assuming its former curve upon the lessened heart, terminates the impulse.

The following is what I had first written on this subject, but I thought the healthy heart demanded a more delicate analysis of its motions. It is, however, very explanatory of the impulse of the enlarged heart.

At the instant of time immediately preceding the systole of the heart, it lies distended, but with its form determined by the surrounding pressures; the moment it contracts the heart assumes a form of its own, with a power to which all surrounding forces must yield. It now determines the form of all the surfaces in contact with it; but a part of the parietes of the thorax is in contact with the heart, and joined to it with the force of fifteen pounds to each square inch; this part is therefore moulded to the heart's form, giving the impulse which terminates immediately upon the cessation of the heart's contraction, by the parietes assuming their normal state.

Stowmarket, Dec. 1832.

EFFECTS

OF A

DIVISION OF THE ULNAR NERVE.

To the Editor of THE LANCET.

SIR,—The following case of wound of the ulnar nerve appears to me sufficiently instructive for a place in the pages of your valuable journal, in so far as it tends to corroborate the opinions of those distinguished physiologists, who deny the regeneration of nerves. Should it appear so to you, it is very much at your service. I have the honour to be, Sir, your obedient servant,

F. W. GRANT CALDER.

Licen. of the Roy. Col. of Surg. Edin.
Newcastle upon Tyne,
28th December, 1832.

CASE.—S. A. ætat. 35, states that about four years ago he received a deep wound directly behind the internal condyle of the humerus, which was immediately followed by numbness along the inner side of the forearm, extending to the points of the three last fingers, there was likewise great coldness conjoined with the numbness, and a complete contraction of the ring and little fingers, with a semibent state of the middle ones. His surgeon applied some dressings to the wound, and kept the forearm in the semibent state; the wound ultimately healed, but the above effects remaining, it would appear, that various stimulating embrocations had been applied

but without any avail. His present state is as follows:—there is a cicatrix behind the internal condyle of humerus, which is tender on pressure; a slight degree of tenderness extends along the course of the ulnar nerve in the forearm, and for a short distance above the original wound, the ring and little-fingers are in a state of continued flexion, with a total loss of the power of extension. He adds that it was about two years after the accident before he recovered the complete power of extending the middle-finger, and that about the same space of time intervened, before that the fingers affected felt as warm as the others. The ring and little-fingers can be completely extended, but immediately contract when the extending force is discontinued.

This case presents many important objects for our attention. It distinctly shows that a wound or rather division of the ulnar nerve is attended with loss of sensation and volition in all those parts which it supplies, and, in the first place, it will be as well to examine the phenomena attendant on this accident more in order.

1st. Numbness along the inner side of the forearm, conjoined with coldness, extending to the points of the second, third, and fourth fingers, were the immediate effects.

2nd. A complete contraction of the ring and little-fingers, with a semibent state of the middle one followed.

The function and distribution of the nerve sufficiently explain these effects.

The contraction of the ring and little-fingers may be attributed to the loss of nervous influences in the dorsalis carpi ulnaris branch; the partial contraction of the middle one is clearly owing to its ulnar side being only supplied by the same branch, while its radial side is endowed by a branch of the musculo-spiral. The cause of this contraction is further explained, when we recollect that the median nerve supplies the thumb, index, and middle-finger, together with the radial side of the ring, and that its numerous communications are so direct with the superficial terminating branches of the ulnar, as almost to induce a belief, that the subtle matter (Hunter) becomes, therefore, more quickly diffused; consequently its function being once more restored, as a necessary sequence the contraction follows, the nervous influences supplying its extending powers being lost.

It may be a question how he should have recovered the use of the middle-finger and not the others. This I would ascribe to the free communication which takes place at the point of the middle-finger, betwixt the radial and ulnar nerves, and the consequent direct diffusion of the "subtle matter."

This case corroborates the opinion of Arnemann, Richerand, and Delpech, while it is directly opposed to the contrary views of Fontana, Cruickshanks, and others. Arnemann found that, after 150 days, nerves had not united. The great length of time which has now intervened since the occurrence of the accident, would almost preclude a hope of regeneration in this case, and certainly goes to prove, that in all cases nerves do not regenerate, the knowledge of which ought to make us guarded in proposing their division. Nevertheless we find in Tiedemann's "Zeitschrift für Physiologie," that Dr. Schott, of Frankfort, divided the ulnar nerve in a female affected with neuralgia, and cut out a portion of it immediately behind the internal condyle of the humerus; the neuralgia was temporally cured, the ring and little-fingers were merely deprived of sensation, but in six months the numbness had left, and the nerve is said to have regenerated. It must be immediately seen how striking the differences are in these two cases; in Dr. Schott's case, no contraction of the fingers is said to have taken place; in this case the contraction forms the most prominent symptom.

The deductions are as follow:—

1st. It clearly proves the function of a spinal nerve and its compound nature, as first demonstrated by that distinguished physiologist Sir Charles Bell.

2nd. It points out the interesting fact, that sensation returned after the lapse of two years, while at the end of almost four, volition was wanting. I imagine it is difficult to explain the reason of this.

3rd. And lastly, it shows that sensation does return, without the actual regeneration of the divided nerve.

TREATMENT OF PNEUMONIA IN THE HÔPITAL NECKER, PARIS.

M. Bichetau has recently published the results of his practice in the treatment of pneumonia for the last nine months. The cases are all relative to the use of tartar emetic in large doses (not beyond eighteen grains daily). "I consider," says Bichetau, "the tartar emetic to be the most energetic and expeditious mode of cure in a vast number of cases; and I think further, that is the only remedy at all useful during certain medical constitutions which contraindicate bleeding. The remedy is, in short, the more valuable because it prevails in cases intractable by any other method." This testimony is the more valuable, as M. Bichetau originally was quite a sceptic respecting the value of the Rasoria method. —*Archives Générales de Médecine.*

THE

VACCINE VIRUS AND SMALL-POX,

BOTH EXISTING IN TWO CHILDREN AT THE SAME TIME.

The Variolic Eruption commencing, in one case, without the usual precursory Symptoms.

To the Editor of THE LANCET.

SIR,—You will oblige me by inserting the following cases in your valuable journal.

I am, Sir, your obedient Servant,

H. S. CALDWELL, M.D.

Camberwell, January 1st, 1833.

CASE I.—Miss C—, aged two years, daughter of a dissenting minister in Southwark, was vaccinated in three places on each arm, at my house, on the 5th of November last, from a very healthy infant, and with a lancet used for that purpose only. Next morning I was sent for, with information that she had become sick in the night, and that an eruption had appeared on the skin.

On the preceding days the child had relished her food, and being fully as cheerful as formerly, no symptoms of her being indisposed attracted the attention of any one around her. However, when I now saw her, there existed some degree of that lassitude which generally accompanies eruptive fevers; as also hot skin, quick pulse, anorexia, tongue partially red, &c., and a few pustules forming on the left cheek, eye-lid, and on the instep of the right foot, which, from their appearance, must have been coeval with the first symptom above mentioned. On the following day (7th Nov.) the eruption became general, and had all the appearance of variola; but the want of the usual precursory symptoms rendered it very doubtful whether it was not a case merely of *chicken-pox*. By the fifth day, however, the pustules became thick, and in some parts confluent; the face much swollen, and the palpebræ entirely closed up.

In the midst of this pustular eruption the vaccine vesicles arose, and went on maintaining their usual characteristic features. In a few days some of them seemed to be absorbed by the large pustules; but one on the left arm proceeded distinctly through all its stages, until the eighth day, when, with its round elevated edges and depressed centre, it died away more rapidly than is generally the case, leaving only a very slight mark of its previous existence.

On the 9th day the child had much fever, accompanied with delirium. On the 10th and 11th days, considerably better, the pustules on the face beginning to dry, those