large quantity of a dark, bloody fluid, and numerous clots. Other abdominal viscera and head not examined.

Remarks.—The diagnosis formed in this case was correct as to the communication between the aorta and œsophagus; but it was expected that an aneurismal sac would have been present. The preparation and notes of the case I sent to a distinguished pathologist,—Dr. Redfern, of Aberdeen,—who, after examining it, came to the conclusion that it was cancerous ulceration; at the same time remarking that, from the action of the spirit the preparation was sent in, it was difficult to give a confident and decided opinion. Dr. Wilks, in his “Lectures on Pathological Anatomy,” says that epithelial cancer in the middle of the œsophagus is not uncommon; and the appearance the preparation presented when fresh very much agreed with his description. Taking all the circumstances of the case into consideration, soon after the examination was made, it occurred to me that it was most probably cancerous, no other supposition accounting for the ulceration of the œsophagus.

Gray's-inn-road, Jan. 1860.

NEW FACTS RELATING TO THE ACTION OF THE HEART.

COMMUNICATED

By R. WALLACE, Esq., A.M.,

VICE-PRESIDENT OF THE HUNTERIAN SOCIETY, EDINBURGH.

IRREGULARITY of the pulse is commonly regarded as an abnormal phenomenon. The fact is, that the normal pulse varies notably, as the general rule. The difference in the intervals between one beat and another amounts, in the great majority of healthy individuals, while in a state of quiescence, to about a quarter of a second. The character of the variation differs in different persons, and follows no rule; but of any ten or twenty successive beats, one, two, or more of the intervals are so shortened or prolonged that the difference between the longer and shorter amounts to what we have said. The irregularity is most developed in nervous excitable temperaments, and is a valuable diagnostic sign. We have repeatedly observed the intervals to differ in the ratio of two to four, and even of two to five, without functional or organic disorder.

This variation probably depends on variability in the following conditions—viz., friction of the lungs on the pericardium, amount of pressure within the thorax, and resistance to the pulmonary circulation from the different states of distension of the pulmonary tissue.

Further, the first two or three intervals immediately following a full and retained inspiration are, in most people, excessively prolonged. The difference between such an interval and the shortest ones amounts, in many cases, to half a second, the one being about double the other. The second sound of the heart is, as the rule, analyzable into two similar and rapidly-successive sharp taps. In children this double character of the second sound is particularly distinct. In adults it is most distinct after expiration, and with the stethoscope applied exactly over the valves. It is developed with varying degrees of distinctness in different individuals, and with different pulsations in the same person.

This double sound probably depends on the want of synchronous action in the aortic and pulmonary valves. For the rapidity of recoil in the two sets of valves is determined, not by a vital action, but by a mechanical property—namely, by the amount of resilience in the pulmonary and aortic tubes respectively. Now this resilience, and with it the recoil of the valves, is determined by four conditions—1st, the length of the tubes; 2nd, their texture; 3rd, the force of the injected current; 4th, the amount and uniformity or variability of elasticity in the surrounding textures. These conditions, however, exist in very different degrees in the aorta and pulmonary artery. These tubes differ in length, texture, and force of the injected current, and in amount and variability of the textures around. Hence, we believe, arises the small but appreciable difference in the time of recoil in the two sets of valves. Moreover, although the effect of diminished elasticity in the pulmonary vessel, as compared with the aorta, may be nearly counterbalanced by the diminished force of its distending current, and by its own diminished length, still the elastic pressure of the textures around the pulmonary artery varies with inspiration and expiration; while those around the

systemic arteries do not vary in the same way. For this reason, we conceive the recoil in the two vessels is not synchronous, or, if so, only occasionally and accidentally. This consideration may further explain why the two sounds are sometimes more and sometimes less synchronous in the same individual.

January, 1860.

CONGENITAL HYDROCEPHALUS.

By JOHN WM. FRY, Esq., M.R.C.S., Essex.

ON the evening of the 10th instant, I was summoned by a midwife to attend A. S—, aged twenty-four, in labour with her third child. On my arrival, I found the lower extremities, body, right arm, and left elbow of a fully-formed male child born, and the pains slight. On placing my hand on the abdomen of the mother,—a fine, healthy woman,—I was led to believe, from its size, that there was a second foetus in utero. Some good pains followed a dose of ergot; I brought down the other arm, and soon after the head was expelled, the child being dead. I then discovered an attachment to exist; and, after one or two more pains, the mass represented followed.

It measured twenty-two inches in circumference, and fifteen inches across from ear to ear. The following morning, in the presence of my partner, Mr. Marsh, I punctured the tumour, and let out three pints and a half of a clear, amber-coloured serous fluid. Direct communication existed between the cyst and the interior of the head by a circular aperture in the occipital bone, sufficiently large to admit the introduction of a finger. The mother is doing well.

Thaxted, January, 1860.

A Mirror OF THE PRACTICE OF MEDICINE AND SURGERY IN THE HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

GUY'S HOSPITAL.

TYPHLO-ENTERITIS—INFLAMMATION OF THE CÆCUM IN A CHRONIC FORM; RELIEF FROM TREATMENT.

(Under the care of Dr. OWEN REES.)

ALTHOUGH all parts of the alimentary canal are subject to various diseases, and some of them of the utmost importance, there is a particular section of it not uncommonly inflamed, and of which examples are presented to our notice in hospital practice: we allude to the cæcum and vermiform appendix. On the patient's card at the head of the bed is written the word *Typhlitis*, and we have sometimes heard the pupils going round the wards ask the meaning of this expression. Its derivation, as is well known, is from the Greek word *τυφλος*, signifying *cæcus*, and *itis*, inflammation of the cæcum. The