were then trimmed and the laparotomy wound closed by deep and superficial sutures. A noticeable effect of the spinal injection was an immediate improvement of the pulse-rate with a cessation of retching and vomiting.

The recovery was uneventful and the stitches were removed from a perfectly healed wound on the tenth day. The bowels acted normally during that period, and after the first 36 hours there was no vomiting. But the patient was an undersized weakly infant, and at the end of a fortnight was sent home with the hope that his mother's milk, which had been maintained for him, would enable him to thrive. Unfortunately this was not the case, and he died a fortnight later, the cause of death being certified as marasmus. A post-mortem examination was not obtained.

Welbeck-street, W.

A CASE OF SEVERE VERTIGO:

DESTRUCTION OF THE LABYRINTH; CURE.

BY MACLEOD YEARSLEY, F.R.C.S. ENG.,

SENIOR SURGEON TO THE ROYAL EAR HOSPITAL; CONSULTING AURAL SURGEON TO THE ROYAL SCHOOL FOR THE DEAF AND DUMB, MARGATE; MEDICAL INSPECTOR OF LONDON COUNTY COUNCIL DEAF SCHOOLS, ETC.

THE patient, aged 31 years, was sent to me on Dec. 9th, 1909, by Mr. C. A. James, of Stamford-hill, and Mr. E. Jones, of Goswell-road. For 11 years she had suffered from attacks of vertigo. Their onset was sudden, with a feeling of falling, in which direction she could not say, nor could she determine the direction of the horizontal movement which was apparent in surrounding objects. They were followed, about ten minutes later, by vomiting, often prolonged. Her last attack had been on Dec. 7th, when she had awakened suddenly at 3 A.M., with a sensation of giddiness, got out of bed, fell, vomited, and was incapacitated by vertigo and sickness until 8 P.M. Occasionally slight hissing or buzzing tinnitus occurred and was worse during the vertigo, but these noises were by no means always present. The frequency of the vertigo attacks varied; she had passed three years and nine months without one of any severity, but they had of late become more frequent and more severe, and, during the summer of 1909, she had four bad attacks in ten days.

The patient was a hard worker, abstemious, and, apart from her vertigo, in good health. She began, however, to be in constant dread of the attacks, fearing lest she should fall into the fire or sustain other serious injury during their occurrence. Her appetite was not good, but she had no dyspeptic symptoms and never vomited save during an attack of giddiness. A general examination revealed no physical signs.

The patient was deaf on the right side, and she stated that she had discharge from that ear for 18 months after an attack of diphtheria at 18 years of age. On examination the lower half of the inferior segment of the right tympanic membrane was thickened and opaque. The remainder of the membrane was thin and flaccid, especially in the superior posterior quadrant, which appeared to be adherent to the head of the stapes. The left membrane showed inferior thickening. There was nothing noteworthy to be seen in the nose and throat.

Caloric tests were postponed, as the patient was some way from home and did not wish to risk the possible induction of an attack of vertigo. She showed slight horizontal nystagmus on lateral deviation to either side, equal, and probably physiological. Romberg's test showed a tendency to sway towards the right.

Functional tests gave the following results:—Weber: lateralised to the left. Acoumeter: voice and whisper; R., 15 feet; L., nil; Rinne: R., double negative; L., positive. Bone conduction: R. greater than -20 sec.; L., -5 sec. Galton-Edelmann whistle: R., 18 580·96 D.V.; L., 40,000 D.V. In the lower part of the scale she could hear no fork on the right side until C 256 was reached, for which she had perception only.

The patient was placed upon general treatment, with large doses of bromide, but this (and later quinine, asafoetida, &c.) had no effect. Seen again on March 30th, 1910, she had had several bad attacks, with severe vomiting. She had noticed that she tended to fall towards the right, and complained

that the vertigo left her much more weak than formerly. The caloric test was performed by the house surgeon (Dr. H. More), who found that marked and rather coarse nystagmus to the right occurred after 30 seconds. The question of operation was placed before the patient, who readily consented.

Operation.—On May 28th, 1910, the patient was anaesthetised by Mr. J. Ward Lawson, and the right auricle was turned down by means of Lake's incision. A wide radical mastoid operation was performed; the spine of Henle was well marked, the mastoid being of the infantile type. The antrum was reached quickly, and was found to be of about the size of a split pea. The bridge was removed, leaving the tympanic membrane intact, which, after the extraction of the incus through the antrum, was removed by cutting round with a Sexton's knife. The stapes, with the tendon of the stapedius, having been taken away, the wound was enlarged by the smoothing down of the buttress and all overhanging projections, and a good view of the operation field was thus obtained. One or two facial twitches were noted when working near the pelvis ovalis, and it was found that the seventh nerve was partially exposed in that region. The ampulla of the external semicircular canal having been opened with a fine chisel, that passage was followed into the vestibule, which was thoroughly curetted and swabbed out with a solution of formalin. The tympanic ostium of the Eustachian tube was curetted, the wound was packed, and the auricle was readjusted.

The first dressing was made on May 31st, and nearly all the stitches were removed. No pain or headache was complained of after the operation, and the temperature did not rise throughout the convalescence. There was, however, considerable vertigo, but getting markedly less. The patient left the hospital on June 8th. She still had slight vertigo, but no nausea.

On June 15th she mentioned that she experienced slight staggering when walking, and there was marked nystagmus on deviation to the right. On June 29th she stated that she could walk better and had no vertigo, but on July 6th she said there was always a slight dizziness after walking. The ear healed without complication in about six weeks. The last occasion that she was seen was on Oct. 5th, 1910. She could then walk quite straight; there was no nystagmus, and the feeling of giddiness after walking had almost disappeared.

The patient subsequently obtained a post some distance away, and in a letter dated May 3rd, 1911, she wrote:—

I am pleased to say that my health generally is much improved and that I have had no attack of sickness until about a fortnight ago, when, after retiring to bed quite well, I was woke up by being sick, but felt no giddiness whatever. I, however, have a tendency to fall, or rather lean to the right side, after having walked for about half an hour; it seems I cannot walk straight, going from left to right unless guided by someone. Otherwise I must say that I am feeling very much better than I was a year ago.

She is now married, and her last letter, dated Jan. 19th, 1912, was in reply to one sent for the purposes of this article. She has replied thus to the following questions:—

1. Q. Do you have attacks of giddiness such as you used to experience?—A. On an average once in two days I seem to get a giddiness pass through the whole of my body, lasting not more than five minutes.
2. Q. Have you any noises in the ear operated upon?—A. Occasionally a sound, as of gas; no particular time have I noticed this.
3. Q. What is the state of your health generally.—A. Excellent.
4. Q. Have you any attacks of vomiting?—A. None, and never felt the slightest whatever.
5. Q. Have you still a tendency to lean towards the right side after walking?—A. Yes, but it is getting less.
6. Q. Have you any difficulty in walking straight?—A. I'm afraid this is the greatest of all questions to answer. I certainly cannot walk straight for more than ten minutes when walking quite alone.
7. Q. Have you any difficulty in walking or finding your way in the dark?—A. Yes; I seem to get a very unpleasant sensation when in the dark; seem to lose control of myself; afraid to venture further on; cannot imagine a clear space before me, although I may be certain in myself that the way is clear.

I think, from these replies, that the case may be regarded as a success. The patient is able to live in comfort and no longer has a sudden attack of vertigo, with nausea and vomiting, hanging over her, with the possibility of it lasting for hours. Her replies to the questions are interesting, especially to No. 7, in which I have italicised one sentence.

In the first case of this operation reported by me¹ the patient has since complained of his complete loss of the sense of space when in the dark. A recent experiment, conducted with Dr. F. L. Golla, shows that when rotated even a quarter of a circle with the eyes closed this earlier patient loses all

¹ THE LANCET, Sept. 19th, 1908, p. 871; June 19th, 1909; Feb. 4th, 1911, p. 330.

sense of locality. In this case both ears have been destroyed—the one by operation, the other by disease—and the patient is stone-deaf. I was, therefore, inclined to attribute the effect of darkness to his inability to hear, as much as to the loss of the sense of space. In the later case, however, hearing on one side, as also the vestibule, is normal, yet she has also this sense of insecurity in the dark, although to a less degree.

The investigation of congenitally deaf children, with a view to discover their sensations when in the dark, gave negative results. They appeared to have no difficulty in finding their way and to experience no sense of insecurity, even although rotation with closed eyes (in a series of experiments conducted with Dr. Golla) failed to make them giddy or to disturb their sense of localisation in space. Most of these children had no idea of what giddiness meant.

I have surmised, therefore, that in the case of congenitally deaf children the absence of function in the vestibular apparatus has been compensated by a better development of the muscular sense; and that, in the two adult cases here referred to, that sense has not yet had time to adapt itself to the altered circumstances.

So far as I know, no record has yet been made as to the sensations experienced when in the dark by those who have been deprived of their vestibular apparatus by operation or disease. Perhaps others who have operated upon the labyrinth may be able to throw further light upon the subject.

Queen Anne-street, W.

REMOVEABLE BLADDER SUTURES.

BY COLIN CLARKE, M.B., B.S. LOND., F.R.C.S. ENG.,
LIEUTENANT, R.A.M.C.

THE following method of closing the bladder, with removeable tube sutures, after suprapubic cystotomy, worked so satisfactorily in a recent case that I have ventured to describe briefly the operation.

A private in the 2nd Devonshire Regiment was admitted into the Military Hospital, Cottourra, Malta, in July, 1911, suffering from stone in the bladder. Owing to the cystitis present it was decided to remove the stone by suprapubic cystotomy. Under general anaesthesia the bladder was opened above the pubes and a large, nodular, oxalate stone was removed. The bladder was well washed out with boric acid lotion and a No. 8 rubber catheter was secured in the urethra. The incision in the bladder wall, about 2½ inches long, was closed by means of seven tube sutures.

The tube sutures consist of the following parts:—(1) Strands of ordinary strong silkworm gut; (2) short pieces of glass-tubing, 2 inches long and ¼ inch in diameter; and (3) small brass or steel rings, ½ to 1 inch across. The

FIG. 1.

FIG. 2.

sutures of silkworm gut are passed with a curved needle through the muscular coat of the bladder on both sides of the opening. Each suture is inserted not less than ¼ inch from the edge of the incision and emerges on the cut surface, just short of the mucous membrane of the bladder, as in Fig. 1. The two free ends of the suture are threaded through a glass tube and drawn tight; they are then secured in this position by being firmly tied over the rim of one of the metal rings, as in Fig. 2. The loop of silkworm gut which projects from the end of the tube and passes through the bladder wall acts like the loop of a wire polypus snare and holds

the two sides of the bladder incision firmly in contact with each other. The other end of the silkworm-gut suture, knotted over the edge of a ring, as in Fig. 2, is on a level with the surface of the abdomen and is easily accessible for the removal of the suture. To remove a suture the silkworm gut is divided close to the knot, and the knotted end is then pulled on until the suture is withdrawn. One hand at the same time holds the glass tube steady in the wound. The silkworm gut remains quite taut after ligature in the tubes, and does not adhere to the bladder wall on removal.

In the case mentioned above seven sutures were inserted to close the bladder opening and five glass tubes were used to hold them. The two lowest tubes carried two sutures in each. The catheter tied in the urethra was connected with a piece of rubber tubing, which passed into a bowl of antiseptic lotion under the bed. The abdominal incision was partly closed, just sufficient opening being left for the passage of the five glass tubes to the surface.

The suprapubic wound was dressed on the day following the operation, and then on every other day until the eighth day after the operation. For the whole of this time the wound remained clean and free from urine. A slight serous discharge from the granulating wound coagulated and glued the dressings to the tubes and rings. The patient was perfectly comfortable, and the whole of the urine drained away through the catheter in the urethra.

On the eighth day after the operation the tube sutures were removed and the catheter was withdrawn from the bladder. Within a few hours following the removal of the tube sutures urine began to escape from the suprapubic wound, this being the first time for urine to appear since the operation, and a small urinary fistula formed. A catheter was again secured in the bladder and a firm pad of dressings applied to the suprapubic wound. Urine continued to escape from the incision for the whole of the eighth day, but on the ninth and tenth days it greatly diminished, and on the twelfth day it entirely ceased. After this the wound rapidly healed.

I regret now that the tube sutures were not left in position for another four or five days. Eight days form apparently too short a time in which to obtain firm healing of the bladder incision. As long as the tube sutures were left in position the bladder wound remained water-tight and no urine escaped. The urinary fistula which formed after the removal of the tube sutures was only a small one and closed in four days, the suprapubic wound at this period being in an advanced state of healing by granulation.

The tube sutures appear to have some advantages in closing the bladder after suprapubic cystotomy.

1. The tube sutures are easy to insert and to remove.
2. No buried sutures are left in the bladder wall to form a focus for suppuration.
3. The bladder can with safety be sewn up after cystotomy and the patient saved the discomfort of suprapubic drainage.
4. In septic conditions of the bladder the glass suture tubes provide a ready channel of escape for any inflammatory exudates which may collect along the bladder incision.
5. In cases where the bladder has to be reopened after operation, as, for example, to arrest hæmorrhage, remove clots, or provide drainage, the suture tubes afford a ready guide to the bladder incision.

Malta.

ASSOCIATION DES MÉDECINS DE LANGUE FRANÇAISE.—The Thirteenth Congress of French-speaking Physicians will be held at Paris from Oct. 13th to 16th inclusive. The subjects appointed for communications and discussion are: 1. Oxalæmia and Oxaluria. M. Loeper, of Paris, will open the subject with a general exposition, and M. Lambling, of Lille, will give a Chemical Study of Oxalæmia and Oxaluria. 2. Acute Infectious Colitis. M. Cade, of Lyons, will speak of Acute Infectious Colitis in the Adult, and MM. Hutinel and Nobécourt, of Paris, of Acute Infectious Colitis of Infants. 3. The Therapeutics of Hæmorrhagic Syndromes. M. Carnot, of Paris, will open with a general exposition of the subject. M. Sabrazès, of Bordeaux, will discuss the Examination of the Blood in the Diagnosis of Hæmorrhagic Syndromes, and M. Nolf, of Liège, the Physio-pathology of Coagulation of the Blood. Other proposed subjects are: (1) Anaphylaxis Clinically Considered; and (2) Anti-typhoid Vaccination. The secretary-general is Professor Bard, 44, Boulevard des Tranchées, Geneva.