

second sound; if it were produced, as Dr. Hope affirms, by the diastole of the ventricles; how could it terminate, *i. e.* follow, without any interval, a filing murmur produced by regurgitation into the auricles? In such a case the blood must change its course, return through contracted orifices into the ventricles, and dilate them, so as to leave no interval between the sound of regurgitation, and the sound occurring at the completion of the diastole; consequently, in the above case, the diastole of the ventricles was an act without duration, or the opinions of Dr. Hope on the second sound are incorrect.

The Impulse.—Dr. Hope assumes that the aorta and pulmonary artery are the fixed points to which the fibres of the ventricles tend, during their systole; and conceives that the tense and rounded body of the ventricles is for this reason drawn upon the auricles behind; that, consequently, the apex is tilted forward; and that, in proportion as the ventricles contract to their extreme, the apex is thrown more and more forward by the auricular distention advancing in the same progression to its extreme.

This explanation of the impulse implies imperfection in the mechanism of the heart; for if, when the ventricles contract, they make pressure on the auricles, the former must waste a portion of their power in impeding the action of the latter. But is it at all certain that the arterial orifices are the fixed points to which the fibres of the ventricles tend? If these parts be examined, it will be observed that they are constructed so as to allow of motion. The impulse is not always produced by the apex. When, from effusion into the left cavity of the thorax, the heart is displaced, the impulse is felt to the right of the sternum, far from the apex, while the true impulse is absent. Nor would this movement, in excess, answer to the impulse of hypertrophy, or account for the impulse at the epigastrium, where it is frequently observed.

On the duration of the different actions of the heart, Dr. Hope writes:—"This is the same as indicated by Laennec. The ventricular systole occupies half the time, or thereabout, of a whole beat.

"The ventricular diastole occupies one-fourth, or at most one-third.

"The interval of repose occupies one-fourth, or rather less."

It must here be remembered, that, according to Dr. Hope, the systole of the ventricles commences with the first sound, and their diastole terminates at the second sound; therefore the first sound and first interval include the time in which the two actions of the ventricles

take place; consequently, if Dr. Hope be correct, the first sound and first interval should occupy three-fourths of the time of one beat, and the second sound and interval the remaining fourth. Now it is well known that the interval between the first and second sound is much less than that between the second and the first of the following beat; therefore, the first sound and first interval occupy much less than half the time of one beat. Dr. Hope must therefore be in error as to the time at which the systole and diastole take place, or extremely inaccurate with regard to their duration.

Stowmarket, Aug. 26th, 1833.

EFFECT OF

IODINE IN HYDROCEPHALUS.

To the Editor of THE LANCET.

SIR,—Having some time ago read, in *THE LANCET*, a case of hydrocephalus, which was reduced by complicated treatment, I herewith send you one speedily subdued by iodine.

The case is that of Thomas Dixie, aged eight months, residing at No. 4, Rumbals Buildings, Sun Street, Finsbury Square, who was admitted at the City Dispensary, on the 15th of January last, with the following symptoms:—Physiognomy idiotic, very irritable, the frontal bone much projected, the skin and subcutaneous veins of the head remarkably distended, the pupils greatly dilated, occasional constipation, dysuria, habitual vomiting, convulsions, &c.

The mother stated that she had already lost two children by water on the brain, the one at three months, and the other at five months of age, and the child now presented had been similarly unwell from its birth. As it appeared to suffer much, I proposed that the water should be evacuated, as the speediest means of affording relief, but to this the parent decidedly objected.

Having previously employed iodine in some cases of morbid increase of the aqueous humours with good effect, especially in a case of enlarged eye, I was induced to try iodine in the present instance. In order to ascertain the results, the head was first carefully measured by Messrs. Honeywood, Tyser, &c., and its circumference found to be eighteen inches and a half, and from meatus to meatus, over the summit, twelve inches and a half.

Treatment.—℞ Iodin. ʒi; Cerat. Cetaei ʒi. M. This ointment to be rubbed in upon the open part of the head three

times a day. *Hydrarg. c. creta* gr. iv. o. n. Also a Linctus, containing a. *Oxymel. Scilla*, to be given during the day.

About ten days afterwards the head was again measured, and was found to be reduced three-quarters of an inch in circumference, and half an inch from ear to ear. In addition to this, the other symptoms had also abated; the vomiting and convulsions had ceased; the countenance had become tranquil, and the sleep was not disturbed as it had formerly been. The principal alterations observed in the excretions, during this short period, was an immoderate discharge of urine, which could not be owing to the medicines taken inwardly, for scarcely any of them had rested on the stomach.

The frictions were still continued, and after a few more weeks had elapsed, the formation of the cranium was greatly improved. The os frontis no longer projected, having now become upright, and very little, *if any*, of the former idiotic appearance of the little patient remained. The child has not since been troubled with the complaint. I am, Sir, yours, &c.

H. S. CALDWELL, M.D.

Camberwell, Sept. 10th, 1833.

STIMULANT POWERS OF PHOSPHORUS.

To the Editor of THE LANCET.

SIR,—Will you allow me to intrude upon the pages of THE LANCET, to state, in corroboration of the opinions of one of your Correspondents, that the use of phosphorus in malignant cholera has undoubtedly been proved to be an invaluable remedy when administered in cases where the arterial action is nearly exhausted. On reference to Hooper, I find a case quoted of a man labouring under putrid fever, the symptoms of which, in many points, appear so analogous to the prevalent disease, that I am sure little doubt will be entertained of the value of the remedy, on a perusal of the following case, which I extract *verbatim*:—"A man laboured under putrid fever, for whom the best alexipharmic medicines, together with a proper regimen, were prescribed. A diarrhoea, however, ensued, accompanied with great anxiety about the præcordia, delirium, and general prostration of strength. Proper remedies were tried to stop the disease, but in vain. In this extremity the physician had recourse to phosphorus, two grains of which were exhibited twice in the evening, and again, with the addition of another grain, in the morning. A copious perspiration was produced, and the

memory and the use of the external senses were restored. The patient's health, thus recovered, was afterwards completely re-established by other remedies."

Several other cases are recorded, but I think the above recital a sufficient stimulus for the employment of this remedy. The only inconvenience is the mode of exhibition. I have found a solution in oil or ether, triturated with the yolk of an egg, the best form. A late Correspondent of THE LANCET gives a different formula, but one which I have found the greatest difficulty in preparing. The inconvenience is entirely obviated in the mode I use. A medical friend of mine, to whom I recommended the remedy, produced, in consultation, a work of Dr. Thomson, in which he states, that a grain of phosphorus would certainly produce death. In some cases, undoubtedly, it would; and I am afraid this declaration will deter many from the use of it; but let us consider, that in the present case the powers of life are in a state of exhaustion, and that phosphorus is the most powerful stimulant known; consequently, what would produce death in a person labouring under inflammatory disease, where much strength exists, would here, except in large doses, prove utterly useless. That it is a dangerous remedy, I admit; but let us again consider that the case we wish to relieve is one of those desperate states of disease in which a practitioner ought boldly to make trial of some new and powerful remedy which might act as an uncommon stimulant to the nervous system. Such a remedy is phosphorus, and I hope some of our enlightened practitioners, throwing off the trammels of fear, will give it a fair trial, when I am confident the result will reward his labours. I speak thus confidently, from having seen its astonishing effects on one patient during the last week; but not yet having had another confirmed case, I refrain from giving details at present. Should I again find it successful, I will communicate to you all particulars. I remain, Sir, yours, &c.,

EDWARD L. PINDER.

London, Sept. 6th, 1833.

N.B. I beg to refer Mr. Mann, in answer to his communication of last week, to a pamphlet under the title of "*De Phosphori Medicamenti adsumpti virtute Medica aliquot casibus singularibus confirmata Auctore Mentz*," in which he will find some exceedingly interesting and remarkable cases.