

expressing the opinion that it is possible some substance may have been discovered capable of withstanding projectiles of the highest penetrating power, he points out that no commission has yet reported on it, and that the tests stated to have been applied cannot be accepted as conclusive. He adds also that even in case of its bullet-proof properties becoming established there are numerous hindrances against its practical application in warfare. Professor Billroth shrewdly remarks that he should have considered the experiments reported as more satisfactory had Herr Dowe worn the jacket and allowed himself to be made the target. Considering the matter from the point of modern surgery, he points out that half the wounds received in battle are in the head and upper and lower limbs. It seems to us that the weight and flexibility of this bullet-proof material are most important elements. If it is of the nature of an inflexible, heavy cuirass which is only capable of being applied to some limited part of the body it will prove of very little actual use in warfare. It would indeed be strange if a reduction in the army medical establishments of Europe were brought about by a mechanical invention causing a great decrease in the number of the wounded required to be attended to. Moreover, if the bullet-proof property of Herr Dowe's invention turns out to be a fact its application to naval vessels as a substitute for armour-plating is pretty certain to be tried.

Correspondence.

"Audi alteram partem."

"VIXERE FORTES ANTE AGAMEMNONA."

To the Editors of THE LANCET.

SIRS,—It must have occurred to the hearers and readers of the Croonian Lecture to ask how it is that Englishmen have to learn about Francis Glisson from Professor Virchow. One meets with Glisson's name in German and French literature frequently. Is it not time something was done by our corporations or universities to help Englishmen to get some knowledge of medical history? Every year there is a Hunterian and a Harveian Oration. Brilliant as was the last Hunterian Oration, I think it would have been more profitable and more fitting to have heard Mr. Bryant, practical surgeon and member of the staff of Guy's Hospital, on the life and works of Astley Cooper. Therefore I would suggest that in future Harveian and Hunterian orators should be allowed to take for their theme the work of any bygone British physician or surgeon worthy of being so noticed.

In the literature of the Continent, where medical history is officially recognised and privately respected, one sees the fame of Harvey and Hunter treated with something like a sense of proportion; and, illustrious as is that fame, it does not throw the reputation of all others of our great medical countrymen into the shade. In the glorious names of Sydenham, of Willis, of Heberden, of Pott, of the Bells, of Hall, of Blundell, of Syme and of Williams, in the name of the famous Dublin School of Surgery, and, once more, in the noble names of Francis Glisson and Astley Cooper, I would invite your attention and that of your readers to this question.

I am, Sirs, yours obediently,
London, March, 1893. C. B. KEETLEY.

THE INFERIOR LARYNGEAL NERVE: A REPLY.

To the Editors of THE LANCET.

SIRS,—IN THE LANCET of March 11th Dr. W. Ramsay Smith has published an interesting criticism of my late father's (Dr. Herbert Davies') paper "On the Relationship between the Phrenic and Recurrent Laryngeal Nerves, with an Explanation of the Circuitous Course of the Latter." Dr. Smith urges three objections, and as two of them only concern my father's theory I propose to answer them and to endeavour to show that they are of little real value. Firstly he says: "The rima glottidis does not appreciably change in size and shape in normal breathing and the recurrent laryngeals are not necessary to ordinary breathing. Respiration can go on after section of both recurrent laryngeals, the rima glottidis having the patency it usually acquires after death." Now, although in man there is apparently during

quiet breathing no appreciable change in the width of the glottis, yet there exists in animals an undoubted rhythmical alternation in quiet respiration. It must be also borne in mind that the inferior laryngeals contain really two sets of motor fibres: one set, which innervate the muscles, which are concerned in phonation, and which therefore act only during expiration, when the phrenic nerve is inactive and the diaphragm relaxed; and the other set, which dilate the glottis and act, therefore, during inspiration, when the phrenic nerve is acting and the diaphragm consequently contracting. There therefore evidently is a combined action between the dilator muscles of the glottis and the diaphragm. Again, it is stated in vol. iv. of Foster's Text-book of Physiology that "when in a living animal both recurrent laryngeals are divided the glottis becomes narrowed, assuming what may be considered its natural dimension—namely, that proper to it after death, when muscular contractions have ceased. Owing to the narrowing, the entrance and exit of air into and out of the larynx are less easy, and a certain amount of dyspnoea, especially obvious if the breathing be hurried, may result, but the extent to which it occurs differs in different animals and, indeed, in different individuals." This dyspnoea is easily understood when one considers that there is a distinct difference of the patency of the rima glottidis as shown by careful laryngoscopic examination during life and after death, the former being 14 mm., and the latter 5 mm. Experiments on animals have proved that after division of the recurrent laryngeals the vocal cords are drawn inwards and downwards during inspiration and thus tend to occlude the glottis and produce ultimate suffocation. The above considerations show sufficiently that the recurrent laryngeals are necessary to ordinary breathing.

Taking the first part of the second objection—namely, the difference in length between the two recurrent laryngeals—I could point out that there is a similar difference in length between the two phrenics, the right being shorter than the left, and therefore there is a direct correspondence in this between the phrenic and recurrent laryngeal nerve on each side. In the second part of this objection Dr. W. R. Smith refers to cases where, according to him, the recurrent laryngeal do not "recur." The best answer to this is found in the following quotation from John Hilton.¹ He says, "Now it has fallen to my lot to see examples in the dissecting-room in which the inferior laryngeals did not wind round the arch of the aorta or the subclavian artery, yet the course of the nerve was, notwithstanding, equally recurrent, thus clearly indicating it had no necessary relation with the subclavian or aorta." As a further proof of the necessity of the lengthening of these nerves may be mentioned the fact that they are now believed to belong, not to the vagus proper, but to the spinal accessory. In an appended note to his paper my father explains the reason of the direct course of the superior laryngeal nerve and of the necessity of the arytenoideus being supplied by it. Suppose any irritation, as from a crumb, should affect the laryngeal mucous membrane, it is necessary that it should be conveyed as rapidly as possible to the nerve centre in order that the rima glottidis may be closed at once to prevent descent of the crumb into the trachea; the motor impulse is sent direct through this motor filament of the superior laryngeal nerve to the arytenoideus, which is the most powerful constrictor of the glottis.

I am, Sirs, yours truly,
Finsbury-square, March 18th, 1893. ARTHUR T. DAVIES.

"HOW UNION APPOINTMENTS ARE MADE."

To the Editors of THE LANCET.

SIRS,—Will you kindly give me space to answer the letter of "M.R.C.S." in your last issue? In the opinion of "M.R.C.S." it is perfectly right that any man who buys a practice should be given the appointments in connexion with it whatever the claims of other candidates may be, and he goes so far as to say that ninety-nine out of every hundred will add, "and rightly so too." I do not agree with this, nor do I think it is the universal opinion. "M.R.C.S." has altogether ignored the main point of my letter, wherein I objected to boards of guardians advertising union appointments already practically filled up, but goes on to draw a dismal picture of a man who has invested his capital in a country practice and does not secure all his predecessor's appointments. What does "M.R.C.S." think of the well-qualified and experienced man

¹ Rest and Pain, p. 229.