

tutes his personality, is the essence of his peculiar self-consciousness, the ground of his proper intellect, and the conditioning element of his moral faculty and of his religious belief. It is the possession of this *pneuma* which distinguishes man from the animal. Possessing, like the animal, a body and a *psyche*, he may descend, if he will, to the level of the brute. But he has also had it put in his power, in virtue of his *pneuma*, to participate in the conditions of a higher sphere of existence.

"I am compelled therefore to assume, as the guiding principle of my physiological studies, that the living organism is a co-ordinated system of psychical powers and physical forces; and that, except as part of such a system, organisation cannot occur."

It is refreshing to come across such a philosophy in these days, and this at the hands of one who had studied not only organisation, but physical and chemical forces and mathematical forms; of one to whom Virchow dedicated his work on Cellular Pathology as "one of the earliest and most acute observers of cell-life."

It is profoundly to be regretted that Goodsir's life was cut short. By incessant work he seems to have brought on a kind of locomotor ataxy. It may be argued that he would have modified his philosophy if he had lived longer. All we can say is that he did not modify it up to the last of his wonderful life, and that amid all his labours and his intense study of life and organisation he retained the philosophy concerning the nature and possibilities of man above quoted.

We have said that Goodsir, to be understood, should have written an autobiography. These scientific memoirs are, in truth, his autobiography. It was in the labours which they record that "he lived, and moved, and had his being," and in the very record will be best studied the great character of the man.

We should not close without a word of praise of the numerous plates that illustrate and adorn the books, which, as a whole, must be considered the most important contribution to the literature of the science of organisation which has lately appeared. We must leave the philosophy of Goodsir to stand or fall upon its merits, but his observations will have an honoured and abiding place in the history of anatomy.

## New Inventions

IN AID OF THE

### PRACTICE OF MEDICINE AND SURGERY.

#### FILTER VANS FOR INDIA.

ANYTHING calculated to provide good water in sufficient quantity to meet the requirements of our troops while on the march in India is worthy of attention; and these vans have been designed for the purpose. Without indulging in that language of exaggerated panegyric which is now too much the fashion when speaking of any new invention, we may fairly say the idea is a good one, and very well carried out. The vans are manufactured by Messrs. E. H. Bayley and Co., Steam Wheel Works, Newington Causeway. On Saturday last the Commander-in-Chief inspected two of them. The vehicles appeared to be light, compact, and easy of draught. They are capable of being quickly filled by means of a pump and hose fixed near the driver's seat. The water is then made to pass through a filtering apparatus, and drawn off for use. We had no means of ascertaining the purifying power of the filters on the fluid, but we may assume this to be equal to the ordinary filters supplied by the best modern makers. The rate of delivery—an important practical point—was good; and a van is capable of conveying and filtering 1000 gallons of water per diem. Of course there are often difficulties in the way of employing any of these ingenious expedients on active service, the nature of the country

itself sometimes rendering it inaccessible to wheeled vehicles; but it appears to us that it would be an excellent plan to attach a van to a regiment on the march, through the plains of India say, or to send one with an advanced guard to select and pump in the necessary amount of water, so as to have it purified by filtration when required. A filter-van capable of supplying 1000 gallons to a regiment of about 700 strong, would be of great service. One or two such would be inadequate for a force of any size, however, and Messrs. Bayley must, we suspect, set themselves to manufacture a van equal to those inspected on Saturday, at the smallest practicable cost, if they wish to tempt the Government to purchase the requisite number.

## THE ACONOXYLON: A NEW KIND OF STETHOSCOPE.

To the Editor of THE LANCET.

SIR,—The suggestion that I am about to make is a very simple one, so much so that I am surprised it has not been made earlier by some of the too obedient followers of Laennec. Let us remember the manner in which the actual stethoscope was suggested. Laennec was called upon to attend a young lady, whose age and sex rendered it improper to apply his ear to her immediately. He remembered the well-known fact in acoustics, that, on applying the ear to one end of a beam whilst another person scratches with a needle at the other end, the sound of the scratch is clearly heard by the listener. We might have supposed, therefore, that Laennec, when about to practise mediate auscultation, would have used something resembling a beam,—that is, a solid piece of wood. But instead of doing so, he took a paper book, and made it into a roll; and he soon afterwards exchanged this roll for the wooden cylinder so well known to the profession. This was sufficiently inconsequent; for instead of the solid conductor suggested by the well-known fact in physics, Laennec gave to the world a conductor of wood combined with air. He seems, nevertheless, to have been struck by the conviction that he heard the sounds of the heart much more clearly than in immediate auscultation. Although we now know that this is not the case, and even that some of the signs described by this great man were only secondary ones, arising in the hollow of the hearing tube, which was originally of rather monstrous dimensions, we, nevertheless, have continued to use Laennec's instrument, and have thus convicted ourselves of great ignorance of the laws of acoustics, as they have long been followed in practical music. The makers of musical instruments, whenever the mere conduction of sound is required, employ solid pieces of pine wood, because it has been proved by Ohladi and Savart that wood in general is a much better conductor than air, and that pine wood especially is eighteen times better than air.

Why, therefore, I would ask, in medicine alone is the conduction of sound sought for by other kinds of wood than by pine, and by a medium composed of wood and air?

Upon these hints I would found the following address to the profession: Take the stethoscope you habitually use, and have its shape exactly imitated in solid pine wood. You will thus obtain what I may designate the "aconoxylon" stethoscope, constructed in accordance with the laws of physics, and therefore in all respects superior to Laennec's instrument. *Probatum est.*

I am, Sir, yours obediently,

DR. PAUL NIEMEYER.

\* \* We insert Dr. Niemeyer's communication as an act of courtesy to a distinguished foreign correspondent. But we must append to it the remark that his suggestion is by no means new in this country. Solid stethoscopes of all patterns have been occasionally used in England for many years, and by many practitioners; and cedar, the wood of which they have been usually constructed, is little, if at all, inferior to pine as a conductor. These solid stethoscopes have not been found especially advantageous. Their chief defect is that they are heavier than hollow ones; their chief merit, that they are less liable to accidental breakage.—ED. L.