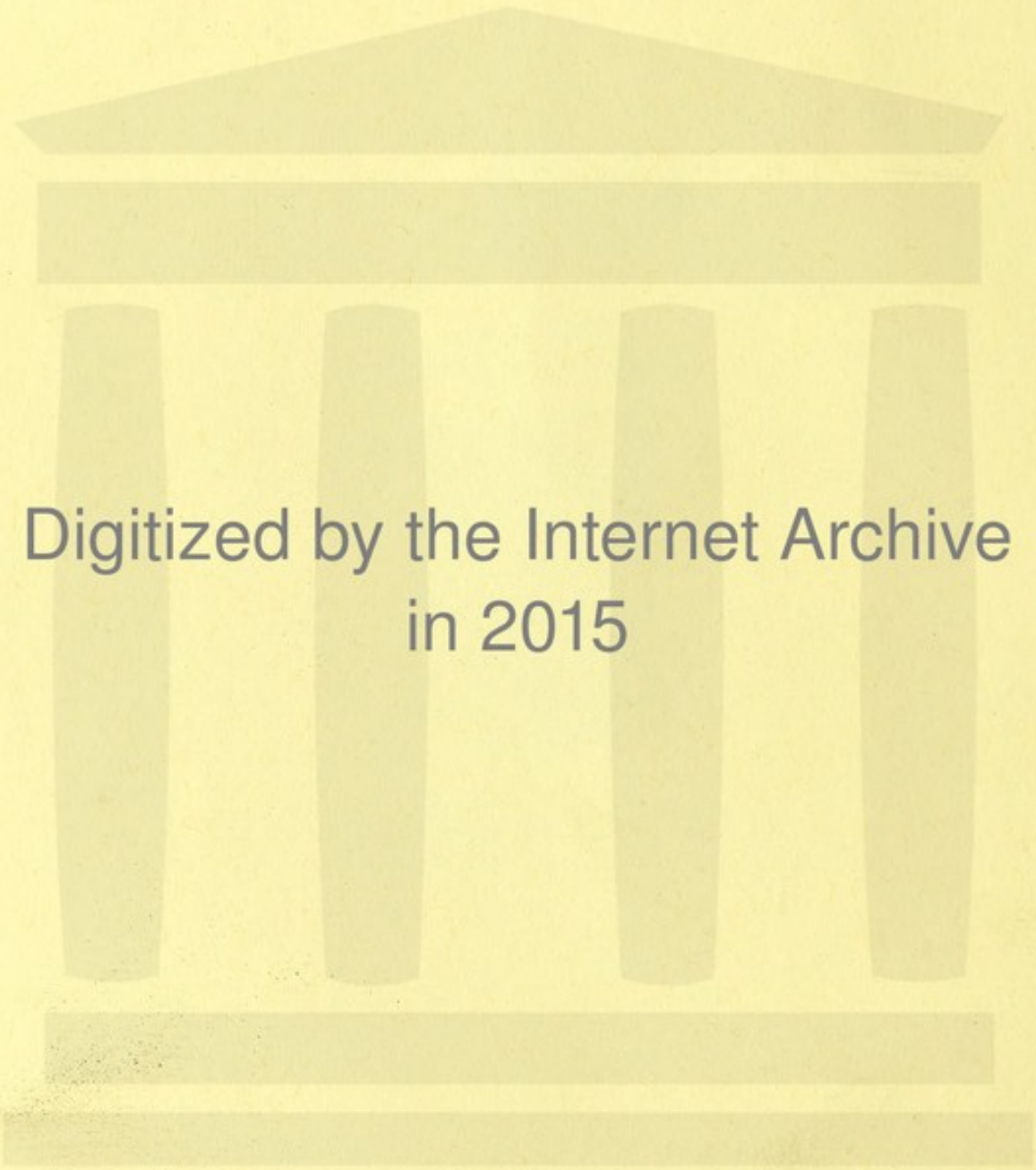
The Hunterian oration : delivered before the Royal College of Surgeons on Saturday, February 14, 1818 ; and published at their request / by Sir David Dundas.



THE

HUNTERIAN ORATION.

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HUNTERIAN ORATION,

DELIVERED BEFORE

THE ROYAL COLLEGE OF SURGEONS,

ON SATURDAY, FEBRUARY 14, 1818;

AND PUBLISHED AT THEIR REQUEST.

BY SIR DAVID DUNDAS, BART.

ONE OF THE GOVERNORS OF THE COLLEGE,

AND

SERJEANT SURGEON TO THE KING.

LONDON:

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1818.

TO

GEORGE THE THIRD,

KING

OF GREAT BRITAIN, IRELAND, &c. &c. &c.

FOUNDER

OF THE

ROYAL COLLEGE OF SURGEONS IN LONDON,

THIS ORATION

IS MOST RESPECTFULLY DEDICATED,

WITH SENTIMENTS

OF THE HIGHEST VENERATION AND GRATITUDE,

BY

HIS MAJESTY'S

FAITHFUL SUBJECT AND SERVANT,

DAVID DUNDAS.

ERRATA.

Page 19, line 4, for *Piquet*, read *Pequet*.

—— 35, line 12, after the word vascular a full stop instead of a semicolon, and dele the *and*.

—— 43, line 13, for *elegantly*, read *eloquently*.

THE

HUNTERIAN ORATION.

UNACCUSTOMED, Gentlemen, as I am, to address a public assembly, when I recollect the very able manner in which the subject of this day has been treated by those who have preceded me; when I look round me and see so numerous, and so very respectable an attendance, I own I present myself before you with much diffidence.

But to record the actions of the illustrious dead, to commemorate the benefactors of mankind, to trace the progress of science, to

hold up the conduct of those who have gone before us, as examples for the imitation, or encouragement for the perseverance of the rising generation, cannot fail to be an agreeable, a gratifying task.

Such being the nature of the task of this day, it must be particularly gratifying to one who was the pupil of the illustrious JOHN HUNTER, who admired his genius, and enjoyed his friendship.

To be able to estimate the merit of Mr. Hunter, and to appreciate the obligations we are under to him, we ought to take a view of the progress which had been made, anterior to his time, in Surgery; and in Anatomy, the basis on which the superstructure of Surgery is erected.

We owe this justice to public men, who

have done good to the age they lived in, to look at the point whence they set out, the better to see the improvements they have made.

What first led man to direct his attention to the structure of the human body, is now mere conjecture.

It is reasonable to suppose, that the injuries he sustained in defending himself from the attacks of wild beasts, or in conflicts with his own species, would produce in him a desire to become acquainted with the structure of the parts, in order more effectually to relieve these injuries.

His curiosity might also be excited by the diversified appearance of the internal parts of those animals which he killed for his food, or offered up in sacrifice to his gods.

Nothing would be more likely to attract his attention, and to make him desirous to ascertain their uses, than the appearance of the different viscera; so unlike to the muscular structure of the extremities, so dissimilar to each other, occupying always the same relative position, and so curiously packed up, as to afford sufficient space for each, without incommoding the action of any.

During the age of ignorance and barbarism, man has ever been disposed to refer effects to occult, or supernatural causes; hence in cases of difficulty and danger, the priesthood was resorted to; and as superstition has always prevailed in proportion to the low state of the human intellect, the priests who presided over the sacrifices, not only pretended to foretel future events from the appearance of

the internal parts of the victims, but also to cure diseases.

The priesthood having many features of resemblance with the professors of the healing art, exercising equally an influence over the imagination in proportion to its weakness, and employing the same springs, hope and fear, did not fail to usurp the empire of medicine, and to arrogate to itself the exclusive privilege of practising Physic and Surgery.

Thus united with religion, taught in the temples with ceremonies not calculated to form enlightened minds, and subjected to absurd laws by the priests (who enjoined treating dead bodies with great respect, and inflicted severe punishment on those who profaned the tombs,) Anatomy remained in a long infancy; and little advancement was made in it, till

the progress of civilization and philosophy reared it up to manhood.

The arts and sciences arrived to a degree of perfection in Greece, which they had attained no where else; and it was there that Anatomy and Surgery, appear to have been first cultivated.

The celebrated temples of Esculapius at Epidaurus, and at Cos, testify the consideration which was paid to the healing art in Greece. In these temples the histories of diseases, and the account of their cures, were engraven on tablets, and hung up on the walls or pillars, that they might be referred to in similar cases. Along with the progress of philosophy and liberty in Greece, Medicine escaped from the empiricism and ignorance which had so long repressed it; the practice

of physic in the temples declined; and superstitious prejudice yielded to rational experiment. Hippocrates, born about 460 years before our æra, probably borrowed his authorities from the great collection of the votive tablets in the temples of Esculapius; and regarding medicine and philosophy as inseparable, he justly merited the title of the Father of Physic.

But owing to the prejudice which still prevailed respecting the treatment of dead bodies, little progress was made in Anatomy; it is even disputed, whether Hippocrates himself had ever dissected a human body; and Galen is said to have undertaken a journey to Alexandria, for the express purpose of gratifying his curiosity by the sight of a human skeleton.

The despotism and cruelties of the greater number of the Roman Emperors, together with the absurd theological disputes which for so long a time superseded all other knowledge, and the irruptions of the barbarians of the north, arrested the progress of, and almost annihilated all science; producing what has emphatically been called, the Dark Age.

Through this dismal scene, it is not necessary for us to travel, during which, Anatomy experienced the lot of all the other arts and sciences; and in an interval of more than nine hundred years, one is not stopped by a single discovery of importance in Anatomy.

The illustrious historian of the Decline and Fall of the Roman Empire, observes, in

the eleventh century: "At last the treasures of Grecian medicine reached the Arabians, and had been communicated by them to their colonies of Africa, Spain, and Italy, and in an intercourse of peace and war, a spark of knowledge had been kindled and cherished at Salerno. A school, the first that arose in the darkness of Europe, was consecrated to the Healing Art, and a crowd of patients, of the most eminent rank and most distant climates, invited or visited the physicians of Salerno. After a pilgrimage of 39 years, Constantine, an African Christian, returned from Bagdad a master of the language and the learning of the Arabians, and Salerno was enriched with the practice, the lessons, and the writings of Avicenna."

But it was not till the fourteenth century

that Mondini, at Bologna, first read lectures on the human subject; an example which was soon followed by all the universities.

The discovery of the art of printing, soon after this, contributed greatly to the general diffusion of knowledge, and to the cultivation of science.

The terrible effects produced by the use of fire-arms about this time, and in the next century the appearance of the venereal disease, gave a stimulus to the practice of Surgery; and no assistance being derived from the ancients, surgeons resorted to the aid of experiment and observation.

In the infancy of the doctrine of wounds made by fire-arms, it was supposed that bullets and gunpowder possessed a venomous quality, and that they poisoned and burnt

the soft parts which they wounded; and in consequence of this theory, surgeons began the treatment of gun-shot wounds, by scalding them with boiling oil, with the intention of destroying the poison they contained.

To Ambrose Paré we are indebted for a better theory, and a better mode of treating such wounds.

I beg leave, Gentlemen, to call your attention to this great man, in whose professional career, we shall find a circumstance which connects him in a particular manner with the late Mr. Hunter. The physiological and philosophical principles of Paré, are nearly those of Galen and of the Arabian Physicians. Vesalius was his master in Anatomy.

The account which he has given in his works of the system of the latter, contains

almost all that was known of Anatomy at that period; and also every thing then known, of the treatment of disease, and of the performance of surgical operations.

He observes that Surgery proceeded by the uncertain and deceitful light of erroneous principles transmitted by the Greeks and Arabs down to the sixteenth century; this evil, his judgment and comprehensive mind sought to remedy, and contributed greatly to the reformation of Surgery.

So little was he avaricious of fame, that he did not give to the public, till very late in life, the valuable result of the materials which he was enabled to collect during a practice of upwards of fifty years; and no individual had ever produced so many important improvements in Surgery as he did.

And let us always bear in mind his observation, "That it is unpardonable negligence to stop at the inventions of our ancestors, imitating them merely after the example of the idle, without adding to and increasing the inheritance they have left us. For antiquity and custom, in such things as are performed by art, ought not to have any sway, authority, or place contrary to reason; as they oft times have in civil affairs."

What he has said of gun-shot wounds is full of sage and judicious precepts; calculated to guide even the modern practitioner in his treatment of them. Like John Hunter, he was an accurate observer of Nature; and bound by no prejudice, he seized with a master's eye what appeared to him to be her intention. It is amusing to read his candid

account of the occcurrence, which led him to adopt a new practice.

He says that in the year 1536, being a surgeon in the French army, after a battle with the Imperialists, there were a great many men with gun-shot wounds. He owns he was not very expert at dressing such wounds, but that all the surgeons at that time dressed them with boiling elder oil, with which the wounds were filled as full as possible. It happened there were so many wounded men, that the scalding oil was all expended; and that he might not seem to have left the rest undressed, he was forced to apply a dressing made of the yolk of an egg and oil of roses.

" I could not sleep (he says) all night; the dressing of the preceding day troubled my thoughts; and I feared I should find the

wounded men, whom I had not dressed with the scalding oil, all dead by the poison of their wounds. But I found them free from pain, and to have rested well; while on the contrary, all those that were burnt with the scalding oil, were tormented with pain, were feverish, and had the parts about the wounds much swollen."

His directions and hints for the treatment of compound fractures, suggested by his own sufferings from a severe accident of that nature, though not to be compared with those of Mr. Pott under similar circumstances, are curious, and worth the attention of the modern practitioner.

His fertile invention contrived his two celebrated ligatures for securing the bleeding vessels after amputation; and afforded him

the merit of rejecting those cruel and barbarous remedies—the actual cautery, boiling oil, and caustics, which were at that time universally employed for the purpose of stopping hæmorrhage.

He says, "he formerly stopped the bleeding of vessels after amputation after another method, of which he was ashamed and aggrieved. He had seen his masters and predecessors furnished with store of hot irons and caustics, which cannot now be spoken or thought of but with great horror."

He then describes the frequent renewal of hæmorrhage when the eschars fell off, and the miserable consequences of the repetition of the cautery, and concludes in these words: "Wherefore I must earnestly entreat all surgeons, that leaving this old and too cruel way

of healing, they would embrace the new, which I think was taught me by the special favour of the Sacred Deity: for I learned it not of any masters, neither had I at any time found it used by any other. In the beginning of my practice of this, I always had my caustics and hot irons in readiness; that if any thing happened otherwise than I expected in this my new work, I might have assistance from the old practice; until at length, confirmed by happy experience of almost an infinite number of particulars, I bid eternal adieu to all hot irons and caustics, and I think it fit that all surgeons should do the like."

After the death of Paré, Surgery seems to have made a retrograde movement; even the use of his ligatures was opposed by the Fabricii.

The progress, however, of Anatomy was soon after this much promoted, by the invention of anatomical injections by Silvius, improved by De Graaf, and Swammerdam (who first employed a preparation of wax,) and afterwards brought to great perfection by Ruysh; and the discoveries of Vesalius, Eustachius, Fallopius, and Fabricius ab Aquapendente, distinguish the sixteenth century. But the grand discovery of the circulation of the blood, was reserved for the honour of England and of the seventeenth century; without exception, the most brilliant, and most important discovery ever made in Anatomy and in Physiology; occasioning a complete revolution in the doctrine and authority of the ancients; and producing new views of health and of disease, it led to the appli-

cation of new principles, and to most important results.

The discovery of the lacteals by Aselli, and of the thoracic duct by Piquet, soon followed that of the circulation of the blood: but the discovery of the absorbent, and glandular system, which was gradually improved by several Anatomists, as Bartholine, Olaus Rudbeck, Glisson, Wharton, Havers, Cooper, and Haller; was only brought to perfection by our own countrymen, Munro, William Hunter, Hewson, and Cruikshank. And while Natural History and Comparative Anatomy contributed to throw light on human physiology; Pathological Anatomy, first brought forward by Bonetus and Morgagni, and lately so ably cultivated and illustrated by Dr. Baillie, has added much to the knowledge of

diseased organic structure, and has contributed greatly to the improvement of the art and science of Surgery.

While Anatomy was making such rapid strides, Surgery does not appear to have kept equal pace with it. From the time of Ambrose Paré, nearly a century elapsed before Wiseman made his appearance.

He is one of the first surgeons in England who has produced any thing like a connected treatise on Surgery. He improved the treatment of wounds, and simplified their management, by his attention to the saving of skin.

In the treatment of gun-shot wounds, he follows Ambrose Paré; but so little was the human mind at that time accustomed to call in question received authorities, that he scrupulously adopts the dressing of the day, and

gives us the method of preparing the liniment then in use, seriously telling us, that the miserable puppies, which form an essential ingredient, must be put alive into the boiling oil. In his treatise on the scrofula, he gravely assures us, he has seen more cases of scrofula cured in one year by the Royal touch, than by many surgeons during their whole lives. Wiseman always recommends stopping the bleeding of the large blood vessels after ampution, by means of the actual cautery; and prefers the use of it upon all occasions, to the more mild, humane, and effectual method of taking hold of the artery with the forceps, and securing it with a ligature, or surrounding it with a thread by means of a needle, as practised and recommended by Paré an hundred years before him.

Nay, so attached was he to hot irons, that he describes the method of performing amputation in cases of sphacelus, with a red hot knife; and recommends to the surgeon to be provided with several such red-hot knives, lest the one used should become too cold during the operation!

It is truly astonishing that either a patient should ever have been found willing to undergo, or a surgeon to perform so barbarous an operation; which never could have been recommended, by the success that had attended it.

That important instrument the tourniquet appears not to have been employed in Wiseman's time.

In his operations of amputation, the flow of blood was controlled by a person who com-

pressed the trunk of the artery by the grasp of his thumb; he even mentions a particular individual by name, who by his great strength, had acquired considerable celebrity in this employment.

But Surgery, even before Wiseman's time, had made great advances in England, from the state it was in during the reign of Henry the Fifth; for in Rymer's Fœdera, it appears that Surgery was so little valued, that the bargains made with the contractors for providing a certain number of Surgeons, part of whom were to serve as archers, were frequently repeated in his wars.

After Wiseman, several Surgeons of eminence in England, contributed greatly to the improvement of the art.

It is sufficient to mention the names of

Cheselden, Sharp, Sir Cæsar Hawkins, to recall to the recollection of my audience the obligations we are under to them for the various improvements they introduced into the practice of Surgery: and we ought not to forget that we are indebted to Mr. Broomfield, for the invention of that simple, but important instrument the tenaculum; for which his name will deservedly go down to posterity, as one of those who have rendered essential service to Surgery.

To the late Mr. Pott, we are indebted for numerous improvements. There is no part of Surgery on which he has treated, that has not been improved, or illustrated by his judicious observations.

His treatises on hernia, on hydrocele, and on the fistula in ano, are full of important

instruction; his observations on injuries of the head, on fractures, suggested by what he himself suffered, and on luxations, will ever be held in the highest estimation.

His Dissertation on the Diseased Spine, adds to the obligations we owe him. He has not treated on any subject which he has not illustrated by most judicious reflections, founded on experiment and observation, conveyed in language so well adapted to his subject, and at the same time so elegant, that he may justly be ranked as one of the classic writers of the English tongue.

At the same time with the three last mentioned Surgeons, appeared JOHN HUNTER.

I shall not enter into the general history of his life, which most of those present are already acquainted with. I shall only notice

some of those improvements in Surgery which he introduced, and opinions which he delivered, that will hand his name down with admiration to future ages. And you will not fail to be struck with a singular resemblance, in the early part of his career, to that of Ambrose Paré.

Like Paré, he was in the outset of life an army surgeon, and possessing, like him, a similar mind for observation and for reflection on the powers of nature, he converted every hint presented by accidental circumstance, to useful purpose.

In this way he essentially improved the treatment of gun-shot wounds.

Previous to Mr. Hunter, Mr. Ranby had recommended the dilating with the knife all gun-shot wounds; and this was the general

practice of army surgeons when Mr. Hunter accompanied the expedition to Belle Isle, in 1761.

He, upon that occasion, mentions the case of four French soldiers who were severely wounded the day our army landed.

They had hid themselves in a farm-house for four days, and when brought to the hospital, all their wounds were found free from inflammation, were dressed superficially, and they all did well.

Mr. Hunter has given most clearly his reasons why the general practice of dilating gunshot wounds should be laid aside, and why it should only be resorted to where some very evident advantage is to be obtained, or where the patient would be in danger of losing his life were a dilatation not made for the purpose

of securing a bleeding vessel. Therefore, as the wounded soldier was rescued by Ambrose Paré from the torture of boiling oil, in like manner was he protected by John Hunter from the torture of the knife.

To Mr. Hunter the world is indebted for his operation for the popliteal aneurism, an operation founded entirely on his anatomical and physiological knowledge. He had in the early part of his life assisted his brother, Dr. William Hunter, in his dissections in prosecution of his discoveries in the lymphatic system, and had conceived ideas of the powers of that system, greater than had yet been contemplated. The former operation, for the popliteal aneurism, was not only formidable from the risk which must ever attend the tying of a large artery, destined to nourish

a whole limb; but was formidable from the great pain to be encountered from the deep seat of the artery at the place where it was usually tied, and also from laying open or dissecting out the aneurismal sac.

To expect that the absorbent system was able to take up so large a body, was a bold idea.

Nothing is so flattering to man, as to find his inductions formed from reasoning, attended by the expected results.

I will not say that Mr. Hunter felt what Columbus did, when the discovery of land justified the view which he had taken of the form of the earth; or what Dr. Franklin did, when the sparks from his electrical kite, proved that the idea he had formed of lightning being electricity, was just.

These were undoubtedly the proudest feelings the mind of man ever enjoyed. But I have no doubt Mr. Hunter experienced something of the same nature, when the success of his operation justified the high conception he had formed of the powers of the absorbent system.

It is to be regretted that Mr. Hunter himself did not favour the public with any account of this operation, or of the view he had of the animal œconomy which suggested it.

From his luminous account of the lymphatic system, and of the power of the absorbents in his treatise on inflammation, it is obvious how much importance he attached to that system.

The whole of his treatise on inflammation contains a greater number of facts, of obser-

vations, and of original ideas, than are to be found in any other physiological work whatever, has led to most important improvements in Surgery, and will be a perpetual monument of his genius.

His treatise on the living principle of the blood, has always engaged the interest of the public.

While some ardent minds have taken alarm at it as being favourable to the doctrine of materialism; others have imagined that by giving it a particular modification, arguments may be derived from it in support of the generally received opinions.

I believe when Mr. Hunter composed that treatise, he neither had in contemplation the one opinion or the other; but in the true spirit of a philosopher, steady to his object,

he laboured to discover the hidden springs of the animal œconomy.

This he has accomplished by patient perseverance, by unexampled labour, in dissecting, I may say, thousands of animals, in order, by comparison, to throw light on the organization and functions of the human body; and after deep reflection and meditation, he has presented us with the result of his labours.

No metaphysical opinions are to be found in his works; they belong to a different class of philosophers—his object was facts.

Let us see what his conclusions are—he tells us that vitality may be said to be a compound of several principles, a certain degree of organization, of motion, of nervous influence or connexion with the brain, of heat, of air; and that no part of the body is

to be considered as a complete living substance, producing and continuing mere life, without the blood; which makes one of the compound, without which life could neither begin, nor be continued.

He says organization and life do not depend in the least on each other.

Organization may arise out of the living parts and produce action; but life never can arise out of, or depend on, organization.

He considered blood itself as possessing life, carrying, as he says, the imagination as far as it can go. And he observes, it is impossible to say where the living principle in the blood first begins; whether in the chyle itself, or not till that fluid has mixed with the blood, and has received impulse from the lungs.

He says—Breathing seems to render life to the blood, and the blood continues it in every part of the body; and perhaps few of the other properties connected with the blood depend so much on air as its life.

He notices that the power of generating heat does not depend on the motion of the blood, because it belongs to animals who have no circulation; nor upon the nervous system, for it is found in animals who have no brain nor nerves. He adds, the body without the motion of the blood upon it, dies; and the blood dies without the motion of the body upon it, perhaps pretty nearly in equal time; and that fluidity is only necessary for its motion to convey it, and the continuance of life is probably owing to its being coagulated, and becoming a solid, or

at least the support of the body is owing to this cause.

Coagulation is the first step towards its utility in the constitution, and this arises from its living principle; for if that principle be destroyed, it does not coagulate at all.

He then says that animal bodies possess the power of repair; and this leads to his luminous physiological account how the system is nourished, and parts are repaired by the blood, which in all cases of adhesive inflammation becomes vascular; and I have always thought the public attached much more importance to Mr. Hunter's opinion of the living principle in the blood, than he did himself, for he distinctly says, "Life is a principle we do not understand; we only see the necessary steps leading towards it." His object

appears to have been only to include the blood as one of those steps leading to life.

Beyond this he does not go; he does not even offer a conjecture how all the circumstances I have mentioned combine to maintain life, but calls that power the *materia vitæ diffusa*.

If there is any thing in all this from which the most severe ascetic can derive aid or assistance, so much the better; and I really see nothing in it to excite alarm in the mind of the most fastidious; nothing which, in my opinion, tends to uphold the doctrine of materialism.

It is true, the mind has no consciousness how these vital functions are carried on, neither has it any control over them. But in what a situation should we have been placed,

could we have stopped the action of the heart, suspended respiration, controled the digestive organs, or arrested the secretion of the glands at pleasure, as we can regulate or stop the motions of a watch, or extinguish the power of a steam engine?

John Hunter has taught us that the habitation which the great Creator has been pleased to bestow on man, is completely furnished; is replete with every convenience; and is provided with certain artificers, the secerning and absorbing vessels, to keep it in repair, not choosing it should be subject to capricious alterations at the will of the tenant.

Plants are provided with principles somewhat similar to what we have just now detailed in animals.

They possess a system of circulating vessels

for their support, their increase, and their reproduction.

They also possess a certain degree of irritability, and in some instances a considerable degree of motion.

But it would lead us too far, were we to enter upon the wonderful œconomy of plants. We may just notice, that the processes of ingrafting and of inoculating, may be compared to the process in animals of the adhesive inflammation; and the efforts which have been observed to be made by some plants to procure nourishment, perhaps bear some resemblance to the formation of new blood vessels, which takes place in animals to nourish parts deprived of their usual circulation.

Plants are produced by male and female sexual parts; maintaining, in this circumstance,

a close analogy to animals, which are always produced by an union of the sexes.

And we should always bear in mind, that no life exists, but transmitted life. There is no animal nor vegetable that is not derived from seed, in the egg as in the acorn.

We know it is not an oak sixty feet high which is in the acorn, but an embryo, which grows by the assistance of earth and water, as a child grows by another kind of nourishment.

This circumstance, so wonderful, so miraculous, proves most convincingly, that Omnipotent Power only could have given this impulse to animals and vegetables at their first creation.

Can any thing testify this power more strongly than the consideration, that all

animals, from man to the smallest mite, continue to be as perfect, and as well adapted to their different stations, as they have been in the records of time; and that a grain of mustard produces its slender plant, and the acorn the sturdy oak, as robust and luxuriant as it was thousands of years ago.

Many philosophers and physiologists have laboured to discover how this property is conferred.

But nature seems to be unwilling that man should withdraw the veil which shelters her modesty from his prying eyes; and we have but little encouragement to hope that we shall ever detect her secret rites, when we know that the celebrated Harvey, who had permission from king Charles the First, to make experiments on the does in the royal forests, for

the purpose of illustrating the process of generation, after a sacrifice of hecatombs, came to this most humiliating conclusion, " that the uterus conceived the fœtus, in the same way as the brain conceived ideas."

About sixty years ago, the Abbé Needham thought he had discovered spontaneous generation, having detected some animalcules or vermes in a paste made of rye flower, which had been baked in an oven, in a bottle exhausted of air, and closely corked. But these vermes were discovered to be true worms, which are found in spoiled corn, possessing the singular property of retaining life for an indefinite time when perfectly dried, and of becoming reanimated when moistened with a little water.

The experiments of Mr. Hunter on the

egg, showing the superior power which the living egg possesses of resisting cold and heat and putrefaction, over the addled egg, are very curious.

The recent observations of Sir Everard Home, and the labours of future philosophers and physiologists, may add new facts, and may still tend to throw light on this very obscure subject.

Had the doctrine of spontaneous generation been established, the system of materialism would have derived much stronger support from it, than can be inferred from involuntary motion, or from Mr. Hunter's *materia vitæ diffusa*.

But till it has been proved, that matter has given to itself motion, conferred on itself the power of attraction, or bestowed on itself

spontaneous generation, there is no reason to fear that the doctrine of materialism can ever make any general impression.

Mr. Hunter's living principle in the blood, is a power or fitness to produce certain purposes necessary for the preservation of the animal body, independant of any operation of the mind, which has no control over it.

Whether we refer that power to the *anima mundi* of Pythagoras, to the *archæus* of Paracelsus and Van Helmont, to the old doctrine of a subtile, mobile, elastic, invisible fluid, so elegantly and ingeniously detailed in his lectures, by the celebrated Cullen; to the *materia vitæ diffusa* of John Hunter, or to that incomprehensible word *nature*, it matters little; it will still be like the elephant supporting the world, itself supported by a tor-

toise; but what supports the tortoise we must leave to be discovered by some favoured individual,

"*Cui meliore luto finxit præcordia Titan.*"

It would be very desirable to notice all Mr. Hunter's opinions, detailed not only in his treatise on the blood, but also in that on syphilis, on the teeth, and in various separate dissertations; and likewise to render a due tribute of applause to that monument of his genius, and of his indefatigable industry, his magnificent Collection of Anatomical Preparations; forming the most comprehensive illustration and exemplification of Comparative Anatomy, scientifically arranged for the purpose of elucidating the animal œconomy.

But this I must leave to be done by those who shall succeed me.

Mr. Hunter has rendered great service to science, by the number of very curious facts which he has collected. And let me hope that his example may be ever present to the recollection of the rising generation of Surgeons, and may stimulate them to devote themselves, like him, to the cultivation of Anatomy and Surgery.

For besides the estimation of the world, and the success which is sure to attend them; the consciousness of having acted their part well, and the gratitude of posterity, as is exemplified this day, cannot fail to encourage them in their perseverance.

Gentlemen, I fear I have already encroached too much on your time, but I must beg leave to detain you still a few minutes; for while we celebrate the Founder of the Museum, we

ought not to forget the Founder of the College. His Present Majesty, whose calamity we all deplore, whose many virtues and amiable qualities will long live in the recollection of the British nation, was ever conspicuous for the zeal with which he promoted the interests of the arts and sciences.

This I may be allowed to advance without the imputation of flattery, which at all times would have been unseasonable, and would now, alas! be vain.

The encouragement which he gave in the early part of his reign to Navigation, for the purpose of extending Geographical knowledge, and for the improvement of that art, which by guiding his course across the pathless ocean, has completed the empire of man over the globe; his founding of the Royal Academy;

the protection he has afforded through his whole life to Astronomy; the encouragement and facility he has given to the cultivation and pursuit of Natural History, by maintaining, at a great expense, the magnificent Collection of Plants in the Botanic Garden at Kew; and the readiness with which he granted his authority for the purchase of the Museum of the late Mr. Hunter, that it might become useful to the world, under the care of the College; are proofs, if proofs were necessary, how much he had the welfare of science at heart. And when, by an extraordinary concurrence of circumstance, the Charter of the late Corporation of Surgeons became extinct, His Majesty availed himself of that opportunity to erect the Corporation into a College; placing Surgery, where it

ought ever to have been, on a rank with other sciences.

I trust this event will produce a great change in the History of Surgery in this country, and that the future race of Surgeons, by their zeal in cultivating Anatomical and Chirurgical Science, will fulfil His Majesty's wishes, for lessening the miseries, and ameliorating the condition of mankind.

Allow me to add, that setting an example of domestic felicity, seeking his own happiness in the best feelings of the heart, and exhibiting the advantages of a virtuous and correct life; in as much as the conduct of the great affects the manners of the public, the reign of George the Third will be long felt, in the influence which his moral conduct has had on the nation.

From so excellent a King, it is honourable to the College to have derived its origin; flowing from no ostentatious or selfish motive, but from the sole desire of promoting the interests of science, and diminishing the evils of life.

The gratification arising from such actions is more delightful than the gaining of battles, or the acquiring of territory. Yet it is impossible not to regret, that this good King should not have known, under other circumstances, what the British arms had atchieved at Waterloo! For while he would have lamented the great extent of individual suffering on that memorable day; he would have generously participated in the conscious pride of the College, that owing to the improvement in the treatment of gun-shot wounds, introduced

by the illustrious John Hunter, the sum of the misery of that day was much diminished.

Gentlemen, our late Master of the College, the much respected and lamented Sir James Earle, had undertaken to render this annual tribute to the memory of Mr. Hunter.

The painful duty devolves on me, of paying a similar tribute to himself. Educated under the immediate eye of the illustrious Pott; connected with him by one of the closest ties of consanguinity, he early imbibed from him that zeal and interest for the profession, which distinguished him through life. Honourable in his intercourse with his brethren of the profession; modest, but firm in delivering his opinion; with a peculiar suavity of manner, he at once gained the confidence of his patient in his judgment and in his humanity.

His Dissertation on the operation of Lithotomy affords useful and important hints to the Surgeon; his own success in that operation, evinced his dexterity and his skill.

His proposal for a new method of extracting the opaque crystalline lens, displays much ingenuity.

But while the world lasts, it will have reason to remember with gratitude the name of Earle.

That frequent disease, the hydrocele, is now no longer dreaded.

Previous to his time, the common way of curing hydrocele was by a severe operation, which requires a long confinement.

But the present manner of treating it, now generally adopted, is attended with very little pain, and scarcely any confinement.

For this improvement we are indebted to Sir James Earle.

Not that he was the first who suggested this operation; but he was the first who practised it, and brought it into general use.

Only those Surgeons, who have witnessed the severity of the former treatment of hydrocele, can estimate the importance of this improvement.

Sir James had been in a declining state of health for some time, under which he gradually sunk without pain, and expired last September, regretted by all who knew him; and I may justly add, that he died with the resignation of a man possessing the consciousness of a life well spent, the conviction that he had not lived in vain!

To the honour of the College, it possesses

many members who already have, and are daily improving the science of Surgery; the presence of some of them puts it out of my power to particularize any. And there are others who have conceived, and successfully performed operations, from the boldness of which, our ancestors would have shrunk back in dismay.

If at any former period Surgeons did not uphold the dignity of their profession, and allowed themselves to be under the control of Physicians, that is not likely to happen again.

The Physicians of the present day are too enlightened, and too liberal, to wish to exercise any such superiority over Surgeons.

Physicians and Surgeons may be considered as naturalists rich in the same knowledge; as brothers equal in rights, who have divided a

fertile and vast domain, of which they cultivate different parts for the same end.

A new æra has presented itself to the Professors of Surgery in England. I look forward with confidence, to the improvements which may reasonably be expected to take place; and in that confidence, I hope I may be allowed to address the younger members of the College, in the words of the Poet—

" I decus, i, nostrum : melioribus utere fatis."

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