admitted into Swansea Hospital, under Mr. Thomas, on December 26th, 1879. "The operation was carried out in all its details on January 12th, under the carbolic spray, and the whole instruments and wounds covered with a pad of gauze, secured by a bandage. The patient once vomited during the night, and the following morning complained of pain and tenderness over the lower part of the abdomen; no tympanites. Temperature, A.M., 102°; P.M., 100.4°. Liquor morphine (℥x) relieved him, and the next day this had disappeared.—January 14th. Temperature, A.M., 102°; P.M., 100.4°. As the gauze was saturated with blood and serous oozing, the parts were dressed under spray. Looked well; tender; no redness; a little œdema of scrotum, and orchitis.—January 19th. The temperature gradually went down, until it reached normal on this day. The wound was dressed as before: slight suppuration; induration along canal well marked. Soap-and-water enema caused good evacuation, the patient feeling no pain or inconvenience. The left testis was still swollen.—January 23rd. The screw was removed; there was no suppuration; the wound was dressed as before. There was good induration along the course of the inguinal canal. The bowels acted naturally.—January 26th. The bowels have continued to act daily naturally.—January 28th. The dressings were removed. The wounds were healed. *The canal was occupied by a good firm elongated plug, to which no impulse was imparted on coughing.*—February 12th. He was discharged cured."

CASE XXV.—Mr. Thomas writes: "The second case, in a child nine years and a half old, ran a similar course to the first, with equally good results." "I saw my first case a few days ago, and found the inguinal canal quite obliterated; and there was no impulse imparted to the induration which occupies its site."

It would be difficult, I think, to adduce stronger testimony than this of the practicability and efficiency of the operation.

A NOTE ON THE ALUMINOUS CHALYBEATE WELL OF HARROGATE.

By GEORGE OLIVER, M.D.Lond., M.R.C.P.

THE publication, in the JOURNAL of December 18th, of the recent analysis of the ancient alum-well at Harrogate by my friend Mr. R. H. Davis, F.C.S., suggests, in the absence of published experience, a note on some therapeutical applications of it.

My observations have been mainly directed to the external use of this powerfully astringent water; and during the past season it afforded gratifying results in the following classes of cases.

1. *Relaxation and loss of tone of pharynx and larynx; chronic congestion of pharynx.* This water was administered as a spray-inhalation.

2. *Profuse phthisical perspiration.* The undiluted water sponged, or, what was more grateful, and perhaps more efficacious, sprayed over the skin, surpassed all other remedies in one extreme case.

3. *Leucorrhœa; relaxation of vagina and mucifarious glands.*

Other applications, promisingly useful, may be further noted. In relaxed and debilitated conditions of the skin, the addition of this strong aluminous chalybeate to the bath-water—e.g., the spray or needle-bath, or the ordinary sponge-bath—may prove adjuvant to the valuable chalybeate and other courses of treatment prescribed at Harrogate; and, as a dressing or lotion in certain obstinate skin-diseases (e.g., chronic eczema, the vegetal parasitic diseases) and chronic ulcers, this stimulating and astringent water may play an useful part in the local treatment.

My limited experience of the internal use of the water does not enable me to draw any definite conclusions as to its therapeutic force or range. I am, however, persuaded that it may prove beneficial in some cases of chronic diarrhœa and dysentery, and other chronic discharges, whether hemorrhagic, mucous, or purulent. My few observations suggest that the commencing dose should be small—a tablespoonful, or even less; that it should be well diluted, and should not be taken on an empty stomach, but an hour after meals.

Such medicinal virtues as the water possesses appear to depend mainly on the acid and astringent properties of the persulphates (which exist in the large proportion of one grain to the ounce), and the rich charge of iron salts (proto- and per-sulphates). It may be noted that, unlike some allied waters—e.g., Sandrock, Isle of Wight; Vicar's Bridge, near Dollar; strong chalybeate of Moffat—it is not too concentrated for convenience; and, though a very strong chalybeate, its constituents are in perfect solution, and not in suspension, like some of the muddy mine-washes which have been dignified as mineral waters.

Among the well-known rich and varied resources of Harrogate, this sulphated chalybeate may be easily passed over, as it has been for more than a hundred and fifty years. But, though its range of application

as a curative agent is undoubtedly limited, it cannot be supplied by any member of the unexampled series of medicinal waters which Harrogate possesses, and should not, therefore, be ignored. Among its richly endowed fellows, it will doubtless hold its own, whatever the shape ultimately given to its province of usefulness by observation and experience.

A CASE OF CÆSAREAN SECTION, IN WHICH BOTH THE MOTHER AND CHILD WERE SAVED.*

By WILLIAM WALTER, M.A., M.D.,

Obstetric Surgeon to St. Mary's Hospital, and the Manchester and Salford Lying-in Hospital.

My paper consists of an abstract of some notes which I took of a case of Cæsarean section that occurred four years ago in the North Staffordshire Infirmary, under the care of Mr. Alcock; and I am much indebted to that gentleman for his kind permission to make use of the case on the present occasion.

During the last four years, Porro's operation has become known, and laparo-elytotomy has, through the exertions of Dr. Gaillard Thomas, been so much improved, that both are now fully recognised as rival operations to the Cæsarean section. Time and experience are yet needed before we can arrive at accurate conclusions as to the relative merits of these various operations over one another; but much can be done towards the solution of this difficult and important problem if the profession will search for and record all those cases of Cæsarean section which still remain unpublished. In Manchester, our veteran and highly esteemed obstetrician, Dr. Radford, has during the last two months collected from various sources upwards of a dozen cases of the Cæsarean operation that have never been published; and he has mentioned these cases in a second edition of his *Observations on the Cæsarean Section*, which is now going through the press.

On June 23rd, 1876, K. T., a dwarf, in labour, was sent into the North Staffordshire Infirmary by Mr. Alcock, who, a few hours before, had seen the case in consultation with Mr. Taylor of Burslem. The patient, a primipara, twenty-eight years of age, was of remarkably low stature, being only three feet six-and-a-half inches in height. This diminution in stature was mainly owing to the shortness of her lower extremities, which scarcely equalled one-third the length of her body. Notwithstanding this, she could walk very well, and on many occasions accomplished a distance of three or four miles without fatigue. The expression of her countenance did not betoken a high mental development, and her general disposition was decidedly apathetic. Her health was good, and her body well nourished. The catamenia commenced when she was seventeen, and rarely showed any irregularity. She told me that she had been married more than a year, and had come on the previous day to the Burslem Wakes, to be exhibited with her husband, whose height was an inch and a half less than her own. He was forty years of age, and, from his conversation, seemed fairly intellectual. She stated that, for several successive days, she had been driving in a caravan through the country; and the jolting she sustained had induced labour three weeks before the proper time. The pains had commenced twenty-four hours before her admission, and for the last six hours there had been but a short interval between them.

Her face wore no appearance of anxiety; nor did she seem to have suffered much constitutionally from the somewhat protracted period of her labour. Her pulse was good, 100 in the minute, and showed no perceptible alteration during the continuance of a pain. The temperature was normal, and there was no abdominal tenderness. On passing my hand over the uterus, I perceived that its long axis corresponded to a line drawn from the centre of Poupart's ligament on the left side to the floating ribs on the right side. The placental *bruit* was audible over most of the anterior right aspect of the uterus; while the foetal heart was only distinctly heard over a small area at the upper half of the same side. The vagina was not too hot, and was well moistened with a slimy discharge. The membranes had been ruptured five or six hours. The os uteri was of the size of a shilling, quite soft, and responded feebly to the pains, which were coming on every ten minutes; it was situated very high, and in close proximity to the bladder. The promontory of the sacrum was very large, and certainly did not leave more than one inch and a half for the antero-posterior diameter of the inlet; the transverse diameter was below the normal; and the diameters of the outlet were not appreciably altered. The presentation was a knee; but, in addition, part of a foot could be felt very high up and near the pubes.

A consultation of the staff was held soon after her admission into the

* Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Cambridge, August 1880.

infirmary, and it was decided unanimously that Cæsarean section afforded to the patient the best chance of escape; and, as the labour had made no progress during the last six hours, although the pains had increased in frequency and severity, it was deemed useless to postpone the operation, lest the patient, by becoming exhausted, would have to incur still greater risks than those necessarily attached to the operation itself.

The temperature of the room was now elevated to nearly 70° Fahr.; and, the patient being placed under the influence of bichloride of methylene, the operation was commenced. An incision was made in the median line from the umbilicus to near the pubes. No hæmorrhage took place from the parietes. The uterus was then opened in the middle line, and the child extracted without difficulty. Its left knee was found to be the presenting part; and its right foot rested on the symphysis, the dorsal aspect of the child being in front. The placenta was then removed, and great hæmorrhage took place from its uterine attachment; and at the same time very alarming hæmorrhage occurred from the uterine sinuses, and great difficulty was experienced in checking it. Five vessels in the uterine incision were tied with ligatures of Chinese twist, and the ends cut short. The uterus not contracting, cold sponges were applied to its interior, and, with the aid of ergotine (half a grain) injected hypodermically, secured at last a permanent contraction. It was thought well to use fine carbolised catgut sutures in the uterine wound; but, before introducing them, a large India-rubber tube was passed from the uterus into the vagina, for the purpose of drainage. (This, however, came away a few hours later.) During the operation, the intestines did not come much into view; and what blood escaped into the abdominal cavity was carefully sponged away before the external wound was closed with seven silk ligatures. A pad of lint was next placed on the abdomen, and covered over with a thick layer of cotton-wool; the application of a flannel bandage completing the operation. The quantity of methylene used was ten drachms; but it did not produce any nausea or vomiting.

The child, whose weight was 5 lbs. 10½ oz., was a male, and cried immediately on being born. It seemed very healthy and well proportioned, and measured twenty inches and a quarter, or, in other words, half the height of its mother.

I will not try your patience by reading the daily report of the patient, but shall content myself instead with giving a *résumé* of the more important features of the case during its progress towards recovery.

1. With respect to the temperature. On inspecting the temperature-chart, one sees at a glance that a distinct rise took place at three different periods of her illness.

The first and highest was on the fifth day, when the thermometer registered 102°; and, from the tender and tympanitic condition of the abdomen at the same time, was owing most probably to peritonitis.

The second rise was on the twelfth day, and was attributed to a moderate attack of phlegmasia dolens, which, commencing three days before, had now reached its climax. It was not ushered in by shivering, or any constitutional symptoms; and, after a duration of twelve days, passed away, leaving for three weeks slight œdema of the left foot.

The third and last rise was on the nineteenth day, and was caused by the formation of an abscess in the right breast. In six days, this was opened, and continued to discharge for nearly four weeks.

Day.	Temperature.		Pulse.	
	M.	E.	M.	E.
June 23	1 ..	100.0 ..	—	130
" 24	2 ..	98.8 ..	108	100
" 25	3 ..	98.0 ..	100	100
" 26	4 ..	99.2 ..	100	100
" 27	5 ..	102.0 ..	120	100
" 28	6 ..	99.8 ..	112	112
" 29	7 ..	98.8 ..	112	100
" 30	8 ..	99.0 ..	100	104
July 1	10 ..	99.4 ..	100	110
" 2	10 ..	99.3 ..	104	114
" 3	11 ..	98.8 ..	100	115
" 4	12 ..	99.2 ..	112	105†
" 5	13 ..	100.2 ..	110	100
" 6	14 ..	97.8 ..	100	100
" 7	15 ..	98.2 ..	95	98
" 8	16 ..	98.6 ..	87	85
" 9	17 ..	97.0 ..	80	82
" 10	18 ..	97.2 ..	85	92
" 11	19 ..	97.6 ..	85	92
" 12	20 ..	97.6 ..	80	81
" 13	21 ..	97.6 ..	80	82

* Peritonitis. † Phlegmasia. ‡ Mammary abscess.

Abdominal pain was complained of for the first ten days, and was most severe on the fifth day. Most of this time, poultices were applied to the abdomen.

Her bowels were moved on the fifth day by a dose of castor-oil.

During her illness, they were sluggish, generally requiring a dose of oil or an enema to produce an evacuation.

The lochia ran a natural course. The wound suppurated very little, and at no time was the discharge offensive. The sutures were found loose on the seventh day, and then removed; the wound was completely cicatrised in four weeks.

The patient was allowed from the first a fair amount of fluid nourishment, including wine in the middle of the second week; on the fourteenth day, she commenced taking solid food, beginning for a few days with fish and fowl; all through her illness, her appetite was good.

The infant thrived very well, but was bottle-fed after the fourteenth day, on account of the mother's nipples being sore.

On the twenty-sixth day, the patient was sitting up in the ward, and rapidly regained her strength, being discharged from the infirmary at the end of six weeks.

The successful termination of the case was doubtless owing to the early recognition of the pelvic deformity, and the promptitude exercised in the performance of the operation before symptoms of exhaustion had shown themselves.

SHOCK OR ETHER?

By PAUL SWAIN, F.R.C.S.,
Surgeon to the Royal Albert Hospital, Devonport.

At the present moment, when deaths from anæsthetics are being prominently brought under our notice, the following case will be of interest.

On November 17th, I was sent for by Mr. Butters of Horrabridge to see a farmer, who, on the previous day, had received a gunshot wound in the leg. The accident happened at a farm, in a remote district, called Beeralston, on the banks of the Tamar. The party were returning from shooting, when a gentleman, carrying his gun under his arm, accidentally let it off—the charge entering his friend's leg at the back, blowing away the whole of the inner side of the ankle-joint, and reducing the lower third of the leg to a pulp. Most profuse hæmorrhage immediately ensued; and, as no medical assistance could be obtained for four hours, a large quantity of blood was lost. The unfortunate man was removed to the farm-house; and Dr. Philpots of Tavistock was the first to render him any assistance. He, in conjunction with Mr. Butters, remained with him during the night; and it was only by the most assiduous care that life was maintained. I saw the patient, at 3.30 P.M., on the following day. He had then just sufficiently recovered from shock to warrant an amputation, about which there could be no second opinion. Ether was the selected anæsthetic; and it was administered by Dr. Philpots on a sponge, placed in a cone formed by a folded towel. The patient inhaled the ether more quietly than is usual, and was not long in getting under its influence. I then proceeded to remove the limb below the knee. The operation was performed as rapidly as possible by double skin-flaps, and the two main arteries were secured, when my attention was directed to the patient's condition. He was perfectly cold and pulseless, and was sweating profusely. His respiration had also ceased. Artificial respiration was immediately commenced; brandy was administered, some of which he swallowed; and the region of the heart was stimulated with clothes wrung out of boiling water. For some little time we could hear the feeble heart-sounds with the stethoscope. All our endeavours to restore animation, however, failed. The man was dead. I gave evidence at the coroner's inquest, and stated my conviction that the death was one purely from shock; and that the ether had no part in producing it. The public mind, in these parts, had but lately been much exercised by a death from chloroform, which had occupied considerable attention in the local papers: I thought it, therefore, wise to tell the jury my reasons for the above conclusions. It appeared to me that the sources of shock were fourfold:

1. There was the shock of a gunshot wound, which *per se* is considerable, even when of less dimensions than this one.

2. The gun having been fired close to the limb, the entire charge had struck the part as one body. The hole in the gaiter, through which the charge entered, was not larger than a half-crown. Thus, added to the shock of gunshot injury, was the well-recognised shock resulting from the blow of a large bullet or round-shot.

3. The ankle-joint was destroyed—so that here also was present the shock of injury to a large joint.

4. Superadded was the final shock of the operation. My idea is that the man commenced to die at the moment when the limb was separated from his body. Hardly a drop of blood was lost—so that the mere division of important tissues must have determined the fatal issue.

The sudden collapse, attended with profuse sweating; the power of deglutition; and the continuance of the heart's action after apparent