, and, unless care were taken to provide a free exit for the fluid injected, either by previously dilating the cervix uteri or by using a double cannula, serious results might follow. The injection of hot water in such cases was a far safer method of restraining the hæmorrhage. Incising the cervix was often useful in being followed by a diminution in the hæmorrhage and by relief from pain; and at the same time it permitted the introduction into the uterus of a tube of moderate size, and the free return of the hot water, which should be injected at a temperature of about 110° Fahr. Another simple and often effectual method of applying heat, was the use of Chapman's spinal hot-water bags. Of drugs, none could equal ergot in its power of restraining the hæmorrhage depending on fibrous tumours. It was most effective when administered hypodermically. 3. Imperfect involution of the