

those of a sucking calf labouring under diarrhoea, both as regards colour, consistence, and smell. As to the appearance and colour of the stools, they presented that of a liquid mixture of chalk and ipecacuanha. They appeared to consist of a small portion of excrementitious matter dissolved, (and as if well triturated) in a large proportion of serous fluid. The foetus of them was excessive and almost intolerable, and, as I thought, not dissimilar to that of the menstrual secretion itself. The youngest child had the breast until he was nineteen months old, and the mother menstruated regularly during the last seven months. She also menstruated regularly from the first month after her two first accouchments during the whole period of lactation. M. Donné has ascertained that human milk is a fluid holding in solution lactic sugar, salts, a small quantity of fatty matter, and of caseum; and, in suspension, a number of globules composed of butter, which are of various sizes, and soluble in ether. The first milk, or colostrum, contains, in addition, particular bodies, which M. Donné designates "granular;" these latter do not disappear entirely before the end of the first month after delivery: they sometimes, however, continue beyond that time. M. Retzius, it would appear, has discovered free phosphoric and lactic acids in the *menstrual blood*; the acids hold the colouring matter in solution. Although I am no great advocate for medical theory and hypothesis, yet it is probable that according to the recent discoveries of the composition of the human milk by Donné, and of the menstrual blood by Retzius, the former may be deprived of a considerable portion of its nutritive ingredients, and surcharged with saline matter; hence its purgative effect on the child. If this is really the condition of the milk during the menstrual period, it is evident that it will not only produce diarrhoea and nervous irritation, but that it will likewise prove defective in nutriment, and thus it may, indirectly as it were lay, the foundation for various infantile diseases. If, therefore, the precise condition and composition of the lacteal secretion during menstruation could be ascertained, we might then perhaps discover the means of preventing its morbid influence on the constitution of the child, provided it does actually produce such an effect upon it at the period. Until, however, this be accomplished, we must rest contented with our present knowledge of this interesting and important subject. I am, Sir, your obedient servant,

E. WILKINSON.

Aspatria, Cumberland, July 15, 1839.

# RESEARCHES ON THE PHENOMENA THAT RESULT

FROM THE  
INTRODUCTION OF CERTAIN SALTS INTO  
THE CIRCULATORY SYSTEM.

By MR. JAMES BLAKE, *Paris*.

(Commissioners, MM. MAGENDIE, SERRES,  
and FLOURENS.)

SOLUTIONS of many of the salts of potass, soda, ammonia, baryta, lime, and magnesia, have been, observes the author, injected into the veins and arteries, and the phenomena that have resulted have been, in most instances, studied with the hæmodynamometer. A marked difference in the physiological action of these substances has caused them to be divided into two classes;—one class containing those salts that destroy the irritability of the heart as soon as blood containing them is circulated over the parietes of this organ; the other class containing those substances which, without diminishing the irritability of the heart, prove fatal by arresting the pulmonary circulation, apparently owing to an action that they exert on the capillaries of the lungs.

These two classes of substances, distinct in their physiological action, are equally so in their chemical composition; for it is only the salts of soda that do not appear to exert any influence on the irritability of the heart; whilst the salts of all the other bases (at least of all those that have yet been experimented with) arrest the contractions of the heart when they are introduced into the blood in any quantity.

If the presence of the salts of soda in the blood (continues the author) does not arrest the irritability of the heart, it, however, gives rise to other phenomena, which would place these salts amongst the most rapidly fatal poisons. If a solution of one of these salts is injected into the jugular vein of a dog, the supply of blood to the left side of the heart is cut off in about six seconds, although the contractions of this viscera continue. At the same time the blood accumulates in the right side of the heart and venous system to such an extent as to produce a degree of pressure on the parietes of the veins, equal to a column of mercury of two inches. This pressure being propagated to the parietes of the ventricles of the brain, as well as to the other parts of the venous system, must necessarily produce on the encephalon a degree of compression quite sufficient to account for the rapidity with which death takes place in the animals submitted to this experiment; all signs of life having disappeared about forty seconds after the injection of the poison into the veins.

After death the heart still retains its irritability, but so powerful is the obstacle

which the capillaries of the lungs oppose to the passage of these substances, that sometimes it has been impossible to detect the slightest trace of them in the left side of the heart. When the quantity of salt injected into the vein is not sufficient to completely arrest the passage of the blood through the lungs, its action on the capillaries of these organs is still manifested by an increased secretion which takes place in the bronchial tubes, and which in a short time causes the death of the animal by asphyxia.

The phenomena that follow the injection of one of the salts of the second class into the veins are very different from those above described. The most striking manner of observing their action is by injecting them into the veins of an animal whose thorax has been previously opened, artificial respiration being performed. In these instances the pulsations of the heart are seen to be arrested in from seven to ten seconds after the injection; and the irritability of this organ is so completely destroyed that the application of the poles of a galvanic pile a few seconds after death does not produce any contractions. This sudden arrest of the action of the heart does not produce death so rapidly as does the stoppage of the pulmonary circulation; sensibility and respiratory movements continuing from two to three minutes after the contractions of the heart have ceased.—(*Extract from Mr. Blake's paper, as published in the "Compte Rendu de l'Academie des Sciences," No. 22.*)

#### EXTIRPATION OF THE WOMB BY LIGATURE.

*To the Editor of THE LANCET.*

SIR:—I shall feel obliged by the insertion of the following case in your valuable Journal.

JOHN WILLIAMS.

Llanystydwy, Carnarvonshire,  
July 16, 1839.

Ann Jones, æt. 29, a female of strong habit of body, was, on the 17th of March, 1838, delivered by a midwife, who, in extracting the placenta, inverted the womb. Mr. Edwards, a surgeon, of Maentwrog, and myself, were in attendance on the second day. At this time there was a large globular tumour, of about the size of a child's head, lying in the vagina, which was so firm and hard that it did not yield in the least to pressure; besides, every attempt at reduction was attended with such severe pain that we were obliged to desist.

Several months passed on, during which time her health suffered severely from hæmorrhages, which at first were periodical being more severe at monthly intervals, and afterwards she was scarcely free from them.\*

\* Various astringent injections, and other means were tried, but without much benefit.

On the 10th of November I was again requested to see her, and found her very much reduced, her face pale, her lips bloodless, her ankles slightly swollen, and syncope occurring whenever she assumed the erect or semi-erect posture. As there was no chance of saving her life, except by extirpating the womb, I had advised an operation, to which she consented. I applied a ligature by means of the double canula, around the neck of the uterus, which was at this time of the normal size. Mr. Baines, of Ludlow, and Mr. Payne, of Testinog, kindly assisted me, and the former gentleman, who was staying in the neighbourhood, superintended the after-treatment, the patient being about twenty miles from my own residence. Immediately on tightening the ligature she did not complain of any pain, but in about ten minutes after the pain became so excessive that we were obliged to slacken it, nor could she bear any but the slightest pressure for a fortnight afterwards.

On the 25th I again visited her, when, as Mr. Baines was leaving, she was transferred to Mr. Edwards, of Maentwrog, who tightened it, gradually, for about three weeks, when it separated. She gradually regained her strength, and is now in perfect health.

#### TREATMENT OF STRANGULATED HERNIA.

*To the Editor of THE LANCET.*

SIR:—In your Number for the 6th inst. Mr. J. Sawkins, of Towcester, has inserted a case of strangulated femoral hernia in a female, in which, after he and Mr. Watkins had employed the taxis without success, reduction and the removal of all urgent symptoms were completely and quickly effected by a mode of treatment which originated with me,—namely, the introduction of a gum-elastic tube into the colon. In the "Medical Gazette" for the 15th of last December, there is also a case of strangulated scrotal hernia recorded by Mr. Grant Wilson, senior surgeon to the Bristol General Hospital, in which, after the failure of repeated and forcible attempts at the taxis, he expected to be obliged to operate, but, on employing the new plan, obtained the most gratifying results. Both of these gentlemen strongly urge its adoption in all cases of strangulated intestinal hernia, and appear to have been much struck with its efficacy and mode of acting, particularly Mr. Wilson, to whom I am much indebted for the very flattering terms in which expresses himself, respecting my claims to "so important an addition to our list of therapeutic agents in these distressing cases." But, although I have published sixteen cases, in eleven of which it proved eminently successful, and have reason to believe that it has been tried in Great Britain and other countries, the