where aspiration had been done, removing a few ounces of thick, flaky pus. December 24th, incision between seventh and eighth ribs, double tube inserted; washed out from time to time with phenyl and later with chlorinated soda. February 18, 1888, was discharged, still wearing a tube. He recovered well and is now in good health.

CASE X. A colored boy eight years old; admitted January 20, 1888. He wore a drainage-tube in the left chest, with free discharge of offensive pus into an oakum dressing. The chest was much sunken. It was stated that two ribs had been excised; on washing out the cavity the fluid passed into the mouth. Discharged not relieved, February 18th. He died soon after.

CASE XI. Michael M., twenty-nine years old; admitted November 3, 1887. Injured two hours before by a rod of iron two feet long and three-fourths inch in diameter, thrown with much force by the breaking of a machine. There was a wound between the tenth and eleventh ribs on the right side, admitting the finger, extending downwards and forwards about three inches. There was no emphysema; signs of effusion into the left chest gradually appeared, without great constitutional disturbance. The line of dullness extended upward to the lower angle of the scapula. November 30th, coughed up about a pint of pus, not offensive.

December 3rd, a small quantity of pus; December 4th a large quantity; December 8th about a pint. For a few days had a frothy, slightly bloody expectoration. December 22nd discharged at his own request, much relieved. He is now "as well as ever;" works regularly.

Of the eleven cases I have reported, three died.

One after two tappings, probably from perforation of the diaphragm. One after two tappings, and free incision; cavity did not contract. One after incision and resection of ribs; wound did not close.

Eight recovered. Three after repeated tappings. Two of these expectorated large quantities of pus. One, without tapping, expectorating large quantities of pus. Four after tapping and free incision.

TWO DIFFICULT CASES OF BREECH PRESENTATION, WITH REMARKS.¹

BY CHARLES W. TOWNSEND, M.D.

Mrs. O., thirty-six years old, was taken in labor with her seventh child April 24, 1888, at 10 A.M., and I was called to see her by her attendant at 6 the following morning. The history of her former labors was found to be as follows: first labor, twelve years ago, instrumental, child a girl, head presentation; second child a boy, delivery instrumental, head presentation; third child a girl, also instrumental; fourth, a boy, labor normal and easy; fifth, a girl, labor normal and easy; sixth, a girl, footling presentation, labor easy.

The pains during the day of April 24th had been slight and infrequent until 3 in the afternoon, when the membranes ruptured spontaneously, after which the pains became strong and regular. At 1 o'clock the next morning, the os was fully dilated, with the exception that the anterior lip of the cervix was still to be felt. From that time till

my arrival at 6 A.M., there had been little or no progress, although the pains were strong, coming at intervals of two or three minutes, and the woman was becoming nervous and tired, although her pulse remained strong at 80. Examination at this time showed considerable œdema of the vulva, with turgescence of the blood-vessels. This condition had developed during the night. On abdominal palpation the breech was found engaged at the pelvic brim, the back being on the right. The fetal heart was 142, and situated three inches above and one and a half inches to the right of the umbilicus. On vaginal examination the anterior lip of the cervix was found much swollen, caught between the presenting part and the symphysis pubis, but was easily pushed up out of the way, leaving the os fully dilated. The breech presented at the superior strait, sacrum right anterior. Both buttocks were greatly swollen, the *caput succedaneum* thus formed reaching nearly to the vulva. Pelvic measurements showed a slight general contraction, and were as follows: between spines of ilia, 9½ inches; between crests, 11 inches; external conjugate, 7½ inches; internal diagonal conjugate, 4½ inches; height of symphysis, 1½ inches, making the true conjugate about 4 inches.

The patient was etherized, and repeated attempts were made to bring the breech down into the pelvis by traction with the index finger hooked into the anterior groin, but without avail. The blunt hook was also used, but with the same lack of success, as much force being applied as was considered justifiable, a slight abrasion in the groin found after the birth of the child showing that this was the case. Miles' breech forceps were then applied three times over the sacrum and the posterior surface of the thigh, but each time slipped without advancing the breech. Dr. Edward Reynolds, who was present, and with whom I had the benefit of a consultation in the conduct of the case, then applied the forceps over the trochanters, with the same result. I then gradually inserted my right hand between the breech and the uterus, and seized and drew down the right foot, which was found just above the brim of the pelvis, the knee being flexed, and using this as a handle the breech was soon brought into the world. The arms were extended above the head, but were delivered without much difficulty. The head, however, caught at the brim, occiput to the front, and refused to come after strong tractions by the Prague and Smellie-Veit methods and suprapubic pressure. Forceps were applied, the head still being arrested at the brim, and even with their help there seemed to be no change in the position of the head. I then inserted Dr. Reynolds' axis-traction rods, and had the pleasure of feeling the head at once advance with moderate effort, much less than I had before expended unsuccessfully without the rods, and the child was speedily delivered. After mouth to mouth insufflation and artificial respiration, the child gasped, and in the course of half an hour breathed and cried naturally, and afterwards did well. It was a girl, and weighed 8½ pounds.

I have narrated this case at some length, believing that it presented several points of interest for discussion, namely, the various methods for delivery in the case of an arrested breech, and also the treat-

¹ Read before the Obstetrical Society of Boston, Nov. 10, 1888.

ment of the high after-coming head. In ordinary cases of breech presentation our position should be one of watchful care, with avoidance of interference during the labor. When nature is unable to expel the breech, moderate traction with the index finger hooked into the anterior groin is in most cases sufficient, the strength of the other arm being added by grasping the wrist of the hand used for traction. This method failing, Lusk recommends, in the order given, the forceps, the fillet, and the blunt hook, and, if the child be dead, the cephalotribe, the latter instrument giving us of course a firm hold on the presenting part.

The ordinary forceps intended for the head have been used successfully for the extraction of the breech, and with reasonable care the danger of crushing the pelvis or lacerating the abdominal viscera of the fœtus has been shown to be slight. A certain amount of compression of these parts to avoid slipping is of course required, but experience has shown that this compression is not harmful. Tarnier¹ made careful examinations of still-born infants delivered by the breech with forceps, and in no case did he find any injury either to the pelvic or abdominal viscera. By guarding with the disengaged hand, the danger to the mother's soft parts in case of slipping can be avoided. It is possible that in my case the use of axis-traction forceps would have succeeded. Special forceps intended for the breech alone have been devised by Miles. Lusk mentions some nineteen cases reported by different authors where the forceps were used successfully in the extraction of the breech.

The fillet, when wet and twisted, as is almost always the case, may cut deeply into the tissues, and it seems to me that the blunt hook, which forms merely a strong index finger, is preferable. The blunt hook is, however, a most dangerous instrument, unless used with care; serious contusions and lacerations of the soft parts will occur unless the tip be guarded with the finger and its exact position known. Of course, if the instrument be allowed to slip down on the thigh it may cause fracture. Leverage movements are particularly to be avoided.

All of these methods failing,—it not being deemed expedient in my case to try the fillet after the failure of the blunt hook,—the bringing down of a leg remained. The objection to this method at the first, and the preference of the other methods, is the danger to both mother and child,—of rupture of the uterus in the one case, or fracture of the leg in the other. The danger to the mother is especially great where the membranes have been ruptured for some time, and where from prolonged and ineffectual labor, the lower segment of the uterus has become thinned from retraction. Bearing these dangers in mind, the manoeuvre should be performed with the greatest care, the patient being completely anæsthetized. In the present case but little retraction had taken place, and no retractive ring was to be felt. The leg and foot were found just above the brim of the pelvis, and were not, as is often the case, extended up parallel with the axis of the fœtus. In the latter case it is necessary to pass the hand up to the knee, and with the thumb in the popliteal space, to gradually flex with the

fingers the leg upon the thigh, and draw it down into the world.

As regards the extraction of the after-coming head, I shall only repeat that without the axis-traction rods strong tractions with the forceps produced apparently no effect, while with the rods the extraction was easy and immediate. Lusk says that "in extracting the after-coming head, the axis-traction forceps is particularly serviceable."

One is often tempted, after considerable delay in the extraction of the after-coming head, to give up all hopes of saving the child's life and to rest awhile, for it is very exhausting work, and then begin more leisurely, but, as the event proved in this case, it was worth while to keep on and try every method, although the continued life of the child seemed almost impossible. In another case, when the operator, after a version, had been unable to deliver the head manually, he finally gave up after prolonged and repeated efforts, and requested me to apply forceps, the child's body hanging out apparently lifeless. Delivery with the forceps proved easy, and to our surprise the child was resuscitated. The tenacity of life displayed in some of these cases is certainly surprising, while in other cases its tenuity is, to say the least, disappointing.

The following case of breech presentation differs entirely from the first, and the difficulty with the after-coming head was of an entirely different nature:—

Mrs. H., twenty-eight years old, previous labors normal, was taken in labor with her sixth child, March 26th, 1888, at 5 A.M., and I saw her first at 4 that afternoon. At that time external examination showed the back of the child on the left, a large, soft, and apparently fluctuating mass at the fundus, and the breech at the brim. The fetal heart was 132, and heard loudest on the left side at the level of the umbilicus. On vaginal examination the breech was felt engaged at the superior strait, S. L. A., the os two thirds dilated. The pains were moderate and the woman in good condition. The os became fully dilated at 8 P.M., and when I was again called by her attendant at 3 the next morning, the breech had made but little advance, being still at the superior strait. Mother's condition good; pains poor; fetal heart 140. The breech was easily brought to the vulva by traction with the right index finger hooked into the anterior groin, and the child extracted all but the head, which remained high and could easily be felt above the pubis as a large, fluctuating mass. As was to be expected with a hydrocephalic head, the forceps slipped, although a careful attempt did no harm, and it was hoped might succeed. With Dr. Reynolds to assist in steadying the uterus, it was a simple matter to perforate with Smellie's scissors just above the edge of the occipital bone, and on dilating the aperture with the fingers about a pint of clear yellow serum gushed out. After this the child was easily delivered and the large hydrocephalic head was found to still contain a quantity of fluid. In the lower dorsal region there existed the condition of spina bifida, the spinal canal being covered with a thin membrane without a projecting tumor. I might have avoided craniotomy by inserting a catheter through this opening, forcing it up the spinal canal to the brain, and thus withdrawing the hydro-

¹ Dict. de Méd. et de Chir.

cephalic fluid, a procedure which has been successfully carried out by Tarnier and others.

REPORT ON FOOD AND DRUGS AND THEIR ADULTERATION.

BY B. F. DAVENPORT, M.D.

MILK.

DR. C. RICHARDSON, chemist for the District of Columbia, reports in Bulletin No. 19 of the United States Department of Agriculture, that as the result of his examination of many samples of milk sold in Washington, he has come to the belief that oleo oil, or some similar substance had been churned into them to enrich a poor or skim milk. It is well known that De Laval, the manufacturer of the much-used Swedish centrifugal skimming machine also makes a similar machine for the churning of oils back into milk.

CITRIC ACID IN COW'S MILK.

T. Henkel¹ asserts that he obtained from 0.9 to 1.1 part per thousand in cow's milk, and that the concretions so frequently found in condensed milk consist of almost pure calcium citrate. A good milking cow yields as much citric acid per day in her milk as is contained in two to three lemons. He found none in woman's milk.

BUTTER.

The German Dairy Association, under the direction of its president, Dr. R. Wollny of Kiel, has instituted an exhaustive investigation into the most accurate and convenient methods of butter analysis. As collaborators in the task they have called in the aid of a large corps of expert food chemists in all the leading countries of the world. The special occasion which has impelled this research has been the passage of an imperial German oleo statute, which allows of the presence of only 4 per cent. of true butter fat in an oleo. This therefore calls for the devising of some method of butter analysis by which the amount of butter fat present can be determined of a certainty, to within at most a single per cent. of its true amount. This is an accuracy much greater than is necessary under the oleo law of any other country. According to Dr. Wollny, the absorption of carbonic acid from the atmosphere has been the chief source of error in the Meissl-Reicherts process as commonly conducted, and the error thus introduced might exceed the equivalent of 4 per cent. butter, the whole amount allowed to be present under the German statute.

MEAT EXTRACTS.

Fabian, in *D. chem. Ztg.*, 1888, iii. No. 29, reports the following as the result of his examination of a sample of Cibils' Beef Extract, which upon its label claimed to contain 8 per cent. pepton:—

Water,	10.02 per cent.
Salts,	25.79 per cent.
Organic matter,	64.17 per cent.
	100.00

Of these 64.17 per cent. organic matter, 1.22 per cent. was albumin, and 62.97 per cent. extractives, and there was not a trace of pepton. He therefore concluded that Cibils' Extract of Beef is not to be con-

¹ *Ztsch. f. Nahrungs. Unters.*, 1888, 135.

sidered as a food, but as a condiment. H. Trillich reports in *Pharm. Centralh.*, 1888, ix. p. 137, that Coleman's Liebig's Extract of Meat and Malt Wine, according to the results of his examination, is simply a port wine containing a small quantity of meat extract, but not a trace of malt extract. It does, however, contain a large amount of salicylic acid.

PEPTONS.

There has been much uncertainty regarding the true chemical nature of these, the final products of digestive action upon albuminoids, ever since they were thus first called in Prof. Lehman's "Physiological Chemistry." Of recent years they have been viewed as simple hydrated forms of their original albuminoids, but more lately R. Palm claims to have shown them to be simple solutions in acids, such as lactic and some others. As the peptons formed during stomach digestion contain both lactic and hydrochloric acids, this explains why they are not coagulated by heat; for lactic acid, like acetic, will dissolve coagulated albumin, and it likewise prevents its precipitation by alcohol, alkali, or neutral salts, as the precipitates which might be formed by these are all soluble in lactic acid. The combinations of mercuric salts or tannic acid with peptons are, however, not soluble, and they therefore form precipitates. A very distinctive test, therefore, between albumin and peptons is xanthogenate of potassium, for this will form a precipitate with albumin from a neutral solution only after the addition of an acid, while with peptons it will precipitate at once, for the simple reason that they already contain the necessary free acid.

SACCHARIN.

Portugal has prohibited the general importation of saccharin into that country, for the assigned reason that its common use would be calculated to cause injury to the public health. For pharmaceutical purposes, however, it is allowed when first specially licensed, but even then it is allowed of only in small quantities. In France the Paris Conseil de Hygiène has reported that saccharin is not to be considered as a food but as a drug, that its use in food is dangerous to the public health, and therefore its presence in food should be considered as an adulteration. Saccharin, as might have been expected from its chemical relationship to some other compounds, has been found to have a decided antiseptic and germicidal action. From its sweetness and innocuousness, when properly used as a drug, it may very possibly prove to be the most eligible drug of its class for internal use as an antiseptic. The following simple method for detecting its presence, even in minute traces, may be of interest. Pulverize any solid to be tested, and if it contains any fatty matter, exhaust it with petroleum naphtha, then moisten it with a few c.c. of diluted phosphoric or sulphuric acid, dry and exhaust with ether; evaporate the ether extract, and add a little resorcin to the residue, a few drops of strong sulphuric acid, and a little water; this causes the evolution of sulphurous acid gas with vigorous ebullition. The fluid turns yellow, then red, and then dark green. Allow the liquid to cool, heat again to boiling or evolution of gas, and again let cool, then add an excess of alkali, when a