concealing it. I gave it as my opinion that the pills contained some noxious and acrid quality, which caused the severe sickness and irritation of the stomach, producing a severe shock on the system (the uterus being involved), and consequently the cause of the whole train of the succeeding symptoms, and the premature expulsion of the fœtus.

The charge in the indictment was for administering, or causing to be taken, a certain noxious article, believed to be saviæ (which, on first seeing, I thought it was), to procure abortion. The judge desired the jury, if they were satisfied that the farrier had sent the pills with the intention to procure abortion, and also, as in the charge, that the pills did contain a noxious article, which produced it, they should return the verdict accordingly. Verdict, Guilty. Transportation for fifteen years.

DR. MARTIN LYNCH ON THE VAPOR-BATH.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—Since the publication of my second paper on the vapor-bath, I have devoted a considerable portion of my leisure time to experiments having for their object the further improvement of my apparatus, and have obtained the most satisfactory results, the most important of which I now communicate to the members of the Provincial Association through the medium of your valuable Journal.

Having procured bath-gowns made of various kinds of stuff, and having tested each, I am able to say that no material is so suitable as a particular kind of sail-cloth; no bath-cloak can be had cheaper, but leaving cheapness out of the question, the sail-cloth cloak is superior to all others for retaining the vapor and hot air, and has the advantage of drying very rapidly. After a bath of one hour and ten minutes in duration, I have repeatedly found it slightly moist on the inner side only, whilst the outer surface has been quite free from moisture; in this state it has been hung up in a lobby, and has been found perfectly dry in less than three hours; in the open air, or before a fire, a much shorter time would be sufficient for drying it. The sail-cloth gown also looks well, washes well, and is more durable than any other.

It may appear to some that the sail-cloth cloak is not warm enough, but a moment's consideration will remove this impression; for it must be remembered that vapor and hot air, at the highest temperature that can be borne, issue forth beneath and around the feet, rapidly rising along the legs and thighs (owing to their specific gravity), and almost *immediately* bringing the upper part of the space within the gown to a temperature varying from 112° to 120° Fah. It is evidently absurd to fear cold under such circumstances. Moreover, the hoop prevents the cloak from touching the body except at the collar, which is lined with flannel, and at the acromion, where, as I have shown, the temperature is instantly brought up to 112° or 120°.

The only kinds of woollen cloth, fit for the gown, are Irish frieze (recommended by the late Professor Macartney) and kersey or fear-nought of a very superior description, selling at 3s. 6d. or 4s. per yard.

As to the frieze, I cannot say anything new, not

having been able to procure any for my experiments, but I can state confidently that kersey and fear-nought are much inferior to sail-cloth, as gowns made of these are very bulky and heavy, and absorb a great quantity of moisture, thus becoming still heavier during the bath, and requiring twenty-four hours or more to dry. Finally, a gown of kersey or fear-nought would cost at least £1 15s., while the sail-cloth gown can be had for £1.

The other kinds of woollen cloth did not answer at all. The thickest and best absorbed moisture to such a degree that they became quite soaked before the person taking the bath had been seated twenty minutes, and, as a necessary consequence, rapid evaporation took place, covering the *whole outer* surface with a cloud of steam, cooling the space within, and rendering the bath comparatively inefficient.

But although the sail-cloth cloak is an improvement, the diffuser, contrived by me, is, notwithstanding its cheapness and simplicity, one of vastly greater importance.

As the bath was originally administered, the vapor escaped from the conveying tube at the central point of the space included by the legs of the chair, and, rising upwards, first filled the upper part of the cloak, gradually extending downwards towards the legs and ancles, and the person taking the bath perspired in the same order: first at the neck, arms, and chest, then at the abdomen, and ultimately at the thighs and legs.

To obviate this most serious inconvenience, I recommended the feet to be placed in hot water; but the end desired—namely, the maintenance of a sensation of warmth in the feet equal to that felt in the neck and chest—was but imperfectly attained by this measure, inasmuch as the temperature of the water was only 98° or 100°, whilst at the neck and chest it ranged from 112° to 120°. The diffuser, however, quite overcomes this difficulty, for the *whole supply* of vapor and hot air issues forth copiously beneath and around the feet, rising up along the legs and thighs *during the entire sitting*, and the feet and legs perspire as copiously as the neck, chest, and arms, and *feel much warmer*. This makes my apparatus, in every respect, the most perfect that has been invented. Duval's comes nearest to it; but, to omit at present the points of inferiority alluded to in my former papers, it has the following most serious inconveniences:—1. A very small proportion only of the vapor and hot air escape beneath and around the feet. 2. *Vapor alone cannot, by means of it, be applied to inflamed joints, ulcers, &c.*—a great fault for indolent ulcers. Parts affected with chronic inflammation, &c., should have the vapor applied at a high temperature, and mixed with hot air; but irritable ulcers, and parts affected with acute inflammation, require steam alone, at a low temperature, and perhaps medicated with narcotics, antiphlogistic treatment being previously pursued with more or less activity, according to the nature of the case.

There is a good deal of valuable information I would be glad to communicate concerning the physiological effects of the general vapor-bath in health and disease, and also concerning the use of my apparatus for the local application of steam to wounds

ulcers, inflamed joints, &c.; but I must not occupy too much space in your present Number, and, indeed, it is not necessary I should, as I shall publish, in a few days, an Essay on the Medical Effects of Vapor-bathing.

Having had several cloaks, sets of boilers, tubes, &c., made for my own use, and having had the whole apparatus in use for a long time, I can give some hints that will save expense to purchasers.

Less stuff by three yards is used in making the cloaks now than at first, as several were made before the most economical mode of cutting the cloth was discovered; besides, arrangements have been entered into for procuring a great number, to be made in one establishment, for less than half the price demanded for making one; hence, I am convinced at least ten shillings will be saved by procuring the cloak from Mr. Morris. A saving will also be effected by buying from him the portable stool with shifting legs; and, indeed, I strongly advise that nothing should be made in the country but the common six-shilling stool with fixed legs.

I have named the prices of the apparatus at the lowest amount for which really good materials and workmanship can be had, having ascertained these prices by conferring with the principal of a wholesale manufacturing house in the city. Mr. Morris is prepared to sell at these prices.

In my second paper, twenty-four inches by thirty-six should have been given as the measurement of the stool, instead of twenty-four by forty-four.

I now make the cloak rest on the stool, as in this way it answers perfectly, and much stuff is saved.

The wick should be precisely the same as that sent in the lamp by Mr. Morris. For the general bath it should project an inch, or three-quarters of an inch, beyond the orifice, and before it is lighted the threads of the projecting portion should be unravelled, and spread wide, so as to have a broad flame. There is no danger to be apprehended from the strength of the flame.

The patient should not take his seat until the water boils most freely, which is known by the sound of the boiler and tremor of the tube.

I have the honor to be, Gentlemen,

Your obedient servant,

MARTIN H. LYNCH.

London, August 14, 1843.

P.S.—The wide flannel tube for the local application of steam is not included in the sets advertised, but can be supplied by Mr. Morris for a few shillings.

In my former papers I condemned Macartney's apparatus, because the lamp, being placed within the cloak, is withdrawn from observation, and may give rise to serious accidents. I had forgotten at the moment that the same fatal objection applies to Duval's.

NOTE ON MR. FLETCHER'S CASE OF DIFFICULT PARTURITION.

TO THE EDITORS OF THE PROVINCIAL MEDICAL
JOURNAL.

GENTLEMEN,—With your permission I would gladly make a few very brief observations upon the remarkable case of complex labor detailed in the last number

of the Provincial Medical Journal by your correspondent, Mr. Fletcher.

I will not occupy your valuable space by quoting from the case, but it will suffice to say that the patient was in her *first* labor, that two children were born alive, one by a foot, the other by a vertex presentation, the chief peculiarity of the case being, that as soon as the body of the first child had passed into the vagina, the further progress of expulsion was found to be arrested by the presence of a second child, whose head prevented any further delivery. To remove this difficulty the forceps was introduced, and the second child thus extricated, its delivery effected, and immediately afterwards the first presenting child was ushered into birth.

In physics, the axiom that no two bodies can occupy the same space at the same moment of time has so long obtained, that one cannot allow the present example to completely explode the correctness of that doctrine, however much opposed to it it may be. In the present instance the body and the arms have been brought down—i. e., they have passed into and are contained in the vagina, the head still reposing in the uterine cavity; this being granted, it is clear that a considerable portion of the bulk of the child must still be placed in the pelvic cavity—I say a considerable portion, because I would not attempt to speak with greater certainty of the part of the fœtus which might have occupied that position, but if it be remembered that the head of the child is still in the uterus, it is obvious that the chest and shoulders at least must be contained in the bony pelvis. Such is the position when the parturient efforts fail to effect anything more towards complete delivery. By examination a second child is detected, presenting the vertex, to which the forceps is applied, and its delivery effected.

Now, assuming that the fortunate mother did not possess a Brobdignagian pelvis, the longest diameter may be placed at $5\frac{1}{2}$ inches, the diameter of the head of the second child, taken from chin to occiput, at $4\frac{1}{2}$ inches; the space occupied by the blades of the forceps would equal $\frac{3}{4}$, and hence

$$5\frac{1}{2} - (4\frac{1}{2} + \frac{3}{4}) = \frac{1}{4}$$

which would be the space left for the body of the second. It may be objected that the fœtal measurement thus assumed is taken from the average standard, and that in the present case two children existed. But, on the other hand, it must be remembered, the assumed diameter of the pelvis is of the largest size, that both children were born alive, and that they were of the male sex, and, therefore, larger than they would have been had their sex been female.* To remove even these objections, let it be imagined that the children's heads were both unusually small, and still allowing to the maternal pelvis the full dimensions, there would then result—

$$5\frac{1}{2} - (3\frac{1}{2} + \frac{3}{4}) = 1\frac{1}{4}$$

thus leaving but the space of an inch and a quarter as that occupied by the second born but first presenting child, and which I need scarcely refer to as that which daily experience tells as is insufficient for the purposes of normal parturition.

With opposing difficulties such as these, sufficient, as it would seem, to render the expulsion of the

* Phil. Trans., vol. 76, &c.