1. It seems to me clear enough, that the pulmonary circulation is modified by the various conditions of respiration in which the lungs may be placed. Do not relatively similar effects attend every respiratory movement, however simple? We cannot demonstrate this upon the healthy living lung, yet the inference would seem to be a fair one.

2. During complete inspiration, the tide of blood is momentarily retarded in the capillaries of the lung. Aeration of the vital fluid then takes place with the greatest facility; and during expiration, and more especially in complete expiration, the blood thus fully aerated is expelled from the lungs by the rapidly neting heart. In other words, the circulation in the lungs is slower when these organs contain most air, and becomes most easy and rapid during the movement of expiration.

The effect of respiration, in mechanically diverting the blood from the course of the foetal circulation, is also of interest in this connection.¹

At this point I shall leave this interesting subject. If I have failed to observe correctly, or to reason justly, I shall at least have called to the task more careful observers, and more able thinkers.

In the course of this paper, I have avoided detailed accounts of individual vivisections, preferring rather to state results than to overload my pages with useless matter. Many of the vivisections alluded to were made by the skilful hands of my friends, Drs. Morehouse, and Brinton, aided by our private pupils, whom I desire to thank for their kind and ready aid.

ART. VIII.—*Iodine Injections in Leucorrhœa.* By THOS. T. RUSSELL, M. D., Pattersonville, La.

It is not my design, in this communication, to enter into any theoretical inquiries respecting the nature of leucorrhœa, or the *modus operandi* of the remedy I propose for its cure; my object being simply to give the results of my experience in relation to iodine as a remedial agent in this obstinate, and in many cases, intractable disease; and in doing which, I shall record facts, well assured that one well-attested fact contributes more to the advancement of the science of medicine than three-fourths of the theories to which the press has ever given publicity.

I consider this disease to consist in inflammation of the vagina or the internal cavity of the uterus, or of both; and in the majority of those cases which have continued for a number of years and resisted the ordinary modes

¹ During profound inspiratory fixation, nasal hemorrhage is lessened, and sometimes completely arrested. Baurdon, *Récherches sur la Mécanisme de la respiration et sur la circ. du Sang.* Paris, 1820.

of treatment, ulceration to a greater or less extent will generally be found to exist. For this condition, I have found no remedy equal to iodine; and, in illustration of its effects in my hands, I will briefly detail several cases from a number that have come under my observation:—

CASE I.—In July, 1848, I was requested by Mr. W——, to visit Grace, a favourite mulatto servant, aged about 48 years, who, he informed me, had leucorrhœa of twelve years' standing; had been under the care of a number of physicians during this period, and had been subjected to a great variety of treatment, but without avail. I found her confined to bed, very much debilitated and emaciated, face cadaverous, pulse quick and feeble, skin cool, urine scanty, severe pains in the lumbar and pelvic regions, and œdema of the lower extremities. The vaginal discharge often escaping by gushes, was excessive, and her general health had become seriously involved from the effects of this long-continued drain to the constitution. Upon examination per vaginam, the vagina, os, and cervix uteri were found to be in a sub-inflamed condition, and denuded of epithelium. The os was partially everted, and when deprived of its adherent mucus, presented a vermilion colour. The external cervix was enlarged, indurated, and ulcerated. The body of the uterus was sensibly enlarged, and descended within two inches of the os externum. The secretions from these several parts varied essentially in character, and when discharged externally resembled somewhat, in quantity, consistence, and colour, the yolk of an egg intermixed with purulent and sanguinolent matter, and all blended in a thick, opaque, tenacious plasma.

Ascertaining that she had never used iodine in any form, and believing it would afford her relief, I ordered the aqueous solution of the following strength to be thrown up the vagina twice daily, and retained several minutes, the parts being previously well syringed with warm water and castile soap, and the patient placed in a horizontal position with the hips elevated:—

R. Iodini gr. i; potass. iodid. gr. ii; aquæ pluvialis ℥i. M.

As this solution ceased to create any sensation of warmth or excitement in the parts, it was gradually increased to treble its strength. The muriated tincture of iron in the proportion of twenty drops three times daily was given as a tonic.

Under this treatment, with a nourishing diet, she soon began to improve; the irritated condition of the parts gradually subsided, the muco-purulent discharges by degrees ceased, the cervical ulcers regularly healed, and at the end of three months from its commencement, she had regained her health and strength to such an extent as to enable her to resume her occupation as cook to the family. I may add, that her mammae, which were very small and flaccid, became full and enlarged while under the influence of this medicine, and for several weeks secreted rather copiously a brownish watery fluid. This secretion being tested with starch, produced the characteristic blue color, showing that the iodine was absorbed.

CASE II.—August, 1848. Mrs. W—— consulted me; she was aged 19, small and delicate figure, had been married four years, and dates the commencement of her present "weakness," to an abortion which occurred about six months subsequent to her marriage. Prior to marriage she was remarkably healthy and active. At the time I saw her, she was anemic and emaciated, countenance chlorotic, eyes sunken, pulse feeble, menstruation painful, and either scanty or profuse. The vaginal discharge was constant and copious, muco-purulent, slightly streaked with blood, and very offensive. An

examination, with the speculum, revealed an irritated condition of the vagina, with relaxation and loss of its natural rugæ, and accompanied by a partial displacement of the uterus. The cervix was enlarged and indurated, with several ulcers upon its external surface. She had never submitted to medical advice, contenting herself with the use of some simple domestic remedies. Correcting the torpid condition of her liver by means of the usual remedies, I prescribed the aqueous solution of iodine and the muriated tincture of iron as above, recommending a nourishing diet, with free exercise in the open air.

She gradually improved under this plan of treatment, and in a few months her general health was re-established. She has, I understand, continued well ever since.

CASE III.—*October, 1850.* Mrs. G——, æt. about 27, large frame, mixed temperament, five years married, but has never been pregnant. Says that she was never "sick" previous to marriage, but subsequent thereto has always been in "delicate health." Has enlargement and induration of the liver and spleen, sequelæ of intermittent fever, menstruation irregular and profuse. She was sallow and exsanguined, and exhibited, in a great degree, that long train of symptoms consequent upon an obstinate and protracted leucorrhœa. The vaginal discharge was constant, but variable in quantity and quality. Occasionally, it was thin and acrimonious, often viscid and scanty, but usually purulent or mucopurulent, and excessive. The cervix was soft and tender to the touch, and when seen by the speculum was found enlarged and presenting a dark grayish appearance. The os was patulous, with tumefied edges, and of a reddish tint. A slight abrasion was found on the posterior lip.

Astringent vaginal injections—as the nit. argent. acetat. plumbi, &c., were advised, and to relieve the enlarged and indurated condition of the liver and spleen, I prescribed the following:—

R. Prot. iod. mer. ℥i; pulv. aloes ℥iiss; ext. hyoseyami ℥i. M. Div. in pilulæ xxiv. One pill to be taken every night; at the same time five drops of nitro-muriatic acid in a wineglassful of the infusion of gentian, three times daily, was administered. Under this treatment, the visceral derangements totally disappeared in about eight weeks, and her general health was greatly restored.

The leucorrhœa still continuing (no benefit having resulted from the use of astringent injections), and no amelioration in the condition of the parts being found on a second vaginal examination which was now made, I ordered the aqueous solution of iodine and the muriated tincture of iron as above recommended. In six weeks after using these remedies, she declared herself well; shortly afterwards became pregnant, and was in time delivered of a fine healthy child.

Other cases could be adduced to prove the remedial powers of iodine as a local remedy in leucorrhœa, but as they are somewhat similar to the above in all essential particulars, it is unnecessary to introduce them here. Regarding the disease as being essentially a local one, our mode of treatment is principally local, and applied by means of a proper syringe to the parts affected. The preparation should at first be made weak, and gradually strengthened as the parts become accustomed to its application. The mildest preparation is frequently disagreeable, and sometimes painful, but these sensations are only momentary.

We have used it varying in strength from one to four grains of iodine with double the quantity of the iodide of potash to an ounce of water. It may be applied once or twice a day, or once every second or third day, as occasion may require. In some of the severer forms of this complaint, attended with considerable abrasion and ulceration, the diluted tincture may be used with great advantage.

Its curative powers are far greater than the nitrate of silver, which, in our hands, often seemed to exasperate the complaint, or any other remedy with which we are acquainted.

As an internal remedy in leucorrhœa, iodine has been recommended by Goden, Broglia, and other continental physicians; but in our hands, notwithstanding the genito-urinary organs appear to be most susceptible to its action, it has proved of little or no value; our experience with it, in this respect, coinciding with that of Eberle, Barbour, and others of our own country.

Müller, Gimelle, and Jewell applied it in the form of ointment to the inner sides of the thighs with success, and are advocates for it.

We have never seen or heard of iodine being used as recommended in the foregoing, and do not know whether there is any originality in it; neither do we care; our object being simply to call the attention of the profession to it, with the hope that they may be so far influenced by our humble testimony in its favour as to be induced to give it a fair trial. If so, and it proves but half so successful in their hands, in relieving their fair patients of an obstinate and disgusting disease, as it has done in ours, we shall feel amply rewarded for the little trouble this paper has cost us.

NOVEMBER, 1853.

ART. IX.—*Gastrotomy twenty-one hours after Rupture of the Uterus; Removal of a Dead Child from the Abdominal Cavity, with a Successful Result.* By JOHN T. GILMAN, M. D., Portland, Maine.

MRS. HICKEY, an Irish woman, aged about thirty years, of small stature, spare habit, and delicate constitution, was taken with labour pains; her third confinement, early in the morning of September 24, 1853. Her previous labours were severe and protracted, especially the second, when the child was taken with forceps, while the mother was suffering with puerperal convulsions.

Her physician, on the present occasion, informed me that he was called at 10 A. M.; labour pains were then frequent and regular; the os uteri sufficiently dilated to admit the end of his finger; the membranes entire; the head presenting. Her pains increased in strength and frequency through the day, although they accomplished but little; the os, at 9 P. M., being rigid, and dilated only to the size of a quarter of a dollar; the head remaining in the superior strait.

At 11 P. M., after a pain of great severity, the patient complained, sud-