

XXVIII.—*Biographical Notice of the late Sir CHARLES BELL, K.H.*  
*By Sir JOHN M'NEILL, G.C.B.*

(Read 17th April 1843).

THE pleasure which honourable and enlightened minds must feel in acknowledging their obligation to the individuals who have advanced useful knowledge in any department of science,—who have contributed to the means of promoting human happiness, or of alleviating human suffering, has, in all times, led men to seek an opportunity of recording their sentiments of admiration and of gratitude towards the distinguished instructors of mankind. They have felt, too, that the time when one of these guiding lights has been quenched, when a contributor to the treasury of knowledge has just terminated his labours, is peculiarly fitted for the discharge of this duty. The whole amount of his contributions is then presumed to be before them, and they are restrained by no fear of offending his delicacy by their praise, or of having their own feelings hurt by a misconstruction of their motives. They know, that what might have been regarded as adulation of the living, is often admitted to be but justice to the dead.

To this Society, whose express object is the advancement of science,—whose especial care it therefore must be to watch over the reputation of every one to whom science is indebted, and which is not only entitled, but required, to take a leading part in determining the measure of praise that each labourer in the various fields of its own domain may have merited, no apology can be necessary for laying before it a short sketch of the late Sir CHARLES BELL's claims to be ranked high amongst the men who have established a title to its admiration. But I may perhaps owe it to you, as well as to myself, to say, that having been so long a stranger to the subjects with which I shall chiefly have to deal, I should not have ventured to undertake this task, had I not been led to set aside all such considerations by a desire to comply with the wishes of persons whose sentiments are at all times, and especially on this occasion, entitled to respect and deference from me. At the same time, I did not doubt but that I should experience your indulgence while I endeavoured to do what I have thought it my duty to attempt.

Sir CHARLES BELL, the youngest son of the Rev. WILLIAM BELL, a clergyman of the Episcopal Church of Scotland, was born at Edinburgh, in the month of November 1774. Having studied at the High School and the University of this city, he devoted himself, at an early age, to the medical profession, and especially to the study of anatomy, under his brother, the late Mr JOHN BELL, who was twelve years older, and who had already laid the foundation of his fame as an anatomist and as a surgeon. But Mr JOHN BELL was not merely an anatomist

and a surgeon second to none in his time; he was a man of enlarged mind, of extensive acquirements, of elegant accomplishments, and of refined taste; and those who remember his powers of conversation, and the keenness of his wit, will probably acknowledge that they have rarely seen them surpassed. If in the later period of his life he was so unfortunate as to have "fallen on evil days and evil tongues," we can only lament that prudence and discretion should not always accompany genius such as his.

Under the guidance of this enlightened teacher, CHARLES BELL soon began to give evidence of the talents which seem to have been inherited by every member of his family. JOHN BELL found in his younger brother a distinguished pupil, an able coadjutor, and then a worthy rival in the race of usefulness and of fame. In the preface to the third edition of his work on the Nervous System, Sir CHARLES acknowledges how greatly he was indebted to his first instructor. "The author," he says, "began his public labours as an assistant lecturer to his brother JOHN BELL, who gave up to him that part of the course of anatomy which treats of the nerves, and he advised him to demonstrate the relations of the brain to the base and spinal marrow, instead of cutting it into horizontal sections. The intelligent student will at once perceive, that much of what is contained in this volume may be traced to the aspect in which the author was accustomed, during all his after labours, to look upon the relations of the brain to the rest of the nervous system."

While yet a pupil, Sir CHARLES BELL had published the first volume of his *System of Dissections*, illustrated by engravings from his own drawings,—a work which exhibited some originality, and which was regarded as a valuable guide to the student of practical anatomy. On the 1st of August 1799, he was admitted a member of the College of Surgeons, and his admission to that body brought him at once into a situation which tested his practical proficiency and skill; for the whole surgeons of Edinburgh were then, in rotation, Surgeons of the Royal Infirmary. His knowledge of anatomy, and the admirable use of his hands, exhibited both in his dissections and in his drawings, were already conspicuous; and in the hospital, he distinguished himself by the dexterity and the simplicity of his operations. He also eagerly availed himself of the opportunities which his attendance there afforded him, to improve his knowledge of pathology; and having now been associated with Mr JOHN BELL in his lectures on anatomy and surgery, he was assiduous in making preparations, drawings, and models, for the use of the class, from the dissections at the hospital. He even invented a method of representing morbid parts in models, of which some specimens were long afterwards purchased by the Royal College of Surgeons, in whose museum they are still preserved.

But a controversy arose respecting the arrangement of medical attendance in the Infirmary. This contest, which was carried on with great ardour, some

wit, and much asperity on both sides, by the late distinguished and respected Dr GREGORY and Mr JOHN BELL, ended in a new arrangement, which excluded many of the surgeons from the only hospital within their reach. Sir CHARLES BELL happened to be of this number; and so highly did he prize the advantages he had lost, that in a printed memorial, presented to the Managers of the Infirmary, he offered to pay L.100 a-year, and to transfer to them, for the use of the students, the Museum he had collected, on condition that he should be “allowed to stand by the bodies when dissected in the theatre of the Infirmary, and to make notes and drawings of the diseased appearances.”

This proposal, which was made in October 1804, was rejected; and perceiving that he had so many difficulties to contend with in Edinburgh, he went in the course of the following year to London, to inquire into the expediency of removing thither. The prospect there could not have been very encouraging; but he had relinquished all hope of being able to surmount the numerous impediments which stood in his way here; and in 1806 he went to the capital.

It is impossible not to admire the courage with which Sir CHARLES BELL, then a solitary and unsupported stranger in London, trusted to his own resources for success in a field which was already occupied by CLINE, ABERNETHY, COOPER, and other eminent surgeons, supported by the great hospitals with which they were connected, and then lecturing daily to large audiences. To have failed in such an enterprize would have been no disgrace; but to have succeeded and to have established a high reputation as a teacher, in a department of science so preoccupied, is unquestionable evidence of the highest merit.

He immediately commenced a course of lectures on anatomy and surgery, and rapidly rose to distinction. “In the lecture-room,” says one of his able successors in the Middlesex Hospital, “in the lecture-room he shone almost without a rival. His views were nearly always solid,—they were always ingenious,—and his manner and language enchained the attention of his audience. Dull indeed must have been the pupil who could have slumbered when CHARLES BELL was in the professorial chair. In short, Sir CHARLES BELL made his pupils think; and interesting as anatomy is, even if considered as a mere branch of natural history, he taught them to value it most of all as a guide to the art of healing.”\*

Previous to his departure from Edinburgh, he had written his work on the “Anatomy of Expression,” which was published shortly after his arrival in London, and immediately attracted public attention. He had felt as a physiologist, as an artist, the want of some philosophical and systematic explanation of the rationale of expression; of those muscular movements which are the natural external indications of the passions and emotions of the mind. He had observed that many works of art, otherwise excellent, exhibited anatomical inconsistencies.

\* ARNOT'S Hunterian Oration, 1843.

which he attributed to the want of some competent guide to a knowledge of the principles on which these movements are regulated ; and, perhaps, no other man was so well qualified, by his profound knowledge of anatomy, and his practical acquaintance with art, to supply the want. But he did not confine himself to the illustration of what was useful to the artist ; he also explained how an acquaintance with the anatomy of expression might be available to the surgeon or to the physician, in distinguishing the nature or the extent of some important diseases.

Independent of its intrinsic merit, this work has another interest, for there is reason to suspect that his inquiries into the functions of the nerves in connection with the anatomy of expression led him to prosecute those investigations which terminated in the most remarkable anatomical discovery of our times.

But before attempting to give an account of Sir CHARLES BELL'S discovery of the different functions of the nerves, corresponding with their relations to different portions of the brain, I must beg your indulgence while I state shortly the opinions upon this subject, which were taught in anatomical schools prior to the announcement of his views. This is the more necessary, because these views have now been so generally adopted, both in Great Britain and on the Continent, that we are apt to forget what the previous state of our knowledge really was. And I may perhaps be permitted to make a few preliminary observations, not immediately connected with the subject, but which may serve to make it more intelligible to such of you as may not have attended to the history of anatomy, and which may also assist us in appreciating the comparative value of the truths which Sir CHARLES was the first to explain.

In the higher classes of animals, there are three great ramified systems which are distributed to every part of the body. The arteries and veins ; the lacteals and lymphatics ; and the nerves. It is little more than two centuries since we have obtained a tolerably accurate knowledge of the true functions of any of these systems. The earliest anatomists believed, that the arteries in their healthy state contained nothing but air, as the name which they still retain denotes ; and the veins were then believed to be the only blood-vessels. In the second century of our era, GALEN is said to have discovered that the arteries also were blood-vessels ; but it was still believed, that there was a flux and reflux of the blood in the arteries and veins,—that the blood which flowed through these vessels from the heart or the liver to the extremities, flowed back through the same vessels to the heart and the liver ; and various theories were devised to reconcile this belief, with the natural phenomena which presented themselves. At length in 1628, HARVEY set the question at rest, by publishing his discovery of the circulation of the blood, propelled through the arteries to the extreme parts, and returning through the veins, in two great circles from the right and the left cavities of the heart.

The more obscure vessels called lacteals and lymphatics, altogether eluded the observation of ancient anatomists. The existence of the lacteals was discovered accidentally, and their functions were partly conjectured by ASELIUS of Pavia, a cotemporary of HARVEY; and their office, that of conveying the nutritive part of the food from the intestines to mingle with the blood, and thus to be distributed to all parts of the body, was demonstrated by PECQUET, a French anatomist, who had also the candour to acknowledge that his discovery was accidental. The lymphatics were shortly afterwards discovered by RUDBECK and by BARTOLINE, the one a Swede, the other a Dane, who shrewdly suspected what their functions were; and the subject was further illustrated, and the functions of these vessels fully explained, by the late Mr HUNTER and the late Dr MONRO, who proved them to be absorbents, that is, the vessels by which the waste of the body, which the lacteals supplied new matter to replace, was carried off.

It is worthy of remark, that both these offices had been assigned to the veins, which, as we have seen, were also, at one time, regarded as the only blood-vessels; and although the manner in which the work of absorption is divided between the lymphatics and the veins is still somewhat obscure, yet the constant result of these successive discoveries has been to shew, that the function of each portion of these vessels is simpler than it had been supposed to be; and that nature perfects the performance of the animal functions, by multiplying the organs and simplifying the duties of each, rather than by simplifying the general structure, and complicating the functions of its parts; and we shall find that the nerves afford a further illustration of this principle.\*

The nerves had been noticed from the earliest times, and their functions were long known to be to transmit the mandates of the will from the brain, which has always been regarded as the sensorium, to all the parts which are under the control of the will; and to communicate to the sensorium, intelligence of the condition of their own extremities, which we call sensation. They were divided by anatomists into cranial and spinal or vertebral nerves, with reference to their origin from the brain or the spinal marrow.

In the same manner as it had been taught before the discoveries of HARVEY, that there was a flux and reflux of the blood in the arteries and the veins; that it flowed "backwards and forwards like the tide of Euripus;" so it was taught in our own days, that the same nerves transmitted the mandate of the will from the sensorium to the organs of voluntary motion, and likewise carried to the senso-

\* Another general fact, which seems to be well ascertained, may be referred to the operation of the same principle, and, in this respect, has also some analogy to the great discovery of Sir CHARLES BELL in regard to the nerves, viz., that different portions of the small arteries, which are similar in size, structure, and degree of subdivision, have nevertheless very different relations to the blood which they carry, and suffer very different portions of that blood to transude through their coats, so as to maintain the functions of secretion and nutrition; thus affording another instance of the natural subdivision of labour.

rium intelligence of the condition of their extremities, or sensation. It was taught that, in some mysterious manner which no one could explain, these two impulses might be simultaneously communicated along the same cord, in opposite directions, without impairing the efficiency of either. This proposition was certainly startling; but so long as each spinal or vertebral nerve was regarded as a simple cord, composed of one bundle of similar filaments, the inference was inevitable; for if we divide the trunk of one of these nerves, at any point, we leave unimpaired the power of motion, and the sensation of the parts which intervene between the point of section and the brain; but we paralyze at once both motion and sensation in the parts over which its remoter ramifications are distributed. The cord thus divided was, therefore, necessarily and truly inferred to be the channel through which volition acted to move the muscles, and through which sensation was communicated from other parts of the body to the sensorium.

It is nevertheless true, that physiologists had not been uniformly satisfied with this theory. The fact that a limb, which had lost the power of voluntary motion, often retained sensation, had led some discerning men, at an early time, to question whether there might not be different nerves for motion and for sensation. GALEN asserted this opinion in a part of his writings; but he elsewhere maintains that one nerve may minister to both offices; that motion is active, and sensation passive; and that a nerve may retain this passive power after it has lost that which is active.

BOERHAAVE, following GALEN, asserted that there were two kinds of spinal nerves—the one serving for motion, the other for the use of the senses. Speaking of the spinal marrow, he uses these remarkable expressions: “*Ex hac medulla exit duplex genus nervorum, unum motui, alterum sensuum inserviens, nec unquam inter se communicans;*” and then he adds the inquiry, “*Quis dicet hic, hoc movet hoc sentit?*” This was certainly a striking and ingenious speculation; but BOERHAAVE did nothing towards solving the question he had put, or the doubts he seemed desirous to raise; accordingly, these speculations produced no change in the opinions of anatomists and physiologists, and the old theory not only maintained its ground, but appeared to be confirmed by further investigations.

The renowned HALLER, who carefully investigated this subject, and who must have been well acquainted with the writings both of GALEN and of BOERHAAVE, rejects a theory which neither of these distinguished authors had supported by any evidence, and which they had not even uniformly maintained. “But I know not,” says HALLER, “a nerve which has sensation without also producing motion; the nerve which gives feeling to the finger, is also that which moves the muscles; and the fifth nerve of the brain branches to the papillæ of the tongue, and also to the muscles.”

Dr ALEXANDER MONRO maintained similar opinions; and he combated the

theory that ganglia were for the purpose of cutting off sensation, on the express ground, that they were to be found on the posterior half of all the spinal nerves of the voluntary muscles ; thus shewing that, to be a nerve of voluntary motion, was by him regarded as conclusive evidence that it must also be a nerve of sensation, and that he believed all those spinal nerves which passed through ganglia to be motor nerves. On this Sir CHARLES BELL justly remarks, “ If I had ascertained nothing more than that no motor nerve passes through a ganglion, the observation would have been important towards the true doctrine of the nerves.”

BICHAT (a distinguished name in modern anatomy and physiology) distinctly asserts that there are not nervous cords appropriated to sensation, and others to motion.

BARON CUVIER maintained, that the difference in the functions of the nerves depends rather on the different organization of the parts to which they are distributed, than on any essential difference between themselves;\* and M. SERRES, in his work on Comparative Anatomy, published as late as 1824, quotes with approbation this opinion of CUVIER's, even maintaining, in conformity with it, that in certain animals a part of the fifth nerve answers the purpose of the optic nerve ; and without making allusion to Sir CHARLES BELL's experiments and observations. But he admits, at the same time, that it is doubtful whether these animals are really endowed with the sense of sight.

Dr BARCLAY of Edinburgh, a learned man and an eminent anatomist, who communicated the history of Anatomy to the Edinburgh Encyclopædia published in 1810 or 1811, not only makes no allusion to any discovery of the varied functions of the nerves, but, having related the discovery of the lymphatics, and described their functions, referring to the conflicting claims of HUNTER and of MONRO, he expressly tell us, that this system of absorbents is the last great and leading discovery made in anatomy by means of dissection.

In short, that which has already been stated to have been the doctrine of the Anatomical Schools, viz. that the same nerves ministered at once to motion and sensation, that the impulses of volition and of sensation were transmitted back-

\* “ On pourrait penser d'après cela qu'au fond toutes les parties du système nerveux sont homogènes et susceptibles d'un certain nombre de fonctions semblables, à peu près comme les fragmens d'un grand aimant que l'on brise deviennent chacun un aimant plus petit, qui a ses pôles et son courant ; et que ce sont des circonstances accessoires seulement, et la complication des fonctions que ces parties ont à remplir dans les animaux très élevés, qui rendent leur concours nécessaire, et qui font que chacune d'elles a une destination particulière.—Il paroît, en effet, quant à ce dernier point, que si certains nerfs ne nous procurent que des sensations déterminées, et que si d'autres ne remplissent également que des fonctions particulières, cela est dû à la nature des organes extérieurs dans lesquels les premiers se terminent, et à la quantité de vaisseaux sanguins que reçoivent les autres, à leurs divisions, à leurs réunions, en un mot, à toute sorte de circonstances accessoires, plutôt qu'à leur nature intime.”—*Leçons d'Anatomie Comparée de CUVIER*, tom. ii., p. 95.



wards and forwards along the same cord, continued to be taught, or was left to be inferred, by all the teachers of Europe, for at least a year after Sir CHARLES BELL had announced to his friends his ideas on the nervous system.

To the genius and to the patient and laborious investigations of Sir CHARLES BELL we owe the discovery, that no one nerve serves the double purpose of ministering to motion and to sensation;—that the spinal nerves and the fifth nerve of the brain, which had been regarded each as one nerve, consisted each of two distinct nerves, connected with different portions of the brain, enclosed in one sheath for the convenience of distribution, but performing different functions in the animal economy, corresponding with the different portions or tracts of the brain to which they could be traced; the one conveying the mandates of the will to the muscles of voluntary motion *from* the sensorium, the other conveying *to* the sensorium intelligence of the condition of distant parts, or sensation. That, to use the illustration I have already employed, as the arteries carry the blood *from* the heart and the veins carry it *to* the heart, so one set of nerves carry the impulses of volition *from* the brain, and another set of nerves carry the impulses of sensation *to* the brain;—that the brain is divided, together with the spinal marrow which is prolonged from it, into separate parts, ministering to the distinct functions of motion and sensation;—and that the origin of the nerves, from one or other of these sources, seems to endow them with the particular property of the division whence they spring. Such were the leading features of BELL's great discovery, one of the most remarkable that the history of anatomy will now have to record.

Let us not forget that the steps by which human knowledge has advanced have at all times been short and slow. It has rarely or never been permitted to the same mind to originate the idea, and to perfect the development of any of the great truths of nature. The greatest discoveries in science have either been dimly seen at a distance and imperfectly shadowed forth, or conjectured as matters of speculation, or the minor truths on which they are founded have been divulged by those who went before, but who failed to arrive at the conclusion which opens up to our view what till then had been hidden, and which expounds to us one of the great laws of nature. But it is to him who, pressing on in advance of his fellows, takes this last and greatest step, and establishes the truth on a sure foundation, making it practically available to other men,—a permanent contribution to human knowledge, and a fresh illustration of the perfection of created things,—that we justly attribute the glory of a discovery; and to that glory Sir CHARLES BELL is justly entitled.

The circulation of the blood through the lungs was known to GALEN and to many of his successors; and it was demonstrated by COLUMBUS, the disciple of VESALIUS. CÆSALPINUS not only knew the circulation through the lungs, but he also discovered that there was a communication between the extreme branches of



the arteries and the veins in other parts of the body; and FABRICIUS pointed out the valves in the veins, which prevent the reflux of blood in these vessels; yet they did not deduce from these facts the theory of the circulation, though, now that it is known, we wonder how they could have failed to discover it. But in the progress of knowledge, the mind has much to unlearn as well as much to acquire; and when our opinions have been sanctioned by the concurrent belief of successive generations, the former is often the more difficult task of the two. When HARVEY announced his great discovery, almost every physician of his time denied its truth, and none of them who were above forty years of age ever, it is said, admitted it. When its truth could no longer be disputed, efforts were made to deprive its author of the merit and the glory of the discovery. Some searched the works of previous writers for evidence that it had been known before his time; and others who followed him, sought to appropriate the honour that belonged only to him. Somewhat similar was the reception Sir CHARLES BELL'S discovery encountered on its first announcement to the world in 1811 and 1821. But as the name of HARVEY is inseparably connected with the great truths which he was the first to ascertain, so will the name of BELL for ever be united in the records of science with his discovery of the varied functions of the nerves.

Insulated facts and unsupported speculations are forgotten and lost, but great discoveries never perish; for they become fixed and established portions of knowledge on which the mind reposes in security. Their leading facts become familiar to all educated men—a part of every man's ordinary information; and the light with which genius illuminated the high places of science is not only shed on the paths which lead up to them, but pierces far into the darkness beyond, and lights on successive generations in their ascent to the loftier heights of a more exalted knowledge.

Confidence in the perfection of the works of creation, and a conviction that the nervous system appeared to be utter confusion, only because of our own ignorance, was BELL'S leading principle in all his investigations; and to this confidence we must attribute the unwearied perseverance with which he prosecuted his enquiries, without any other support or encouragement during so many years of his life.

It would detain you too long were I to trace, step by step, the progress of these inquiries, till he caught a glimpse of the truth in 1807;—but the letter in which, with joy and exultation, he communicated the intelligence to his brother, Professor GEORGE JOSEPH BELL, is too remarkable to be omitted, although it has already been made public; and as it bears the post-mark of London, December 5, and Edinburgh, December 8, 1807, it puts an end to all question, if there ever could have been a reasonable question, as to the originality of his views, and the priority of his discoveries.

“ My anatomy of the brain is a thing that occupies my head almost entirely. I hinted to you formerly that I was ‘ burning,’ or on the eve of a grand discovery. I consider the organs of the outward senses as forming a distinct class of nerves from the others. I trace them to corresponding parts of the brain totally distinct from the origin of the others. My object is not to publish this, but to lecture it, \* \* \* as it is really the only new thing that has appeared in anatomy since the days of HUNTER ; and, if I make it out, as interesting as the circulation, or the doctrine of absorption. But I must still have time. Now is the end of a week, and I shall be at it again.”

In another letter, bearing the post-marks March 28 and 31, 1808, is the following passage :—“ I have been thinking of having a room five or six miles from town, and pursuing there my physiology of the brain—*that which is to make me, I am convinced.*”

Others have followed in the same track, and walking by the lights which he had furnished, and in the path which he had pointed out, have advanced our knowledge and confirmed the truth of his opinions. Amongst these, his relative pupil, and coadjutor, Mr JOHN SHAW, has been conspicuous ; and to him Sir CHARLES BELL was indebted for some important experiments. Mr HERBERT MAYO, another of his pupils, has prosecuted similar inquiries. In France, in Italy, and in Germany, the method of investigation first employed by Sir CHARLES BELL to determine the functions of the nerves, by attending to their roots, and not to their trunks, has been followed by MAJENDIE, LONJET, BELLINGERI, and the most distinguished physiologists of those countries. They have instituted experiments in imitation of Sir CHARLES BELL’S ; and the practical precepts which were first deduced from his discoveries, by himself and by Mr JOHN SHAW, have thus been extended and multiplied.

Mr ARNOT, of the Middlesex Hospital, has stated with so much discrimination and distinctness the precise nature of Sir CHARLES BELL’S discoveries in the physiology of the nerves, that I shall take the liberty of concluding my observations on this part of the subject in his words. After acknowledging whatever he thought incomplete or imperfect in BELL’S writings on the Nervous System, and especially that his views in respect to certain nerves being superadded in the higher animals, for the purposes of respiration, had not been fully proven, he goes on to say—

“ But after all these acknowledgments, there remains to BELL, clearly and unequivocally, the merit of having first shewn—

“ That in investigating the functions of the nervous system, we must direct our attention to the roots and not to the trunks of the nerves.

“ That the nervous trunks, conveying motion and sensation, consist of two distinct sets of filaments in the same sheath.

“ That the filaments for motion form a distinct root from those for sensation,

and that the anterior roots are for motion ; leaving it to be inferred that the posterior are for sensation.

“ That the portio dura is a nerve of motion, and the fifth a nerve of motion and sensation.

“ And, lastly, of having been the first who, dissatisfied with the observation and study of the mere form of the various parts of the nervous system, applied the method of experiment to aid him in determining their functions.

“ In a word, there belongs to BELL the great discovery,—the greatest in the physiology of the nervous system for twenty centuries,—that distinct portions of that system are appropriated to the exercise of different functions.”

The Royal Society of London acknowledged his merit by assigning to him, in the year 1839, the first annual medal of that year, given by his Majesty GEORGE IV. for discoveries in science ; and when a new order of knighthood for men of science and literature was instituted, on the accession of the late King to the throne, Sir CHARLES BELL was amongst the first who were invested. But this was the only public reward he received for his labours,—a reward which he would have merited for the services he rendered to the wounded after the battles of Corunna and Waterloo, if he had never rendered any other either to his country or mankind.

In 1812, he was appointed Surgeon to the Middlesex Hospital, and a few years afterwards Professor of Anatomy, Physiology, and Surgery to the College of Surgeons of London. In the hall of that noble institution he delivered a course of lectures which was attended by a very numerous audience, including men of high professional and literary reputation. On the institution of the London University College, he was solicited to place himself at the head of the medical department,—an office which he afterwards resigned, in consequence of dissensions which arose in the establishment. In 1836 he was appointed to the Chair of Surgery in our own University.

It is not my intention to say more of his various writings on the practice of different branches of his profession, than that they place him in the highest class amongst our writers on surgery.

But there is another series of his works which must interest every reader, and which, of all his labours, were perhaps the most congenial to his feelings, and afforded him the greatest pleasure.

In his treatise on Animal Mechanics, written at the desire of the Society for Diffusing Useful Knowledge, he embodied the substance of some of his lectures, which had been so much admired in the College of Surgeons, on the evidences of creative design to be found in the anatomy of the human body. These views had long been deeply impressed upon his mind, and the manner in which he illustrated them probably pointed him out to the executors of the late Earl of BRIDGEWATER as

a fit person to maintain the great argument which it was the purpose of that nobleman's bequest to have published. The part which Sir CHARLES himself selected was "The Hand," that which seemed chiefly to have been in the mind of the testator ; and we all know how admirably he executed the task.

Still following out this favourite subject of his contemplation, he associated himself with Lord BROUGHAM in the illustration of Dr PALEY's Natural Theology, published in 1836 ; and every one who has looked into that publication must acknowledge the high additional interest which these illustrations derive from his delightful contributions.

Of his private character this may not be the place to speak ; but the highest eminence in science receives so great an additional lustre from being associated with the most amiable and estimable social virtues, that it would be unjust not to remind you how largely he was endowed with these. It was in the exercise and the indulgence of the friendship and the affection of social and domestic life, and in the contemplation of still higher objects, that he found the reward of his labours and a solace in his difficulties and disappointments ; and if he was but ill requited by his country, for devoting his life so successfully to the advancement of science, instead of employing it, as he might have done with equal success, in improving his own circumstances, he enjoyed while he lived a happiness which wealth alone could not have bestowed, in the devoted attachment of one who was in every way worthy of the undivided affection with which he regarded her.

After a cheerful and peaceful day of calm contemplation and tranquil enjoyment, he was suddenly seized with a spasmodic affection during the night, and died, after an hour's illness, on the 29th of April 1842, at Hollow Park, in Worcestershire ; and if he left behind him none of the wealth which a more sordid mind might, with his genius, have accumulated, he left an enduring and unsullied reputation, of which the most ambitious of his surviving friends may well be proud, and with which the most virtuous must be more than satisfied.