that nitrite of sodium or ethyl can be relied on to act on the kidneys in the ailments for which diuretics are needed.

In some forms of chronic Bright's disease I have seen a considerable increase in the urine follow the administration of sodium nitrite and nitro-glycerine, yet it has never been prolonged. In cardiac dropsy I have not seen continuous diuresis produced.

Notwithstanding that I hold the nitrites in light esteem as diuretics, it is quite likely that a full dose of spirit of nitrous ether has at times a distinct effect in causing a temporary increased urine flow. Half an ounce of spirit of nitrous ether represents, perhaps, the same quantity of rectified spirit and a fair dose of ethyl nitrite. Such a compound is well adapted to act both on skin and kidneys. But I have great doubt whether the administration of spirit of nitrous ether in doses of 15 to 20 minims three times daily as a mixture can be of any service as a diuretic. Even at first the amount of nitrite present is probably too small to influence the circulation sufficiently, and the dissipation of the ethyl nitrite commences as soon as the mixture is made up. One advantage the nitrites certainly have—they do not irritate the kidney.

In the lower animals they have been found capable of producing glycosuria when inhaled or injected, and even in man such an effect is not unknown. Dr. Maragliano¹, who caused his patients to inhale forty drops of amyl nitrite for forty minutes four to six times daily for the cure of epilepsy, says he found sugar in the urine in most cases.

Temperature.—The influence of nitrites on temperature is not an important consideration in their therapeutic use. The quantity in which they are given medicinally is not likely to affect tissue change, but dilating the vessels as they do they at first slightly raise the external temperature. As they expose more blood to the surface they will tend subsequently to lower the body temperature, but the effect in either direction is inconsiderable unless toxic doses are given, which very greatly reduce temperature, perhaps by diminishing oxidation.

Perspiration.—For several centuries spirit of nitre has been a popular diaphoretic, and of its effects and influence in causing perspiration under some conditions there can be no doubt. After drachm doses of $2\frac{1}{2}$ per cent. solution of ethyl nitrite in alcohol I have not infrequently seen in ten to twenty minutes the face bedewed with moisture. In this condition general perspiration has been readily brought on by the application of warmth. The same result has often followed 2 grains of sodium nitrite; in one subject perspiration usually occurred after small doses of any nitrite, even though he was not in bed. As a rule, however, no perspiration is produced by ethyl or sodium nitrites unless in conditions favourable for its occurrence. The diaphoresis is doubtless due to the dilatation of the cutaneous vessels which the nitrites cause, and is therefore but a passing effect. The value of the time-honoured cup of hot gruel, followed by half an ounce of spirit of nitrous ether, it is easy to understand; diaphoresis may result, but the diaphoretic value of 10 to 20 minims of spirit of nitre as usually given medicinally is very problematical.

Summary of Influence on Tissues.—The chief pharmacological characteristic of the nitrites is their power of temporarily affecting muscle tissue. Under ordinary conditions the amount of nitrite present in the tissues of the living body is not sufficient to disturb the functions of voluntary muscles, even though it has been shown that in solutions of 1-5,000 a marked effect on muscle. But the involuntary muscles and heart are affected by marvellously small quantities of the nitrites; whilst, however, their contractile power is impaired by these small amounts they are not really injured, for on removal or destruction of the nitrite molecules they rapidly resume their normal function, and no trace is left of their effects. If frequently exposed to these same molecules they seem to become less readily affected by them.

The tissues of the nervous centres seem to be less easily affected than the muscle tissue, but probably the influence of nitrites is here equally fleeting. Considering the very powerful action of nitrites on muscle tissue, their effects on other structures is very slight. In dilute solutions nitrite of sodium is not a tissue irritant, and is not very destructive to

the lower forms of life. Solutions of 2 per cent. and upwards applied to mucous or raw surfaces or injected under the skin give rise to pain, but the same effect is produced by chloride of sodium solutions of the same strength.

REFERENCES.

¹ Murrell: *Nitroglycerine as a Remedy in Angina Pectoris*, p. 17. ² Strahan, *Journ. Ment. Sci.*, xxx, 252. There is some doubt if these convulsions were altogether due to the injection. ³ *Journal of Anat. and Phys.*, vol. v. ⁴ *Pflüger's Archiv*, vol. ix. ⁵ *Pflüger's Archiv*, vol. viii. ⁶ *Archiv f. ex. Path. and Pharm.*, vol. v. ⁷ *Proceedings Royal Soc.*, 1891. ⁸ Reichert: (*Am. Journ. of Med. Sci.*, July, 1880, p. 168). ⁹ *Ibid.*, p. 170. ¹⁰ *Pflüger's Archiv*, vol. ix, p. 478. ¹¹ *Nota di Clinica Medica*, Genova, 1880.

(To be continued).

A CASE OF CÆSAREAN SECTION.

By SKENE KEITH, M.B., F.R.C.S. Ed.

It will be seen from the account of the following case that the extraction of a living child through the anterior wall of the uterus may be one of the most simple of operative procedures, unless the placenta be attached in front; in which case it is best to cut right through it without wasting time.

I was asked by Dr. Wilson to go to Leytonstone on March 11th, prepared to perform the Cæsarean operation, if, on consultation, we considered it to be necessary, on a patient 32 years of age. She had been married four years, and a year after marriage had been delivered of a small female child, after a long and difficult instrumental labour. There was a fracture of the skull, and the child, though completely paralysed on one side, lived for five weeks; a soft swelling on the side of the head becoming somewhat smaller shortly before death. The patient was a little, squat woman; the abdomen was large, with a comparatively small amount of liquor amnii, and the head was found to be lying in the common occipito-anterior position. It was calculated that the patient had completed at least thirty-seven weeks of gestation. On vaginal examination the os was found to admit one finger easily; the available conjugate was under 3 inches, probably little more than $2\frac{3}{4}$; the lateral space was diminished, and the descending rami of the pubes were fixed at a very acute angle. The parents were extremely anxious to have a living child. Dr. Wilson and I were agreed that it was useless to hope that the child could be born alive, and we were of opinion that the question to be decided was whether we should remove the child then, or wait and divide the symphysis pubis when labour had commenced. The points in favour of the former procedure were: the conjugate was almost outside the limit which is placed for the performance of a successful symphysiotomy, and was farther reduced by the exaggerated masculine pubic arch; and the difficulty of getting out to the country, perhaps during the night, had also to be considered. In addition, there was the advantage to the patient that the possibility of future impregnations could be avoided during the performance of the section. The matter being left entirely to us, we decided to remove the child by the Cæsarean operation rather than to delay.

It is futile to give exact directions as to the position of the incision through the abdominal wall; it must be made entirely in regard to the situation and size of the uterus, bearing in mind that the section of that organ is to extend downwards from close to the fundus. The external incision may therefore be situated partly above and partly below the umbilicus, or even wholly above; it will extend to from 4 to 6 inches, depending on the thickness of the abdominal wall. The umbilicus does not require to be avoided; the incision ought to be carried right through it, and it conduces to the exact stitching of the wound if one or two scores are made across the line of the incision with an aniline or nitrate of silver pencil. The peritoneum having been opened to the full extent of the wound, it is then necessary to be quite

certain that the uterus is not twisted upon itself, and this is done by inserting the finger and making out the position of the Fallopian tubes. One assistant then presses the uterus well forwards, so that there cannot be any escape of fluid or blood into the peritoneal cavity, and an incision of from 1 to 2 inches is made through the middle line of the uterus, commencing close to the fundus. The thickness of the uterine wall to be divided will be probably at least 1 inch, and the incision may be made to that depth with the first cut. As soon as the membrane is reached—and its appearance is unmistakable—the incision is to be extended downwards with scissors to the extent of about 4 inches, the exact length of the wound depending on the size of the child. When the uterine incision and the extraction of the child is done quickly—and a couple of minutes is ample to allow for the complete emptying of the uterus from the time of commencement of the making of the skin incision—it is of little moment whether the membranes are ruptured or not. If the incision has been completed without rupture, the head is to be grasped through the membranes, when they will rupture during the extraction of the child; should, on the other hand, the membranes be broken before the incision is finished, it is to be quickly completed and the hand passed into the uterus and made to grasp the head, when the child is extracted. As the child is withdrawn the collapsed uterus is pushed forwards by the assistant, who has been making steady pressure from the loins, and the upper and lower halves of the uterine incision are grasped by the right and left hands of the other assistant, as is recommended by Dr. Cameron, of Glasgow. Bleeding is thus entirely arrested. The cord is divided between two pairs of forceps, and the infant is handed over to the nurse, who ties the cord in the usual way. A large sponge is inserted into the upper part of the abdomen, so as to shut off the peritoneal cavity from all exposure; the hand is passed into the uterus, the assistant slightly relaxing the wall, and the placenta is removed.

Any sponging which may be necessary is now done. The uterus is now lying slightly outside of the abdominal cavity, and it is not necessary to draw it farther than is required for convenience in stitching; the plan of turning out the whole uterus before the child has been extracted is entirely unnecessary. The stitching of the uterus is begun, the peritoneal covering being turned inwards, and, if there be any difficulty in doing this, it may be slightly dissected off. Each stitch is tied as it is introduced, no clots being allowed to remain between the lips of the wound. About two or three deep stitches are required to the inch, and, if necessary, superficial ones may also be put in. Silk was used in my case. It was prepared by boiling in several waters, and was then soaked in a 1 in 20 solution of carbolic acid for twenty minutes. The stitches are to be passed deeply into the substance of the uterus without entering the cavity, and care must be taken to avoid the common mistake of tying them too tightly.

In this case the uterus contracted well, and after all the stitches had been introduced and tied, very little pressure was required to cause complete and firm contraction. The Fallopian tubes were ligatured, the ovaries not being interfered with. This is undoubtedly the proper course to pursue. The woman is thereby left exactly as she was before, and she also has not to undergo the disturbance which is entailed by the removal of the ovaries, and consequent change in her sexual life. The peritoneal cavity does not require to be sponged when the uterus has been kept properly forwards, the large sponge, which was introduced as soon as the uterus has been drawn forward, preventing any entrance of blood during the stitching of the uterine wound. The sponge is taken out, the uterus dried, and the abdominal wall closed; in my case nineteen deep sutures were introduced. By the time the patient was put back to bed one small clot, the size of a walnut, had passed from the vagina, and altogether the amount of blood lost was very much less than what is usual during a normal labour. The operation was completed in less than half an hour. The child weighed over 6½ pounds, and was well-developed. There was not any disturbance after the operation, the condition not varying from that of a natural birth.

When a child cannot be born on account of the want of pro-

portion between it and the maternal passages, and where there is not any disease of the uterus requiring the removal of that organ, it does not appear to me that the Porro operation is to be considered for one moment. It is evident that there cannot be any difficulty in the removal of a pregnant uterus to the surgeon, but to the woman the risk is incomparably greater, and the advantages really nothing at all when future impregnations can be so easily prevented by closing the tubes.

The question now does not seem so much to lie between the Porro and the Cæsarean operations, but between the latter and the division of the symphysis; but here the comparison is only in a limited number of cases—those in which there is not any very great deformity, for with a conjugate of less than 2½ or 2¾, symphysiotomy is entirely useless.

To anyone accustomed to perform abdominal operations, the Cæsarean section must be one of the most simple of all operative procedures, and I have not any doubt but that I could perform a second operation in twenty or twenty-five minutes, even without any skilled assistance. Cleanliness and rapidity in operating are the essentials to success.

TWO CASES OF POISONING BY THE SELF-ADMINISTRATION OF "DIACHYLON"—LEAD PLASTER—FOR THE PURPOSE OF PROCURING ABORTION.

By FRANK M. POPE, M.B., M.R.C.P.,
Physician to Leicester Infirmary.

Two cases have come under my notice of the use of this substance. Both terminated fatally, and as it is probable that a practice exists in some places of taking the drug for the above purpose, it seems desirable to give publicity to the facts with a view to the prevention of similar tragic results.

CASE I.—A. A., aged 33, a machinist, was admitted into the Leicester Infirmary on September 10th, 1890. She complained of pains in the bowels and loins. She was married, had four children, and had had no miscarriages. She had had similar attacks three times in the last twelve months. The present illness commenced with very sharp pain in the right iliac region, constipation, and vomiting after food. She was treated medically for this and the pain got better, but a feeling of soreness remained in the abdomen. The skin and conjunctivæ were yellowish; the tongue furred; the bowels confined. The catamenia had been absent six weeks. There was a distinct blue line round the gums; the hands were tremulous and the wrists very weak. There was pain in the abdomen and tenderness on pressure over the left iliac region. The legs ached; the reflexes were weak but normal. Sensation was normal; grasp was equal, and not sensibly diminished. She drank tap water from a constant service. A diagnosis of lead poisoning was made, and she was treated with iodide of potassium. Three days afterwards she became comatose, and died in a few hours without recovering consciousness.

Necropsy.—Beyond the fact that the intestines were contracted, no abnormal signs were discovered after a careful examination. The brain especially appeared quite healthy.

The coroner was communicated with and an inquest held. All efforts to trace the source of the lead poisoning failed. The water supply at the deceased's home was carefully examined. It was the usual excellent constant supply of the borough, and analysis failed to show any trace of lead. Information as to her usual diet did not indicate that she was in the habit of using substances liable to contamination with lead. The verdict of the jury was that the deceased died from lead poisoning, but that there was no evidence to show how the poison was taken. For my own satisfaction I incinerated a considerable portion of one kidney, and obtained unmistakable evidence of the presence of lead in the ash.

Many weeks afterwards the practitioner who had seen the deceased before her admission to the infirmary informed me that it had been reported to him in a roundabout and hearsay manner that the deceased had told someone that she had been advised to take diachylon, either to prevent conception or to procure abortion. This explained the case, if true, but as everybody concerned was extremely reticent, and as the coroner who had conducted the inquest had died in the interval, it was decided, rightly or wrongly, to take no steps to have the verdict of the jury revised. The above events were nearly forgotten, when in August, 1892, a patient was admitted who subsequently proved to be a victim to the same practice.

CASE II.—A. W., aged 22, married, hosiery hand, admitted August 2nd, 1892. She was anæmic; the skin and conjunctivæ were of a yellowish