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Contributors

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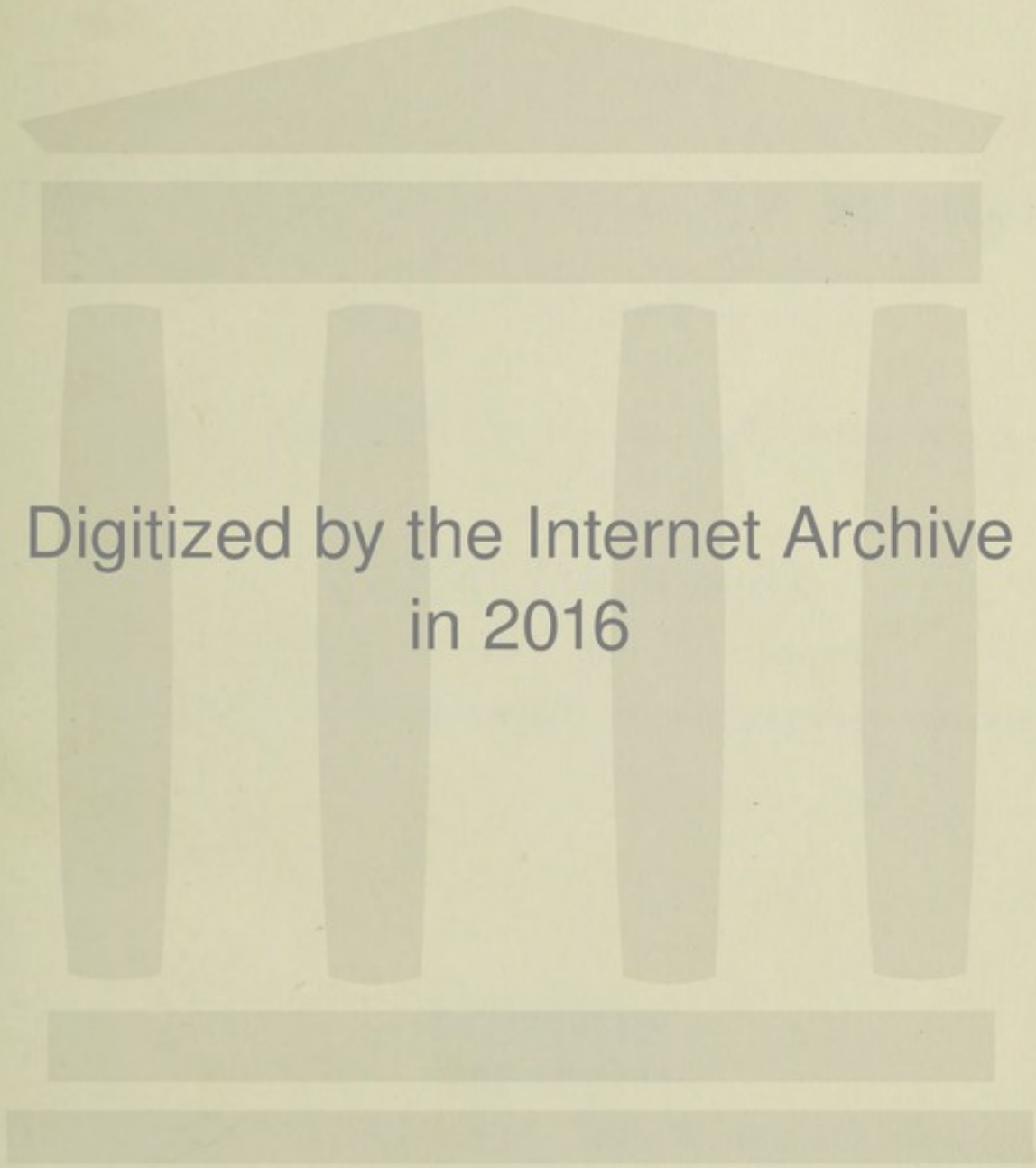

THE

HUNTERIAN ORATION,

DELIVERED BEFORE

THE ROYAL COLLEGE OF SURGEONS,

ON FRIDAY, FEBRUARY 14, 1817,

AND PUBLISHED AT THEIR REQUEST.

BY WILLIAM NORRIS,

MASTER OF THE COLLEGE,

AND SURGEON TO CHARTER-HOUSE AND THE MAGDALEN HOSPITAL.

LONDON:

PRINTED FOR T. CADELL AND W. DAVIES, STRAND;

BY W. BULMER AND CO. CLEVELAND-ROW, ST. JAMES'S.

1817.

TO MRS. HUNTER.

MADAM,

WHATEVER tends to excite inquiry into the works of Nature, must equally serve to advance human knowledge and the good of mankind.

Strongly impressed with this truth, the late MR. HUNTER prosecuted with an ardour and success, hitherto unknown, his inquiries into the structure, the modes of living, the state of perfect health, and the various deviations from it throughout the animal creation; and thence deduced those inferences by which Surgical Science has, in a great degree, acquired its present eminence and precision.

The gratitude of the living can never be better bestowed than by holding up to imitation the examples of the illustrious Dead, to whose talents and labours future generations will be indebted.

This purpose is intended to be answered by the institution of the HUNTERIAN ORATION,—and I trust that the sincerity of the sentiments expressed in the following Address, will be accepted by you as an apology for its defects.

I have the honour to be,

With the greatest respect,

Madam,

Your most obedient servant,

WILLIAM NORRIS.

Old Jewry,
2 May, 1817.

THE

HUNTERIAN ORATION.

GENTLEMEN,

THE return of this day affords us another opportunity of testifying our acknowledgment of the merits, and our sense of the services rendered to Chirurgical Science, by men of genius and worth.

In the performance of this very pleasing duty, we pay the debt of gratitude to great men who lived in distant ages of the world; and, at the same time, take a useful retrospect

of the means by which our present stock of knowledge has been acquired.

The history of the progress of information in the various departments of Arts and of Science, teaches this useful lesson, that man, so far as respects his mind and actions, is the creature of habit and example. The admonition of the wise man, "*Train up a child in the way he should go: and when he is old, he will not depart from it*," is not more applicable to the state of an infant in the confined circle of its family, than to that of an adult in the great family of the human race.

The cause of the progressive improvement in natural knowledge, and of its decline, in the different ages and countries of the world, is satisfactorily accounted for by adverting to the laws and regulations by which they were

respectively governed. Those men, in certain ages and countries, would have been doomed to an ignominious death, who in others obtained the highest honours; and to whom the gratitude of their contemporaries, according to their theological notions, decreed the honour of deification.

Of the various objects of study, to the cultivation of which man is led by taste or genius, there is not any of greater importance than that of the Healing Art, the successful professors of which were, accordingly, in all ages, at least where freedom and science prevailed, held in the highest estimation; for the man who has the power to assuage pain, to remove disease, and to save life, is possessed of that which the most powerful monarchs would gladly purchase if their domi-

nions were the price. The very eloquent and glowing manner in which this was illustrated last year, from this Chair, in an extempore Oration, by reference to Grecian history, renders it unnecessary at present to add any thing in praise of the Art itself; and therefore, in the short space which is allowed for this commemorative Tribute, the time will be best employed in taking a cursory notice of a few of its principal professors and ornaments.

Authentic history does not inform us of any great medical or chirurgical character before the time of Hippocrates; but legendary accounts are not wanting which trace his pedigree, and his gradually acquired knowledge, through the family of the Asclepiades, up to Æsculapius. This circum-

stance, whether well or ill founded, would be unimportant, were it not for the consideration that in those days the same professions continued to be exercised in the same families through successive generations; and the accumulation of facts and of observations thus made, is entitled to the greater respect, inasmuch as they are founded upon long experience. The accurate descriptions which Hippocrates has given of those internal diseases and general disorders of the constitution, the treatment of which falls exclusively to the physician, have, in every succeeding age, been the subject of admiration, and frequently the directions to successful practice. With the very imperfect knowledge of anatomy that he possessed, it is surprising how rational in many instances, was his treatment

of accidents and disease; which is clearly demonstrative of a most sagacious mind, intently employed in watching the progress of symptoms, and the curative powers of nature. The great fund of knowledge contained in those of his works that have survived the ravages of time, and there is reason to fear that much has been lost, clearly proves that the Healing Art had been cultivated with ardour long before the time of Hippocrates. But although we have few or no accounts that can be depended upon, of the individuals to whom, in this respect, the world is indebted, there is great probability in believing that his pages record all the most valuable knowledge of his predecessors, at least upon those subjects of which he treats. This opinion may confidently be

entertained from the consideration of the great care which he has manifested in the collection of facts, and of the truth with which he has detailed them—of his manly independence of mind displayed in the rejection of the largest fee that was ever offered to a medical man, from the most potent prince, but who was accounted the enemy of Greece —of the extraordinary talent which he possessed of describing what he saw (the *Facies Hippocratica*, as it will ever be called, being the most expressive representation that so few words could convey)—and of his being well acquainted with all the science of the time in which he lived. His works are admired by scholars, for the classical purity of style in which they are written—by physicians, for the great store of medical infor-

mation which they contain--and by surgeons, who proudly claim him as a brother, for the numerous and excellent observations on the subjects of contusions, luxations, fractures, abscesses, fistulæ, herniæ, and especially of wounds and diseases of the head. His remarks are of inestimable value, inasmuch as they bear undoubted proof of the simplicity, honour, and truth of the narrator. Many of his conclusions may be questioned and overthrown; but no man has ever been so bold as to arraign the fidelity with which he has related what he saw, or believed.

Hitherto Surgery was only studied *empirically*, that is, by the accumulation of such facts as presented themselves to the external senses, and by experience. The anatomy of the human body was very imperfectly known;

the uses of the several parts, their modes of action, and the purposes that they were destined to answer in the animal œconomy, were quite overlooked, or not enquired into; and, consequently, not a ray of what is properly called physiological knowledge, could yet have been imparted to the mind. Yet, notwithstanding the want of these essential requisites, the surgical practice recommended by this great man is, in many instances, deserving of the most respectful attention, even at this day. The advantages which he derived from living in a free country, inhabited by the most brave, the most learned, and the most elegant people in the world, were, no doubt, very great; and the effects are visible in his works.

Celsus, who is supposed to have flourished

about 500 years afterwards, has recorded very concisely, but elegantly, the opinions and practice of Hippocrates, with such improvements, if any, as had been made down to the period at which he wrote.

In the intermediate time, it is true, there were many who acquired celebrity in the Healing Art; but none which it is necessary here to notice, except Herophilus and Erasistratus, who were the first that distinguished themselves as ardent cultivators of Anatomy. Though their works have been lost, there is no reason to doubt the accounts we have of their laborious investigations of the structure of the human body; for the names which they gave to certain parts are those which they still bear. Celsus, speaking of the surgery of Hippocrates, says, "*Hæc autem pars*,

cum sit vetustissima, majis tamen ab illo parenti omnis medicinæ Hippocrate, quam a prioribus exculta est." But the importance of correct anatomical knowledge not being yet sufficiently appreciated, the pathology continued to rest merely upon empirical observation. Their operations, therefore, were, happily, but few, were performed with timidity, on account of apprehended hæmorrhage; and the actual cautery was in very frequent use.

In tracing the progress of any science, it is convenient, and it is instructive, to occasionally pause and reflect over what had been already accomplished; like an intelligent traveller, who having arrived at some point of great elevation, stops, and deliberately surveys all those objects that are deemed worthy of attention, and notes down the principal

features of the country, of which he then gives a correct map for the information of mankind. This has been done by Celsus. Possessing such general science and profound learning, he was qualified to survey, and to mark the precise limits to which human knowledge had arrived in certain arts; and of the state of Surgery down to his day, he has given us a map, upon a very small scale, it is true, which is as much to be admired for its correctness, as for the elegant manner in which it is executed.

Here terminates the short notice of the first great æra in the history of our Art.

From whence shall the commencement of the second be dated? The answer to this question must be the avowal of a truth, the most degrading and humiliating to mankind that is

recorded in history! From a period of great learning, of general science, and of elegant and accomplished society, the prospect is hideous and disgusting. Twelve hundred long years passed without the slightest improvement deserving of notice being made in any art or science; and even the records of the accumulated knowledge of many centuries were destroyed or mutilated. This lamentable degeneracy took place, not merely in *one* country, that had formerly been the favourite seat of learning, and the elegant arts, but overspread all Europe. Should the causes of such general and deplorable calamity be enquired into, they will, alas! be found to be the same that never fail to produce similar effects when long continued; *the ambition of rapacious tyrants, and the universal influ-*

ence of crafty or bigotted priests. By the former, mens' property and lives are destroyed; and the laws and liberties of nations are overthrown—by the latter, the intellectual faculties are stupified and benumbed. Either of these causes is sufficiently afflictive; but when both are united, as was the case during the period alluded to, nothing short of the power of the Almighty can stem or prevent the baleful effects of such monstrous alliance. To enumerate the enormities and the cruelties, the tricks and cunning devices from thence arising, would be as difficult as to count the stars; and as to attempt it would be very unprofitably to occupy your time, let us leap over that horrid gulf, and hasten to the contemplation of brighter scenes.

As in every department of science there is a natural relationship with every other, the whole circle will be promoted by whatever tends to the encouragement and protection of free discussion and communication amongst men. As early as the 13th century there arose some men of genius who dared to think, and, although at great peril to themselves, to speak and to write freely; and some of the scattered remains of the works of ancient authors began to reappear, to the great benefit of the few that could understand them, from those hidden recesses that had preserved them from the hands of the spoilers. One of the most extraordinary men of that, or indeed of any age, was Roger Bacon, whose various learning and comprehensive mind, have equally been the subject of

praise and of admiration down to the present time. An ecclesiastic by profession, yet he was a very profound philosopher for the period at which he lived, and has displayed more medical knowledge than any of his contemporaries. The taste for inquiry which he excited, would alone intitle him to the grateful respect of every lover of natural knowledge; and reflects lasting honour upon this his native land.

John of Ardern and John of Gaddesden were surgeons who had attained to a degree of celebrity in England; but their works are only deserving of being mentioned, inasmuch as they prove the wretched state of the art (science it could not be called) at that time. This is not to be wondered at, as so generally illiterate were the people, that, even

amongst those of the highest rank in society many could not write their names.

A spirit of inquiry however now began to arise, and, in the course of the fifteenth century, the grand discovery of the art of printing was made, by means of which the learning of the Ancients became diffused over Europe. The learned languages were studied with zeal; and the cultivation of science in general was prosecuted with an ardour highly honourable to the age. Universities, Academies, and Societies of learned men, were established in most of the countries of Europe, under the protection of their respective governments. In England, two venerable institutions of this kind had been founded some centuries before, from whence have issued men whose profound erudition

has been universally acknowledged; whose genius and talents have adorned every profession, and have in an eminent degree contributed to the advancement of science over the world.

A recollection of the hideous desert which they had left behind, seemed to stimulate the minds of men of the fifteenth and sixteenth centuries to extraordinary exertion; and from that period to the present time, there has been, very generally, amongst the nations of Europe, an animated, warm, but friendly contest in favour of literature, science, and truth. Thus honourably engaged in the pursuit of knowledge, men quickly arose who enlightened and astonished the world by their discoveries in astronomy, mathematics, navigation, &c. &c.

It was not to be apprehended that while the public mind was actively employed on such subjects, all attention to the Healing Art should be neglected; and accordingly a very numerous list appeared, who have rendered their characters illustrious by their learning, and by their laborious and ingenious cultivation of Anatomy.

In *Italy* appeared Eustachius, Servetus, Fallopius, Cæsalpinus, Fabricius ab Aquapendente, Asellius, Malpighi, Petrus de Marchetti, Morgagni.

In *Switzerland*, Hildanus, Bonetus, Haller.

In *France*, Palfin, Ambrose Paré, Belloste, Dionis, Le Dran, Garengeot, Winslow, Petit.

In *Germany*, Albinus, Lyserus, Heister, Richter.

In *Denmark*, Bartholinus.

In *Holland*, Swammerdam, Bidloo, Nuck, Ruysch.

In *Brabant*, Vesalius.

To these might be added many hundreds whose labours in Anatomy have greatly assisted the inquiries of their successors. Their physiological reasoning, it is true, was generally incorrect and even whimsical; but the subject was to them comparatively new; and whatever errors they may have fallen into, are abundantly compensated by their anatomical researches and discoveries.

Let it not be imagined that whilst the Continent could boast the great names just mentioned, the British isles were without their luminaries in the various departments of science. In the cultivation of Anatomy and other branches of the Healing Art, it is true, that the

honour of priority is due to our brethren on the continent, and is freely acknowledged. Hospitals for the reception of poor sick and maimed persons, had been many years established in this metropolis; but it does not appear that until near the end of the seventeenth century, the founders and supporters of those institutions had any other object in view than to relieve the wretchedness and to cure the maladies of their inmates. Until this time, young men who were intended for the profession of Surgery, had no other means of acquiring the necessary information than what could be obtained from the instruction and practice of the individuals under whose tuition they were placed, except in the few instances when they went abroad for some knowledge in Anatomy. In this deplorably

abject state of the art, it is no cause for surprise that the persons who exercised it were held in little estimation, and that they occupied a rank in society but one degree above the lowest mechanics. But, as in the course of the preceding century, men began to reason upon and to assert *their civil rights;* as laws were enacted for the more perfect security of the lives, the property, and the freedom of the people; so, as a natural consequence, the energy of the human mind began to display itself upon all those subjects that are interesting to man. The Royal Society was established, under the immediate patronage of the king, for the promotion of natural knowledge; and genius and talents being thus not only protected but fostered and encouraged, a multitude of learned men

soon appeared, who shed lustre upon all the sciences. The same powerful and beneficent patronage being continued, *and never so extensively as during the present reign*, the cause of literature, of philosophy, and of general science has progressively advanced down to this day. At a time that all other arts and sciences were cultivated with a degree of *enthusiastic* ardour, it was not to be supposed that those in which life, health, and comfort are immediately concerned, should not be properly appreciated. Accordingly, the great names of Harvey, Wiseman, Cheselden; of the Douglases, the Monros, Nichols, William Hunter, Hewson, Cleghorn, Sharp, Hawkins, Gunning, Bromfield; of Else, Warner, Pott, and very many others, present themselves to our admiration

and gratitude, as men who have materially contributed to their country's honour.

In the present short sketch it would be impracticable to do justice to those eminent characters, or to particularize their respective contributions in promotion of the Healing Art, by their anatomical discoveries and by their chirurgical observations.

Early in the eighteenth century, schools of anatomy were opened in London, pupils began to attend the practice of the hospitals, and thus *scientifically* to acquire a knowledge of their profession. The advantages of this the *only* true method of obtaining the requisite information, became apparent, and in the course of a few years, almost every hospital in London became a school, at which not only Anatomy, but every other branch of medical

and chirurgical science was taught. There were also private theatres in various parts of the metropolis, unconnected with any hospital, where anatomical instruction was carried on by men of great worth and talents, by whose labours the general stock of knowledge was enlarged. Students thus qualified were enabled to practise their art with honour to themselves, and with advantage to society.

The arts and sciences, and literature in general, being now cultivated with an ardour hitherto unknown, the estimation in which the medical profession was held became proportionally greater. The well educated surgeon was sure of being amply rewarded by wealth, honour, and the grateful regard of an enlightened society. It was evident that the youth who could hereafter hope to shine

in this profession, should first have received a good classical education. Almost the whole of the professional knowledge that he could obtain from reading, was originally derived from the Greeks—the names of the different parts of the body—of the various diseases to which man is liable, and of the remedies employed for their cure—together with the terms of art, were given in the expressive language of that wonderful people.

Although, during part of the seventeenth century, and down to the period now noticed, the energy and freedom of the human mind had displayed a noble activity as contrasted with its preceding long continued torpor and subjection; yet the *practice* of Surgery had received very little improvement. It is true that since the times of the

Greeks, very many ponderous volumes, of pompous title and bombastic promise, on the subjects of Anatomy and Surgery had been published; but they contained little that was of any value, save what was purloined or imperfectly translated from their predecessors. The surgery therefore which prevailed in this country, even at the beginning of the eighteenth century, except in the treatment of a few diseases, could hardly be said to be an improvement upon that of Hippocrates, 2,200 years before!

From the day on which Anatomy began to be publicly taught in London, may be dated the commencement of the rational study of the Healing Art in this country: and the numerous hospitals and great population of the metropolis, afforded constant

opportunities to the students of witnessing the effects of disease, and of benefitting by those instructions which they were now enabled to comprehend. Every inducement of independence, of honour, and of rank in society, being held out to the cultivators of natural knowledge, the native vigorous minds of free Britons soon became apparent in the improvement of every science; and of none more than of our own. It is allowed that all circumstances were peculiarly favourable. In Cowper, Cheselden, Douglas, and Nichols, Anatomy and Surgery had zealous and accomplished teachers, whose fame extended over Europe. The celebrity of Cheselden as the most expert operator of his day, was universally admitted; and being one of the surgeons of St. Thomas's Hospital, he had constant

opportunities of exercising his talents. The other hospitals of London had also the assistance of very able surgeons, who contributed not a little to the establishment of the character of the metropolis as being an excellent school of Surgery. Young men, no longer finding it necessary to go to a foreign country in search of that knowledge which was to be obtained at home, resorted to London from all parts of the country; and every succeeding year in greater numbers, in proportion to the increasing celebrity of its schools. This memorable period must ever be thought of with delight. The human mind having been kept, during many centuries, in a state of the most dark and abject thraldom, through the means of violence, craft, and bigotry, at length burst its degrading bonds; and a

blaze, from intellectual exertion, soon followed to enlighten the world. Under the influence and generous protection of wise and equal laws, every art, every science, every useful profession and vocation flourished, and will for ever flourish, whilst mankind shall continue sensible of the *causes of their prosperity*.

Were not the limits of this annual Commemoration necessarily confined, it would be highly gratifying to enumerate some of the many discoveries in Anatomy, and the improvements in the practice of Surgery, which were made by the great men of those days, as well as by our immediate predecessors. But as this has already been, in part, done on former years from this Chair, and as ample justice may confidently be expected on future

Anniversaries from those gentlemen upon whom the pleasing duty shall devolve, it is at present only intended to mention, at any length, in this the *second* æra of our Art, one anatomist and one surgeon, William Hunter, and Perceval Pott.

The former of those great characters was a man of learning, of science, and of taste; who devoted a long life to the cultivation of Anatomy, and a large proportion of the fortune derived from his professional labours, to the formation of an extensive Museum. His great and valuable Collection, now possessed by the University of Glasgow, consists, not only of the various parts of the human body, represented in a sound and natural state, and also in the endlessly diversified forms which disease produces; but contains likewise a very

great number of rare and costly coins and medals, which historians of future ages will examine for information; and antiquaries, for rapturous delight. It is probable, that at the commencement of this Collection, and for some time afterwards, the only object of it in the mind of its founder, was the more perfect illustration of the subjects of his Lectures; but, as is common in all useful pursuits, increasing knowledge stimulates to increased exertion, and thus, happily, a degree of enthusiasm is produced. The Museum of William Hunter will, many ages hence, be the subject of admiration and the source of instruction to his grateful countrymen: and the world is already indebted for an invaluable volume on Morbid Anatomy drawn from that store, by his nephew, Dr. Baillie, of

whose meritorious labours in anatomy it will be the pride of future annalists to say more than delicacy at present allows.

William Hunter was one of those men who fortunately chose that profession to which their taste and talents were most congenial. Fond of anatomical researches, he necessarily excelled in the mechanical part; and being a man of learning, he became perfectly acquainted with the discoveries, the opinions, and doctrines of his predecessors. His lectures, therefore, were not confined to merely correct exhibitions and explanations of the *structure* of the various parts composing the human body, but conveyed also much valuable physiological information. As a public teacher of anatomy, his talents were of the very first order, as all who have had the advantage of

hearing him would amply testify. He had a happy manner, peculiarly his own, of introducing anecdotes that were well adapted to fix the attention of his auditors, and to renew their recollection of what he was describing. His language was pleasing, clear, and familiar; and it was also beautifully correct. Upon the whole, it may justly be said of William Hunter, that as a public teacher of anatomy, no man had equalled him; and he must be a prodigy indeed by whom he shall ever be surpassed. His talents, however, were displayed not only in the dissecting room and the theatre, but to the world at large, through the medium of the press; and his "Medical Commentaries;" his papers in the "Medical Observations and Inquiries;" and, above all, his splendid work on the

Gravid Uterus, will ever preserve his name high in the list of those who have eminently contributed to the promotion of anatomical and medical science in this country.

Perceval Pott, many years one of the surgeons of St. Bartholomew's Hospital, was a man of whom England will ever have cause to be proud. Having received a good classical education, as a necessary requisite for the study of any science, he was regularly initiated to that of Surgery. Upon the stable basis of Anatomy, he was enabled by his love of books, his talents for observation and inquiry, his clear conception and strong mind, to erect a superstructure of chirurgical pathology, which must long be admired as the work of no common genius. Although, from his extensive practical knowledge, no man

was better qualified to illustrate the nature and direct the treatment of those diseases that come within the province of surgery than Pott; and although very few, if any, had the facility or the power of writing so well, yet, either from want of time or inclination, he has not given us that general and systematic view of the surgery of his time, for which he was so eminently qualified. He was, however, a most active and able inquirer after useful facts, and a most ardent supporter of the importance of his profession, which was uniformly manifested by the whole of his public and private conduct. Whenever the nature of any disease was generally misunderstood, or whenever he had any important information to communicate, his habit was to give it immediate publicity through the medium of the

press. The numerous detached treatises, all of great intrinsic value, which at various periods he thus presented to the world, prove his unceasing endeavours to promote the public good. It is hardly possible to appreciate too highly the improvement which he had the principal merit of introducing in the treatment of fractured limbs. And his simplification of the operation for fistula in ano is of very great importance, the soundness and clearness of his reasoning upon that subject, being perfectly applicable to many others.

The detailed account of this great man which was given by Sir William Blizard in the Hunterian Oration two years ago, renders it unnecessary to be much more particular in the enumeration of his merits. To those who had not the honour of his acquaintance, and

the benefit of his *viva voce* instructions, it should be known that he possessed the greatest sagacity in the prompt discovery of disease, —that his strong and well informed mind had recourse to every rational method of restoring health, without the use of the knife, —and that when an operation became necessary, he performed it with firmness and admirable dexterity. Those who were students at the Hospital can never forget his instructive remarks at the bed-side, most kindly conveyed to the surrounding listeners; and they will often recollect with pleasure, the easy and happy manner in which, in the lecture-room, instruction was imparted. Whilst earnestly inculcating the necessity of accurately distinguishing one disease from another to which it bore close resemblance, he would

freely detail, with a candour peculiar to great and ingenuous minds, the mistakes which he himself had committed; observing that Surgery was to be learned *a juvantibus et lædentibus*, and that the lædentia were, and had been, very numerous. Of the honour and dignity of his profession, he was a zealous promoter, and a bright example; and a frequent admonition to the students was, "that they were not to look upon the practice of Surgery in the narrow light of a *trade*, by which they were to obtain a livelihood, but as a *science*, still admitting of great improvement, by the due cultivation of which, their own respectability and the good of mankind were equally to be advanced!"—To banish mystery—to give the clearest notion of the cause and nature of a disease—and to sim-

plify as much as possible the necessary operation, or other appropriate means of cure, were Pott's instructions directed.

From this point of great elevation, a retrospective view of the anatomical discoveries, and of the physiological and practical improvements, during the last 150 years, is most gratifying. To mention a very few will, at present, suffice.

The circulation of the blood; and the appropriate structure of the heart, the arteries, and veins.

The existence of an absorbing system of vessels; a superficial and imperfect idea of which, so far as regards the lacteals, appears to have been entertained by Herophilus.

The universal distribution of the nervous system and influence.

The art of injecting the arteries, veins, and lymphatics with wax, mercury, and other substances; by which the vascularity of parts, and the anastomoses of vessels were ascertained, &c.

From a correct knowledge of the structure of a living body—from close observation—and from well conducted experiments, were deduced those inferences as to the uses and powers of the several parts, upon which physiology and pathology principally rest. The different stages of digestion of the aliment—of chylification, and of sanguification, are easily traceable; and that upon the supply of arterial blood the *life* of a part depends, was ascertained.

The various and complicated apparatus by which fæcal, useless, or noxious matters

are expelled from the body, were explained; and in short, the powers of which the constitution is possessed, to resist disease and to repair the effects of injuries, were far better understood than at any former period.

This preliminary knowledge necessarily produced a more rational pathology; and that the comforts and safety to mankind from thence derived became apparent, and were properly appreciated, is seen by the high degree of estimation in which those who exercised the Art and Science of Surgery were held. The easy and effectual method of restraining hæmorrhage by the ligature—the general adoption of simple and superficial applications to wounds and sores—the practice of saving as much skin as possible in operations—and even the bringing into con-

tact the divided muscles from the opposite sides of a stump immediately after amputation, so that they occasionally unite by the first intention, are a few of the very many improvements that had taken place.

The great and increasing fame of the teachers of Anatomy, Physiology, and Surgery; and indeed of all parts of medical and philosophical knowledge, had now brought to London multitudes of pupils, not only from every part of the British dominions, but some also from almost every civilized country of the world. This is not to be wondered at, for here all circumstances were favourable to the acquisition of such knowledge; and as they still continue, the celebrity justly acquired by the great men lately mentioned, has been

nobly sustained and extended by their successors to the present day.

Studious men may become *learned* in certain sciences, although they never quit their chambers; but men can never become Surgeons, except where there is an opportunity of seeing disease upon a large scale, and this can only be where there is an extensive population. In London, there are seven large hospitals, the pupils of which meeting in societies; visiting with each other at their several places of instruction, and comparing the opinions, the doctrines, and the practice of their respective teachers; this metropolis thus becomes *one great school*. The younger part therefore, of this learned and very numerous audience, should know, that much of future

excellence will be expected of them, as no students in Surgery have heretofore, in any age or nation, enjoyed equal advantages.

Having thus endeavoured, though faintly, to do some justice to the memory of those to whom our profession is so much indebted in England, it would be ungenerous, uncandid, and very foreign to the feelings of their brethren here, not to acknowledge, in the warmest terms, the zealous and successful cultivation of Anatomy and Surgery by the Scotch and Irish. To particularize individual merit might appear invidious, and the number deserving of praise, would be too great for our allotted time; but it may truly be said, that their respective countries who proudly boast the heroic deeds of their gallant sons, may

equally exult in the civic honours won by the peaceful explorers of science.

Whilst Pott flourished, arose John Hunter —one of the most extraordinary characters that appear in the course of centuries; and whose time it is probable that future ages will designate the *Hunterian æra* of surgery.

The history of this wonderful man is beautifully and strongly illustrative of the great truth, that the natural bent and inclination of a youth, should principally be consulted in determining the choice of his profession. It appears likely, from the very interesting account, by Sir Everard Home, of the life of Mr. Hunter, that his transcendent talents would have been lost to the world, had it not been

for the invitation of his brother to visit London; where being introduced to the dissecting room of that illustrious teacher, he soon shewed such a taste for anatomical research, and such an insatiable thirst after knowledge, as to leave no doubt of his future excellence in that department of science. Finding himself now in the right path, he pursued it with that ardour which is always remarkable in those men of genius whom nature calls, as contrasted with those whose talents are misdirected. How many excellent mechanics might we have had in those whose partial but injudicious friends have destined, in vain, to the study of the learned professions! Devoting the whole of his time, save what the refreshment of exhausted nature required, to his own instruction and to that of others, this

laborious and accurate anatomist, having become familiarly acquainted with the mechanical structure of the human body, naturally became desirous of ascertaining the uses and functions of the various parts of which it is composed. As a correct knowledge of Anatomy, and a clear investigation of the uses and of the principles of action of the different parts, necessarily constitutes the only sure basis on which to erect a physiological doctrine, he continued perseveringly to question Nature. With this view, a series of experiments was instituted and carried on in the true spirit of philosophical inquiry, always doubting what he could not prove; by which means erroneous notions were corrected, and the most important truths established. During these investigations he acquired the art of making

anatomical preparations in so superior a style of excellence, that the objects to be displayed were set off to the greatest advantage; so that, in many instances, their exquisite beauty excites our admiration, as much as the finished works of the most celebrated painter. The perfect knowledge which he had acquired of human, only tended to stimulate him in the pursuit of comparative anatomy. With a zeal, therefore, peculiarly his own, he entered upon this study, which he prosecuted with an ardour never surpassed, and at an expence from which, under like circumstances, any other man would have shrunk with dismay.

In the prosecution of this delightful and instructive science, he made many and very important discoveries—the existence of an absorbing system of vessels in birds—the

apparatus by which the torpedo and the electrical eel give the shock—the variety of structure and disposition of parts which animals living in different media are provided with, to produce the same end, &c. &c. Every fact thus discovered was treasured up by him, and the different structures of the same organs in different animals were compared. Every step in this inquiry furnished to his sagacious and comprehensive mind, a spark which conducted him to some discovery, and that to another; and thus he was led on to the establishment of physiological truths which time cannot destroy.

How dark and unsatisfactory must that physiology be that did not contemplate the existence of the absorbent system! and how impossible to account for those operations of

Nature, daily witnessed, in the removal of dead parts, and the restoration to health of such as are diseased.

Having established a rational physiology on the knowledge of the structure of the body, and the ascertained uses and powers of the various parts, separately and combined, the application of this knowledge became apparent in the greatly improved pathology which soon began to prevail. The very masterly account which he has given of the various kinds of inflammation; the objects which Nature has in view in setting up that action; and, consequently, the proper adaptation of means to promote, to moderate, or to modify that most important action in the animal machine, so as to convert disorder itself into the most efficient means of cure, would alone

have been sufficient to establish his character as an original thinker, and as a powerful and correct reasoner. The practice recommended by him in the treatment of poplitæal aneurism, and which was the result of profound meditation upon the powers of Nature, furnishes hints to the inquiring mind, of very extensive application. His doctrine of sympathies beautifully explains and illustrates many physiological facts; and consequently directs to the most rational and successful means of removing various maladies, the nature of which would otherwise have remained unknown, as well as their appropriate remedies.

Of his numerous communications to learned societies, and to the public, by means of the press; although several may contain information of more interest to mankind, and may

display the *energies of mind and genius* in stronger colours, there is none which so clearly demonstrates nice discrimination, close, watchful, and long continued observation, as his Treatise on Syphilis. No man can read that work without being astonished at the talents shewn by its author, in the detection and developement of the endless train of symptoms produced by that protæan disease. The ascertainment of such parts of the body as are peculiarly susceptible of the effects of the poison—the *order* in which those parts come into action—the just distinction made between the state of parts having received an *impression* only, and of those in which action has commenced—and the admirable practical deductions from thence drawn, would have been sufficient, had the whole of his life been

devoted to this subject, to place the name of Hunter high in the list of those who have successfully laboured in the cause of science and of suffering humanity.

The energy of his active mind was almost unceasingly employed on the inquiry into the structure, habits, and modes of living, of the various orders and endless varieties of the animal creation; the comparison of their different organization to produce the same effects; the supply of their respective wants, and the preservation of their existence; and the close analogy that was found to prevail in beings however dissimilar in their external appearance.

In various ages of the world, learned and very ingenious men have been seduced by the contemplation of subjects to which

their partiality had given undue importance, and their time and talents have been dissipated in the vain attempt to elucidate and to establish their baseless hypotheses or useless theories. But Hunter, no less enthusiastically engaged in the pursuit of what, happily, had captivated his mind, rarely, if ever, being led astray, continued to prosecute with ardour, those inquiries that conduct, through a well connected series of facts and correct reasoning, to the establishment of a sound doctrine. The discoveries made in the dissecting-room, became the subjects of deep meditation in the closet; and many of those hours which most other men devote to repose, were by him employed in great mental exertion. The anatomy, carried to microscopic minuteness, of the various orders of

animals inhabiting the earth, the air, and the ocean, from the elephant to the insect, became to him familiar; the difference in structure that obtains in amphibia—in hot, and cold-blooded animals—in those of the same species that live in different climates and temperatures—and the resources with which Nature has supplied them for preserving life; those were the subjects that occupied the daily and nightly thoughts of this wonderful man.

To a mind thus directed, these questions would naturally occur: What is that quality that is common to all animated nature? What is life? The world are in possession of the means which he adopted to obtain a satisfactory solution, and of the result of his researches.

If in his Treatise on the Blood, in which he contends for its vitality, his deductions should not entirely command our assent; yet the opinions of *such a man* should always be treated with the greatest reverence, and not rashly censured. The work itself is full of information, and will abundantly reward those who carefully read it, although they do not subscribe to the full extent of the author's conclusions.

To the question of "What is the nature, essence, and mode of action of that subtile something, by which, through the medium of the nerves, communication is kept up between the Sensorium and all parts of the body?" philosophers have hitherto failed to give a completely satisfactory solution. If we allow that Hunter's opinion upon this

very interesting but obscure subject is the most rational that has yet been submitted to the world; there is, confessedly, still wanting enough to exercise the talents of the most acute and profound genius to supply. This may be a subject which should more properly occupy the time of the metaphysician, than of the practical surgeon, and perhaps is one of the arcana, the discovery of which is not allowed to man.

The increasing celebrity of Mr. Hunter as a Surgeon, during the latter years of his life, necessarily occasioned much of his time to be diverted from his favourite pursuits. But that an extensive employment in a profession, the practice of which fatigues both mind and body, did not wean him from them, is sufficiently apparent from the numerous com-

munications which he continued to make to the Royal Society, and which are published in their Transactions. His extensive practice, and the numberless opportunities of seeing almost every variety of accident and disease, as one of the Surgeons of St. George's Hospital, happily enabled him to add the sanction of experience to the validity of those theories that were deduced from so profound a knowledge of the animal œconomy. The communication of this knowledge in lectures to the students at the Hospital, which duty necessarily required him to arrange and to methodize his thoughts, was attended with the great advantage to them of example accompanying the precept. The frequent association which he maintained with philosophers, and with scientific men of his own

profession—the interchange of sentiments, by which knowledge was mutually given and received—and, above all, his reasoning upon the multiplicity of facts which his own researches had discovered, constituted him the greatest physiologist that the world had yet seen.

In Hunter, as in every other real lover of science, there was an openness, and a free communication of such remarks as could interest those of his own profession, and consequently mankind, that were highly honourable. Any happy discovery by which science or the cause of humanity could have been promoted, would have been immediately made known, either through the medium of the press, or the Royal Society, or at the first of those weekly meetings at his own

house, which were numerously attended by men of general science. To conceal any great truth, the promulgation of which tended to promote natural knowledge or the common good, the certain prospect of boundless wealth, would with him have been unavailing. Wealth!—this was a subject that never employed his thoughts; and had his hard-earned professional emoluments been tenfold what they were, there is every reason to believe that the amount would have been employed in the furtherance of his grand design; and that ultimately he would have died, according to the common acceptation of the words, a poor man. Here it may be proper to mention, for such honourable conduct can never be too often noticed and acknowledged, that Dr. Jenner, the happy discoverer of

the efficacy of Vaccination, was a pupil of Hunter ; and that, worthy of his great preceptor, this excellent and learned man, instead of preserving the secret for which millions would have been an inadequate price, lost not an hour, after the complete ascertainment of the fact, in freely publishing it to the world.

In other departments of arts and of science, great, ingenious, learned, and eloquent men have frequently arisen, who have dazzled, delighted, and instructed their respective countries ; but the qualities and the talents for which they were admired, have too often vanished with the individuals who possessed them. Not so in the instance of John Hunter. He, as we have seen, incessantly and disinterestedly engaged in pursuits, the object of which was to enlighten and benefit the world ;

was at the same time silently erecting for himself a monument of renown, that if not imperishable, will at least continue as long as the Healing Art shall command the respect of mankind, or one of its greatest ornaments his country's gratitude. The collection within these walls is that monument. In the very short, expressive, but modest account of it as given by Sir Everard Home, (for his own hands were engaged in its formation,) it is said "*that in this Collection we find an attempt to expose to view the gradations of Nature, from the most simple state in which life is found to exist, up to the most perfect and most complex of the animal creation—man himself.*" The very conception of such a design sufficiently proves the grand operations of his comprehensive mind; whilst the extent to which it has

been carried, and the manner in which it has been executed, excite in all who behold it, admiration, which increases in proportion as the whole is minutely and critically examined.

This collection contains preparations of every part of the human body, in a sound and natural state. In regular series are displayed the digestive organs, and the alimentary canal, with their varieties and appendages—the heart, and the vascular system—the kidney—the brain and nerves,—the organs of respiration—of touch—of taste —of smell—of hearing—and of vision. It also contains a very great number of deviations from the natural form and usual structure of the several parts. A portion of it likewise, which is of inestimable value, and which is allotted to morbid preparations,

contains a prodigious assemblage of specimens illustrative of the changes of structure occasioned by disease, and exhibiting the effects, in many instances, of the endeavours of the constitution to restore health. In this department there are few of the diseases to which man is liable, of which examples are not to be found. It contains also a rare and extensive collection of objects of Natural History, which, through the medium of comparative anatomy, greatly contribute to physiological illustration; and also a very considerable number of fossil and vegetable productions—the whole amounting to not less than 22,000 specimens and preparations.

The plan of this extraordinary collection was well considered by its great founder, who having laid the foundation upon a broad and solid basis, saw that a superstructure, ad in-

finitum, might be added, which would give increased strength without injury to its symmetry. Accordingly, many valuable contributions have been sent to the College by lovers of science, at the head of whom is that most munificent patron of learning and of learned men, Sir Joseph Banks.

To Sir William Blizard, to whose knowledge, science, and indefatigable zeal the College is under infinite obligation, it owes the splendid donation of more than 500 specimens of natural and diseased structure. To Sir Everard Home the College is indebted for a great number of specimens in Natural History—for various contributions to the Library—and, in conjunction with Dr. Baillie, for the liberal and pious endowment of this annual commemoration of their illustrious friend and relative. But above all,

the College is indebted to Sir Everard for the giving up of a large portion of his valuable time to the arrangement of the collection, preparatory to the formation of a scientific catalogue of the whole. This essentially necessary work, which, when completed, will enable the lovers of medical science to visit the Museum with encreased pleasure and advantage, proceeds with all the celerity that due attention to correctness admits, under his hands, with the able assistance of the Conservator, who has grown up with the collection, and who possesses no small share of Hunterian enthusiasm.

The philosopher, the physician, the surgeon, the man of general science, and he who glories in his country's honour, may be assured that this precious deposit is under the watchful care of those who know its value.

It may be proper to observe, to those who do not know the fact, that the Hunterian Collection, which was wisely and patriotically purchased by the Government, was presented to the College, with the view of having annually delivered at the College "*a course of lectures on comparative anatomy and other subjects, illustrated by the preparations.*" —that this duty has been honourably discharged—and that the gentlemen who have held, and those who now hold the important office of Professor, have so acquitted themselves as to ensure the transmission of their names to distant posterity in close alliance with that of the great man to whose memory this very imperfect but sincere tribute is offered.

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