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JOHN HUNTER, F.R.S., SURGEON-GENERAL AND
INSPECTOR-GENERAL OF HOSPITALS.

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Royal Army Medical Corps.

It is with considerable diffidence that the writer publishes this outline of the life of John Hunter. Many excellent biographies of this eminent surgeon exist and are readily accessible. The writer is therefore obliged to beg the indulgence of his readers on the plea that no series of military medical biographies could be complete unless it included an account of the life of this remarkable scientist, who was for a time a Staff-Surgeon in the Army on active service in the field, and, later on in life, the head of the Army Medical Department.

John Hunter, the youngest of the ten children of John Hunter, was born on February 13, 1728, at Long Calderwood, in the parish of East Kilbride, Lanarkshire. The Hunters belonged to an old Ayrshire family, and John's mother was the daughter of the Treasurer of the City of Glasgow. When a boy, Hunter was allowed to neglect school, and he never afterwards overcame the defects of his education. He loved out-door sports, and even in those early days took an intense interest in natural history. His father died in 1741, and four years later, when 17 years of age, John Hunter went to Glasgow to live with a sister who had married a cabinet-maker. He worked at this trade for three years, but also, according to one authority, studied natural philosophy at

Glasgow University in 1745. In 1748 he rode to London to visit his brother William, who put him to work at once in the dissecting room on the dissection of an arm. He took so kindly to the study of anatomy that in the second season he was able to superintend his brother's pupils. At this time he was of a jovial disposition, and was known familiarly as "Jack Hunter." He was fond of lively company and the theatres, and was very popular with the "resurrection men," who provided the subjects for dissection. In the summer of 1749 he began to attend Chelsea Hospital, where the great surgeon Cheselden gave instruction. In 1751 he studied at St. Bartholomew's under Percival Pott, and in 1753 was appointed one of the "Masters of Anatomy" of the Surgeons' Corporation. He entered as a surgeon's pupil at St. George's Hospital in 1754, and was house-surgeon there for five months in 1756. His defective education led him to matriculate at St. Mary Hall, Oxford, on June 5, 1755, but apparently he only stayed in Oxford about three weeks, although his name was on the books till October, 1756. Speaking of this time at Oxford he afterwards declared "They wanted to make an old woman of me, or that I should stuff Latin and Greek." He began to teach anatomy in William Hunter's School in 1754, and, according to the *European Magazine*, his brother wanted to take him into partnership in 1755. He declined partnership owing to his extreme diffidence as a public speaker, but continued to assist his brother.

During this period of his life Hunter traced the descent of the testis in the foetus, made some discoveries as to the placental circulation, studied the nature of pus, inquired into the absorbing powers of veins, investigated the olfactory and nasal nerves, and with his brother did a great deal in elucidating the course and functions of the lymphatic system. The brothers were in the habit of showing their dissections and experiments to their pupils and friends before publishing the results of their work. This led afterwards to much controversy as to the priority of discovery of new facts, and even brought about a quarrel between the two brothers which ended only on the death-bed of William.

In 1759, John had an attack of pneumonia which obliged him to leave London for a time, and his brother's influence with Adair, the Inspector-General of Hospitals, obtained for him an appointment as Staff-Surgeon in the Army in October, 1761. Hunter's letters to his brother show that at first he was not satisfied with his position in the Army, and was anxious to get his commission, as by doing so he became entitled to pay at the rate of £1 a

day, and half-pay at 10s. a day. It was as Staff-Surgeon that he accompanied the Expedition to Belleisle, under Commodore Keppel and General Hodgson, in 1761. John Hunter's experience of active service was confined to this expedition, and to about a year with the British troops in Portugal. These expeditions are now forgotten and practically nothing can be gathered concerning them in any biography of John Hunter. The writer thinks, however, that military readers may be more curious as to what Hunter's war experiences really amounted to, and has collected a few notes from contemporary sources on the subject. Briefly, the expeditionary force consisted of about 8,000 men, ten ships of the line and other vessels. It sailed from Spithead on March 29 and arrived before Belleisle on April 7. The coast was rocky and precipitous, and the first attempt at landing at Lochmaria Bay was disastrous. The total casualties amounted to 434; of these 94 officers and men were killed, 74 wounded, and 265 taken prisoners. A landing was not effected until April 25, and the town of Palais was then besieged. The French made a good defence. On May 13 the town was taken by assault, and on June 7 the citadel surrendered on honourable terms. The English losses during the short campaign amounted to 284 killed and 501 wounded. Great sickness afterwards broke out amongst the British garrison. In October there were fourteen hospitals established in the town of Palais, and others were being constructed. There were also regimental hospitals in different parts of the island, particularly at Sauzon and la Maria, where at each place a brigade was quartered. The disease was described as "a severe fever and flux," probably enteric fever. It is of interest to note that one of those present wrote: "Clarified butter, given two spoonfuls at a time, twice or thrice a day, is an infallible cure for the bloody flux." Some of the troops were brought back to the Isle of Wight in the latter part of the year. The Staff-Surgeons were probably at Palais where the chief hospitals were. In 1762 Hunter proceeded to Portugal, returning to England in the following May. Hunter did not stop his scientific investigations while on active service, for he tells us that when off Belleisle he was studying the coagulation of the blood; it was here and in Portugal he acquired his knowledge of gunshot wounds and inflammation. He continued his studies of human anatomy and inquired into the physiology of hibernating animals. He brought back with him "two hundred specimens of beasts, lizards, and snakes, the foundation of the present museum."

In Portugal, Hunter does not appear to have been happy in his

relations with his brother officers. His rude, brusque manner may have had something to do with this. A rival contemporary, Jesse Foot, who wrote a life of Hunter, says he was contentious and quarrelsome, and that on one occasion a colleague drew his sword upon him.

On his return to England Hunter went on half-pay, and this appears to have been his chief source of livelihood for some years. He was on half-pay thirty-four years. He started in practice in Golden Square, and formed a private class for anatomy and operative surgery. He also took resident pupils. He continued his studies in comparative and human anatomy, and arranged to get for dissection the bodies of all animals dying in the menagerie at the Tower. He also bought rare animals and allowed them to be exhibited on condition that he got their carcasses at death. As soon as he collected ten guineas in fees it went on some addition to his collection. He once borrowed five guineas from the King's Book-seller, Nichols, to buy a dying tiger.

In 1764 Hunter bought two acres of land at Earl's Court, on which he built a house. Here he continued his dissections, had cages for living animals, kept bees, and made experiments in the artificial formation of pearls in oysters in a pond in his garden. He was very fond of fierce animals. On one occasion two leopards got loose, but he contrived to get them back into their cages although he was unarmed. Once a little bull, given him by Queen Charlotte, knocked him over.

John Hunter sent his first communication to the Royal Society in 1766. It was an anatomical description of a siren from South Carolina. He was elected F.R.S. on February 5, 1767. In 1767 he ruptured his tendo Achillis, and his study of the process of repair led to the practice of tenotomy for the relief of deformities. In this year he became a member of the Surgeons' Corporation. On December 9, 1768, he succeeded Gataker as Surgeon at St. George's Hospital. His practice increasing, he was able to remove to the larger house in Jermyn Street, which his brother William had vacated. Here he took house pupils, who were apprenticed to him for five years at a premium of five hundred guineas. Amongst them was Edward Jenner. May, 1771, saw the appearance of the first part of his "Treatise on the Human Teeth." In July of this year he married Miss Anne Home.

In June, 1772, he contributed to the Royal Society a paper on "The Digestion of the Stomach after Death." Everard Home, Hunter's brother-in-law, who became his pupil in 1772, said that at that time the museum filled all the best rooms in the house.

In 1773 Hunter began to lecture on the theory and practice of surgery. His lectures were at first free, but later a charge of four guineas was made. We are told that Hunter never made a good speaker; he was at times incoherent and nervous, and was in the habit of taking laudanum to steady his nerves before a lecture. His classes were not large, but his pupils included Astley Cooper, Cline, Abernethy, Anthony Carlisle, and Chevalier. At this time he had his first attack of angina pectoris, from which he afterwards suffered so severely. In 1774 his income first reached £1,000. Next year he was able to engage a young artist, William Bell, to make drawings of his preparations. Bell lived with him until 1789, and then joined the East India Company as assistant surgeon. He died in 1792.

In January, 1776, Hunter became Surgeon-Extraordinary to George III. In the same year his sympathies with the Royal Humane Society caused him to produce his "Proposals for the Recovery of People apparently Drowned." In this year he read before the Royal Society the first of his six "Croonian Lectures" on muscular motion. The last was delivered in 1782. They were published after his death.

Suffering greatly from vertigo in 1777, in the autumn he went to Bath. There he met his old pupil Jenner, who diagnosed that Hunter was suffering from an organic affection of the heart. A paper which he read before the Royal Society in 1780, "On the Structure of the Human Placenta," in which he claimed certain discoveries concerning the placental circulation which his brother had already claimed in his book on the uterus, led to a heated controversy. The Royal Society did not print the paper on William Hunter's protest, and the two brothers were estranged until the elder lay on his death-bed.

In 1782, John Hunter obtained the skeleton of the Irish giant, O'Brien, who was 7 ft. 7 in. in height, by bribing the undertaker with £500. This skeleton appears in Sir Joshua Reynolds's portrait of Hunter now in the Royal College of Surgeons. In this year he became a member of the Royal Society of Medicine and of the Royal Academy of Surgery of Paris.

The lease of his house in Jermyn Street, expiring in 1783, Hunter bought the leases for twenty-four years of two houses, 28, Leicester Square, and a house in Castle Street, and the land between. He spent £3,000 in building a large museum for his collection on this ground. He lived in Leicester Square and carried on his anatomical work in the house in Castle Street.

His collections, which cost about £10,000, were taken to the new museum in 1785. His yearly income had steadily grown to £5,000, and was £6,000 before his death. His experiments at this time on the mode of growth of deer's antlers led to his discovery of the establishment of the collateral circulation by anastomosing branches of arteries. This discovery led him to tie the femoral artery of a patient suffering from popliteal aneurysm. The patient recovered in six weeks.

The year 1786 saw the appearance of Hunter's "Treatise on the Venereal Disease," and also of his "Observations on Certain Parts of the Human Economy."

In 1786 Hunter returned to the active list of the Army. On the death of Middleton he was promoted Deputy-Surgeon-General, and, on the death of Adair, in 1790, he became Surgeon-General and Inspector-General of regimental infirmaries. In conjunction with Sir Clifton Wintringham (Physician-General to the Forces since 1786) he became head of the Army Medical Department. In 1793, his colleague becoming unfit for duty, Hunter became sole head of the Army Medical Department. (He was in fact our first Director-General, although that title did not exist until Sir James McGrigor's appointment.) His pay was £1,200 a year (Foot). This year saw the outbreak of war with France, and on Hunter, therefore, depended the organization of the medical arrangements in connection with the armies assembled for service in Holland, on the west coast of France, and in the West Indies. This year also saw a great increase in the strength of our Army, with a corresponding increase in medical establishments. The labour in connexion with this must have fallen on Hunter's shoulders. Writing he detested, so that the vast correspondence which fell to him must have given him great trouble. One wise reform he instituted made him unpopular with the Physicians to the Forces, who were a favoured class. He made it a rule that no person could hold the rank of army physician who was not (or had not been) staff-surgeon, regimental surgeon, or apothecary to the Forces. This gave to all surgeons and apothecaries the prospect of promotion to the better paid appointments. This regulation was upset by the Army Medical Board which was established after his death, but it was the first step towards the breaking down of the monopoly held by the College of Physicians and the Universities of the appointment of Physician to the Forces. We gather, from the diatribes of such of his contemporaries as Jesse Foot, that Hunter, as head of the Army Medical Department, showed no favour, but with a single mind did the best in his power for the good of the Service.

In 1787 Hunter received the Copley medal from the Royal Society on account of his discoveries in Natural History.

In 1792 Everard Home (then Assistant Surgeon at St. George's) undertook the delivery of Hunter's lectures in surgery, with the aid of Hunter's notes. Most of Hunter's spare time was now given up to the completion of his great work on "The Blood, Inflammation, and Gunshot Wounds," which was not published until after his death. In 1792, a dispute over the appointment of a surgeon at St. George's, in succession to Charles Hawkins (Hunter's candidate, Home, failing to get the appointment), caused Hunter to refuse to share the fees from his pupils with the other surgeons, on the ground that they failed to give proper instruction. Without consulting Hunter the surgeons and a committee made regulations forbidding the admission of pupils without previous medical instruction. Two Scotsmen appealed to Hunter for admission, and he undertook to bring the matter up at the next Board meeting. On October 16, 1793, the Board met, and while Hunter was speaking one of his colleagues (said to be Gunning) flatly contradicted him. Hunter stopped and went into another room, where he fell dead into the arms of Dr. Robertson, one of the physicians.

An autopsy showed organic disease of the heart, with calcification of the coronary arteries and of the mitral valve.

Hunter was buried in the vaults of St. Martin-in-the-Fields on October 22, 1793. On March 28, 1859, Buckland sought out and identified his remains, and they were removed to Abbot Islip's Chapel, on the north side of the nave of Westminster Abbey, at the cost of the Royal College of Surgeons. A memorial window was placed in Kensington Parish Church, by public subscription, in 1877.

John Hunter was of middle height, robust and vigorous, with short neck and high shoulders. His eyes were of a bluish-grey, and his hair was sandy in colour; before his death his hair became white. His portrait by Sir Joshua Reynolds is in the Royal College of Surgeons; there is a copy of this in the National Portrait Gallery. It was very successfully engraved by Sharpe in 1788.

Hunter was a most methodical man; every hour of his day, from dawn till midnight, was set aside for its appointed task. He was given to fits of abstraction. He noted down on odd scraps of paper his thoughts and the results of his experiments; these were afterwards arranged and copied out. Jesse Foot says: "He was incapable of putting six lines together grammatically in English," and his manuscripts were revised and corrected by others before

publication. Masses of his notes were afterwards destroyed by Sir Everard Home, who is said to have built up much of his reputation on what he appropriated from this material.

In manner Hunter was often impatient, rude and unceremonious. In speech he was too candid and unreserved. He possessed and read few books, but few men have done such great work with so little learning. He never took fees from curates, authors or artists. He was a Tory in politics and expressed the hope that "all the rascals who were dissatisfied with their country would be good enough to leave it."

Hunter's museum was bought by the nation for £15,000 and entrusted to the care of the Royal College of Surgeons. It was opened in 1813, when the Annual Hunterian Orations began.

Hunter's widow survived him till 1821, and he left a son and a daughter. The son, John, became an officer in the Army. His daughter, Agnes, married a Captain James Campbell. Neither left issue.

Billroth, the great German surgeon, says that Hunter's book on "Blood, Inflammation and Gunshot Wounds" (1794) is "the corner stone of modern English and German surgery." Hunter was an opponent of primary amputation for bullet wounds. In this he differed from Guthrie and the great surgeons produced by the Peninsular War. He appears to have been the first Army surgeon to realize the influence the velocity of the bullet has in the production of the injury; a factor not generally appreciated until within recent years. He was opposed to meddling surgery in the case of gunshot wounds. Abdominal wounds were to be left alone. Gunshot wounds of the lungs were not necessarily fatal. A bullet if not readily accessible, and not in a vital part, should be left alone. "The finger is the best instrument to make exploration with." He disagreed with Percy, Paré and Wiseman in their practice of enlarging gunshot wounds, although he recognized that on occasion such dilatation might be necessary.

Hunter's tomb in Westminster Abbey describes him as "the founder of scientific surgery," and the late Sir William MacCormac, in his Hunterian Oration, said "The surgery of the Middle Ages was a trade; Ambrose Paré and Jean Louis Petit converted it into an art, John Hunter elevated it to the rank of a science."

[CHIEF AUTHORITIES.—Lives by Ottley (1835), Jesse Foot, and Everard Home. *The European Magazine*, *The Gentleman's Magazine*, *The Annual Register*, 1761-63. "Disciples of Aesculapius," by Sir B. W. Richardson. Gordon's "Remarks on Army Surgeons." The Hunterian Orations. *The Dictionary of National Biography*.]