or pricking in the eyelids, an increased secretion, and a puffy appearance in the lids and upper part of the cheek, as though the patient had been weeping. If the medicine is now pushed in full doses, or in increasing doses (as was formerly the practice), the tarsi become affected by pustular irritation at the roots of the eyelashes, which, if unheeded, may terminate, as I have once seen, in chronic induration of the tarsi.

The next most usual sign of an over-dose is irritation in the mucous membrane of the nostrils and fauces, with slight tickling cough, and a sense of fulness or stuffiness of the throat, simulating a common catarrh; but this symptom is so rare in summer, that I have seldom found it necessary to pay much regard to it. Still it is certain that arsenic will aggravate a severe catarrh.

Irritation of the bowels I have found to be a very rare result of arsenical treatment, provided the medicine is not given on an empty stomach. Still more rare is irritation in the urethra; but I have seen, in two cases only, a slight gleet, and in one a purulent gonorrhœa, produced by arsenic, in each case recovering as soon as the medicine was withheld. Now and then, tenderness, and vesication of the soles of the feet, occur, but not until after a lengthened course of arsenic; and, in fair individuals, a very delicate desquamation of the skin in the parts covered by the clothes, giving a dirt-brown appearance, is by no means uncommon. This gradually disappears on the termination of the course, leaving the skin more delicate, fair, and smooth, than before its commencement. Some individuals (about one in two hundred) are unusually susceptible of the toxic effects of arsenic. The face swells; the voice is husky and thick; the breathing is short; a sense of sickness, oppression, and fulness, at the precordia, is felt; and the nervous system is prostrated. These symptoms I have once seen produced by half a drachm of Fowler's solution, in divided doses. Some of these patients will bear one minim for a dose very well, and the skin will recover under it; but it is more prudent, in other cases, to abandon the medicine altogether. In some patients, arsenic affects the nervous system at first, producing general depression, tremor, and insomnia; but these symptoms are often only temporary, whereas the vascular disturbance is apt to increase by perseverance with the remedy. In others, the appetite fails; but this seldom continues long.

I have now exhibited arsenic in several thousands of cases, and have kept a minute record of almost every case; and the above are the only toxic symptoms I have noticed which could be reasonably attributed to the medicine in the cautious method of administration above described. I have generally found it perfectly manageable; and, when prescribed under favourable indications, generally useful. In very few cases have I been obliged to abandon it.

[To be continued.]

Alfred Place, Bedford Square.

CASE OF TETANUS IN WHICH RECOVERY TOOK PLACE.

By J. B. BARTLETT, Esq.

AMELIA BARNES, aged 40, a month prior to my attendance on her received a severe bruise on the nail of the great toe of the left foot, by the fall of an iron fender.

When called to her, on the 15th August, I found the toe much discoloured, the nail partly detached, and the patient suffering from violent spasms in her legs, back, and neck, with her head drawn back, and the jaw all but permanently locked. Liquids in the smallest quantity could only be given with the greatest difficulty. The respiration was quick, and the body was bedewed with perspiration. I ordered chloroform to be freely rubbed into the spine, and two grains of acetate of morphine to be taken.

Aug. 16th. There had been very severe spasms all night; she had no sleep, and had been constantly wandering. I

removed the nail, applied a solution of nitrate of silver (ten grains to the ounce) to the part three times a day, and ordered the wound to be kept covered with a poultice of belladonna and opium.

Aug. 17th and 18th. She was much the same; she had profuse perspiration, and intense contraction of the muscles; the spasms were very severe. The following medicines were ordered.

℞ Hydragryi chloridi gr. v.
Statim sumatur.

℞ Quinæ disulphatis gr. ij
Camphoræ gr. ij
Spiritus vini rect. q. s. M.

Fiat pilula ita quaque hora sumenda.

Aug. 19th, 20th, 21st. There was no improvement.

Aug. 22nd. The patient had violent spasms in the legs and across the abdomen; she moaned deeply. I ordered an enema of turpentine and castor oil, of each one ounce with half a pint of water; and two grains of morphine to be taken every three hours.

Aug. 23rd. The bowels were not relieved. She had vomited an acid, offensive fluid. I ordered the morphine to be discontinued, and an enema of turpentine, etc., to be administered.

Aug. 24th. She had been free from violent pain during the night.

Aug. 25th. The patient was much exhausted. The pulse was very quick and weak; she appeared to be sinking. I ordered her to take strong beef-tea and port wine *ad libitum*.

℞ Quinæ disulphatis gr. v.
Sumatur quartâ quaque hora.

Aug. 26th. She was not quite so weak, the other symptoms were the same.

℞ Hydragryi chloridi gr. iv
Olei crotoni gtt. ij. M.

Fiat pilula statim sumenda.

At times she felt a sudden and painful traction in the epigastric region, which struck through to the spine, and instantly increased the rigidity of almost every muscle of the body.

9 A.M. The medicine had produced three foetid evacuations. I ordered her to be put into a hot bath, and ether to be applied to the head during the time she was in the bath. I also ordered a strong embrocation of extract of belladonna, opium, and ether, to be rubbed into the spine, and a plaster of opium and belladonna to be applied over the umbilicus.

Aug. 27th. She was very restless all night. I ordered two grains of morphine every four hours, and the embrocation to be continued.

Aug. 28th. This morning I found her sitting up in bed. She said that during the application of the embrocation in the night, the spasm of the jaw suddenly gave way, and she was able to open her mouth to the extent of an inch, she could swallow with ease, and was perfectly free from pain.

Aug. 29th. She continued the embrocation; and for some time the patient walked with difficulty, having every appearance of being under an attack of paralysis, which passed off in a few days.

I have now the satisfaction to say that she is in perfect health.

REMARKS. The preceding case is one of considerable interest, as it terminated in an unusually favourable manner, considering the want of prompt treatment at the commencement of the attack. The obstinate nature of this disease is such, that the worst results, in the generality of cases, must be apprehended, whatever plan of treatment is pursued; for a remedy that appears to do good in one case will totally fail in another. The plan I should be inclined to adopt in such cases would be to remove all sources of irritation, if the tetanus proceeds from a bruised or lacerated wound, by making it into an incised one; thereby dividing any nerve that might have been partially divided, relieving the congestion of the vessels, bringing on suppuration, and restor-

ing the injured part to its normal state. I should also give external, or use mercurial friction, until the system is completely under its influence; purgatives until healthy secretions are restored; and then opiates, large doses of quinine, and antispasmodics. These are the means on which I should at first be inclined to rely, treating other symptoms as they may arise.

Teignmouth, Dec. 1854.

REPORTS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION XXXIV. THIRD MEETING.

WEDNESDAY, DECEMBER 20TH, 1854.

WILLIAM SELLER, M.D., President, in the Chair.

On taking the Chair, the President made a few introductory remarks, in which he congratulated the Society on the state of their finances, and drew attention to the objects which more especially brought them together, and to the spirit which should regulate their intercourse as the members of a society intended for mutual improvement and the advancement of their common profession. He thanked them for the honour they had done him in electing him to the office.

ON THE STATICS OF PREGNANCY. BY J. MATTHEWS DUNCAN, M.D.

In commencing, Dr. DUNCAN wished to guard the Society from supposing that in attaching numbers to angles he wished to imply the existence of real mathematical exactness in the subject he discussed. These numbers merely expressed a near approximation to the actual condition. They were used in order to facilitate the application to the anatomical circumstances so expressed, of mechanical principles which can only be used in an exact way.

I. POSITION OF THE UTERUS. In the unimpregnated female, the uterus generally lies with its fundus near the centre of the imaginary plane of the brim of the pelvis, and having its long axis in a direction corresponding to the axis of the brim, that is, an imaginary line drawn at right angles to the plane of the brim from its centre.

The unimpregnated uterus, weighing about an ounce, is so unstably poised in its position, that the common description of it as *floating* there, is an extremely apt use of that term. In accordance with this, the first change produced by the increase of its weight and bulk in pregnancy is, that it sinks in the pelvis. Gradually increasing in size to dimensions greater than those of this bony ring, it rises out of it, and is described as coming to rest upon its brim. But the uterus cannot, without risk of misapprehension, be described as ever resting upon the brim of the pelvis.

It must be remembered that the brim of the pelvis, is in the erect, the attitude understood in all such discussions, much nearer vertical than horizontal, being inclined to the horizon at an angle of above 60° , a position in which it is evident it can give no support in the ordinary acceptation of that term. If we turn to the body to be supported, we shall find its circumstances inconsistent with the above description. The long axis of the uterus is in all the earlier months of pregnancy inclined to the horizon at about the same angle as the axis of the brim, that is, an angle of about 30° to the horizon. In the latter months, the angle of inclination of the upper part, at least, exceeds 30° somewhat. From its nearly oviform shape, with the small end lowest, and the nearly uniform density of its contents, it may be predicated that its centre of gravity is nearly the centre of its mass. A necessary condition for the support of any body is that its centre of gravity be supported. This necessary condition is not fulfilled to the pregnant uterus by the pelvis. Consequently, the pelvis cannot be correctly described as the part supporting the uterus.

The pregnant uterus is supported on every side by the soft and elastic structures which everywhere surround it, as closely as if it were enveloped in a fluid. No single part can be described as the part supporting it. But with this qualification, the nearest approximation to a correct statement of the conditions of its equilibrium is the following: It reposes upon an inclined plane formed by the anterior abdominal wall, and is prevented from moving down the plane by the pelvis. To be at rest upon an inclined plane, a body must have a power exerted upon it to arrest its motion down the plane. In the pregnant

female, this is the power exercised by the brim of the pelvis. The power required to resist the pressure down the plane is to the vertical pressure on the inclined plane, as the height of the plane to its length. Now, in an inclined plane, which rises from the horizon at about an angle of 30° , the pressure on the plane itself must be greater than the pressure in the direction down the plane in the proportion of 87 to 50. Thus it is found that the chief support of the uterus is the extensive, equable, soft, and elastic abdominal wall, not the comparatively limited, unequable, hard, and inelastic pelvic brim.

Dr. DUNCAN would not dwell at any length on the application of this in explaining the production of pendulous belly, etc. He would allude only to the pains in the sides of pregnant women, which Montgomery has described as produced by the dragging upon the oblique muscles at their insertions. And the same circumstances he showed to afford an explanation why the gravid uterus had so little tendency to prolapse.

Dr. DUNCAN then pointed out that great misconceptions were entertained in regard to the position of the uterus in different positions of the female. For instance, in attempting to disprove the gravitation theory of the position of the fetus in *utero*, it had been argued that that doctrine presupposes that the mother's body is in the vertical position, in order that the gravitation of the fetal head may have the effect attributed to it, and that the horizontal position assumed during repose, or from other causes, ought to afford many more chances than the statistical results show, of the head assuming, by gravitation, other positions than the ordinary one. This argument, to have any force whatever, must imply that, in the vertical position of the female, the uterus is vertical, or nearly so; and in the horizontal or recumbent posture, horizontal, or nearly so. But this is very wide of the truth; nay, it is totally opposed to it. In the erect position of the female, the uterus is, in all the earlier months of pregnancy, not vertical, but inclined to the horizon at a moderate angle of about 30° . In the latter months of pregnancy, the uterus is generally, though not always, directed at an angle somewhat nearer half a right angle, by the resistance of the anterior abdominal wall to its growing in its earlier direction. In the supine position, we have found the uterus to be not horizontal, but inclined to the horizon at an angle greater than that in the erect attitude of the female. This angle is between 60° and 30° , probably much nearer 60° than 30° . In this way, it is evident that the uterus is more nearly vertical in the horizontal position of the woman, than in the erect. In both cases it is in an oblique position; and by this beautiful arrangement, the uterus is preserved, in an uniform condition, free from many statical variations which might otherwise affect it suddenly and injuriously. If the uterus were at any time vertical, then the lower part of the organ, the part least supported and perforated by the os, would be liable to be subjected to the pressure of a column of liquor amnii of about twelve inches in height, or equal to the longest diameter of the uterus. But by inclining the organ from the vertical position, the vertical height of the column of water is diminished, and with it the amount of the fluid pressure on every part of the walls of the organ.

Before leaving this part of his subject, Dr. DUNCAN would point out one practical application of it. In the third quarter of pregnancy, when the fetus has acquired considerable firmness and weight, and before it has become at all closely adapted in form and dimensions to the uterine cavity, it may be made, by a very small amount of force, to bob about in the liquor amnii. Various positions of the female have been recommended as best adapted for successful repercussion or *ballottement*, as this bobbing of the fetus is called. But a little attention to the configuration and attitude of the uterus will show that, on mechanical grounds, there is one position decidedly preferable to the others. This position is that of course where the operation can be best accomplished; in other words, where there is most room and freedom for the motion. In regard to the uterus itself, this is evidently its long diameter in a vertical direction. Its long diameter offers most space; and if in any other than a vertical position, motion in it would be impeded, not only by the liquor amnii, but also by the fetus's own friction on the wall of the uterus to which it gravitated, and on which it would, to some extent, move. Now, in what position of the female is the uterus placed, with its long diameter vertical? He had already said that the organ develops itself forwards and upwards nearly in the direction of the axis of the pelvic brim in all the earlier months of pregnancy, at least. If, then, we place the brim, which, in the erect attitude, is inclined to the horizon at an angle of 60° , in a horizontal position, then the uterus will be vertical. For this purpose, the axis of the female, or at least the