

and licensed houses, in which—with the exception of Fisherton-house, where the expenses fall almost entirely on the county rates and Her Majesty's Treasury—the charges are chiefly defrayed from private funds, the cost per head varied from £30 6s. 8d. in Northampton Hospital, to £531 16s. at Ticehurst Asylum. Carmarthen County Asylum and Hull Borough Asylum appear for the first time in the list.

---

*Croonian Lectures on Matter and Force.* Given at the Royal College of Physicians in 1868. By HENRY BENICE JONES, M.D., F.R.S. Churchill & Sons. 1868.

The main object of these three lectures is to lessen the confusion which exists in the use of the word force, and to make clear the idea of the inseparability of matter and force. In the first lecture the author briefly sketches the history of opinion in the biological sciences regarding the union of ponderable matter and force, pointing out three distinct stages, or epochs, of thought. The first, or primitive stage, is that of complete separation between the ideas of ponderable matter and force; the second is marked by the incomplete separation between the ideas of ponderable matter and force, force being held to be imponderable matter, or to be inseparably united with it; and the third, or modern epoch, is characterised by the complete union, or perfect inseparability, between the ideas of ponderable matter and force. In the second lecture he deals with the first and second stage of our ideas regarding the union of ponderable matter and force in the biological sciences; and in the last and most important lecture, to which the other two lead up, he treats of the third stage of our ideas regarding the union of ponderable matter and force in the biological sciences. Here he indicates, in an extremely suggestive manner, the new paths for investigation, and the new glimpses of truth, which the doctrine of the union of matter and force, and the principle of the conservation of energy, open up. These must, he believes, lead before long to an entire change, not only in physiology and pathology, but in therapeutics.

“At present our knowledge is very confused and uncertain as to how and where medicines act. We almost believe that our medicines have the power, not only of creating, but of annihilating force; and we almost think that they are able to select the part on which they will act, whilst they leave other parts of the body entirely free from their presence.

“But the law of the conservation of energy requires us to believe that no food and no medicine can cause the creation or the destruction of the slightest particle of energy. The amount of conversion of potential into actual energy may be made more or less. The conversion of one kind of motion into another kind may be diminished or increased, but no annihilation nor creation of force is possible.

“The medicines which are taken into the body possess chemical energies by which, wherever they go, they take part in the motions of oxidation and nutrition which are going on there; and, according to their chemical properties, they add to the motions, or increase the resistance to the motions that constitute disease.

“The questions, then, which must be answered before we can obtain clear ideas of the actions of medicines in the body are: (1.) What are the different motions which occur in the body? and how are these different motions related to one another? and, (2.) How do different agents or medicines increase or diminish these different motions which occur in the different organs and textures?”

Dr. Bence Jones's lectures will not fail to repay the reader's attentive perusal. There is an appendix to the volume, containing two lectures delivered at the Royal Institution, and a paper by Dr. Bence Jones from the *Proceedings of the Royal Society*. One of the lectures is by Du Bois Reymond, “On the Time required for the transmission of Volition and Sensation through the Nerves,” and the other by Professor Frankland, “On the Source of Muscular Power;” while Dr. Bence Jones's paper is “On the Rate of Passage of Crystals into and out of the Vascular and Non-Vascular Textures of the Body.”

---