

WILLIAM HUNTER, M.D. F.R.S.

“ Mark him well ;
He meditates, his head upon his hand.” ROGERS.

WILLIAM HUNTER was born on the 23d of May, 1718, at Long Calderwood, in the parish of Kilbride, in the county of Lanark. He received his education at the college of Glasgow, whither he was sent at the age of fourteen. His conduct, during a period of five years, insured to him the esteem of the professors, and he had the reputation of being a good scholar. His education was regulated with a view to the church, which, however, he did not enter, from, it is said, the repugnance he felt to subscribing to the articles of faith, and a disinclination of, or rather insuperable aversion to, theological pursuits. An acquaintance with the celebrated Dr. Cullen, at Hamilton, determined him to devote his attention to physic; and in 1737 he took up his residence for three years with this eminent physician. After this he prosecuted his studies at Edinburgh, intending to return to Hamilton, and settle in partnership with Dr. Cullen. Dr. Simmons has reported of his manners and disposition, as told to him by Dr. Cullen, who says that “his conversation was remarkably lively and agreeable, and his whole conduct at the same time more strictly and steadily correct than that of any other young person he had ever known.” This cheerfulness and prudence appears to have accompanied him through life.

In 1741 he went to London, still further to prosecute his medical studies, and took up his residence with Mr., afterwards Dr. Smellie, well known by his works on midwifery. Mr. S. was at this time an apothecary practising in Pall Mall. William Hunter brought with him a letter of introduction from Mr. Foulis, the celebrated classical printer, at Glasgow, to Dr. James Douglas, who being at that time engaged in the preparation of a large anatomical work, readily availed himself of the abilities and industry of young Hunter, and engaged him to assist in his dissections, and also to undertake the superintendence of the education of his son. He now entered himself a surgeon's pupil at St. George's Hospital, under Mr. James Wilkie, and a dissecting pupil under Dr. Frank Nicholls, at that time the most distinguished anatomist of the day. Several of the preparations made by Hunter were engraved at the expense of Dr. D. who, however, never completed his work, as he died in April 1742,—a severe loss to Hunter, at this early period of his professional career.

The first paper I can trace as the product of William Hunter's pen is printed in the 42nd volume of the Philosophical Transactions. *On the Structure and Diseases of Articulating Cartilages.* This paper contains a very accurate description of the membrane covering the cartilages, describes the changes they undergo in ulceration, and accounts for the cure of their

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diseases by ankylosis, upon principles conformable to the nature and structure of the parts affected.

William Hunter was assiduously engaged in making anatomical preparations, and deriving such knowledge as might fit him to become a teacher, which appears to have been his object of ambition. He communicated this to Dr. Nicholls, who had declined his lectures about this time in favour of Dr. Lawrence, a most excellent scholar, the author of the life of Dr. N., one of the purest and very best Latin works in or relating to medical science. Dr. Nicholls did not offer much encouragement to Hunter, and his course as a teacher seems to have been determined by a society of naval surgeons, who had engaged an apartment in Covent Garden, where they had invited Mr. Samuel Sharp to deliver to them a course of lectures on the operations of surgery. This gentleman, whose "Critical Inquiry," and other works in surgery, are so well known and so highly esteemed, repeated his course, until, finding it interfere too much with his other professional pursuits, he declined the task in favour of Hunter, who succeeded so much to the satisfaction of his class, that they desired an extension of the course to anatomy; and in the winter of 1746 he commenced as an anatomical lecturer. His success was very gratifying. On August 6, 1747, he became a member of the Corporation of Surgeons, and shortly after he made a tour through Holland to Paris. At Leyden he became acquainted with Albinus, and examined his preparations, the beauty of which served to stimulate him to further exertions. He returned to London, to deliver his winter course of lectures. His practical labours embraced surgery and midwifery: to the former he entertained an aversion; and his particular cultivation of the latter is probably to be ascribed to his connexion with Smellie and Douglas. In 1748 he was appointed surgeon-man-midwife to the Middlesex Hospital, and in 1749 to the British Lying-in Hospital, so that he enjoyed abundant opportunities of acquiring information in the branch of medical science he had particularly selected. He rose rapidly in his profession, his person and manners uniting with his anatomical talents to advance him into notice. Sir Richard Manningham and Dr. Sandys at this time principally divided the practice of midwifery among the higher ranks of society; the former, who established a lying-in ward in St. James's Parochial Infirmary, (the first of the kind,) and lectured on midwifery, died; and the latter, who is named by Hunter as the discoverer of the *membrana pupillaris*, shortly after retired from practice. Dr. Sandys had a fine collection of anatomical preparations, which were purchased by Mr. Bromfield, and afterwards sold to Hunter for £200. The injected specimens were very fine, and Dr. Sandys is the first to have rendered them pellucid by the aid of spirits of turpentine.

William Hunter took a diploma of Doctor of Physic at the university of Glasgow, October 24, 1750, and from this time entirely abandoned the practice of general surgery. He commenced as a physician and accoucheur

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in Jermyn street. In 1756 he was admitted a licentiate of the college of physicians, and elected a member of the Society of Physicians, whence issued the "Medical Observations and Inquiries." To this collection he contributed ten papers:

1. *The history of an Aneurism of the Aorta, with some remarks on Aneurisms in general.* This case terminated fatally by an external opening. In the remarks following the detail of the case, Dr. Hunter divides aneurisms into three kinds: 1. *True*, or those produced by dilatation; 2. *false*, or those occasioned by rupture; and, 3. *mixed*, being those in which both of these causes combine to produce the disease. Dr. H. is the first to describe the aneurism now generally known since the time of Cleghorn as the *aneurismal varix*, in which a communication exists between an artery and a vein, occasioned by puncture into the former through the latter, which accident has frequently occurred in the ordinary operation for phlebotomy, in persons where the high division of the brachial artery is found to exist, and the surgeon has been inattentive to such a distribution of the vessels.

2. *The History of an Emphysema.* This case arose from the fracture of a rib, and the effusion of air into the cellular membrane, extended over the whole of the body; but in the hands and feet it was inconsiderable. Incisions made in various parts relieved the patient. The case led to some important remarks on the cellular membrane, and some of its diseases.

3. *Remarks on the Symphysis of the Ossa Pubis.*

4. *Further Observations upon a particular species of Aneurism, (the Aneurismal Varix.)*

5. *Postscript to a Case of the Varicose Aneurism.*

6. *Appendix to a Case of Retroverted Uterus.*

7. *Summary Remarks on the Retroverted Uterus.* The precise nature of this affection was not distinctly known prior to Dr. Hunter's description of it in his lectures in 1754, and afterwards in the "Medical Observations and Inquiries."

8. *On the Uncertainty of the Signs of Murder in the case of Bastard Children.* This paper reflects great credit upon the humanity of Dr. H.'s character. His views upon the subject of infanticide, and the evidence by which it is to be determined, are entitled to every attention by the student of medical jurisprudence. He was the first to demonstrate the futility of the opinion, that if the lungs floated in water, the child must necessarily have been born alive.

9. *Three Cases of Mal-conformation of the Heart.* The first related to a preternatural conformation of the pulmonary artery, which, at its beginning from the right ventricle, was contracted into a solid substance or cord, absolutely and completely impervious; so that the lungs had not received one drop of blood from the heart by the trunk of the pulmonary artery. The child lived thirteen days. The second case was of a somewhat similar character; the pulmonary artery was so small at its beginning,

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that it would barely give passage to a small probe; and the septum cordis was deficient, or perforated at the basis of the heart, so as to allow Dr. H.'s thumb, (a small one,) to pass across from one ventricle to the other, the orifice of the aorta being close to the perforation, so as to receive the blood from the right ventricle as well as from the left. This child lived thirteen years. The third case was of a still-born child at six months, the preparation of which was in Dr. H.'s museum. There was an opening of communication between the two ventricles, by which the blood of one cavity could pass into the other, without going through the usual circuit of the vessels.

10. *The successful cure of a severe disorder of the stomach by milk taken in small quantities at once.* A severe case of vomiting without any assignable cause, and cured by repeated exhibitions of very small quantities of milk, by which the frame of the patient was supported until he was able to take solid food.

In 1762, Dr. Hunter published, *Medical Commentaries, Part I., containing a Plain and Direct Answer to Professor Monro, jun. interspersed with Remarks on the Structure, Functions, and Diseases of several parts of the Human Body.* This was intended to be the first of a series of observations in anatomy, surgery, and midwifery; but the design was not perfected. This part is indeed principally controversial, and relates to claims made by Dr. Monro, jun. regarding some discoveries in the lymphatic system, the ducts of the lachrymal gland, &c.

One of the points in dispute related to the injection of the tubuli testis. Dr. Monro filled them with quicksilver in 1753; Dr. Hunter had done it a year previously; but Haller made and published the discovery in 1745. So, with respect to the ducts of the lachrymal gland—they were observed in the ox and in the sheep by Steno; Santorini and Winslow saw them in the human subject; but their existence was a matter of dispute when Hunter commenced lecturing on anatomy. He succeeded, however, in introducing some bristles into them in 1747, and Dr. Monro appears to have done the same in 1753. The priority is, therefore, due to Hunter. These are mere matters of observation, and of less importance than the points in dispute relative to the lymphatic system, involving opinions as to the doctrine of venous absorption. In a previous Memoir, (that of Dr. Akenside,) I have already alluded to this dispute, and it would, perhaps, be useless to pursue it further. The majority of professional men have declared in favour of the claims of Hunter, rather than those of Monro.

The eighth chapter of the "Commentaries" treats of the discovery of the membrana pupillaris, and of the insensibility of the tendons, &c. Dr. Hunter attributes the discovery of the membrane to Dr. Sandys; but he believes the claims of Wachendorf, Haller, and Albinus to have been also founded in justice. Albinus showed him a preparation of it when he was in Holland. Dr. H. lays claim to the originality of having declared the periosteum, dura mater, tendons, and ligaments to be either wholly insen-

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sible, or endowed with a very small degree of sensibility, and this doctrine he uniformly taught in his lectures—at first, in 1746, with some reserve, but afterwards with more confidence. Their sensibility in the natural and healthy state appears to be latent; but when roused by inflammation, to be more acute than that of more highly endowed parts. I have often been struck with this condition, which is probably referable to the firmness of the structures of these parts, and also of the bones and cartilages.

The ninth chapter gives an interesting account of the discovery of the hernia congenita, which was first noticed to Dr. Hunter by Mr. Sharp in 1748, and introduces an account of the state of the testis in the foetus, and of the hernia congenita by his brother John Hunter.

In 1764 a *Supplement to the Commentaries* made its appearance, and gives a continuation of the dispute respecting the congenital hernia, particularly in reply to the observations of Mr. Pott, in the second edition of his work on that subject, and a *postscript* addressed to Dr. Monro, sen.

In 1762, Dr. Hunter was consulted respecting the pregnancy of the queen; and, in 1764, he was appointed Physician Extraordinary to her majesty. The extension of his anatomical class, and the labour of lecturing, added to his other numerous avocations, induced him to seek for assistants in the duties of teaching. He sent for his brother John, and he also selected from among his pupils an anatomist and physiologist of great ability, Mr. William Hewson, well known by his researches on the blood. This connexion continued to the year 1770, and Mr. Hewson was succeeded by Mr. Cruikshank, the author of the "Anatomy of the Absorbent Vessels." Dr. Hunter was elected a Fellow of the Royal Society in 1767, and in the same year he communicated to the Society, *Observations on the Bones, commonly supposed to be Elephants' Bones, which have been found near the river Ohio in America*. This paper shows Hunter's zeal for natural history, and the correctness of his observations. He readily perceived that the teeth among these animal-remains did not correspond with those of the elephant; and his brother, John Hunter, marked them as belonging to a carnivorous animal. Further observations have shown the Hunters to have been correct in their remarks upon this subject. The bones are those of the mastodon of Cuvier. Dr. H. also contributed papers to volumes 60 and 61 of the Philosophical Transactions, in the year 1770. The former is an *Account of some Bones found in the rock of Gibraltar*; the latter, *An Account of the Nyl-ghau, an Indian animal not hitherto described*.

In 1768 he was elected a Fellow of the Society of Antiquaries, and also appointed to be Professor of Anatomy to the Royal Academy, instituted in that year. There is a picture of him by Zoffany, in which he is represented delivering a lecture on the muscles at the Royal Academy, surrounded by a group of the academicians. Hunter's portrait is the only part of the picture that is finished. This appointment, made by the king, was very

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flattering to him, and he executed its duties with great zeal and enthusiasm. He pointed out the application of anatomical knowledge to the objects of painting and sculpture, and had abundant opportunities of evincing his refinement of taste, and appreciation of whatever is beautiful in nature or art.

In 1774 he put forth a work, by which alone his name would descend to posterity, and the execution of which reflects the highest credit upon his character. *The Anatomy of the Human Gravid Uterus* is one of the most splendid medical works ever published. It is not, perhaps, too much to say that the engravings have never been surpassed. It was printed by Baskerville at the Birmingham Press. Many of the dissections were by John Hunter. The work is in large folio, was dedicated to the king, and is printed in Latin and English, in parallel columns. I possess the copy which formerly belonged to Dr. Denman, the father of the present enlightened Lord Chief Justice of England. This is enriched with his MS. notes, and from these I learn that the preface was either translated into Latin, or corrected, by Sir George Baker, Bart. The work was commenced as early as 1751, and ten plates were prepared. Opportunities of dissecting the human gravid uterus are happily of rare occurrence, and it is fortunate that such a chance should have fallen into such able hands. The whole power of his mind seems to have been bent upon this object, and a determination to exclude as far as possible any imperfection whatever. This will account for the delay in the production of the work. A period of thirty years was necessary, to obtain sufficient instances to develop all the changes occurring in the human uterus during the progress of gestation. From these drawings, engravings, models, and casts have been made, since used by every lecturer on midwifery, and preserve their value to this day in as high a degree as at the time they were executed. There are thirty-four plates, drawn principally by Rymdyck, and engraved by Strange, Grignon, Ravenet, Worlidge, Scotin, and others. The first ten plates were all taken from one subject. The twenty-sixth plate is intended to represent the retroverted uterus. Dr. Denman has justly marked an objection to this plate,—the subject can only be understood by a side view. The membrana decidua reflexa, or spongy part of the chorion which is reflected over the fœtus, a discovery due to Dr. H., is represented in plate twenty-seven. The work consists of plates, and the explanations of them. The treatise upon the subject was intended to be a separate production; but Dr. H. did not live to publish it. It remained for Dr. Baillie to submit this to the profession, which he did in 1794, as *An Anatomical Description of the Human Gravid Uterus and its Contents*, and dedicated it to Dr. George Fordyce, Dr. David Pitcairn, and Dr. Charles Combe, the trustees appointed by Dr. H. to the care of his museum. Dr. B. has added little to the MS. left by Dr. H., diffidence and delicacy forbidding him to add more than what appeared to be absolutely wanting. The work must be looked upon as a necessary illustration of the large folio volume of plates.

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In 1774, Dr. Hunter communicated to the Royal Society a paper *On the Origin of the Venereal Disease*. His object was, to prove that it was not brought into Europe by the crew of Columbus, and he founded his opinion upon the authority of Peter Martyr, a native of Italy, who went to Spain in 1487, and died there in 1525. Considerable doubt, however, being entertained with respect to the dates of this author's letters, Dr. H. abandoned his idea of giving the essay to the public. In 1777, he, conjointly with Mr. Watson, gave to the Royal Society *A Short Account of the late Dr. Maty's Illness*, which was published in the sixty-seventh volume of the Philosophical Transactions. The case was one of contracted colon and rectum, attended with ulceration.

In 1780, the Royal Medical Society of Paris elected him one of their Foreign Associates. In 1781 he was appointed to succeed Dr. Fothergill as President of the Society of Physicians, whose "Observations and Inquiries" have been already noticed; and it must be remarked, that this work ceased to be published beyond that volume in which Hunter's papers were contained. The greater part of the papers in the six volumes were communicated through him, and it is therefore reasonable to look upon him as having been the most effective of the members. In 1782, the Royal Academy of Sciences of Paris elected him into their body. The fame of Hunter was therefore not confined to his own country, and few foreigners, either professional or distinguished by eminence of any kind, failed to visit his museum. This collection was of a very universal character, contained the choicest specimens that could be obtained, and was easy of access to all men of science. He commenced making anatomical preparations whilst living with Dr. Douglas, and to illustrate his lectures subsequently delivered in Covent Garden. His selection of the practice of midwifery, his elegant manners, his sagacity, and his great knowledge of anatomy, soon rendered him a popular practitioner, and laid the foundation of his fortune. He speedily acquired a competency, and was enabled to reserve a sum to meet the infirmities and accidents of life. From this period, Dr. Simmons tells us, that he heard him to say, he once took a considerable sum for the purposes of his museum, but that he did not feel himself perfectly at ease till he had restored it again. His great object was to establish an anatomical school in the metropolis upon a most extensive scale; and to promote this, he addressed a "Memorial to the Earl of Bute," the First Lord of the Treasury. In this paper he set forth the advantages to mankind arising from a knowledge of anatomy, which he described as the only solid foundation of medicine, and being to the physician and surgeon what geometry is to the astronomer.

The difficulty of procuring bodies for dissection in his day rendered the formation of a great national school a desirable object. Even in London, no regular courses of anatomy were given prior to 1746; surgery and physiology therefore made but slow advancement. Dr. Hunter's solicitation

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was to have the grant of a piece of ground, upon which he might expend six or seven thousand pounds in erecting a building fit for the purpose of anatomical study, and a "*Plan for establishing a museum in London for the improvement of anatomy, surgery, and physic,*" was forwarded with the "memorial." Lord Bute recommended the plan to the Right Hon. George Grenville, and Mr. Hawkins presented a memorial to the king. Delay after delay, however, ensued, and the proposal fell to the ground. The Earl of Shelburne felt the utility of the scheme, and proposed that it should be effected by a subscription, and put his own name down for 1000 guineas. Dr. H. rejected this from motives of delicacy, and commenced building a theatre, museum, &c. on a spot of ground in Great Windmill-street, which has ever since borne the name of the Hunterian School. His collection of preparations embraced those of Sandys, Hewson, Falconar, Blackall, Fothergill, and others. The museum was not confined to anatomical preparations, or specimens of disease, human and comparative, but embraced all classes of natural history, and even antiquities. Neither were the arts or literature overlooked. He purchased paintings of a very high class of merit, and his collection of printed books, and MSS. was second only to that of Dr. Mead. The use of his museum, under the direction of trustees, devolved to his nephew the late Dr. Baillie, and in case of his death to Mr. Cruikshank for thirty years, at the expiration of which time it was bequeathed to the college of Glasgow, where it now remains. £8000 was left as a fund to support and augment it, and to the trustees £20 *per annum* for thirty years to execute the purposes of the will. The museum was transferred from London to Glasgow in 1807. Here an appropriate building from the design of Mr. Stark, was erected at an expense of £12,000 in the gardens of the university. The coins and medals are particularly rare and valuable. Dr. C. Combe published a catalogue of the first three divisions of the cabinet, with elegant plates, in a work dedicated to the queen, (who had assisted Dr. H. in obtaining some of the rarer specimens,) and entitled *Nummorum Veterum Populorum et Urbium qui in Museo Gulielmi Hunter asservantur Descriptio, Figuris illustrata operâ et Studio Caroli Combe S.R. et S.A. Londini Socio*. The library is particularly rich in classics printed in the 15th *sæc.* There are many copies on vellum. The Caxton's and Wynkyn de Worde's are both numerous and in good condition.

Dr. Hunter in person was slender, regularly shaped, but below the middle stature. His health had suffered from attacks of the gout; and in 1773, fearful of not being much longer able to bear the fatigues of his profession, he wished Dr. Cullen and Dr. Baillie to look out for an estate in his native country, where he contemplated passing the remainder of his days. A considerable estate in the neighbourhood of Alloa was selected; but the title-deeds proving defective, the plan was abandoned, and the expenses of the museum increasing greatly, by the additions he was con-

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stantly making, he resolved to remain in practice. His health, however, suffered by his exertions; the attacks of gout became more frequent, and were not confined to his limbs. On Thursday the 15th of March 1783, he was more than usually unwell; but had recovered sufficiently to induce him to deliver his introductory lecture to the course of operations on surgery, although dissuaded from it by his friends. Towards the conclusion, his strength was so exhausted, that he fell into a syncope, and was carried out of the theatre, and put to bed. The following night, (Dr. Simmons says,) his symptoms were such as indicated danger, and on Saturday morning Dr. Combe was alarmed on being told by Dr. H. that he had certainly had a paralytic stroke during the night. As neither his speech nor his pulse were affected, and he was able to raise himself in bed, Dr. C. encouraged him to hope that he was mistaken; but the event proved the doctor's idea of his complaint to be but too well founded—the intestines and bladder had lost their power of contraction, and he died on the 30th of March. He was buried on the 5th of April in the rector's vault of St. James's. His composure and resignation at the last deserve to be recorded. Turning to his friend Dr. Combe: "If I had strength enough to hold a pen, (said he,) I would write how easy and pleasant a thing it is to die."

"O, what a wonder seems the fear of death,
Seeing how gladly we all sink to sleep;
Babes, children, youths, and men,
Night following night, for threescore years and ten."

COLERIDGE.

Hunter's biographer has recorded, that

"His manner of living was extremely simple and frugal, and the quantity of his food was small as well as plain. He was an early riser, and, when business was over, was constantly engaged in his anatomical pursuits, or in his museum. It has been said that he was restrained by mere parsimony from indulging in the luxuries and amusements which captivate the generality of people who reside in this great city. But he seems to have had no relish for them, and contrived to live, in the midst of a crowd, master of himself and of his own pursuits. It may with truth be asserted, that he never suffered his economy to interfere in matters where the dignity of his character or the interests of science were concerned. There was something very engaging in his manner and address, and he had such an appearance of attention to his patients when he was making his inquiries, as could hardly fail to conciliate their confidence and esteem. In consultation with his medical brethren, he delivered his opinions with diffidence and candour. In familiar conversation he was cheerful and unassuming. All who knew him allow, that he possessed an excellent understanding, great readiness of perception, a good memory, and a sound judgment. To these intellectual powers he united uncommon assiduity and precision, so that he was admirably fitted for anatomical investigation."

I have often heard those who had attended his lectures speak in the highest terms of his ability as a teacher, and dwell with rapture upon his eloquence. He had a large fund of interesting anecdotes, and knew well how to apply these in illustration of his subjects, and thereby render his mode of instruction familiar and pleasing. His freedom of speech, and ease

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in treating his subject, once occasioned him some little trouble. It was customary to deliver, at the conclusion of each course of lectures, a discourse on the mode of making anatomical preparations. This introduced the embalmings of the ancient Egyptians, and Dr. H. alluded to the process of preserving a body from putrefaction as a matter of little or no difficulty, and one that might most easily be accomplished. Among his pupils at this time was a man afterwards much celebrated in London by his singularity of manners and empiricism, the late Martin Van Butchell. Upon the conclusion of the lecture, he approached the Doctor, stated the interest he had felt upon the subject of embalming, and was anxious that the Doctor should effect this for him upon the body of his wife, who was at that time lying in the last stage of a consumption. The Doctor had spoken of the matter as being so trifling, that he could not refuse this request, and, upon the death of Mrs. Van Butchell, the operation was effected. I have given the particulars in my "History of Egyptian Mummies," taken from a MS. in the handwriting of Van Butchell, preserved in the library of the Royal College of Surgeons. The body is also deposited in the Hunterian Museum, to which it was presented by Mr. Van B.'s son, upon the decease of his father.

At Dr. Hunter's death, several MSS. were found—one on the gravid uterus has already been mentioned. There were also many cases of dissection, principally relating to midwifery; also materials for a history of the various concretions found in different parts of the human body, and two introductory lectures, corrected for the press by himself. These were delivered at his last course in Windmill-street, and published in 1784. They give an admirably condensed history of anatomical science, consider it in relation to general science and the arts, and detail his own plan of lectures and instruction.

Dr. Baillie has said of William Hunter, that

"No one ever possessed more enthusiasm for his art, more persevering industry, more acuteness of investigation, more perspicuity of expression, or, indeed, a greater share of natural eloquence. He excelled very much any lecturer whom I have ever heard, in the clearness of his arrangement, the aptness of his illustrations, and the elegance of his diction. He was, perhaps, the best teacher of anatomy that ever lived."

Dr. Hunter is to be looked upon as the founder of the anatomical schools of this country upon a rational and extended plan. He enriched the science, to which he was most ardently attached, with useful and splendid works, and he contributed, by his animation and zeal, to infuse into the minds of his pupils a love of anatomy, and a desire to further the advancement of medical science. His museum will long remain a noble monument of his industry and talents, and does honour to the land which gave him birth.

I am indebted to the kindness of Mrs. Baillie for the loan of the portrait of Dr. William Hunter, by Pine, from which the engraving accompanying this memoir has been made.



William Hunter.

WILLIAM HUNTER,
ANATOMIST, PHYSICIAN, OBSTETRICIAN,

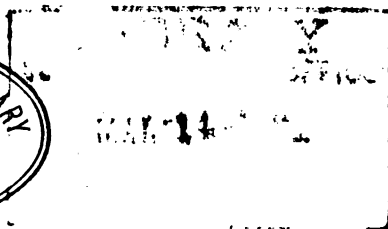
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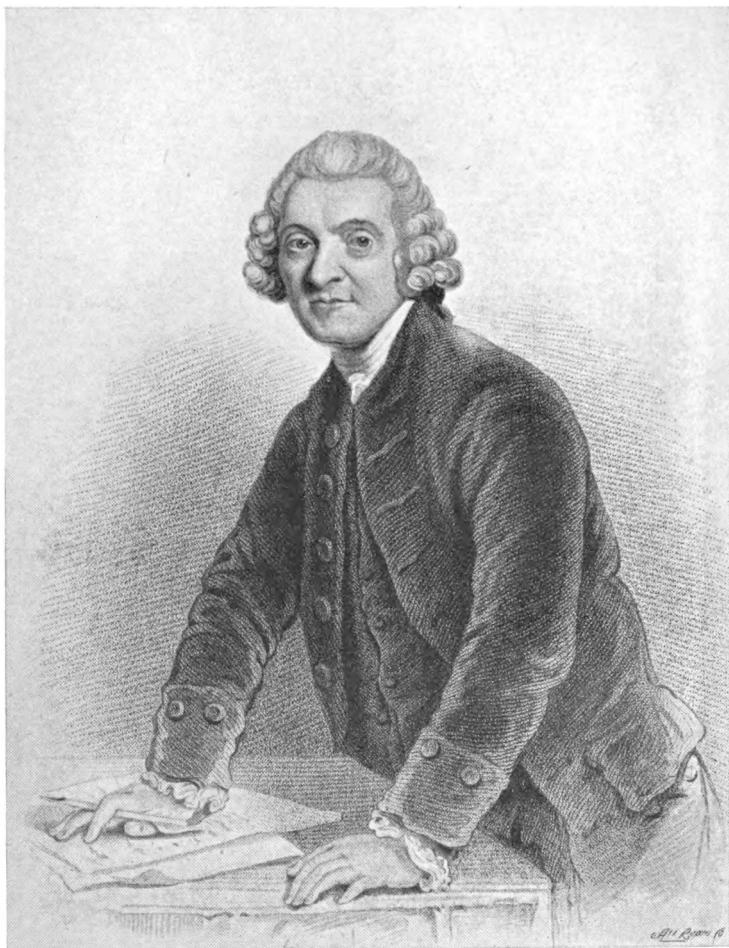
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William Hunter.

INTRODUCTORY NOTE.

of this work formed the Oration delivered at the Anatomical Society in London, on February 10th, 1842, and published in its Transactions; a portion also appeared in the columns of the *Lancet* for February 20th.

Since the publication of the Oration is now replete with considerable additions.

It has been a labour of love, continued at intervals of years. The author's aim has been to give a full and true account of the life, works and place in Medical Science of a man whose fame has been too often eclipsed by that of his brother, the great John Hunter.

As the work has been long in type, some want of continuity has been found to be inevitable, and the author has sought to atone by providing a full and complete index.

London,

1861.

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By permission of the Society the Oration is now republished, with considerable additions.

The work has been a labour of love, continued at intervals through a series of years. The author's aim has been to give a complete outline of the life, works and place in Medical Science, of one whose fame has been too often eclipsed by that of his younger brother, the great John Hunter.

As the earlier part has been long in type, some want of arrangement and continuity has been found to be inevitable, for which the author has sought to atone by providing a full table of contents and index.

Finsbury Square, London,

January, 1901.

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shoulder. There is one very careful and elaborate record of a case of traumatic emphysema, in which the cellular tissue of the whole of the body was inflated with air. The patient was *in extremis*, but Hunter, by suitable incisions, pressing the air out, and stopping the injured thorax, succeeded in effecting a cure. He goes on to expound the nature and functions of the cellular tissue, and the use of punctures in anasarca: these should be very small, rather than large, as he had learned by trial of both these methods, one on each leg of the same patient. He had dissected black cattle, dead of an epidemic disorder attended with emphysema. Some other papers deal with the structure of the symphysis pubis, and the insensibility of tendon.

* There are two remarkable papers on strictly medical topics, both written late in life, and communicated to the Society shortly after his death. One records three cases of congenital heart disease. The first was of an infant, cyanosed to blackness, which lived 13 days. The pulmonary artery was impervious at its origin, the ductus arteriosus bringing blood to it from the aorta, and the foramen ovale was open: the right ventricle contained scarcely any cavity at all. In the second case, an extremely thin boy, whose legs reminded him of a greyhound or a water fowl, lived to 13 years, subject to syncopal attacks; the pulmonary artery was found to be stenosed, barely admitting a small probe, and the ventricular septum was partly deficient. This latter condition obtained also in his third case, a still-born infant.

— / In commenting upon these cases, he enters on the philosophy of malformations and makes the following remarks: "The last conjecture which we shall venture to make is upon the scheme which the Author of our nature has laid down for perpetuating animals. Particular evils are allowed to exist. Many animals, from the imperfection of their fabric, are necessarily to perish before the common natural period. This is compensated for by a great superfluity in the number, and so it is also in the Vegetable Kingdom. As in vegetables too, the parent generally produces a species very like itself: but sometimes a different constitution, whether better or worse. Whatever may happen in a particular instance, or with regard to an individual, the most perfect and sound animal upon the whole, will have the best chance of living to procreate others of his kind: in other words, the best breed will prevail: and the monstrous constitution, and that which is defective, or of such a fabric



William Cullen.

as necessarily to breed disease, will be cut off. The most perfect constitution will be preserved: it will be most susceptible of love, and most likely to meet with a warm return of that passion: so that, in every way, the sound constitution will have the preference in procreation, and the defective, weak, or diseased line will be wearing out."¹

In these remarkable sentences we see a foreshadowing more than 100 years ago of the doctrine of Evolution. The essential influence of Natural Variation and the Survival of the Fittest, two of the most prominent features of the Darwinian theory, are clearly stated by William Hunter. /

The other paper is not less noteworthy.

It treats of "the successful cure of a severe disorder of the Stomach by Milk taken in small quantities at once."² A boy of seven or eight years was reduced to a desperate condition on account of vomiting his food. He was wasted to a mere skeleton, and had been in the hands of many doctors. Hunter hit on the happy expedient of giving milk alone, and reducing the dose to such a modicum as he could retain. This case is often quoted, and is given at large by Sir Thomas Watson in his lectures.³

I must allude to one more of Hunter's papers, that on the "Uncertainty of the Signs of Murder in the case of Bastard Children." This paper, which shows that legal medicine also engaged his thoughts closely at times, deals with the delicate and difficult question of the guilt of a mother for child-murder or concealment of birth, and of the proofs of her crime. Hunter's long experience and wide knowledge of mankind, his high sense of justice, and his deep sense of pity are alike displayed in this remarkable paper, which is well worthy of study at this day.⁴

WILLIAM CULLEN.

It may be appropriate here to say something of two eminent friends of William Hunter, William Cullen and John Fothergill. Cullen has already been alluded to as his early preceptor in medicine, and throughout life his constant and affectionate friend. He was eight years Hunter's senior, but he attained a much greater age, outliving Hunter by seven years. It is hardly necessary to describe the high

¹ *Med. Obs.*, VI., 307.

² *Id.* p. 310.

³ *Lecture lxxviii.*

⁴ *Med. Obs.*, VI., 266. This paper was reprinted in the third edition of Dr. Samuel Farr's "*Elements of Medical Jurisprudence*," 1815. An exquisitely written MS. copy is in the Library of the Roy. Med. Chir. Society. See APPENDIX (C).

position attained by Cullen as a medical teacher. He lectured from 1746 to 1790, for the first ten years at Glasgow, and afterwards at Edinburgh. His fame as a lecturer was very great and well deserved. We are interested here in the comparison between Cullen and Hunter. Closely attached as they were, and consulting together often by letter, their aims in medicine differed somewhat widely. Cullen was of the philosophical school: he took medicine as it was then known, and threw it into systematic shape. He probably did not add, writes Sir William Hamilton, "a single new fact to medical science." By the medium of his lectures, delivered extempore, the principles of the medical art were promulgated in an ordered form and sequence which was evolved by his clear and able mind. Such a teacher must pass over inconsistencies and difficulties, must adopt hypotheses, and can scarcely avoid giving them the emphasis of proven facts, and cannot use that suspension of judgment in matters as yet undetermined which was the attitude of the Hunters. His system, his methodical synopsis of medical knowledge, was admirable for teaching purposes, but its rigid lines tended afterwards to cramp and hinder the very science which at first they promoted; and the greater the ability with which a system has been framed, and the higher its consequent authority amongst men, the longer does it exert its contracting influence over the progress of knowledge.

It was long before Cullen published anything, not indeed until pirated copies of his lectures were being issued by others. When in 1776 he found himself compelled to print, he sent his MSS. up to Hunter in London, begging for his revision and advice. Hunter returned them with a kindly letter.

* | "I have read them," he writes, "with care, and shall speak with freedom. I am sensible of no material objection to your doctrines. I have not yet made up my mind about many of the phenomena, particularly about inflammatory crusts, exsudation, pus, expectoration, etc., and, therefore, I cannot in some of these questions decide with you or against you."¹

John Hunter had not yet laid down what has been termed by Latham the grammar of inflammation. A methodical teacher like Cullen *must* make up his mind on all these

¹ Thomson, I. 559.



John Forbergill.

points, and it is not always to the furtherance of the truth. His systematic works continued to be used as text books for at least forty years after his death.¹

JOHN FOTHERGILL.

Another friend of William Hunter's was Dr. John Fothergill. There was something of a parallel in the outward course of their lives. Each came up to London as a young man unknown, Hunter from Scotland, Fothergill from the Yorkshire dales; each set himself to a life of continuous work and research, each attained to fame and honour and large emoluments, and each died unmarried about the same age.

Fothergill was an assiduous and zealous clinical worker: he lived first in Gracechurch Street, and afterwards in Harpur Street, Bloomsbury. His opportunity came in the epidemic of "putrid sore throat" as it was called, which broke out in many parts of Europe in the years following 1747; it is generally considered to have been identical with the "diphtheria" of Bretonneau. Fothergill studied this disease minutely, and was very successful in its treatment. His practice as a physician at once rose, until he could hardly meet the demands made upon him. His treatise upon the disorder is one of our British medical classics.

He was a consistent member of the Society of Friends, a Quaker of the old school, subdued in spirit, cautious in expression, singular in speech, benevolent towards all men. He was Clerk of the Friends' Yearly Meeting one year, and he devoted time and thought, in conference with Dr. Franklin, to draft a scheme for overcoming the dispute with the American colonies without recourse to war.

In a day when good schools were uncommon, he took the chief part in founding a large school at Ackworth in Yorkshire, where his memory is still lovingly cherished; a school which has done excellent work, both within his own community and beyond its borders.

Fothergill had this especially in common with William Hunter, that both were ardent lovers of natural history. The vegetable kingdom was perhaps his chief field. His botanical garden at Upton was esteemed the best in Europe after that at Kew, and was stocked with the choicest plants from abroad. He had agents in every part of the known world collecting new and rare living specimens. A letter

¹ Thomson's edition of his works is dated 1837.

has been preserved which is said to be in the handwriting of the young Queen of George the Third. It is dated from Richmond Lodge, Sept. 11th, 1769, and runs thus:—

“Mrs. Schwellenberg’s Compliments to Doctr. Hunter and she heard yersterday that Doctr. Forthergyll had got several Tea Trees Come from the Indieas in the Last Ships and the Queen wishes that Doctr. Hunter Could make Interest with Doctr. Forthergyll to get Her only one of them for Her Majestys own Garden.”¹

Fothergill died a few years before Hunter, and seventy mourning coaches followed the body to its sequestered and beautiful resting place at Winchmore Hill. His collection of paintings of flowers and other natural objects on vellum was purchased for the Empress of Russia for £2,300; and his shells, corallines, insects, reptiles, etc., were offered at his express desire to his friend William Hunter for the sum of £1,500, far below their cost, and they now form part of the Museum at Glasgow.²

MATTHEW BAILLIE.

In considering Hunter as a physician it is natural to think of his nephew, Dr. Matthew Baillie. He was the only son of Dorothy Hunter, who married the Rev. James Baillie, afterwards Professor of Divinity at Glasgow. His father dying whilst he was still a youth, young Baillie was adopted by William Hunter, who, however, treated him with a certain strictness which was no doubt judged expedient for his training. He gave him an excellent education, first at Glasgow, then at Oxford, and finally in London. Classical exercises formed an important feature; he had to send to his uncle from time to time long passages of Latin prose of his own construction. The details of his study were supervised by William Hunter; he was kept well in his place, and rather “pinsh’d for money.” “First deserve, then expect” was his uncle’s emphatic injunction.³

When he came to London, about three years only before his uncle’s death, he became at once his pupil, availing himself at the same time of the best facilities for studying elsewhere. Baillie entered quickly into the Hunters’ methods, his training had already made him accurate and methodical, and when Hunter died in 1783, the young man of twenty-two stepped at once into his place, and, in conjunction with

¹ Hunter-Baillie MSS. Vol. I., 118.

² See APPENDIX (B) *Dr. John Fothergill*.

³ H.-B. MSS., II., 4, 21, etc.



Matthew Baillie.

Cruikshank, advertised the continuance of the anatomical lectures. It was a bold step, but well justified by the result.

William Hunter had left him his house, and the use of his fine museum for twenty years, after which it was to go to Glasgow. Of the £19,000 which constituted his uncle's fortune, £8,000 was bequeathed for the support of the museum, and other sums as annuities to relatives, so that a comparatively small residue came to Baillie, besides the old Hunter property at Long Calderwood, which he generously relinquished in favour of his uncle John.

Baillie's classes were soon well attended, and for sixteen years he worked assiduously as a medical teacher, dissecting, comparing, lecturing and writing. Morbid Anatomy was his chief occupation, and his steadfast aim was to make this the basis of his clinical work. In the meantime he had been elected, partly through John Hunter's influence, physician to St. George's Hospital. By the year 1800—he was then but 39 years old—his private practice had so greatly increased, that he retired, first from the lectureship and then from the hospital appointment, and devoted himself to his consulting practice alone. This was probably the largest known in London since the days of Mead. He enjoyed the leading position for about twenty years, and was the trusted attendant of King George the Third and his family, and their confidant in their secrets and troubles, which were many. A baronetcy was offered to him about 1812, but he preferred, it would seem, to remain with Harvey and Sydenham and Mead and the Hunters, undistinguished by the titles which have given to some lesser men a brief and borrowed lustre. Like his uncle, Matthew Baillie was a man of slender frame, never robust; his sisters lived to nearly 100 years, and his own life might have been longer had it been one of less pressure, but under the unceasing toil, sixteen hours daily, his mind was harassed and his energies exhausted, so that he died, literally worn out, in 1823, at 62 years of age. He was a man of singular integrity, and guileless simplicity of character, and so bore himself through all the duties of life, which were in his case fraught with wide influence on others, as to win the confidence and admiration of all men.¹

I have yet to speak of one notable event in Dr. Baillie's life—his publication in 1793 of a treatise on Morbid Anatomy. I think that the importance of this event as

¹ See *Memoir* by his son, in *Hunter-Baillie MSS.* II., 80. His *Autobiography* was edited by Mr. J. B. Bailey and published in the *Practitioner*, July, 1896.

marking an era in the history of medicine is hardly yet appreciated. It was, so far as appears, the first systematic treatise on Morbid Anatomy that had been written in any country. Morgagni in his famous work, *De Sedibus et causis Morborum*, published in 1761, had given to the world a series of records of cases and dissections which forms a storehouse of facts. Soemmerring had done similar work. But Baillie for the first time took the various organs of the body *seriatim*, and set forth the diverse morbid conditions which were found to belong to each. The basis of the work was his own observation, his own specimens and preparations, and those which his uncle had made before him. And the whole was written with such candour and simplicity and clearness of diction, as to be a model for all future writers in the same field. When he does not know the cause of any lesion he does not hesitate to say so: here are no hypotheses to mislead, no traditional maxims which will one day have to be unlearned. Well might the Pathological Society at its origin in 1846 place the bust of this first of British pathologists upon its seal. And well justified are those words which grace his monument in Westminster Abbey, "*Qui ad certio rem rationis normam, eas anatomice partes, quae morbos spectant, primus redegit.*"

Brodie, writing at least fifty years after its first issue, states that Baillie's work "is still the most valuable text-book on that subject that exists . . . It is perfect as far as it goes."¹

I do not know that it would be possible to illustrate in a more striking manner the place and influence of the Hunters in the development of Medical Science than by contrasting two works, issued at but thirty years interval. Let us take Gaubius's Pathology, the work of a man accounted a leader—he succeeded his master Boerhaave at Leyden—and he was even a reformer, so that he excuses himself in his preface for the innovations he has made. It was published in 1761, and is an able book, yet full of vague generalities and ideas which have come down by tradition. And these are his closing words, "Unless I am mistaken his authority will remain to Hippocrates, credit to Galen, strength and order to Nature."—*Ni fallor, Hippocrati auctoritas sua constiterit, Galeno fides, naturæ virtus et ratio.*

¹ Autobiography, p. 137.



William Smellie.

Compare with this Baillie's *Morbid Anatomy*, issued in 1793. To pass from Gaubius to Baillie is like going out of darkness into light. And this advance in Medical Science, fruitful presently in better medical art, was due, as I submit, mainly to the Hunters, whose anatomical and physiological work Baillie continued and carried into the domain of pathology and medicine.

WILLIAM HUNTER AS AN OBSTETRICIAN.

The art of midwifery was passing in the middle of the eighteenth century through a severe struggle. When Smellie settled in London in 1739 the bulk of the practice was in the hands of midwives. Mrs. Nihell, of the Haymarket, who afterwards published a treatise on the subject, had a large practice, and was a doughty and uncompromising champion of the exclusive right of her own sex to practise the art. Between her and Smellie, who lived hard by in Pall Mall, there was unceasing war. There were indeed men physicians devoted to this art, but when they were called in it was often only to advise the midwife, the patient not permitting herself to be touched. When William Hunter attended the young Queen of George III. he merely waited in an ante-room in case the midwife needed his assistance. The principal men-midwives when Smellie and Hunter began to work were Dr. Maubray and Sir R. Manningham. Of the former it need only be mentioned that he stated a decided preference for a seven months' over a nine months' gestation, on account of the influence of the moon and the mystical value of the number seven. Manningham was of a better order, and long enjoyed a high reputation in London, where he founded the first maternity institution. He detected the imposture of Mary Tofts, the "rabbit-breeder." Yet so far was the art in its infancy that in his compendium, published in the year that Smellie commenced practice, no mention is made of any sort of instruments. Instruments, however, were in use, but mainly of a destructive kind, and it was Smellie's earnest desire to find better methods, so that in difficult cases the child's life should not be sacrificed, that brought him to London.

WILLIAM SMELLIE.

It will be convenient to say a little more here of William Smellie, who has found in recent years so excellent a *vates*

sacer in Dr. Glaister, to whose work I am indebted for much information.

He came from the same county as the Hunters and Cullen, having been born in Lanark some twenty years before William Hunter. Engaged at first in general practice in his native town, he took a keen interest in midwifery work, and came to London, as has already been said, to seek for improvements in his practice and methods. He went to Paris to Gregoire, then in much fame, but he was disappointed in him and in the other French teachers. Smellie settled in London in 1739, and practised and taught midwifery to large classes. His success was great; he had mechanical genius, and he studied the use of the forceps, then newly invented by the Chamberlens, until he had mastered the subject. He was the first writer to lay down rules for the safe application of the forceps, and as such is entitled to the gratitude and honour of all men. William Hunter, who was conservative in his midwifery practice, discouraged its employment, although he probably used it sometimes; he would say that he rather regretted the invention of the instrument, as he thought it had done more harm than good. Partly in consequence of Hunter's teaching, the use of the forceps, which had obtained a good deal of currency in Smellie's time, fell into disfavour towards the end of the eighteenth century, until Baudelocque and others restored it to its rightful place.

Smellie was uncultured, and displeasing to those of polite manners, so that he never acquired large practice amongst the upper classes, skilful practitioner though he was. He tells us that in one labour, "I sweated so much that I was obliged to throw off my waistcoat and wig, and put on my nightgown, with a thin napkin over my head." I know not how far our leading obstetricians of to-day would regard this as a dignified costume. William Hunter, on the other hand, was urbane and conciliatory, and was singularly calculated for the practice of midwifery, Baillie tells us, "by the delicacy of his manners, and a very quick perception of the caprices of the world."¹

Smellie retired from London to end his days quietly in Lanark, (where the battered remnants of his library,

¹ *Lectures*, p. 75. Compare the "Eloge" upon W. Hunter in the Académie Royale des Sciences. "Il fut très-heureux pour les Dames Angloises, que M. Hunter unit à une habileté pour le moins égale, la douceur et les agrémens dont l'austère et savant Smellie avoit été privé," quoted in *Memoir of Smellie, New Syd. Soc.*

bequeathed for the benefit of the town, are still to be seen), revising his collections of cases, and publishing them to the world. For some years before this, he and Hunter, once intimate, had somewhat diverged, and Hunter tried in vain to arrange an interview between them before the former departed. Smellie avoided it, and wrote a curious letter from his Scottish retreat to Dr. Clephane, a mutual friend, to explain his reasons, quaintly dating his epistle from Tartarus, and addressing those still in the land of the living. He was evidently afraid of Dr. Hunter, whose quick wit and "glib tongue" would soon get the better of a silent man, without any conversational powers outside his professional work. He sent also a "letter of exculpation," a very singular and candid description of his own character.¹ Smellie was a great practitioner and an admirable man, and probably furthered the progress of his art more than any other single man in his century. He died childless in 1763.

William Hunter was for many years the acknowledged leader in obstetric practice in London. In dealing with his claims to distinction in this department, I am glad to be able to quote one who wrote with authority, the late Dr. Matthews Duncan. In his "Researches in Obstetrics" (1868), Dr. Duncan quotes Dr. Hunter many times; for example:—On the inclination of the axis of the uterus, the plasticity of the uterus adapting itself to the shape of the fœtus, the condition of the cervix during pregnancy, the cause of the fœtal head being commonly downward, the especial development of the cephalic end of the fœtus, the posture of the child during the last months of gestation, the early implantation of the placenta over the cervix, the separation of the fœtal from the maternal portion of the placenta in a four months' conception, and the operation of symphyseotomy.

Smellie acknowledges the help derived from Hunter's "reforming the wrong practice of delivering the placenta," i.e. leaving it more to natural efforts. And Hunter's lectures, preserved to us in the notes of students, bear witness to his thorough grasp of the practical issues of his art. He describes for instance, clearly and simply, the occurrence of fever, convulsions, white leg, hemiplegia, etc., in the puerperal

¹ See the letters, discovered by Prof. J. Young, M.D., *Brit. Med. Journal*, 1896, II, p. 514. A short letter from Smellie to W. Hunter is in the *Hunter-Baillie MSS.*, I, 110. Dr. Glaister informs me that one of Smellie's original class tickets has lately been discovered in the Boston Library, U.S.A.

state, and his treatment, if rather conservative and inactive, is at any rate free, alike from active hurtfulness, and from a pretence of specifics.¹

Hunter described the retroversion of the gravid uterus apparently for the first time, and proposed the name by which the displacement is now known. His papers on this subject are very clear and interesting.²

WILLIAM HUNTER'S PERSONAL CHARACTER.

A few words remain to be said on William Hunter's personal character. His many-sided tastes have been referred to. It is wonderful, perhaps, that they did not hinder him from attaining high distinction in his own profession. But he had no wife nor child, and his museum was the recreation of his leisure hours. A man of untiring industry, an early riser, exact and orderly in his habits, thoughts and speech, he combined the learning of a scholar with the refined manners of a gentleman. He was kind, and he was just: and if he was so conscious of his own abilities, and so sensitive to praise or blame, that he sometimes appeared jealous, sometimes even bitterly combative in his attitude to others, such feelings did not long disturb his peace of mind. "I am I believe one of the happiest of all men," he writes to Cullen in 1768, "though my hurry is somewhat greater than I could wish."³

Of the vein of quaint humour which pleasantly varied the course of his lectures, I may give one illustration. It was in 1775, at the close of the session—he was approaching his sixtieth year: "I have now finished," he said, "twenty years of lectures. However, as I presume I am still approved of, I propose twenty years more to begin next October, and after this is over, I propose to settle in the world and take to me a wife."⁴

He was one who

"preserved from chance control
The fortress of his 'stablisht soul ;
In all things sought to see the whole ;
 Brooked no disguise ;
And set his heart upon the goal,
 Not on the prize."⁵

1 M.S. Lectures, R.C.S. 42. b. 34.

2 *Med. Obs.* IV. 400, V. 388.

3 Thomson, I., 554.

4 M.S. Lectures, 42, c. 31.

5 W. Watson on Matthew Arnold.

I have thus sought to set William Hunter before you as a great anatomist, and as a sound and successful practitioner of medicine and midwifery.

“Verax : capax, perspicax : sagax, efficax : tenax.”¹

A teacher of renown and wide influence, he contributed greatly, with his brother John Hunter, to establish medical science and art upon the only sure foundation, that of anatomy. May we not rightly speak of “the era of the Hunters,” and associate the two brothers together in the great work they did for natural science?

EPOCH OF HUNTER'S DEATH.

Time will not admit of more than a brief allusion to the epoch of William Hunter's death in 1783. It was a period of great mental activity, and science was advancing with giant strides. Already his friend, Sir Joseph Banks, had entered upon his forty-two years' tenure of the chair of the Royal Society, where he was surrounded by a constellation of genius, every man taking rank as a discoverer of some great new fact or law in Nature. The modern science of chemistry was being rapidly evolved. Joseph Black, Cullen's pupil, had long discovered latent heat, Priestly had lately found oxygen; Lavoisier was also at work, and air and water had just been resolved into their elements by Cavendish. The determination of colour vision by Dalton, and Rumford's investigations on heat followed soon after. Hunter's friend Franklin had discovered the properties of atmospheric electricity, and animal electricity and the nature of currents were now coming to light by the labours of Galvani and Volta; but Faraday was yet unborn, and few of the secrets of this wonderful science had been revealed. Thomas Young and Wollaston, future leaders in physical science, were mere youths, and Humphry Davy was in the nursery. Mechanical applications of the laws of Nature were keeping pace with their discovery. Watt had already invented the steam-engine, and five years after Hunter's death it was applied to navigation by sea, whilst Erasmus Darwin, with the prescience of genius, was singing of its employment for locomotion on land. Herschell meanwhile was bringing to sight distant worlds and moons, by means of his giant refractors.

¹ Dr. John Brown, *Locke and Sydenham*.

Nor was it less an epoch of large political changes. The American colonies were separating themselves on the one hand, and on the other Governor Phillips was effecting the first settlement on the Australian continent. The French Revolution, like a dark cloud overhead, was about to burst with thunderclap upon astonished Europe. The year 1769, that year of momentous births, was passed, and had given to the world Bonaparte, and his Generals, Ney and Soult and Lannes; Mehemet Ali of Egypt, our own Wellington, Sydney Smith, Brunel, Humboldt, Sir Thomas Lawrence, and William Smith, the father of English geology.

The science upon which our own art is founded is in its turn built upon the physical sciences, and changes such as have been alluded to, influenced, more slowly perhaps, yet surely, the practice of medicine. The invention of the stethoscope by Laennec soon after this date revolutionised one department of medicine, as did later on the adaptation of the microscope to medical purposes, by the discoveries of Selligues and of J. J. Lister (father of Lord Lister).

The Brunonian system had its rise at this epoch, and lived its little day. Vaccination was discovered by William Hunter's pupil, Jenner, thirteen years after his death. The great Hunterian pupils, Abernethy and Astley Cooper, Anthony Carlisle, Cline and Clift, Macartney of Dublin, Physick of Philadelphia, were mostly boys at school. So were Henry Halford (Vaughan) and Charles Bell.

So full was the world of new thoughts and new knowledge, thus instinct with life and progress were the natural sciences, and such was the promise of the future, when the Hunters, who had done so much to lead men to the pure study of Nature, were passing away. Their work in biology had made the discoveries of others possible: for each generation, stepping on the shoulders of that which went before it, attains to heights that were as yet unknown. That we may not forget the great men who have gone before, but may remember how the precious heritage of our knowledge has been bought for us by the strenuous toil of giants in the past, is the purpose of orations such as this. And it is with that aim that I have brought before you this evening William Hunter, a man "by his life and by his art worthy of honour from all men to the end of time."—*καὶ βίου καὶ τέχνης δοξαζόμενος παρὰ πάντων ἀνθρώπων εἰς τὸν αἰὶ χρόνον.*¹

¹ Hippocrates, *Oath*.

Appendix.

THE HUNTERIAN MUSEUM, GLASGOW.

“Dr. W. Hunter’s Collections were of extraordinary variety, considering the evidence that he took an active personal interest in every department. It is marvellous that he attained to such professional eminence while spreading his energies over so many fields.

“The illustrations of the ‘Gravid Uterus’ and of the Placenta are the most important in connection with his reputation as an obstetrician, and one of these has received his own sanction as specially worthy of attention, the specimen namely, which was introduced into the portrait by Sir Joshua Reynolds, painted to the commission of the University of Glasgow: it is injected and windowed so as to show the membranes through which the foetus is visible.¹ The collection is essentially anatomical, including a large series of comparative preparations, made in connection with the *Zoological Department*, which is still steadily growing.

“This department, the central portion of the present collection, was, for the time and for a private museum, very large, and included a surprising variety of types, among others the Elephant, Giraffe, and Moose-deer. It is not possible now to identify the Hunterian Specimens as a whole, for apparently there were no labels on them when the museum was brought to Glasgow. But among the Invertebrates, in addition to a large series illustrating ‘Conchology’ in the old sense of the term, there are a

¹ The specimen is No. 153 of series forty-eight, in Dr. Teacher’s *Catalogue*.

Pentacrinus, dilapidated as to the cup, and the type specimens of Ellis and Solander's work on the Corals, gathered on Cook's Transit Expedition, 1774.

"The *Minerals* which came from London are more distinctly recognisable, and an important series they were both scientifically and in point of value; the collection is now trebled by the gifts of Eck and Dr. Brown of Lanfine. Among Hunter's papers occur brief notes of minerals indicating the care with which he gathered information regarding the specimens. Mr. John Young, LL.D., Under-keeper to the Museum, has added to the Geological Section, so that it is now a valuable teaching collection in lithology, especially rich in the Carboniferous fossils. The other formations are fairly represented. The Pleistocene is rich from the work of D. Robertson, LL.D., Rev. Dr. H. W. Crosskey, and J. Young, LL.D.

"There was nothing corresponding to the modern meaning of *Ethnology*, but there is a very large assortment of weapons, implements etc., belonging to Cook's collections. Unlabelled as these were, identification with localities is impossible, except in the case of some which have been figured in the Narrative of the Voyages, as the Corals above mentioned in the monograph.

"Round an anatomist-physician's museum gathered an important *Bibliographic* collection, and this too was Hunter's personal care. There are marked catalogues of book sales, letters from agents at home and abroad, all showing that Hunter selected what was bought. The dealers' accounts were gone over carefully and checked. Large purchases were made in Paris and even Italy: volumes, sometimes series, came from monastic houses, or from private libraries, as those of Cæsar de Mussy, Colbert, etc., while a noble array of the Fathers bears the *fleur de lis* on the binding, but is only a part of the Royal property purchased. Most of the important Continental and English presses are represented. The Caxtons were recorded by Blades. The Aldine Plato on vellum, bound by Derome in blue morocco, is perhaps the most exquisite book in the Library. Alongside may be placed the vellum Greek Anthology, and the Vesalius, also on vellum, with the Titian plates, a work reproduced in facsimile by Stirling-Maxwell. A catalogue is now in course of preparation, and the section containing the fifteenth-century works, described by Rev. P. H. Aitken, has been made use of by Jenkinson in his

recently published revision of Coppinger's additions to Hain. There is an interesting set of pamphlets regarding the North American Colonies, many concerning the time of Charles the first, and a whole library on the small-pox.

"The *Manuscripts* number over 600, excluding those which date from 1700 or thereby. The oldest is the Homilies of St. Basilius, A.D. 859. The Romaunt of the Rose, in French and in English, the Golden Legend, the Siege of Troy, the Canterbury Tales, Gower's *Confessio Amantis* and *Vox Clamantis* may be mentioned. Among illuminated MSS. are the *Vita Christi*, Boccaccio's *Cas de Nobles Hommes et Femmes* and the *Cent Nouvelles Nouvelles*. Bayer's Sinological MSS. have been catalogued and the list is published by Henri Cordier. A large number of the English manuscripts came from the Eastern Counties, Dr. Thomas Martin's autograph appearing on many of them. A list of this collection, not free from errors, is given by Haenel in his *Catalogi Librorum MSS.*, but a new and more accurate catalogue is now in preparation, and nearly completed.

"The first Professor of Anatomy in the Royal Academy earned that position by his *artistic* proclivities as well as his reputation as an Anatomist. His diploma hangs in the Library, as does also a set of Engravings by Sir Robert Strange selected by the Engraver himself. There are many works in the Library selected obviously for their artistic contents. Thus Eisen, Gravelot, Moreau, Audran, etc., are well represented and there are three perfect copies of the *Hypnerotomachia*. Of the great Masters whose works adorn the Museum, Murillo, Rembrandt, De Koninck, Le Nain, Rubens, Salvator Rosa, Domenichino, Guido, Giordano, Charadin, Karl du Jardin, may be mentioned. Some of these were in Dr. Mead's collection and on his death acquired by Hunter. Among the Medical portraits are those of Vesalius by Titian, Mead and Charlton by Kneller, W. Hunter by Pine, Harvey by Bommel, and Dr. Matthew Baillie. Kneller is also represented by the portrait of Sir Isaac Newton.

"The *Coin* cabinet is an extreme departure from the customary interests of a physician and anatomist. Yet the private papers show how unceasing was Hunter's care and how lavish his expenditure to make the collection complete. Part was catalogued by his friend Dr. C. Combe and published during Hunter's lifetime, in 1782, as the



Nummorum veterum Populorum et Urbium qui in Museo Gulielmi Hunter asservantur Descriptio, figuris illustrata, a work still spoken of with admiration for its accuracy. The munificence of a Glasgow merchant, Mr. James Stevenson, (Maecenas in respect of his Italian possessions,) has enabled a new edition of that catalogue to be undertaken, and the first volume, illustrated by collotypes, is now published. It is practically a new work, as Mr. George Macdonald, M.A., has included all the Colonial imperial pieces, as well as the whole of the British, Gaulish and Spanish Mints. But the republican money, the Imperial gold, silver and bronze greatly outnumber these, and the Western Empire is continued in a rich set of Papal and other Italian medals. The English and Scottish coinages are copiously represented, and there is a choice group of Renaissance medals besides those in the Papal series. The whole collection numbers about 30,000 pieces."¹

Dr. Combe's Catalogue "was far ahead of anything known at the time." For the first time, the weight, metal and size of every coin was stated. It was dedicated to the Queen, and the Latin preface states that upwards of £20,000 had been expended on the collection. A manuscript account by Dr. Hunter, preserved at Glasgow, accounts for more than £22,000. The Catalogue was to have extended over seven volumes, and the last of these, comprising the Saxon issues, had been committed to the Rev. R. Southgate.² The other volumes were to include (1) continuation of Dr. Combe's division, (2) money of Persia, Phœnicia, Samaria, Palmyra, Carthage, etc., (3) coins of the Kings, (4) Imperial coins struck in the Colonies and Greek cities, and (5) unpublished Roman coins. But all was interrupted by Hunter's death in 1783.³

The visitor should not omit to see the fine Armada medal, struck to commemorate the event and throwing a singular light on the feeling of the time. The Spanish ships with their great curved hulls are shown in a storm at sea, the scene being exquisitely moulded. On the reverse is seen a

¹ "The finest ever got together by a private individual" (Macdonald). The foregoing paragraphs have been kindly contributed by Professor John Young, M.D., the Keeper of the Museum, than whom no one can speak of its stores with more right or fuller knowledge.

² See *Gentleman's Magazine*, 1782, p. 519.

³ See Mr. G. Macdonald's *Introduction to the Hunter Coin Cabinet, Stevenson Catalogue of Coins*, 1899, 4to, Vol. i. A Catalogue of duplicates was printed in 1777, 4to; their sale occupied eight days, and realised £1,337. A second smaller sale followed in 1778.

semi-circle of popes, seated upon thrones, and kicking "against the pricks," in the shape of a forest of needles standing upright.¹

The Museum was left, under the direction of Trustees, for the use of Hunter's nephew Matthew Baillie, in conjunction with Cruikshank, for the term of thirty years, and after that to the University of Glasgow. Cruikshank died in 1800, Baillie waived his right soon afterwards, and the Museum was removed in 1807. A fund of £8,000 was set apart in Hunter's will for the support and increase of the collection, and to promote its utility to the public, by means of lectures, etc., besides annuities of twenty pounds each to his three Trustees, Fordyce, Pitcairn and Combe, for thirty years.²

Dr. George Fordyce, F.R.S., (1736-1802) was physician to St. Thomas's Hospital, and long lectured on Chemistry and *Materia Medica*; he took an important part in preparing the *Pharmacopœia Londinensis*. A rather eccentric man of rough exterior, he had original views on diet, subsisting himself upon one meal a day, taken punctually at four o'clock at Dolly's Chop-house in Paternoster Row. The meal consisted of a pound and a half of steak, a tankard of ale, a bottle of port wine, and a quarter of a pint of brandy. He died of gout.

Dr. David Pitcairn, F.R.S., (1749-1809) was nephew to Dr. William Pitcairn, of the "*Currus triumphalis Opii*." He was physician to St. Bartholomew's Hospital, and a man of much sagacity and high culture, with a fund of dry humour; he was greatly mourned by his friends, when acute laryngitis ended his life.³

Dr. Charles Combe, F.R.S., (1743-1817) was of antiquarian tastes, and eminent as a collector of coins; he also produced a famous edition of Horace. Dr. Combe took up Obstetric practice, and became physician to the British Lying-in

¹ The following exemplifies the free use of the Museum granted by Dr. Hunter to strangers: "On Monday every door of Dr. Hunter's Museum was opened to my leisure. His books, his medals, and his natural curiosities, which last are very numerous, and classed so well as to be of real use to any Naturalist." Rev. Michael Tyson to R. Gough. May 4, 1776. Nichols, *Literary Anecdotes*, VIII. 620.

² Hunter left £19,000 at his death. Besides the bequests just stated, he left an annuity of £100 to his sister Mrs. Baillie, and a sum of £2,000 to each of her two daughters. The residue, which was devised to Matthew Baillie, proved a very small one. "It was his intention," he told his nephew, "to leave him but little money, as he had derived too much pleasure from making his own fortune to deprive him of doing the same." See p. 27, and Wardrop's *Life of Baillie*. It is said that the Museum cost him £100,000.

³ A letter to Baillie respecting the removal of the Museum is among the Hunter-Baillie MSS., vol. iii. p. 165.

Hospital. He published an illustrated description of some of the Hunter coins in 1782 as already mentioned, and he made an effort after Hunter's death to keep the coins permanently in London.¹

The Hunterian Museum was at first housed in a handsome Grecian temple built for the purpose, at a cost of £12,000, in the gardens of the University in High Street, Glasgow. Since the erection of the new University on Gilmore Hill in 1870, the Museum has been transferred thither, and is now displayed in a series of fine rooms, where its treasures have become better known, although scarcely yet as widely as they deserve : the available space is already insufficient.

A general account of the Museum was published in 1813 by Captain Laskey. No further Catalogue appeared until 1840, when a "Catalogue of the Anatomical Preparations" was published. The text of this was supplied by the Manuscript Catalogue transmitted to the University long before by the Trustees (and still in the Museum), which bears the inscription : "The following Catalogue is, to the best of our knowledge and belief, a true Catalogue of the Anatomical Preparations left by the late Dr. William Hunter. (Signed) G. Fordyce, David Pitcairn, W. Combe." The last survivor of these had been dead for more than twenty years, but the custodians had collated the specimens and corrected errors as far as they were able ; there were many specimens missing, and many others undescribed. The Catalogue formed a volume of 290 pages and was divided into Sections.

No further catalogue of the Museum was, so far as appears, issued until recent years. Its contents have been more fully studied by the present custodians, and excellent catalogues of several departments have been published. Professor Young's address on the Library has been alluded to (see p. 11,) and a list of the Paintings and Engravings was published by him some years ago. Mr. Macdonald's Catalogue of the Coin collection is noticed on a preceding page.

A full and accurate Catalogue of the Anatomical and Pathological Preparations has just been issued (1900) in two volumes, by the liberal aid of the Bellahouston Trustees and the indefatigable labours of Dr. J. H. Teacher. The entire

¹ Dr. Teacher, *Introduction*, p. lxxiii.

series has been examined, the jars opened, and the objects and their descriptions as nearly as possible identified, with the help of all information that could be gleaned from Hunter's writings and other sources.

This department of the Museum consists of 2607 wet preparations preserved in jars, 19 large plaster of Paris casts, 410 bones, and 348 calculi and concretions. It is divided into eleven classes; that of Utero-gestation contains 271 specimens, including casts from the originals of Dr. Hunter's plates of the Gravid Uterus, and Placentæ showing the maternal and foetal circulation. Upwards of one hundred of the plates in Dr. Baillie's "Series of Engravings to illustrate Morbid Anatomy," (London, 4to., 1803,) were taken from these preparations.

WILLIAM HUNTER'S WORKS.

[A list of the works will be found at the end of this chapter.]

William Hunter's greatest work is the *Anatomy of the Human Gravid Uterus*, which has been already described,¹ and which was published in 1774, and again in 1815. Two of the smaller plates were reproduced by Hogben in his "Anatomical Tables of Midwifery" in 1811, and Hunter's entire work was re-issued, from the original copper-plates, very little worn, by the Sydenham Society, in 1851. This work has ever been highly valued on the continent of Europe as well as in our own country. Soemmering published in his "Icones Embryonum humanorum," in 1799, two plates of the human embryo, which should form, as he said, a supplement to those of Hunter, to whom he refers as "Vir ille summus, fautor noster insignis." Hunter's plates were all or most of them copied by Loder in his "Tabulae Anatomicae" (Vimariae, 1803), but the execution is inferior and the size generally reduced. To the names of the German Biologist and the St. Petersburg Professor may be added that of a renowned Italian. Caldani, the physiologist, crowned his many works by the issue in his old age of four magnificent volumes, "Icones Anatomicae."² In these he included the whole of Hunter's plates, which form Nos. 135 to 167 of the series, but although the engraving is excellent, the work of the Italian artists (Zuliani and Ambrosi) does not come up to that of Rymtsyk.³

¹ See p. 18.

² Venice, 1801-1813, elephant folio.

³ This artist spelt his name indifferently, J. Van Rymtsyk, Riemsdyk, and Reimsdyk.

in Hunter's original volume. The delicacy and softness of the latter bespeak a labour of love, in which neither time nor cost were an object, and they are only equalled by William Clift's drawing of the placenta of a monkey to illustrate the works of John Hunter.

In 1794, eleven years after Hunter's death, appeared *An Anatomical Description of the Human Gravid Uterus and its Contents*, the text of which had been left in manuscript by Hunter, and was now published by his nephew, Dr. Matthew Baillie, with a few corrections, and the addition of some pages at the end. A second edition was issued by Dr. E. Rigby in 1843. The part contributed by Baillie contains the mistaken account of the origin of the Decidua which has been already alluded to.¹ One sentence from this treatise was much quoted by Dr. Robert Lee in his controversy (1839-1848) on the nerves of the uterus. It is as follows: "I cannot take upon me to say what change happens to the system of uterine nerves from uterogestation, but I suspect them to be enlarged in some proportion as the vessels are." This sentence is a good example of Hunterian *dicta*: for it betokens a wide view of the subject, which left nothing out, a judicial temper, which stated nothing as a fact that observation had not first proved, and lastly a faculty of insight, leading to shrewd opinion, which might wait perhaps a century for its verification. Dr. Lee, who by the way omitted the word 'some' near the end of the sentence, maintained stoutly against all critics that the nerves of the uterus were enlarged during pregnancy. Astley Cooper called his preparations "cart ropes and chain-cables," and it was several years before the heat of the controversy died down, but Lee's views received in the end a considerable measure of acceptance.²

William Hunter is sometimes alluded to as one of the pioneers of Ovariectomy, but this credit belongs probably less to him than to Pott and to Blundell. His observations on the extirpation of diseased ovaries occur in the admirable *Remarks on the Cellular Membrane and on Dropsies* which were appended to his paper on *Emphysema* read in 1757.³ "It has been proposed indeed," he says, "by modern

¹ See p. 18.

² Dr. Alexander Morison has lately revived the subject, and published some observations which favour the opposite view, which was John Hunter's. *Lancet*, 1898, vol. ii. p. 1612.

³ *Med. Obs. and Inquiries*. See List of Works, and p. 22.

Surgeons, deservedly of the first reputation, to attempt a radical cure by incision and suppuration, or by the excision of the cyst." He goes on to discuss the nature of the ovarian cyst, "as it has appeared to me in a number of cases both in the living and dead body." He concludes by pointing out the great and almost overwhelming dangers of the operation; but concludes: "surely, in a case otherwise so desperate, it might be advisable to do it, could we know beforehand that the circumstances would admit of such treatment."

Dr. Hunter's paper on the Sigaultean operation for *Division of the Symphysis Pubis* is dated 1778, and was published as a supplement to a treatise by Dr. Vaughan of Leicester.¹ This operation had just been introduced with great *éclat* by eminent surgeons in France. Dr. Hunter writes in a philosophical spirit. He deprecates desperate operations undertaken on a bare chance of saving life, and declares that the life of the mother is of incomparably greater value than that of an unborn child. He questions the wisdom of the early approbation of a new practice by an authoritative body such as the Faculty of Medicine at Paris. He illustrates the question of new methods by the use of the forceps, which, though it was sometimes of service, and might save either the mother or child, and had been sometimes used by him with advantage, yet "I am clearly of opinion . . . that the forceps (midwifery instruments in general I fear), upon the whole, has done more harm than good." With regard to the operation itself, he had had occasion to perform it often upon dead bodies, and found that an adequate separation of the bones required much wrenching, and that the (sacro-iliac) ligaments at the back of the pelvis were torn. He then showed from actual examination of some contracted pelves for which the Cæsarian section had been used, that the contraction was such that no division of the symphysis could have permitted a child to pass.

Was the operation advisable to save the child in certain difficult labours, where the crotchet was now used? He preferred the crotchet because it was safer for the mothers, and gave less suffering than "to have the strongest joints of their body cut and torn asunder, to secure a *chance* only of a living child." Yet he thought the section of the Symphysis

¹ It was read before the "Medical Society of Physicians" but never published in the *Medical Observations*, although Osborn (footnote to p. 318 of his *Essays on Midwifery*) states otherwise.

might possibly be found better than the Cæsarian section in a very few rare cases,—to save the mother's life; cases of very narrow pelvis, or great projection of the spine, so that the crotchet could not be used until division of the symphysis had made room for it. Such an operation, and indeed all operative measures in midwifery, should only be used after due "consultation and formality." Osborn, in 1792, argues at length against Hunter's admission, guarded though it is, of Symphysiotomy as a possible resource under any conditions, and the operation, though it has found some supporters since that day, has been generally abandoned.

On the discovery by the Hunters of the placental structure and circulation, reference may be made to John Hunter's paper (not published by the Royal Society on account of the dispute with his brother as to priority), which is contained in his collected Works.¹ A critique upon it is added by Professor Owen, dealing with Dr. Lee's opinions in opposition to the Hunters' doctrine, and relating experiments of his own which confirm it. Dr. Horrocks, in the Hunterian Society's Oration for 1893, quotes W. Hunter's description of the Placenta, and places it side by side with the most recent exposition of its anatomy by Leopold of Dresden, showing their agreement in essential features. The dispute between the brothers arose, if we are to believe Jesse Foot, about a morbid specimen which John invited William to see, and which William carried off for his Museum. But perhaps there was never a work of more singular scandal and malignity than Foot's "Life of John Hunter," published under the cloak of an honourable love of truth, and pursuing its victim in his new-made grave. "John Hunter," he says, "never was the author of any production which appeared under his name": Smollett wrote them for him. His plate of the Placenta "gives just as good an idea of the country in the moon as it does of that which it is intended to explain:—it will serve for either."²

W. Hunter's paper *On the Uncertainty of the signs of Murder in the case of Bastard Children*, alluded to on page 23, long occupied an important place in the field of Legal

¹ Ed. Palmer, vol. iv. p. 60. See above, pp. 13, 17.

² Foot, *Life of John Hunter*, pp. 62, 222. Foot's illwill may have been in part an expression of that prejudice against the Hunters as Scotchmen, which according to Agnes Baillie was very rife in their lifetime and afterwards. See her notes on the Pedigree of the Hunters, *Hunter-Baillie MSS.* Compare Horace Walpole's anecdote, quoted on another page.

Medicine. Its reprint by Dr. Samuel Farr in 1815 has been already mentioned, and in the same year it was appended to the third English edition of Faselius' "Elements of Medical Jurisprudence." The paper was also separately published in 1818, and it has been translated into at least one European language.¹ Dr. William Cummin in 1836 included it in his little volume on "The Proofs of Infanticide," and he writes of it, fifty-three years after Hunter's death, as "the most influential and popular tract on Child-murder hitherto produced in this country." "The judges quote it," he continues, "with implicit faith in its perfection: the bar study it, and cross-examine the crown witnesses on the difficulties which it suggests; and medical men probably will not find it safe to venture into the witness-box without being familiarly acquainted with its contents." Dr. Cummin, however, sets himself to controvert the author's positions, and especially the objections which Hunter felt to the certainty of the test of the lungs floating in water, as a sign that the child had lived. Hunter's paper has often been quoted since by writers on Medical Jurisprudence, and although it was obviously written for a special purpose,—to show the uncertainty of signs which at that day were regarded as infallible proofs of guilt, and of guilt meriting the penalty of death, and therefore it partakes slightly of a partisan spirit; yet it is a masterly exposition of its subject, and still worthy of careful study by those who would know all the considerations which must be taken into account, in judging of the actions of women under the dreadful conditions of illegitimate childbirth.

Dr. Gooch, in his "Practical Compendium of Midwifery," 1831, refers to W. Hunter's observations on rabbits, as having confirmed and given general credence in this country to De Graaf's discovery of the descent of the ovum through the Fallopian tube. Hunter's experience in a case in which the production of abortion was attempted at the third month of pregnancy is also referred to.²

Darwin has preserved a notable instance of Hunter's practice of testing received opinions. On the belief that the imagination of the mother affects the child *in utero*, he writes :

¹ An Italian translation is included in the second volume of the *Raccolta di Trattati e memorie di legislazione e giurisprudenza criminale*. Firenze, 1821, 1822.

² Gooch, pp. 78, 92.

"Dr. William Hunter, in the last century, told my father¹ that during many years every woman in a large London Lying-in Hospital was asked before her confinement whether anything had specially affected her mind, and the answer was written down; and it so happened that in no one instance could a coincidence be detected between the woman's answer and any abnormal structure; but when she knew the nature of the structure, she frequently suggested some fresh cause."²

Smellie and William Hunter stand at the head of the line of British leaders in Obstetric Medicine. After their day came Denman,³ whose daughter Matthew Baillie married, and who was father to Lord Chief-Justice Denman; and after him Osborn, Haighton, Merriman, Gooch, Blundell, Ramsbotham and many others. In Blundell's portrait, by Room, one may read, amongst the volumes which adorn his bookshelves, the title, "W. Hunter's Works."

Dr. Hunter's *Medical Commentaries*, Part I., issued in 1762, was intended as the first of a series of similar works. It deals with physiological topics,—of the injection of the tubes of the testis and epididymis with mercury; of the lymphatic vessels, previously accounted to be blood-vessels, and of their function as absorbents like the lacteals⁴; of transudation from veins, and whether they absorb as well; of the vessels of cartilage, where the author confesses a mistaken observation in his first paper before the Royal Society; of the discovery of the ducts of the lachrymal gland; of the membrana pupillaris; of the insensibility of tendons and Haller's views thereon (there was no dispute with him); and of what is now called congenital hernia.

In most of these subjects Dr. Hunter had made discoveries, some of much importance—discoveries described in his lectures, which, unlike those of Cullen, were never printed. In these researches he had sometimes been anticipated by others, for there were working in Europe at this time not a few keen and able anatomists. Much material too, in the

¹ Grandfather (?). Charles Darwin's father was born seventeen years only before Hunter's death.

² *The Variation of Animals and Plants*, vol. i., p. 264.

³ Denman dedicated the first two editions of his *Essay on the Puerperal Fever* to W. Hunter.

⁴ At p. 58 is recorded a curious case of lymphatic fistula in the groin, the closure of which was followed by lymphatic oedema of the whole limb, which ultimately subsided. Sografi expounded Hunter's doctrines, a few years later: *Esercitatio anatomico-chirurgica . . . in qua theoria lymphæ ductuum ex observationibus Hunteri, Monroi et propriis exponitur*. Patavii, 1766.

volume, was derived from John Hunter's labours, and this is generously acknowledged by his brother. But Dr. Hunter was most unfortunate in his manner of presenting his claims to the world. His *Commentaries* are couched in a style of address that has happily become extinct in these days, jealousy for his own fame leading him into bitter controversy with other workers in the same field, so that it is hardly to be regretted that, beyond a supplement added in 1764, containing his dispute with Pott, no further parts of these *Commentaries* were ever issued, for the style increases in acerbity to the very last pages of the supplement. It is said that Smollett revised the work after Hunter had written it; perhaps the sharpest arrows were barbed by the author of *Peregrine Pickle*.¹

His principal antagonists in controversy were Alexander Monro, father and son. Alexander Monro Secundus was a younger man than his opponent, whose lectures he at one time attended, and he lived on to the enjoyment of an old age not granted to the Hunters. The great Edinburgh anatomist's treatises between 1758 and 1762 are full of controversy with Hunter, with Hewson, and with Akenside, pursued in a like ungenerous spirit, though his pen is not quite so trenchant as Hunter's.² When Monro's Memoir and collected essays were published under the filial care of Monro Tertius in 1840 the dust of the war of pens had long been laid, and little reference is made to its heat and bitterness. The disputes "may have had their use by rousing the energies of both parties," but it now matters little whether the one or the other were first in the field; each did noble work in adding to the store of knowledge.

Percival Pott was five years Hunter's senior. He replied to the strictures contained in the *Commentaries*, but did not descend to use the tone adopted by his antagonist.³

A singular illustration (probably authentic) of Hunter's bitter tongue and pen is preserved at the Royal College of Surgeons. It is a facsimile letter appended to a black and

¹ Smollett's part in it is well known, according to Dr. Teacher (*Introduction to Catalogue*). Simmons calls the style "correct and spirited!" A second edition was published in 1777, apparently without any change.

² See *Observations, . . . wherein Dr. Hunter's Claim to some Discoveries is examined*. By A. Monro, Jun., M.D., Edinburgh, 1758. *An Expostulatory Epistle to Hunter* was published in 1762.

³ Pott's *Works*, by Earle, new edition, 1808, Vol. I., p. xvi.; Vol. II., p. 115, footnote. Another critic was Dr. J. Garner, whose *Observations on Dr. Hunter's Medical Commentaries* are noticed adversely in the *Critical Review*, Jan. 1763, p. 70.

white caricature portrait (noticed on another page) and runs as follows: "Dr. Hunter is sorry that Mr. Da Costa has taken so much trouble. It is a thing of very little consequence, but cannot be set right because it was very wrong. Mr. Dacosta's owning that it was wrong is enough. But it must remain so. Dr. Hunter chuses no further dealings.— He thinks Mr. Drury likewise has behaved in a way which he should not have expected. But if they are pleased with themselves he has nothing to say. N.B. 10 January 1771."¹

Perhaps no treatment received by Hunter would fully justify such an epistle. Yet we are not to conclude that he was a proud supercilious man, insensible to nobler feelings. The fast friend of the gentle Fothergill, the chosen intermediary in a difficult mission with Hume, the physician who won the Queen's warm regard, who enjoyed a life-long fellowship with men like Cullen and Pitcairn, and whose high sense of duty led him to spend the strength of a lifetime in teaching to others all he knew, his was no mean or selfish nature. A sensitive mind, too conscious of its own power and rights, a lonely heart, unsoftened by domestic love, these left Hunter sometimes the prey of resentments which were ill-natured and bitter. They brought their own Nemesis, for they lessened the sum of his happiness.

Two Introductory Lectures to Dr. Hunter's last course of Anatomical Lectures at his Theatre in Windmill Street were printed by order of the Trustees in 1784, the year after his death, as they were left corrected for the Press by himself.²

In the first lecture Dr. Hunter traces the origin of Anatomical study in early ages, and gives an account of Aristotle and Galen, filling in the outline of history in such a way as shows him to be no mean student. After Galen anatomy declined, and Hunter remarks here that when any man has "carried his art far beyond all others, it seems to throw the rest of the world into a kind of despair." Hopeless of improving the art further, men do nothing, and in course of time deify the great man, so that every page of his writings

¹ The letter refers without doubt to the collecting of natural history specimens for Hunter's Museum, a frequent source of contentions. Da Costa was a naturalist, especially learned on fossils, a Jew by race. Unhappily his methods were far from straight, and he was, I believe, in prison when this letter was written. Fothergill and Pulteney still helped him in his troubles, and he attained fame afterwards as an author. Dru Drury was an eager entomologist and a very upright man.

² The date of his revision seems to have been about 1776; see p. 58 of the Lectures.

becomes infallible. "Such respect," he adds, "must always be a mark of declining science."¹ In the long period of Arabian supremacy it was still translations from Galen that ruled anatomical science, until the period of the Renaissance. Here Hunter shows a keen sense of how much we owe to Greek learning. He speaks very highly of Leonardo da Vinci as an anatomist, and hopes to engrave and publish his designs.

Here also is to be found Hunter's estimation of Harvey, whom he places at a less exalted level than others had done, and defends his position by argument drawn from a careful study of the subject. The history of the Science is traced to his own time, with notices of Albinus, Douglas and others who had been his masters, as well as John Hunter, Hewson and Cruikshank, all of whom he had "bred to Anatomy."

Hunter took no mean view of his art. The second lecture opens with words from Fontenelle and from Cicero, to show how the order and beauty of the human frame reveal a divine intelligence.² Who can consider these proofs, he goes on, without longing for another life after this, when we may see and comprehend the whole plan of the Creator in forming the Universe and directing its operations? Then he passes to the use of Anatomy, and lays down doctrines which have become in our day the foundation stones of medical science. The study of the body in health must be the direct road to the knowledge of disease. By an intimate acquaintance with the economy of our bodies we may discover even the seeds of disease. Anatomy is the basis not only of Surgery but of Medicine. Who are they, he cries, who "would persuade students that a little of Anatomy is enough for a physician, and a little more too much for a surgeon? God help them: They have it not themselves, and are afraid that others should get it." His foresight told him that the most probable future improvements in physic "would arise from a more general, and more accurate examination of disease after death."

Going on to unfold the science of Anatomy by analytical and synthetical methods, he speaks with just pride of his own part. "I have collected such an anatomical apparatus

¹ The present author's copy of the *Lectures* contains at this point the quaint marginal note in pencil, dated, it will be observed, the year after John Hunter died; "Amen. 1794. Scripsit hoc the Devil."

² The like thought finds expression in the writings of a medical seer, whose wise and gentle spirit has hardly yet found fitting reverence amongst us, the late Dr. H. G. Sutton. Preface to *Lectures on Medical Pathology*, 1886.

as was never brought together in any age or country." He himself continued his lectures from a sense of public duty. It appears that more than twenty years before his death Dr. Hunter felt compelled by pressure of other work, and privation of natural rest, to give up his lectures, but his hearers pressed upon him so earnestly to continue them, that on deliberate reflection he thought it his duty to do so even at much loss to himself. "He conceived that a man may do infinitely more good to the public by teaching his art, than by practising it. The good effects of the latter must center in the advantage of the few individuals that may be under his care as patients; but the influence of a teacher extends itself to the whole nation, and descends to posterity."¹ These words breathe a noble spirit, and are worthy of the man who set duty before fame or riches or the claims of old age, and, when all these were his, rose from his last sick-bed to lecture to his waiting students. Such a man was not only a great Teacher, but a maker of Teachers for the generation to come,—the leaders of Anatomical Science both in England and America.²

Pursuing his theme, Hunter avows his own ignorance of many questions relating to animal operations; such as sensation, motion, respiration, digestion etc. "In my opinion all these subjects are much less understood than most people think them." The sects of Physiologists had sought to explain the functions on totally different principles. "Some have made the stomach a mill; some would have it to be a stewing-pot; and some a wort-trough: yet all the while, one would have thought that it must have been very evident, that the stomach was neither a mill, nor a stewing-pot, nor a wort-trough, nor anything but a stomach." Mechanical and chemical visions had taken the place of observations. His own practice in teaching physiology was to lay before his students the structure of parts and the known phenomena, as *data*; to state the prevailing opinions, with the chief arguments on either side; and then sometimes to give his own opinion with caution, "but more generally to leave your

¹ *Memorial* to the Earl of Bute, appended to *Introductory Lectures*, p. 120.

² As Physick, the famous pupil of John Hunter, became in 1805 the first Professor of Surgery proper in the University of Philadelphia, so at an earlier date, William Shippen, jun., inaugurated the Professorship of Anatomy and Surgery in that University in 1765. Shippen was an enthusiastic pupil of W. Hunter, and an admirable lecturer, forming himself after Hunter's model. See Dr. J. Carson's *History of the Medical Department of the University of Pennsylvania*. Philadelphia, 1869; also a letter from Dr. Shippen to W. Hunter in the *Introduction* to Dr. Teacher's *Catalogue*, p. xxv., footnote.

judgements free, that enquiry and improvement may go on." He never aimed at displaying his own knowledge, but laboured to show what the students ought to know. This excluded all declamation, parade, wrangling, subtlety. Time and labour were not spared. He lectured for two hours, from two to four o'clock every day, except Sunday, and the course lasted nearly four months. He closes with some good advice to students, about the taking of notes, and their plan of study and dissection, showing how earnest was his desire, by teaching openly all he knew, to train them to observe for themselves, and so to give them no mere cram knowledge, but that which should be impressed on their minds, by strong and clear conceptions of things that had been under the examination of their own senses. The man who so taught for nearly forty years may have been in truth "the best teacher of Anatomy that ever lived."¹

It has been already noted² that the first lecture of the course was of a more general character, and that it was open to the attendance of others besides the students. Horace Walpole relates an amusing instance of the latitude which the lecturer sometimes allowed himself. "Dr. Hunter," he writes, in October 1780, "had the impudence t'other day to pour out at his Anatomic lecture a more outrageous Smeltiad than Smelt himself, and imputed all our disgraces and ruin to the Opposition. Burke was present, and said he had heard of Political Arithmetic, but never before of Political Anatomy."³

Papers relating to Dr. Hunter's intended *Plan for establishing a Museum in London* for the Improvement of Anatomy, Surgery, and Physic, were printed with the *Introductory Lectures*. They include, a Memorial to Lord Bute; Plan of a Theatre, Museum etc., with an account of plots of land in Westminster, 1764; a memorandum given to the King by Mr. Hawkins; and Hunter's final letter to the Right Honourable George Grenville, ending the matter.

¹ See page 20. He describes the ingenious construction of his theatre at Windmill Street, in which the tiers of seats rose circularly around the demonstrating table, which was placed midway between the centre of the room and its circumference. *Introd. Lectures*, p. 111. It would seem from an allusion in his *Commentaries* (Supplement, p. 20) that he had an audience of about 100; this was in 1756. Hunter's pioneer work, in the first establishment of complete courses of Anatomical Lectures and dissections in England is acknowledged in the *Report from the Select Committee on Anatomy, 1828, to the House of Commons*.

² See p. 15.

³ Walpole's *Letters*, Ed. 1857, vii. 456. Walpole in his bantering way calls Hunter "that Scotch nightman," and says he might teach the youngest Prince his Erse Alphabet, but other references show that they were on terms of friendship.

This scheme, dear to the Anatomist's heart, has been already described (see page 11); its failure doubtless moved him to bequeath his own Museum away from London. The comparative neglect of this Museum, and of John Hunter's, for a generation or more after the death of the founders, shows how little their true value was known to the men of their own day. In later times both Museums have been highly prized.

William Hunter's papers upon medical and surgical topics contributed to the "Medical Observations and Inquiries" have been already noticed (see pages 21 to 23), and a complete list of them will be found at the end of this chapter. According to Waldeyer a number of these papers were translated into German and published at Leipzig soon after Hunter's death.¹

Before the Royal Society Hunter read seven papers. The first was in 1743 upon *Articulating Cartilages* (see page 8). Twenty-five years elapsed before his next communication, in 1768, entitled, *Observations on the bones, commonly supposed to be Elephant's bones, which have been found near the river Ohio in America*. He discusses the origin of these fossil bones with the keen interest of a geologist. A short paper in 1770 gave an *Account of some bones found in the rock of Gibraltar*, encrusted with calcareous matter; and in the same year he contributed an *Account of the Nyl-ghau, an Indian animal, not hitherto described*. This was illustrated by a good figure, and a systematic description of the bodily structure and functions of the animal.

In 1774 or 1775 he read an essay *On the Origin of the Venereal Disease*. In this paper he opposed the view of Astruc that Syphilis was brought into Europe by Columbus on his first expedition. But the testimony of Peter Martyr to the previous existence of the disease in Spain did not on fuller research satisfy his mind, and the paper was never published.

The last of Hunter's papers before the Royal Society was read in 1777, and gives *A short account of the late Dr. Maty's illness*. The disease appears to have been Stricture of the Colon.

A new method of the administration of mercury in Syphilis by rubbing calomel into the mucous membrane of

¹ Waldeyer, *Biographisches Lexikon der Aertzte*, 1886, Art. 'W. Hunter.' The papers were published by Kuhn in two volumes 8vo. in 1784-5 (Dr. Teacher).

the lips and mouth, had been devised by Mr. Peter Clare.¹ Dr. Hunter wrote in support of it, pointing out the absorption of substances, especially in a watery medium, from all mucous surfaces, and deeming that when gradually absorbed from the surface of the mouth the mercury would be less irritating to the digestive tract lower down than if swallowed. Clare speaks in his paper in the warmest terms of Hunter as his teacher.

Mention may here be made of two pamphlets, in which Hunter was attacked by a young medical *confrère*, Dr. William Rowley, a man of no high reputation, but of a very active pen, writing medical treatises for popular reading. "A letter to Dr. William Hunter, on the dangerous tendency of medical vanity, occasioned by the death of the late Lady Holland," appeared in 1774; and in the following year, "A second letter to Dr. William Hunter, being an answer to the liberal criticism in the *Monthly Review* for November, 1774, . . . and some account of the new-discovered methods of curing schirrus breasts without cutting, the cancer, ulcers of the uterus, the scrophula, ulcers of the legs, and restoring sight to the blind, by internal medicines only."

The burden of Rowley's complaint was that Hunter had prevented his attendance on Lady Holland, who had died of cancer under Hunter's care, and that the latter used hemlock² and opium, drugs which Rowley deemed worthless in such disorders. Other cases of cancer are related, some of which, according to Rowley's claim, were cured by his treatment. Perhaps the chief interest now attaches to a series of prescriptions which are quoted, with the joint signatures of Fothergill and Hunter, met in consultation over one of these cases. Few copies of Rowley's pamphlets now exist; perhaps not more than one copy of each in this country.³

¹ *An Essay on the cure of Abscesses by caustic . . . also a new method of curing the Lues Venerea, etc., with the remarks of Dr. Hunter, etc.* 2nd Edition. Lond., 1779. A third edition appeared next year.

² The hemlock, then called *Cicuta*, was at this time much used, Baron Störck having brought it into repute in 1760 as a cure for cancer and other chronic maladies. Fothergill, Ritty and others employed it largely; Cullen, however, in 1789 gives a very qualified account of its value, and its use afterwards became limited to its narcotic applications. From the 1898 British Pharmacopœia all the preparations of hemlock have gone, excepting the *Succus* and the *Tincture*.

³ A copy of the first is in the Library of the Royal Medical and Chirurgical Society, London; and one of the second is in the Bodleian Library, Oxford. Both are in the Library of the Surgeon-General at Washington, U.S.A., and my thanks are due to Dr. J. C. Merrill, the Librarian, for his courtesy in sending me a *précis* of the second letter. Inquiry has failed to reveal the existence of any other copies.

At the end of a fine copy¹ of Hunter's lectures, written down in manuscript by one of his pupils, is a lecture on *The Art of Embalming dead Bodies*, delivered January 13th, 1776. In this he enters in much detail into the subject, expounds his reasonings and observations upon it, and describes a process which he had devised and used in several cases. He relied much on the injection of turpentine compounded with other substances, and subsequently laying the embalmed body in Plaster of Paris. But the art was not to be exercised without great labour, so that he concludes, "considering the trouble you must have during all these Processes now laid down you ought not to undertake it under 100 guineas."

Amongst other works which Dr. Hunter had planned, but did not live to execute, were a systematic account of the *Lymphatic System*, and a treatise on *Calculi* and *Concretions*. The former was issued three years after his death by his partner and assistant, W. Cruikshank, who quotes freely from the discoveries and work of Hunter. For the latter he had made a rich collection of specimens, which are in the Hunterian Museum in Glasgow, together with a set of twenty-one finely wrought plates, containing 104 figures.

Some of his medical manuscripts are preserved in his Museum; amongst them are critical notes of lectures attended by him when a young man,—those of Ferrein in Paris in 1743-4, and those of S. Sharpe of Guy's Hospital in 1746. There is also a diary of his attendance upon Queen Charlotte commencing in 1762, and including three confinements.²

Manuscript notes of Hunter's Lectures, taken down by his pupils, are to be found in several medical libraries. In London, that of the Royal College of Surgeons is exceptionally rich in manuscript copies of these lectures, of which a critical catalogue has been made by Dr. Teacher: some are of great interest. Other excellent copies are in the Library of the Royal Medical and Chirurgical Society, and some in those of the Royal Colleges of Physicians, both in London and Edinburgh.

These notes on William Hunter's works may be fitly concluded by a passage from his last written introductory lecture (p. 92):—"Every man should be held as a criminal who locks up his talent, whatever it may be. Mine, from nature, was small; but by application and perseverance it has grown to be considerable."

Royal Coll. Surg. England. 42. c. 25.

² See p. 9, and Dr. J. H. Teacher's *Lecture*.

LIST OF WILLIAM HUNTER'S WORKS.

(A) PUBLISHED WORKS.

- I. Medical Commentaries. Part 1. Containing a plain and direct answer to Prof. Monro, jun., interspersed with Remarks on the Structure, Functions, and Diseases of several parts of the Human Body. London, 1762. (Four fine plates by Riemsdyk. 113 pp. 4to., including an Appendix).
- II. A Supplement to the First Part of the Medical Commentaries. London, 1764. (33 pp. 4to.)
- III. The Anatomy of the Human Gravid Uterus exhibited in figures. Birmingham, John Baskerville, 1774. (34 Plates, some of them 23 by 17 inches, the figures mostly of life size, with Preface and descriptions in Latin and English, in parallel columns: the Latin version of the Preface was corrected by Sir George Baker, Bart. Large Folio. Price at issue, six guineas.)
- IV. Reflections on dividing the Symphysis of the Ossa Pubis. (Published as a Supplement to the 2nd Edition of Dr. J. Vaughan's "Cases and Observations on the Hydrophobia, etc., London." Preface dated 1778).
- V. Two Introductory Lectures, delivered by Dr. William Hunter, to his last course of Anatomical Lectures, at his Theatre in Windmill Street: as they were left corrected for the Press by himself.

LIST OF WILLIAM HUNTER'S WORKS. 57

To which are added some Papers relating to Dr. Hunter's intended Plan for establishing a Museum in London, for the improvement of Anatomy, Surgery, and Physic. Printed by Order of the Trustees, London, 1784. (130 pp. 4to.)

- VI. An Anatomical Description of the Human Gravid Uterus, and its contents. London 1794. (88 pp. 4to. Edited by Baillie, who supplied the latter pages in completion of the work).

(See also, Remarks on the administration of mercury, appended to Mr. Clare's Essay, noticed on a former page.)

(B) PAPERS READ BEFORE THE ROYAL SOCIETY.

See *Philosophical Transactions*, volumes 42nd to 69th.

- I. On the Structure and Diseases of Articulating Cartilages. 1743
- II. Observations on the bones, commonly supposed to be Elephants' bones, which have been found near the river Ohio in America. 1768
- III. Account of some bones found in the rock of Gibraltar. 1770
- IV. An Account of the Nyl-ghau, an Indian animal, not hitherto described. 1770
- V. Account of the fusing of a Bell-wire by Lightning. (Not published¹). 1772
- VI. On the Origin of the Venereal Disease. (Not published). 1774 or 1775
- VII. A short account of the late Dr. Maty's illness. (In conjunction with Mr. H. Watson). 1777

Besides these papers Hunter communicated a paper by Hewson, at that time working in his dissecting room, on the Lymphatic System in Birds, in which Hunter's own discoveries are referred to. 1768

¹ The MS. of this short paper is in Hunter's Museum (Teacher).

Also Dr. Fordyce and Mr. Alchorne reported "An Examination of various Ores in the Museum of Dr. William Hunter." 1779

(C) PAPERS READ BEFORE THE "MEDICAL SOCIETY OF PHYSICIANS,"

and published in its *Medical Observations and Inquiries*. (Six volumes, 1757 to 1784.)

- I. The History of an Aneurysm of the Aorta, with some remarks on Aneurysms in general. (2 large plates.) (Vol. i., p. 323.) 1757(?)
- II. The History of an Emphysema, followed by Remarks on the Cellular membrane and some of its diseases. (A long and very instructive paper.) (Vol. ii., p. 17.) 1757
- III. Account of a diseased Tibia as a Supplement to the last article, (*i.e.*, to Dr. Mackenzie's account of separation of part of the thigh bone.) (2 plates.) (Vol. ii., p. 303.) 1761
- IV. Remarks on the Symphysis of the Ossa Pubis. (Vol. ii., p. 333.) 1761
- V. Further observations upon a particular species of Aneurysm. (Arterio-venous Aneurysm was now first described.) (Vol. ii., p. 390.) 1761
- VI. Introduction to Mr. Teckel's paper on the Insensibility of Tendons. (Vol. iv., p. 343.) 1770
- VII. Postscript to Mr. Armiger's letter on the Varicose Aneurysm. (Vol. iv., p. 385.) 1770(?)
- VIII. Appendix to Mr. John Lynn's "History of a fatal Inversion (Retroversion) of the (gravid) Uterus." (Vol. iv., p. 400.) 1770(?)
- IX. Summary Remarks on the Retroverted Uterus. (Vol. v., p. 388.) 1775(?)

- X. On the Uncertainty of the Signs of Murder, in the Case of Bastard Children. (Long and admirably reasoned; this paper was published in 1818 in a separate form.) (Vol. vi., p. 266.) 1783
- XI. Three cases of Mal-conformation in the Heart. (With remarks containing some of the essentials of the doctrine of evolution.) (Vol. vi., p. 291.) 1783
- XII. The successful Cure of a severe Disorder of the Stomach by Milk taken in small Quantities at once. (With a letter from Mr. Wm. Hey, as an appendix, relating four additional cases.) (Vol. vi., p. 310.) 1783

(The three latter papers, upon which alone the reputation of a medical philosopher and clinician might well be established, were not read before the Society until after the author's death. Various other papers by surgeons and country physicians were communicated to the Society by W. Hunter. Mention may here also be made of a letter from Dr. A. Hunter, of York, to Dr. W. Hunter, giving an account of the cure of a case of severe hydrocephalus by repeated vapour-baths; see *Med. Comment.* (Duncan), viii., p. 106. Mr. R. Bayley, a surgeon, published at New York, about 1781, a series of cases of Angina Trachealis, in a letter to W. Hunter. Lastly, Dr. Anthony Fothergill read before the Medical Society of London in 1786, an account of a case of enlarged Prostate Gland, and quoted a short but excellent letter from Dr. Hunter on the subject, written about 1777; see *Memoirs of the Med. Soc. Lond.*, vol. i., p. 204.)

(D) OTHER CONTRIBUTIONS AND MANUSCRIPT WORKS.

Letters and Controversial Papers in the *Critical Review*.

Lectures on Anatomy, Physiology, Surgery, Midwifery, the Art of Embalming, etc., in the manuscript notes of students, preserved in various libraries.

BIOGRAPHY.

Within a few months of Dr. Hunter's death in 1783, an Account of his life was ably and judiciously drawn up by Dr. Samuel Foart Simmons,¹ from full information supplied by Matthew Baillie, John Hunter and other friends. It was read before the Medical Society of Physicians, of which Hunter was, at the time of his death, President, and forms a small book of some seventy pages. All later notices of William Hunter have been based chiefly upon this work.² His niece Agnes Baillie left a short record of the family *Pedigree* and traditions concerning her famous uncles, which is preserved among the Hunter-Baillie manuscripts, together with *Reminiscences* of William Hunter, compiled by Dr. Matthew Baillie's only daughter, Mrs. Milligan.

There are good articles under Hunter's name in many of the Encyclopædias, in the *National Dictionary of Biography*, Dr. Munk's *Roll of the Royal College of Physicians*, Dr. Pettigrew's *Medical Portrait Gallery*, and the *Lives of British Physicians* (by Dr. Macmichael); see also *The Gold-headed Cane* by the same author, and Bettany's *Eminent Doctors*. Sir Benjamin C. Brodie delivered the *Hunterian Oration* on William Hunter in 1837, and Dr. Matthews Duncan's *Harveian Address* in 1876 (see *Edinburgh Medical Journal*, June, 1876), gives a most appreciative account of his medical character. Dr. Duncan's *Researches in Obstetrics*, 1868, are also full of allusion to W. Hunter. Accounts of his life and work are likewise to be found in some of the medical periodicals in the course

¹ Dr. Simmons (1750—1813) was physician to St. Luke's Hospital and F.R.S. He edited for many years the *London Medical Journal*, etc.

² The account of his life in Dr. Andrew Duncan's *Medical Commentaries*, Vol. viii., p. 426, published in Edinburgh, 1783, seems to have been founded on Simmons.

of the nineteenth century. Thus Dr. Robert Lee chose this theme for a discourse to the students of St. George's Hospital in 1844.¹ An excellent pictorial series of articles, with a critical estimate of Hunter's position as a leader in British Medicine, was contributed to the *Medical Times and Gazette* in 1859,² and a like series by J. Burgess appeared in the *Medical Circular* next year.³ Sketches of his life, each illustrated with a portrait, were contained in the *Asclepiad* in 1888, and in the *Practitioner* in 1899. The late Dr. Mather's life of W. Hunter, in *Two Great Scotsmen*, is almost entirely a compilation from Duncan and Simmons, accompanied with two good portraits. Dr. John H. Teacher has prefaced his *Catalogue of the Anatomical and Pathological Preparations* in William Hunter's Museum, published in 1900, by an elegant portrait and *Introduction*, containing a sympathetic account of Hunter's life, with a critical examination of his opinions and discoveries. A lecture by the same author, contributed to the *Glasgow Medical Journal* (July, 1899), includes some further material.

A valuable series of William Hunter's letters is printed in Thomson's *Life of Cullen*, and both in that work and in Glaister's *Dr. William Smellie and his Contemporaries*, there is much information concerning Hunter. Several of Baillie's works contain important allusions to his uncle; and the memoirs of John Hunter by Everard Home, by Foot, by Adams, by Ottley, and especially the most recent, by Stephen Paget (*Masters of Medicine* Series), should be consulted. Other authorities have been cited in the text.⁴

The author would here express his acknowledgments to those who have kindly rendered him assistance in preparing this work. And firstly to the Council of the Royal College of Surgeons, for permission to use the Hunter-Baillie manuscripts, and the author would gladly have coupled with this the name of Mr. J. B. Bailey, B.A., the late Librarian, whose interest in the Hunters was well known. Miss Hunter-Baillie's kindness in giving free access to documents remaining in her own hands deserves warm recognition: well were it if all the family records of the great found

¹ *London Medical Gazette*, new series, vol. i., p. 1.

² Vol. xviii., pp. 391, 433, 502.

³ Vol. xvi., pp. 176, etc.

⁴ I have not seen the article, *Guglielmo Hunter e la sua scuola* in the *Gazz. Med. Ital. Lomb.*, Milano, 1849.

such worthy and public-spirited custodians. To the learned Curator of the Hunterian Museum, Glasgow, Professor John Young, M.D., are due hearty thanks, as well as to the Under Keepers, Mr. John Young, LL.D. and Dr. John H. Teacher, for many references. Amongst others who have kindly afforded advice or information should be mentioned Mrs. W. Hunter, late of Rothesay, the late Sir James Paget and the late Dr. William Munk.



William Hunter.

PORTRAITS OF WILLIAM HUNTER.

William Hunter's portraits are numerous. The principal are by Reynolds, Chamberlen, and Pine. Those by Pine, which are unfortunately the most widely known, are unlike the rest, and exhibit a face of regular features, almost free from lines, and showing little of special character or intelligence. They may belong to an earlier period of life than the others, but the present writer, who has examined nearly all the known examples of William Hunter's portraits in Great Britain, thinks that Pine must have failed to present Hunter's usual aspect. This, as shown by the other portraits and especially by the print preferred by his biographer Simmons, displays a countenance of delicate features, lit up with intelligence and slightly smiling; —the nose aquiline, with deep naso-labial furrows, and a prominent pointed chin. Native shrewdness, a love of precision, and a polished and engaging address, are suggested by the physiognomy. A cast of his head, taken after death, and now in the Museum, exhibits the same strongly marked features, together with a forehead sloping back to a rounded head of full average size. It may be added that Hunter was a man of slender build, and rather below the middle stature, but there is no reason to think that he was so little as his brother John, who was only five feet two inches in height.

The following is a list of the portraits so far as they are known :—

(1.) Sir Joshua Reynolds painted William, as he painted John Hunter, and although the result bears little comparison with the masterpiece which adorns the Council Room of the Royal College of Surgeons of England, it is a very fine portrait. Two examples are known, one doubtless

the replica of the other, and both are in Glasgow ; displayed in the Hunterian Museum, and in the Hall of the Faculty of Physicians and Surgeons, in that city.¹ Hunter is standing at a table, upon which are specimens of the Retroverted Gravid Uterus.² A print taken from Freeman's engraving of this portrait forms the frontispiece of the present work.

(2.) A large portrait by Mason Chamberlen, R.A., hangs in the Diploma Gallery of the Royal Academy, London. The figure is seated and full-faced.³ Collyer's medallion print, after this portrait or a similar one, was preferred by Dr. Simmons (1783), as the best of Hunter's portraits ; "it exhibits," he says, "an accurate and striking resemblance of his features." A reproduction will be found at page 63. Hunter is holding up a small model of a skeleton to demonstrate the muscles.

(3.) The best known of Hunter's portraits hangs in the entry-hall of the Royal College of Surgeons of England. It is the work of Pine, and represents the doctor seated at a table, as if in thought, leaning his head on his left hand, the elbow resting on a large book spread open. He wears an ample wig, and the aspect is somewhat feminine. This forms one of a series of portraits of the Hunter family which was presented to the College, with the Hunter-Baillie Manuscripts, by the executors of the late W. Hunter-Baillie in 1895.⁴

(4.) Another portrait by Pine is in the Hunterian Museum, Glasgow. It differs slightly in posture from the last ; Hunter holds a paper before him at the table, and looks away in thought, the face is less feminine, and the coat is highly embroidered.⁵

(5.) By J. Zoffani, R.A., in the Library of the Royal College of Physicians, London, presented by Mr. Bransby

¹ The latter portrait is the property of Mrs. William Hunter, late of Rothesay (see footnote, page 3), and is lent by her to the Faculty.

² See page 35, and Professor Young's *Catalogue of Pictures, Sculptures, and other works of Art in the University of Glasgow*. The portrait has been reproduced by Annan for Dr. Mather's *Two Great Scotsmen*.

³ The central part of this portrait was well engraved by Haughton in Cadell's series. There is also a French print.

⁴ The portrait was engraved by Thomson for Pettigrew's *Medical Portrait Gallery*, and a print executed by Annan for Dr. Mather's work ; other prints are in the *Aesclepiad*, 1888, and the *Practitioner*, 1899.

⁵ A good print by Annan of this portrait forms the frontispiece to Dr. Teacher's *Catalogue* (see p. 40.)

B. Cooper. Hunter stands lecturing from a paper held up before him, the head turned to face the spectator.

(6.) By the same, in the Council Room of the Royal College of Surgeons. Hunter is demonstrating at a table, upon which are preparations and an inkstand.

(7.) A picture, also by Zoffani, but unfinished in part, hangs on the staircase of the College of Physicians. It formerly belonged to Dr. Matthew Baillie. Hunter is shown lecturing before the Royal Academy.¹

(8.) Miss Hunter-Baillie possesses a portrait, the artist unknown, but evidently drawn when Hunter was old. It is a full-face figure with white frill and wide collar to the coat.

In the same safe keeping are three fine miniatures. Two are identical, and show the doctor apparently in court dress, a blue coat with gold stripes. The third is an exquisite portrait of Hunter in his old age, attired in a pale grey coat, and holding a skull in his hand. The face is drawn with delicacy and softness. Another fine miniature, known to be the work of Cosway, is in the possession of Dr. Henry Gervis. There is also a medallion in the Hunterian Museum, Glasgow, which is reproduced opposite page 1. A portrait medal has been struck in Hunter's honour, and is figured by Dr. Mather.²

¹ See page 9, and footnote. There is, I believe, a photograph of this picture at the South Kensington Museum.

² There are also a good many prints existing. One of the best was engraved by Thornthwaite in 1780; it represents Hunter lecturing, his elbows on the table, and a pair of spectacles in one hand; a *femur* lies beside him. There are too, a small vignette by W. Read; medallion prints, by Dawe, 1780; Hedges, 1781; and Parry, 1784; others issued by the *European Magazine*, "from a model in the possession of Mr. Pingo of the Tower;" the *Universal Magazine* (Camberledge), both in 1783; besides a portrait published in the same year by J. Walker, and one in 1786 by Dieterich at Göttingen. A large medallion portrait adorned the certificates granted at the Great Windmill Street School of Anatomy. There is also a very singular black and white silhouette (*8vo.*) of Hunter writing by lamplight in his study, a little man with a big head; a few specimens and books are around him, else the room is bare (see page 48). Most of these engraved portraits are to be seen in the large collections belonging to the Royal College of Surgeons, and the Royal Medical and Chirurgical Society in London, as well as in the Van Kaathoven collection of medical portraits, now in the Surgeon General's Library at Washington, U.S.A.

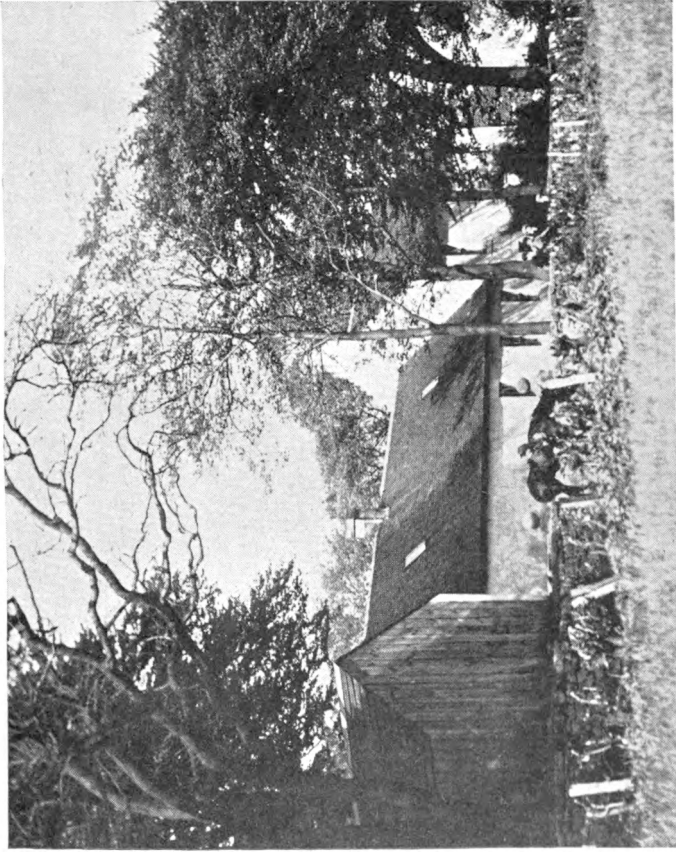
LONG CALDERWOOD.

BIRTHPLACE OF THE HUNTERS.

The cottage farmhouse purchased by John Hunter, senior, at the beginning of the eighteenth century, and then styled "Calderfield," is yet standing and little changed. It is in the parish of East Kilbride, Lanarkshire, and about seven miles south-east of Glasgow. Here dwelt the said John Hunter and his wife Agnes Paul, and here were born their large family, of whom so many died young of consumption, but out of whom survived William Hunter, Dorothea Baillie, and John Hunter. [See page 2]. The farm is chiefly pasture, and was cut short in its borders by the first John Hunter, who had to sell field after field to supply the needs of his many children. William Hunter, though he visited the old home but once after he went south, restored the bounds of the family estate, buying up the fields around as they came into the market. He left the farm to Matthew Baillie, who honourably gave it up to John Hunter, and after the death without issue of the latter's son, Captain John Banks Hunter, and of his sister, Lady (Agnes) Campbell, it came into the possession of the son of Dr. Baillie, William Hunter-Baillie, as next of kin. The present proprietress, Miss Hunter-Baillie, daughter of the last named, has kindly given the writer some impressions of a visit to her property.

The farm-house is a simple building of two stories, surrounded by trees; the front garden is entered between low pointed stone piers, and a short straight path leads to the small porch before the door. The upstairs room on the left, over the kitchen, is pointed out as that in which the Hunters were born. A large arched bed-recess nearly occupies one side of the room, and still contains an old wooden bedstead; by its side is a cupboard with a window. Dr. Mather's memoir touches on the local features,—the upland pastures and the quiet Scottish scenery, amidst which two great men received the training of their boyhood.¹

¹ The accompanying view of Long Calderwood is taken from a photograph kindly lent by Dr. J. H. Teacher.



LONG CALDERWOOD, *Leicestershire.*
Birthplace of William and John Hunter.

DR. JOHN FOTHERGILL.¹

Two letters from Dr. Fothergill to Dr. Hunter are preserved in the Hunter-Baillie Manuscripts. The first is as follows :

“ Dr. Doctor,

“I am greatly obliged by thy kind discreet and effectual[ly] application to Lord H. I am not less so to that worthy nobleman, for the part he takes in this affair. It may perhaps never be in my power to make proper acknowledgements to either of you, for even the inclination of serving me.

“I have directed the proper inquiries to be made, respecting Dr. Saunders's connections, and will send them, the moment they come to hand.

“Be kind enough to favour me with a list of the Governors ; and if there are any amongst them to whom I can apply, I will do it with pleasure ; it is my duty and I am sure it is my wish to deserve Dr. Hunter's friendship.

“It may perhaps be proper to acquaint Dr. de mainbray, that the coralls are just as they came out of the sea. They may easily be cleaned, by putting them in warm water just acidulated with spirit of sea salt, and then again washing them in fresh warm water. When dry they may be fixed on small suitable pedestals ; and either put up in a glass case to secure them from dust ; or placed upon and down the musæum coverd with glass bells. Some are reserved for Dr. Hunter's musæum, when it is ready to receive them. At present they may lye where they are, as safely, as amidst a thousand Hobgoblins, nightly searching for their scatter'd remains.

¹ See page 25.

“Pray Dr Doctor would it be practicable for Lord H. to dismiss me with any decency from the stage. I am brought there to say nothing but what is proper, but to say it and appear in a ridiculous manner. Is not this as great an insult upon me, and even upon any character that is opposite to vice and folly, as can be offerd! Buffoonery should only be let loose to prey on these; not to render their opposites in any degree contemptible. If thro’ weakness or indiscretion I slide into mistakes, I bear most patiently the just chastisement, whether publick or private. But in this instance I am doubly hurt. I am held up to the whole town to laugh at, and the people with whom I am connected likewise. Nor does the faculty in general derive much benefit from the contempt thrown on an individual, tho’ individuals of the faculty may rejoice at it.

“I am Dr. Hunter’s, obliged, respectfull

“J. FOTHERGILL.

“11th Inst.”

The date is without month or year. Dr. Fothergill died in December, 1780. Hunter’s connection with the court began in 1762. “Lord H.,” who was evidently Lord Chamberlain, can only be the Earl of Hertford, who filled that office from 1766 to 1782. Hunter, as the Queen’s physician, probably met him often; and a portrait of Lady Hertford, who died a year before Hunter, is in the latter’s Museum, together with a letter from Queen Charlotte asking for a copy of it.

The purpose of Fothergill’s application to the Lord Chamberlain is not stated. It was most likely of a benevolent nature. Fothergill was no man of courts, and sought little for himself. When he approached the sovereign or those in authority it was to plead the cause of peace, of true religion, or of the sufferings of the oppressed. Thus in the course of the year 1769 he was engaged with other Friends in drawing up a letter of advice to members in America, in addressing Governor Eden on his departure for Maryland, and in using his influence to defend three Yorkshire Friends who were excommunicated by the Archdeacon’s Court at Beverley for non-payment of “Clerk’s wages” of eight pence per year to their parish clerk.¹

¹ MS. *Minutes of the Meeting for Sufferings, Society of Friends, London, 1769.*

The Dr. Saunders mentioned is almost certainly the well-known Dr. William Saunders, F.R.S. (1743-1817), who wrote on Mineral Waters and on various means of treatment. He was a Scotsman and a friend of Cullen, and settled in London about 1765, when he would be very likely to bring a recommendation to William Hunter. He was elected Physician to Guy's Hospital 6th May, 1770. If this letter refers to his application for that post it would probably be written in 1768 or 1769.

Dr. Demainbray (1710-1782), to whom Fothergill had been sending corals, was an Electrician and Astronomer of repute : he discovered the influence of electricity in stimulating the growth of plants. He was tutor to the Prince of Wales until he came to the throne in 1760, and after that date to the young Queen, so that Hunter would naturally meet him. In 1768 he was made Astronomer at Kew : it is more likely he would be forming a "Museum" after he had settled at Kew than before, so that the date 1769 would fit well.

Dr Hunter's own Museum is spoken of as not yet ready to receive specimens. In 1769 he was building his house in Great Windmill Street, and fitting up one magnificent room to contain his collections.

The introduction of the Society of Friends, and of Dr. Fothergill's person in particular, into a play upon the stage seems, from the last paragraph in the letter, to have justly moved the doctor's indignation, which he expresses in his habitual modest and restrained manner of speech. The severe dress, sedate manner, and strict 'tutoyer' of the Quaker, popular physician as he was, must have been a frequent butt for humour in his day. Did Hunter succeed, for we may be sure he tried, in inducing the Lord Chamberlain to put an end to this stage ribaldry ?¹

The second letter is short, and runs thus :

"Lea Hall. 23rd inst.

"Dear Doctor,

"I am yet alive, tho' not quite well. I found myself much reduced, when I got to this place, but have been very quiet, and begin to recover some little strength and spirits. Be kind enough to deliver the inclosed, & introduce me as favourably as possible. It is enough to have

¹ Dibdin's play, *The Quaker*, was brought out about 1778. There may have been a precursor, containing some allusion to Dr. Fothergill, which is not apparent in *The Quaker*, though it might easily be supplied in the acting.

one Anatomist inspecting one's pericranium, but to be under the hands of two such, especially, if the *aestus* [?] of dissecting bites, is terrible to think of. We have had cool, and not unseasonable weather. I have been followed by many letters, and have wrote much. But I have been free from much company. This evening half my holidays is past. But I will forget this, and think only of returning to my Friends in health, & a disposition to rejoice in their happiness.

“Farewel my Friend, & believe me to be very cordially thy admirer.
“J. FOTHERGILL.”

The letter is dated from Lea Hall, about four miles from Crewe, in Cheshire, a country house to which Fothergill regularly retired to spend the autumn months in the last sixteen years of his life. His health failed from the continuous pressure of work in London during his later years. This letter may well have been written in 1772, as its expressions accord with a letter of that year quoted by Lettson in his *Account* of Fothergill.

The enclosure to be delivered by Hunter to some one, and favourably introduced, would seem to have been in response to a request which came through the latter. Perhaps it was John Hunter or Cruikshank who desired the measurements of Fothergill's head for some investigation akin to what was afterwards known as phrenology.¹ The picture is a pleasing one of the old physician, in his country retreat, followed even there by many letters, and though his strength is nearly spent, placid in spirit and playful in humour, thinking ever of others and of their happiness.

Fothergill's medical writings deal with clinical topics. His classical treatise on Putrid Sore-throat passed through five editions between 1748 and 1769.² Another paper “of the management proper at the cessation of the Menses” was highly thought of, and has been translated into French; it was republished by the Sydenham Society in 1849.³

¹ Gall, the founder of phrenology, was born in 1758.

² A copy of the first two editions bound together, with marginal pencil notes in Fothergill's handwriting, and an autograph letter from Dr. Cantwell, has been handed down through Fothergill's niece Alice Chorley, Thomas Thompson, Thomas Hancock, M.D., Thomas Bevan, M.D., and T. B. Peacock, M.D., by the last of whom it was presented to the Royal Medical and Chirurgical Society in London.

³ As Fothergill's dispute with Dr. Leeds, who claimed £500 from him, is alluded to in the *National Dictionary of Biography*, and in *The Georgian Era* (vol. ii., p. 327), where he is severely blamed, it may be mentioned here that an examination of Dr. Leeds' *Appeal* (1778) is sufficient, without hearing Fothergill's side, to convince the reader of the justice of the latter's position.

The Fothergill family can be traced back for three or four centuries in the secluded vales of Westmoreland. John Fothergill's branch moved thence into Wensleydale about 1600. From Sedbergh came Dr. Anthony Fothergill, who died in 1813, aged 78 years : an able physician, and much befriended by his elder namesake, whom indeed, on his death in 1780, he tried to follow in practice in London ; but failing there he went to Bath, where he acquired large business. Anthony Fothergill was an active Fellow of the Medical Society of London, and made many contributions to its transactions : he gave the sum of £500 to its funds.

John Milner Fothergill, M.D. (1841-1888), came also from Westmoreland. He won the Fothergillian medal in 1878 by his essay on the "Antagonistic Action of Therapeutic Agents."

John Fothergill's name is preserved in connection with the Medical Society of London, to which, however, he never belonged, his support having been given to the older "Medical Society of Physicians,"¹ Lettsom founded and endowed in 1784 a gold medal in commemoration of Dr. John Fothergill, to be given annually by the Medical Society of London. This Fothergillian medal is now awarded triennially to the author of the best work on some branch of Practical Medicine or Practical Surgery. "*Fothergillius, Medicus, Amicus, Homo*" was to have been the legend around the bust of Fothergill upon the obverse of the medal, but it was altered to, "*Medicus Egregius, Amicis Carus, Omnium Amicus.*"²

Fothergill was, I believe, never painted from the life, but there are portraits in the possession of the London College of Physicians (by Hogarth), and of the Medical Society. A very beautiful Wedgwood bust in black ware is also in existence, as well as Cameo portraits and numerous engravings.

¹ See Mr. Edmund Owen's *Oration, Trans. Med. Soc. Lond.*, xx., 309. See also *Antea*, p. 21.

² The following lines on Fothergill were not improbably composed by Lettsom :—

*Cui suas artes, sua dona laetus
Et herbam et Venae salientis ictum
Scire concessit, ceterem et medendi
Delius usum.*

See Fothergill's *Works*, by Lettsom, 1783, back of title page; also inscribed under Bartolozzi's portrait of F. in Nichols' *Literary Anecdotes*.

ADDENDA.

DOROTHEA BAILLIE.

(See page 3.)

Dorothea Baillie, sister to W. and J. Hunter, lived to the age of 86 years : her two daughters, Agnes to 99 years and 7 months, and Joanna to 88 years and 5 months respectively. See a memorial tablet in Hampstead Parish Church.

MEMBERSHIP OF THE CORPORATION OF SURGEONS.

(See page 7).

W. Hunter's membership of the Corporation of Surgeons was annulled at his request in 1756, but it does not appear that he paid the appointed fee of 40 guineas for the disfranchisement, as in 1758 he paid a fine of £20, the penalty incurred for joining the College of Physicians without the consent of the Court of Assistants.¹

FUNERAL OF W. HUNTER.

(See page 15).

“On Saturday, at eight o'clock in the evening, his remains were interred in the vault under St. James' Church [Piccadilly], attended by his nephew (Mr. Baillie) as chief mourner, Dr. Pitcairne, Sir Geo. Baker, Dr. Fordyce, Dr. Heberden, Mr. Cruikshank, Mr. Coombe, Mr. Birmice (his draughtsman), and a few other friends.”²

“Cold is that hand, which Nature's paths display'd ;
Dead are those lips on which instruction hung ;
Fix'd are those eyes, enlivening all he said ;
For ever mute is that persuasive tongue !”³

¹ South, *Memorials of the Craft of Surgery in England*, p. 283.

² *Gentleman's Magasin*, 1788, p. 366.

³ Lines on W. Hunter, quoted by Wadd, *Nugae Chirurgicar*, 1824, p. 230.

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William Hunter (1718–1783) and his contributions to obstetrics

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The bicentenary of the death of William Hunter on 30th March 1783 provides the opportunity to examine his contributions to obstetrics, and to suggest that these were not solely the result of his own endeavours, but were largely dependent on the collaboration of his associates.

In his Hunterian Oration for 1968 Gunn (1967–1968) suggested that the establishment of lying-in hospitals, the influence of William Smellie on the teaching of midwives, both male and female, and the lectures of William Hunter had a profound effect on maternal and infant mortality in London during the second half of the 18th century, and their writings continued to contribute significantly to the teaching of obstetrics for the next 200 years. Writing on William Hunter's obstetrical career, Peachey (1930) detailed his introduction to midwifery while assistant to William Cullen (1710–1790) at Hamilton between 1737 and 1739, under William Smellie (1697–1763) while briefly residing with him in London from November 1740 to August or September 1741, and his attendance at the lectures of Dr Frank Nicholls. Hunter then joined the household of James Douglas, and had access to his remarkable collections of books, specimens and unpublished manuscripts; he also became associated with the Middlesex and Brownlow Street Lying-in Hospitals. He had become a member of the Corporation of Surgeons in 1747 but finding that his interests lay specifically in anatomy and the practice of man-midwifery he abandoned that speciality in 1755. He had already been elected MD Glasgow in 1750 and his admission as Licentiate of the Royal College of Physicians in September, 1756, marked his new allegiance.

His future career was not to be among the lower classes, where Smellie conducted his practice, but among the aristocracy. This was an entirely different scene. It was more lucrative, but it generally entailed the attendance of conventional midwives at the actual birth, men-midwives only being called into the birthchamber in cases of emergency. Even when he attended the first three accouchements of Queen Charlotte, Hunter recorded in his obstetric diary covering the period, that he examined the child and the placenta, then the bed linen; but it was almost two hours after the birth that he was admitted to the bed chamber where he wrote a prescription for a harmless carminative (Stark 1908). At the end of his paper, Peachey (1930) suggested that Hunter anticipated the observations of Oliver Wendell Holmes and Ignaz Philipp Semmelweiss by almost 100 years when he separated his dissecting room from his residence, and that while in attendance upon Queen Charlotte during 1761 and 1762 he even abandoned his lectures.

Several manuscript notes of William Hunter's lectures on obstetrics exist, written by his students or copied by an amanuensis. Schumann (1940–1941) studied one of these notebooks, and was very critical of its content, expressing surprise that the lectures attracted so many

students. One must appreciate that they were mainly theoretical, and were not backed up by visits to patients, as were the lectures of William Smellie who attended the poor, taking students with him, and paying the women from small sums levied from the students. Hunter exhibited the plates from his forthcoming *Anatomy of the Human Gravid Uterus*, which was an anatomical and embryological atlas rather than a guide to practical obstetrics. William Smellie's *A Sett [sic] of Anatomical Tables*, 1754, on the other hand, included drawings of the application of forceps, and was reinforced by lectures and case histories published in 1752 and 1754, a third volume being issued posthumously in 1764.

William Hunter's engraved plates for the *Gravid Uterus* were circulated many years before they were published in the book, and were seen by many distinguished persons. For example, in a manuscript of his lectures taken down in shorthand in 1772, and now in the Royal College of Obstetricians and Gynaecologists, we note a reference to Albrecht von Haller (1708-1777) [p. 34]:

Baron Haller did me the honour of writing to me to see my plates, he was vastly desirous of seeing them before he published his last volumes he made some Queries, I thought in all my dissections, I had never seen any & I am clear there is none. I sent my letter wth abt. 16 or 18 of the Plates for him to peruse them over, he very civilly sent me a letter of thanks for all my observations - As to the Urachus (says he) you must give me leave to dissent from you, for I have seen it and have made Quicksilver pass from the bladder into it. - In miscarriages I have seen what he takes for the Urachus, but it is what I cannot assent to, there is nothing like it in the human secundines; what there is in the early state, I won't take upon me to say, for they are vastly different then to what they are afterwards,

William Hogarth (1697-1762) saw one of the specimens while it was being dissected, and apparently made a drawing of it [p. 161]:

You cannot conceive any thing lying longer than a Fetus in Utero, this puts me in mind of Mr. Hogarth he came to me when I had a Gravid Ut. to open I was amazingly pleased, 'good God!' says he, how snug and compleat it lies - I defy all our painters in St. Martins lane to put a Ch.^d into such a situation - he had a good eye, took it off, and in drawing afterwards very well expressed it: -



William Hunter MD FRS. From an original picture by Mason Chamberlin RA in the Council Room of the Royal Academy. Drawn by M. Houghton, engraved by B. Smith.

Although William Hunter had worked with Smellie, and later attended several difficult cases with him, Hunter objected to the indiscriminate use of forceps. He strongly recommended leaving nature to take its course, which was being advocated by Percival Willoughby (1596–1685) 100 years previously. However, the introduction of forceps and their use, promoted by numerous obstetricians, led to their being misapplied by the inexperienced, with disastrous results. William Hunter's 1772 lectures leave no doubt regarding his opinions on the subject:

In ye other method of turning Children, using the Forceps, & bruising women & the Children, they will often be exceedingly ill. It is greatly inconceivable what nature will do in these cases, and ye great errors wch. are generally committed proceed from rashness and forwardness—we are greatly improved in Midwifry for these 20 years past—What is ye greatest improvement? Why (I am proud to have a share in it,) it is bringing back to nature, every body who has lived in this Town a number of years past, tells me they are very sensible of the difference in having fewer Children born dead. And what is the reason? It is only within these 20 years that women have had Men Midwives almost universally, formerly they were only retained in the house and called for in different [difficult?] cases. Thus it was with the Chamberlains, My Master, [William Smellie] &

Others—What was ye consequence? All cases were difficult & so bad before they were called in, that every body was much frightened—On these accounts they did not know what nature could do, & therefore were obliged immediately to have recourse to Art, and whenever they had opened a Chds. head to deliver a woman it was tht. they had done great feats, but if they understood Midwifry, and what great things nature is capable of effecting, they would seldom have had occasion to proceed in that manner . . . I imagine that 19 times in 20 the Labour thus conducted will end well; on some occasions it may be right to use the Forceps, but take all ye Cases together wherein they have been used, my opinion is that 19 times out of 20 they would have been better let alone. For my own practice I have not taken a pair of forceps with me these 10 years, nor anything of that kind, and if they cannot give me a pair of Scissars to cut the Navel String, I must bite it thro' with my teeth—such a thing as once in a twelve month, or now & then in a year or two I have a Case where I think it right to use the Forceps, but before that I see what nature will do; sometimes when the Child's head is large it comes down slowly, the woman is rendered weak & exhausted, and the pains are become trifling, so that in such a case, where nature is ineffectual, the Forceps may be applied—but I use them with great caution and the utmost delicacy in the world. [p. 147–150.]

Hunter then continues to describe other circumstances in which he would use forceps, and ends Lecture 5 with a final word on their use [p. 161]:

*Forceps cases I have already spoken of—
Never wish, Gentlemen, to gain reputation by doing your
business quick—Take time particularly in applying the Forceps
and when I pain is off, unlock them, that you may not
squeeze the Childs head, and when I head is delivered,
I often take off I. Forceps to have my hand at liberty to
support the woman— in a few Cases I think I. Forceps an
useful instrument— to a poor woman that is quite
exhausted, but w. to God, they had never been contrived,
I am convinced the Forceps have killed 3 Women, I may
say ten to one it has saved, however we will never use
them but when they are necessary.*

End of Lecture 5th.

Hunter concluded his course on the gravid uterus by showing the plates for his book on the subject, which was to be published two years later, and by two observations on his future career [p. 199]:

Now Gentlemen, I have finished the Course and wish you all success in the world; It has given me a great deal of pleasure that I to a number of Gentlemen, who have made what was going about from I beginning their study, whatever you may think of it, I am always studying your good, and it is this alone wth induces me to give Lectures. I have now finished twenty years of Lectures, however, as I presume I am still approved I propose 20 years more, to begin next October. After this is over I propose to settle in I world and take to me a Wife. —

FINIS. —

Hunter's reference to a further 20 years lecturing was typical of his attitude to life. He planned as if his career would last indefinitely, and much of his work was left unfinished. Twenty years later he would have been 74, but the suggestion that he might then marry and settle down was probably intended to be facetious. William Hunter had shown no liking for the marital state, and was not invited to the wedding of his brother John. William may have retained memories of his residence in the Douglas household, when he became attached to Martha Jane Douglas, but unfortunately she died in 1743.

William Hunter's *The Anatomy of the Human Gravid Uterus* was finally published in 1774, 24 years after the first drawings for it had been made. The bicentenary of its publication was celebrated in this Journal by Thornton & Want (1974) in which full details of its preparation were provided, with information on the artists, engravers and the printer involved. The book included several new observations, including the twofold circulation in the placenta, and, like several other discoveries claimed by William Hunter, it led to bitter controversies with other claimants. The most serious was with his brother John over the utero-placental circulation, which led to a quarrel lasting until the death of William. It was not until 1780 that the matter

finally came to a head when John Hunter presented a paper to the Royal Society entitled 'On the structure of the placenta', to which William retaliated in a letter to the Secretary. John Hunter had decided to place on record the full facts giving credit to Colin Mackenzie. Mackenzie (who died in 1775) made the initial suggestion in 1754, and immediately investigated further with John Hunter, who carried their observations to William. Mackenzie had been unable to pursue the matter because he had procured the specimen without the knowledge of William Smellie, for whom he was then working. John Hunter intended to tell the whole story, and although he was willing to share credit with Mackenzie and William, the latter was insistent that any honour should be his alone. The Royal Society wisely decided not to become involved, and John Hunter's paper was not published in the *Philosophical Transactions*. However, John Hunter published it in his *Observations on Certain Parts of the Animal Oeconomy* in 1786, and in the second edition published in 1792 (Hunter 1786). A full investigation of the controversy between John and William was made by Meyer (1939), who reproduced all the evidence, including their letters to the Royal Society, and came to the conclusion that the verdict should be in John's favour.

In their monumental study of the human placenta, Boyd & Hamilton (1970) provided a well-documented survey of the history of the study of the subject, reproducing three of the plates from William Hunter's *Gravid Uterus* in the section dealing with the contribution of the two brothers. Their quarrel was most unfortunate, but was probably the culmination of a series of episodes, possibly beginning in 1750 when William Hunter refused to permit John to visit their mother on her deathbed, despite the fact that the suggestion came from William Cullen. The personal relations between the brothers have been the subject of an extensive essay by Morris (1959). Their differences were so bitter that William did not even mention John in his will but left their ancestral home, Long Calderwood, to their nephew, Matthew Baillie, who promptly handed it over to John Hunter.

Jan Van Rymsdyk (died 1788 or 1789) made most of the drawings illustrating William Hunter's *Gravid Uterus*, together with many other drawings which are preserved in the Hunterian Collection at Glasgow. Most of these have never been published, and were probably intended to illustrate projects which Hunter never completed. Rymsdyk's work for the Hunters, William Smellie, Charles Nicholas Jenty, Thomas Denman and others have been recorded by Thornton (1982). William Hunter did not mention Rymsdyk by name in the preface to his book, and Rymsdyk must have resented the fact that Hunter was apparently unwilling to give due credit to the person mainly responsible for the high reputation eventually achieved by the *Gravid Uterus*. Rymsdyk also believed that Hunter refused to further his ambition to become a fashionable portrait painter. In his book on the curiosities in the British Museum (Rymsdyk & Rymsdyk 1778), he attacked Hunter in the guise of 'Dr Ibis' in the following words:

I flatter myself that I have been very useful as a Designer, and Sacrificed my Talents to a good purpose, more so than any Painter in my Profession in this Kingdom; though I look on myself as a Man that has been ill used and Betrayed, the *Author* of my intended *Ruin* is now at my *Mercy*, and I am advised not to shew him any; but I will rather use 'Doctor Ibis'*, as we commonly do a Cur when he barks at the Moon . . . Neither shall we behave like the Dogs, *who bite on the Stone* without looking at *Him* who threw it, but bear all things with a Manly Patience. On that account, and this the only reason, which I took a dislike to the *Anatomical Studies*, & c. in which I was employed, for I found no relief from those as could do me Justice; I submitted, did not resist, and I fell.

The footnote denoted * read:

It is a great comfort to me that he is *Alive*, and will see the above, for I perfectly agree with Plancus, who said by way of scoff, 'that none but vain Bugs and Hobgoblins used to fight with the Dead'. Now if this should be answered (but I believe not) I desire He would take an Example by Me, and write it Himself; for as to employing of other People to write for one, there is something so detestable and cowardly in that; and it is a dishonest mean cunning, in making one self a great Man with other People's Merit.

Rymsdyk's diatribe continued at great length, and his harsh words directed against William Hunter were the final sentences of the *Museum Britannicum*.

William Hunter obviously prospered in his profession, making his fortune from confinements among the gentry, and from the fees of students. He spent it on buying pictures, coins, books and rare objects, but also on the employment of people to work for him in his School. He expected to receive full credit for the results of their researches, apparently being unwilling to share any honour with those making dissections, preparing specimens, drawing, and possibly writing his texts. He did acknowledge his brother John's dissections for the *Gravid Uterus*, and [Sir] Robert Strange for two of the engravings, but he had paid for the preparation and publication of the book, and his name appears on the title-page. It has always been known as William Hunter's *Gravid Uterus*, but its value lies almost entirely in Rymsdyk's illustrations. Hunter himself appreciated the significance of these, and carefully preserved them with hundreds of other drawings made for him by Rymsdyk. He also purchased the drawings made by Rymsdyk for William Smellie's *Atlas*, and all these are now in the Hunterian Collection at Glasgow. The text intended to accompany his *Gravid Uterus*, which contains only brief descriptions of the plates, was first published in 1794 by Matthew Baillie as *An Anatomical Description of the Human Gravid Uterus, and its Contents*, 20 years after the plates were published in book form.

William Hunter's collections of anatomical specimens, books, pictures, coins and medals, minerals, natural history specimens, and his manuscripts, were bequeathed to Glasgow University. They included valuable material from other collections, such as those of James Douglas and John Fothergill. Several catalogues of these have been published, and are listed in a brief guide by Brock (1980). Much of the collection remains to be fully exploited, and possibly this bicentenary year will see the publication of material throwing fresh light on William Hunter's life and career. A definitive biography of him can only be based on an intensive study of his manuscripts and correspondence, now carefully preserved in the Hunterian Collection at Glasgow.

A list of books and papers by William Hunter has been published by LeFanu (1958), with a supplementary note by Goodall (1958).

What is William Hunter remembered for 200 years after his death? He helped to make midwifery more respectable, even though it meant forsaking surgery for medicine, which was more financially profitable. He lectured on obstetrics, although it would appear that his anatomical lectures were better attended. Possibly the midwifery lectures were devoted mainly to the gravid uterus, to condemning the use of forceps, and they were not practical enough for those desirous of becoming obstetricians. Hunter advocated natural childbirth, by no means a new idea, and still the subject of controversy. He failed in his main objective of establishing a School of Anatomy in London, mainly because of lack of government support, and many of his intended projects were left unfinished at his death.

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William Hunter (1718-1783): The Almost Forgotten Hunter Brother

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Summary

The name Hunter in medical history is usually associated with John Hunter (1728-1793). His elder brother William (1718-1783), however, was a competent scientist who contributed to the understanding of the anatomy of the human gravid uterus. William's collection of anatomical and pathological specimens is as good as that of John, and his collection of ancient books, coins and shells, is one of the finest in the world. William's achievements are no less remarkable than those of John, and should be better known.

Sommaire

Le patronyme de Hunter en histoire de la médecine est habituellement associé à John Hunter (1728-1793). Toutefois, son frère aîné William (1718-1783) a été un homme de science compétent qui a contribué à une meilleure compréhension de l'anatomie de l'utérus gravide chez l'humain. Sa collection de spécimens anatomiques et pathologiques est aussi bonne que celle de John et sa collection de livres anciens, de pièces de monnaie et de coquillages est l'une des plus belles au monde. Ses réalisations ne sont pas moins remarquables que celles de John et il mériterait d'être mieux connu.

*"There were giants in the earth in those days"
Genesis VI, 4*

Introduction

William (1718-1783) (Figure 1) and John Hunter (1728-1793) were born at Long Calderwood farm (Figure 2), outside Hamilton, seven miles from Glasgow, Scotland.^{1,2} Both brothers played a role in ending the medieval era and inaugurating the

modern era of biology and medicine. Outside Glasgow, John, the younger brother, is considered to have made the greater contribution, but Glaswegians would argue otherwise. It was William who bequeathed his collection of anatomical and pathological specimens, ancient books, coins, fossils, shells, paintings, and artefacts from New Zealand brought back by Captain James Cook, to his alma mater, the University of Glasgow.^{3,4} Oslerians can only regret that in his

essay on "The Evolution of Modern Medicine," Sir William Osler cites only John,⁵ although he was aware of the museum left by William to Glasgow University.⁶ Of the two brothers, John was the more colorful and rumbustious, and the greater experimentalist, whereas William was more intellectual, cultured, and painstaking. This article draws attention to William's achievements, which have been overshadowed by those of his brother.

Medical Career

At the age of 14, William's father sent him to the College of Glasgow, as the university was then called. During five years, William "acquired the esteem of the professor, and the reputation of being a good scholar" as a result of "his prudent behaviour and diligence."²

William's father had hoped that his son would become a minister, but it seems William found religion repugnant to his liberal thinking. Instead, he left to become apprentice to Dr. William Cullen (1710-1790), who had established a medical practice in nearby Hamilton. Cullen was a friend of the Hunter family. He quickly persuaded William to give up theology, and pursue medicine instead. Cullen was among the first to treat chemistry as a scientific subject apart from its connection with pharmacy. He encouraged one pupil, Joseph Black (1728-1799), to study chemistry in relation to medicine, and in so doing led to the discovery of latent heat and fixed air (carbon dioxide).⁷ William gained much from Cullen's mentorship before leaving Hamilton in 1740 to attend the lectures of Alexander Munro, Munro primus (1697-1767) in Edinburgh.

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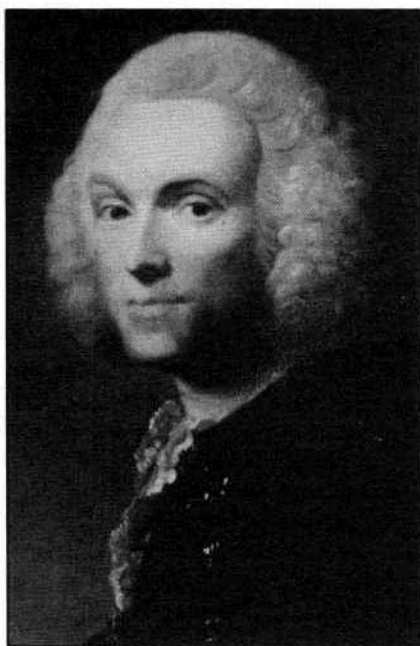


Figure 1. William Hunter (1718-1783). Portrait by Allan Ramsay now in Hunterian Museum, University of Glasgow, Scotland.



Figure 2. Farmhouse as it is today at Long Calderwood. The house is still occupied, but the farm no longer worked. The house has been engulfed by the new town of East Kilbride.

The following year, Hunter left for London following the dictum of Dr. Samuel Johnson (1709-1784) that "the noblest prospect which a Scotchman ever sees, is the high road that leads him to England"! In London, Hunter took up residence with Scottish doctors, first with William Smellie (1697-1763), who wrote one of the earliest treatises on obstetrics, and then with James Douglas (1675-1742) whose description of the peritoneum, and especially of the "pouch," keeps his memory alive today. Douglas was intent at that time on a great anatomical work on bones, and employed Hunter as a dissector.

Rheumatologists are quick to note that it was Douglas who first described the synovium and deduce that its secretions were responsible for lubrication of the joints.² This work by Douglas on bones and joints could well have been the basis of Hunter's first paper to the Royal Society in 1743 on articular cartilage and their diseases,⁸ for as Brock² has noted, it fitted well into the pattern of Douglas's work.

Hunter's paper is all the more remarkable when one realizes that his interpretations were done on macroscopic appearances. Hunter had to rely on careful observation and dissection of gross anatomical specimens. He was enthralled by the "workmanship" of nature, and appreciated the ability of cartilage to deform under pressure and regain its former shape when the pressure was removed. "When an articulating cartilage is well prepared, it feels soft, yields to the touch, but restores itself to its former equality of surface when the pressures is taken off."

Hunter describes in this paper how he "fell upon the method not only of bringing their fibrous texture to view, but of tracing the direction and arrangement of these fibres" but unfortunately failed to describe the method. Nevertheless, he appreciated that collagen fibres anchored in the underlying bone ran vertically through the cartilage: "a mass of short and nearly parallel fibres rising from the bone, and terminating at the external surface of the cartilage." Hunter surmised that transverse fibrils must be present, although he could not detect them: "but without doubt there are likewise transverse fibrils which connect them, and make the whole a solid body, though these last are not easily seen, because being very tender, they are destroyed in preparing the cartilage."

Hunter, however, was incorrect in believing that the surface of articular cartilage was covered by a membrane, which was continuous with the capsule, resembling the "membrane which is common to the eye-lids and the fore-part of the eye-ball, and which is loosely connected with the *Albuginea*, but strongly attached to the *cornea*."

Using a wax injection technique, Hunter proved that articular cartilage was avascular, and demonstrated the *rete vasculosum articulare*. He was unable to trace nerves in cartilage, but despite the fact that he was aware of

"the great insensibility of a cartilage" he continued to believe that nerves were "a *sine qua non* in the growth and nourishment of animals" and that there was "no sufficient reason to deny their existence in this particular part." This important paper on articular cartilage has been overlooked by most writers on the topic, the sole exception being Leon Sokoloff in his seminal book "The Biology of Degenerative Joint Disease."⁹ This underscores the neglect of William in favor of his younger brother. A recent book "The History of Orthopaedics" waxes eloquent on John's achievements, while mentioning that William had described the *rete vasculosum articulare*.¹⁰

Soon after the death of Douglas, William went to Paris, where he studied anatomy under different teachers.² On his return to London, he began to give lectures in anatomy in a house in Covent Garden, introducing the methods he had learnt in France and providing every student with a cadaver to dissect.^{1,2} Later, the school was moved to Jermyn Street. In 1771, it was removed to a building especially built for the purpose in Great Windmill Street. Hunter was a popular lecturer, although it is recorded that he became nervous when speaking to an audience.²

At first, Hunter practised surgery, but since he would often faint at an operation, he took up midwifery. In contrast to the obstetricians of the day, Hunter allowed women to deliver themselves, and the uterus to dispose of the placenta, without the use of instruments.² "I admit," he wrote, "that the forceps may sometimes be of service, and may save either the mother or child, I have sometimes used it with advantage, and, I believe, never materially hurt a mother or child with it, because I always used it with fear and circumspection. Yet I am clearly of the opinion, from all the information which I have been able to procure, that the forceps (midwifery instruments in general I fear) upon the whole, has done more harm than good."¹¹ This view is consistent with his argument against the practice of performing surgical operations with undue speed.²

Hunter became popular among persons of rank, and was known by the sobriquet "Queen's Nightman" after being appointed physician extraordinary to Charlotte Sophia of Mecklenburg-Strelitz, George III's queen.



Figure 3. One of the magnificent illustrations by the Dutch artist Jan van Rymsdyk in William Hunter's "The anatomy of the human gravid uterus." Were it not for the topic, this might be considered an artistic masterpiece.

Hunter's greatest contribution was in obstetrics, especially with his masterpiece "The Anatomy of the Human Gravid Uterus".¹² Hunter was fortunate, because the illustrations of the talented Dutchman Jan van Rymsdyk in the book are works of art in themselves (Figure 3). Rymsdyk also made drawings for William Smellie and for John Hunter. Smellie and William Hunter were the two obstetricians who made outstanding contributions to midwifery in the 18th century. Tobias Smollett (1721-1771) provided the literary polish to Smellie's treatise. No such ghost-writer was needed by William Hunter.

Other Medical Contributions

In addition to his *magnum opus*, Hunter contributed to obstetrics with papers on cesarian section,^{13,14} fatal inversion of the uterus,¹⁵ and retroverted uterus.¹⁶ He made other important observations on many conditions including: aneurysms of the aorta and arteriovenous aneurysm,¹⁷⁻¹⁹ congenital heart disease,²⁰ subcutaneous emphysema after rib fracture,²¹ stomach disorders,²² infanticide,²³ disease of bone,²⁴⁻²⁶ changes in the symphysis pubis,^{27,28} the insensibility of tendons,²⁹ and venereal disease. He did not believe that Christopher Columbus brought syphilis to Europe from the Americas,² a view perhaps influenced by his friendship with Benjamin Franklin (1706-1790).

William, like his brother John, made important contributions to comparative anatomy and paleopathology.³⁰⁻³² Noteworthy among these contributions is his paper on infanticide,²³ where he describes the uncertainty of the signs of murder in a newborn infant, and the appearance of a body after death.³³ Both must be considered early classics of forensic medicine.²

His paper on his experiment in a human subject to prove the insensibility of tendons could be considered an early classic in medical ethics.²⁹ One can only presume that William availed

himself of the opportunity to test the sensibility of tendons encouraged by John's riposte to Edward Jenner (1749-1823), who had questioned the method of studying a hibernating hedgehog's temperature: "but why think? why not try the experiment"? William's insouciant description would make members of a modern hospital ethics committee cringe. "It immediately occurred to me, that I now had a fine opportunity to convince myself of the truth or fallacy...concerning the insensibility of tendons, etc. I therefore passed a piece of string about the size of a tendon...and placed it in such a manner, as to make it project parallel to, and beyond the stump, of equal length with the exposed tendon. I then told my patient, that I intended to cut the one or the other of these projecting parts with my scissors, while he should turn his head away; but he was to tell me which I cut, without feeling what was done. He laughed, and asked me whether I thought he had no feeling; however, he complied. I then divided the tendon with my scissors: he was asked which I had cut; he answered, "the string": but when he turned his head round, and found it was actually the tendon, he was much surprised that he had felt no pain."²⁹

The Museum

Dr. Samuel Johnson claimed he suggested that William leave his collection to the University of Glasgow. Whatever the truth of this may be, by his will of 1781, William donated to the principal and faculty of the University of Glasgow his "books, printed and manuscript, prints and books of prints, engraved copper plates, drawings, pictures, medals and coins, anatomical preparations of every kind, fossils and ores, shells and corals and other marine productions, birds, insects, and other preserved animals and parts of animals, dried plants; curiosities from the South Seas, and what ever could be naturally reckoned a part of his collection of curiosities."⁵⁶ Hunter left £8000 to the professors "representing the said University and to be applied by them...towards purchasing a spot or piece of ground in or near the College of Glasgow and towards erecting and building there on a fit and commodious house or Building for the reception of my books and all the...articles contained in my Museum."

The university is recorded to have finally obtained the collection from London in 1807 at a cost of £1430.³ A "handsome building" was erected among the old university buildings in the east end of Glasgow. Advice about the heating was given by the university's celebrated engineer, James Watt (1736-1819). How-



Figure 4. Commemorative silver spoons issued in a limited edition by the University of Glasgow in celebration of William Hunter's bicentenary, 1983.

TABLE 1
WILLIAM HUNTER'S
BANK ACCOUNT²

1756	£ 230
1757	1000
1759	2222 8/0 ^o
1760	15,424 10/3 ^o
1761	28,148 13/3 ^o

8/0^o refers to 8 shillings and 0 pence

ever, when the university was moved to its present site in the west end, there was insufficient room for the collection, so that sections were dispersed in various sites. Thus, the anatomical collection is housed in the department of anatomy, and seldom seen by visitors, while the collection of pathological

specimens is housed in the department of pathology at the Glasgow Royal Infirmary.

Brock has bemoaned the neglect of the museum during the last century,³⁴ and it is horrifying that the senate of the university was ready to sell the coin collection for £20,000 in 1862! When Sir William Osler visited Glasgow at the turn of the century, he was left "bewildered with the impression of the extent and value of the collection," the uniqueness of which, Cushing records, "the Glasgow University authorities scarcely appreciated."⁶ Today, the directors of the museum are more concerned with the Hunterian collections, and have produced a set of commemorative silverware (Figure 4).

The anatomical collection includes a variety of specimens, including one demonstrating the lymphatics of a turtle's liver by the injection of mercury. Plaster casts of various stages of pregnancy are on display, and it has been suggested that illustrations for "The Anatomy of the Human Gravid Uterus" were made from these. This seems to be most unlikely in view of the

remarkable "living" detail of the illustrations (Figure 3). The anatomical preparations were used in the teaching of anatomy after their transfer from London, and may have been partly responsible for the increase in the number of medical students at the university at that time.²

There are over 2,500 specimens in the pathological museum, not to mention calculi.³⁵ These range from the mundane such as osteoarthritis to the exotic, such as osteitis fibrosa cystica.³⁶

William had, according to Smollett, a desire to "possess a copy of every curious book on the face of the earth." This desire led him to acquire 10,000 volumes, including 534 incunabula, among which were 10 Caxtons, 2,300 16th century publications and 650 manuscripts covering practically all fields of learning.² Many of these publications are accompanied by notes and correspondence with other scholars. Hunter was willing to lend his books, and among those who took advantage of this was Benjamin Franklin who is recorded as having borrowed several books on Mary, Queen of Scots.² A publication "The Glory of the Page" by the University of Glasgow shows beautifully many of the books and manuscripts, which were exhibited at The Art Gallery of Ontario, Toronto, from October 16, 1987 to January 3, 1988.

Hunter's coin collection is regarded as the most extensive private collection in the United Kingdom, and his collection of shells is second only to that of the Duchess of Portland.² William was a friend of Captain James Cook (1728-1779) and as a result obtained ethnographic material from the South Seas.

How was William able to spend a fortune in building up this library and museum? His salary as a teacher of anatomy, with his stipend from his appointment to the queen and professorship at the Royal Academy, brought in over £500 per year, which was insufficient.² However, Hunter's bank account, which still exists at Dromond's branch of the Royal Bank of Scotland, shows a remarkable accumulation in wealth over six years (Table 1).

Apparently, Hunter had dealings in government lotteries² and probably also played the stock market.

William was not only a collector of fine books, coins, shells and paintings, but he was also knowledgeable on these subjects.³⁷ He was the first to be appointed to the chair of anatomy at the Royal Academy of Arts in 1768, and there, he delivered lectures on anatomy to artists (Figure 5). Hunter had his views on a perfect work of art, which he thought should be accurate and pleasing. His advocacy of mimesis was perhaps encouraged by possession of an edition of the treatises on painting by Leonardo.³⁷ William would have heartily approved of Robert Bateman.

William received several accolades (Table 2). The fact that he was called in 1762 to attend Queen Charlotte in her first

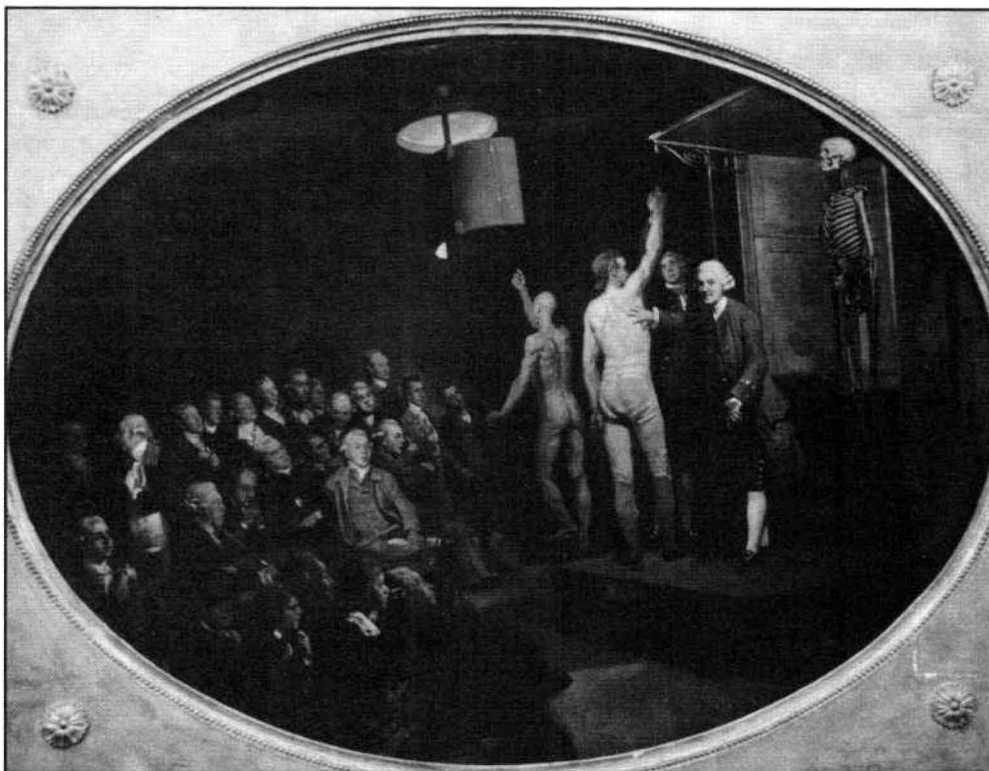


Figure 5. *Painting by Johann Zoffany, now in the Royal College of Physicians of London, of William Hunter demonstrating to members of the Royal Academy. Sir Joshua Reynolds can be identified by his long ear trumpet. Zoffany, although an accomplished artist, seems to be less so as an anatomist, for the skeleton has 13 pairs of ribs!*

TABLE 2 AWARDS OF DR. WILLIAM HUNTER

1750	MD degree, University of Glasgow, Burgess and Guild Brother of Edinburgh
1751	Honorary member of the Faculty (now College) of Physicians and Surgeons of Glasgow, Burgess of Glasgow
1754	Member of Society of Physicians (later London Medical Society)
1764	Appointment as physician extra-ordinary to Her Majesty the Queen
1767	Fellow of the Royal Society
1768	Fellow of the Society of Antiquaries Professor of anatomy, Royal Academy of Arts
1780	Foreign associate of the Royal Medical Society at Paris
1781	President of Society of Physicians, London
1782	Foreign associate of the Royal Academy of Sciences, Paris

confinement, and that two years later was made physician extraordinary to Her Majesty is all the more remarkable since Scotsmen were particularly unpopular in England at that time, especially after the 1745 Highland rebellion to place Charles Edward Stewart (Bonnie Prince Charlie) on the throne. In the music halls in London, audiences would sing with gusto an anti-Scottish song to the tune of an Austrian hymn, known today as the nation's anthem "God Save the King."

Scottish physicians were not accepted by the College of Physicians in London, since their Scottish training enabled them to practise not only medicine and surgery but midwifery too. Scottish graduates, including Hunter, were involved in a violent assault on the College in 1767.³⁸ Therefore, it is not surprising that the Scots in London seemed clannish, keeping to themselves for entertainment. They frequented the British Coffee House, and it was there in the company of Smollett, James Boswell, and others that William would propose his favorite toast, "May no English nobleman venture out of this world without a Scottish physician, as I am sure there are none who venture in."

Shortly before his death, William stated, "If I had strength enough to hold a pen I would write how easy and pleasant a thing it is to die" -- an observation that is reputed to have provoked the scornful comment from John: "Aye, it is a poor thing when it comes to that"! William died of a cerebrovascular accident on April 5, 1783. He was interred in the rector's vault of St. James Church, Westminster, London. His funeral was attended by all his students. John was buried in the vaults of St. Martin's Church, but later reinterred in Westminster Abbey.² It would seem reasonable if the same were done with William's remains: his contributions merit it.

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