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BY

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HOW SURGERY BECAME A PROFESSION IN LONDON.

By D'ARCY POWER, M.A., F.S.A., F.R.C.S. Eng.

I.

The profession of surgery, at any rate in London and in many of the provincial towns, is so well defined that we are apt to forget how recent is its origin. I propose therefore to trace out in the following pages the manner in which it has reached its present position, giving due honour to our great predecessors who welded it into its present shape, either consciously as in the reign of Elizabeth or unconsciously like Wiseman, Cheselden and Pott by the example of their lives.

The conditions of life in England during the middle ages allowed two types of surgeon to flourish side by side in London, the military surgeon and his more peaceful—though often brawling—brother the barber surgeon. The military surgeons formed the aristocracy of surgery. As early as the third crusade (1189-92) they were in attendance upon the kings and nobles often in a purely personal capacity, but in the thirteenth century they had formal gradations of rank and were known as "the Royal Surgeon," the "Common Surgeon," etc. But it is not until 1415 that it is possible to obtain a clear view of their status.

In the spring of 1415 Henry V. crossed the channel to engage in that campaign which ended so successfully for England at the field of Agincourt on 25th October. A

record of the medical arrangements of the army during this expedition is preserved in the indentures between the King, his physician Nicholas Colnet and his surgeon Thomas Morestede. The agreement, dated 29th April, 1415, is to the effect that Nicholas Colnet was to accompany the King for a year as physician to the forces in Guienne and France. He was to be attended by three archers as a guard, each archer receiving sixpence a day, whilst Colnet drew twelvepence for his own pay. Thomas Morstede, the surgeon, had also three archers assigned to him for protection, and he too received twelvepence a day in addition to the usual allowance of one hundred marks a quarter—the pay it is stated for thirty men-at-arms, with a share of the plunder. Morestede was directed further to take with him twelve of his own craft, each subordinate surgeon to receive the pay of an archer—sixpence a day. As a pledge for the punctual payment of the daily and quarterly allowances Colnet and Morstede were permitted to take certain jewels belonging to the King.

The scale of pay here granted is very liberal. The ordinary day's wage of a labourer at this time was one penny. Each archer and each surgeon was considered to be worth the wages of six day labourers, and the two chiefs double their assistants. Now-a-days a labourer in London earns at least a guinea a week, or three shillings a day. The surgeons and archers therefore paid on the same scale would receive eighteen shillings a day, and the two heads of the department thirty-six shillings. Whereas a surgeon on probation in the army at the present time receives eight shillings a day, and has to serve ten years before his pay is increased to fifteen shillings. The booty too must have been a welcome addition, one third went to the King together with all precious stones, gold and silver where the value was more than six pounds, but the King's share was badly collected and the surgeons were probably not unduly officious in bringing their gains into prominence. It was an age of heroes too, when a leader was everything and the common folk nothing, money was easily made and as easily spent. Mr. Stephen Paget tells us that more than a hundred years later, Ambroise Parè, the great military surgeon of Paris,

received at different times as a fee "a cask of wine, fifty double ducats and a horse, a diamond, a collection of crowns and half-crowns from the ranks, other honourable presents and of great value: from the king himself three hundred crowns and a promise he would never let him be in want: another diamond, this time from the finger of a duchess: and a soldier once offered him a bag of gold".

Yet, in spite of these attractions, the service was a perilous one, even though it only lasted a few months. Morstede engaged William Bredewardyne to act under him, but he had such difficulty in securing the services of the twelve assistants that he prayed the King "to grant his letters of Privy Seal directed to your Chancellor of England, to cause him to deliver to your suppliant letters of commission under your great seal, by force of which he should have power to press twelve persons of his craft, such as he should choose to accompany him, and to serve your most gracious sovereign lord during your campaign".

Morstede escaped the dangers of the field, and lived to become a rich and influential man, who served as Sheriff of London in 1436, and surgeon to Henry VI., as he had been to Henry V., and probably to Henry IV. He held the office of "scrutator omnium navium ac batellorum in portibus London: ac omnibus aliis crykes ex utraque parte usque Gravesend," a lucrative post of which the duties were probably performed by deputy. We owe to Morstede the first serious attempt to convert surgery into a profession. The attempt failed, because it was nearly 500 years before its time, for it was not until 1883, when the Royal Colleges of Physicians and Surgeons in London agreed to act together, that it became compulsory for every surgeon to be examined in each of the main branches of his profession before he was allowed to practise upon the public.

The Guild of Surgeons.

A Guild of Surgeons, distinct from the Guild of Barbers, existed in London from time immemorial. The guild was always a small body, probably never more than twenty in number, and sometimes dwindling to less than a dozen. It existed

and remained unincorporated at a time when many of the other guilds either vanished or were converted into companies. The earliest notice of the Surgeons' Guild occurs in 1369, when four surgeons were "admitted at full hustings before the Mayor and Aldermen of London, and were sworn as master surgeons to deserve well and truly of the people in attending their cases, to take only reasonable payment of their patients, to practise their craft and to report as often as need be to the Mayor and Aldermen the faults of those who undertook the practice of surgery". They were also directed to take charge of the sick and hurt or wounded, and to give true information to the officers of the city whether such persons were in danger of death or not, and they undertook generally to act uprightly in all things belonging to their calling. There is a similar ordinance in 1390 which is interesting because the inspecting master surgeons are sworn "to practise truly their craft and to make faithful oversight of all others, both men and *women*, occupied in cures or using the art of surgery, presenting their lack both in practice and medicines so often as needs be to the aforesaid Mayor and Aldermen". The officers thus put under an obligation to perform certain public duties were the Masters or Aldermen of the Surgeons' Guild, and it is certain that they occasionally took so wide a view of their duties as to harass the members of the Barbers' Guild who meddled with surgery. Thus in 1410 certain "good and honest folk, barbers of the city, appeared by their counsel in the private chamber of the Aldermen and Sheriffs, and demanded that they should for ever peaceably enjoy their privileges, without scrutiny of any person of other craft or trade than barbers. And this neither in shavings, cupping, bleeding, nor any other thing in any way pertaining to barbery or to such practice of surgery as is now used or in future to be used within the craft of the said barbers."

THE CONJOINT FACULTY OF MEDICINE AND SURGERY OF 1423.

The movement for a complete medical education, coupled with a more effective control over those who practised medicine and surgery, began in London, and if it did not originate with the medical officers at court the promoters were astute

enough to enlist their sympathies from the beginning, and to associate their names prominently with the objects to be attained. The time was particularly propitious for such a scheme. Normandy was conquered, and the Treaty of Troyes had given temporary peace to England and France, for it was still six years before Joan of Arc raised the siege of Orleans. Numbers of military surgeons were thus set free, and some of them, no doubt, joined the Guild of Surgeons, in which the important conjoint scheme seems to have originated. Henry V. died of a fistula at the age of thirty-five, on 31st August, 1422, leaving the regency of France to his elder brother, the Duke of Bedford, and that of England to his younger brother Humphry, Duke of Gloucester, whilst his son and successor, Henry VI., then scarcely nine months old, was placed under the care of the Earl of Warwick.

The first indication of the conjoint scheme is a petition to the Mayor and Aldermen of London, dated 15th May, 1423. The petition prays that all physicians and surgeons practising in London may be considered as a single body of men, governed by a Rector of Medicine, with the assistance of two Surveyors of the faculty of Physic and two Masters of the craft of Surgery. There was to be a common place of meeting, consisting of at least three separate houses, one fitted with desks for examinations and disputations in philosophy and medicine, as well as for the delivery of lectures. The second house for the use of the physicians, and the third for the convenience of the surgeons. The Rector of Medicine, when he was in London, was to act as President and Ruler at the meetings in either house, but if he were absent then each faculty was to act as a separate body, the physicians by themselves and the surgeons by themselves.

The Rector, the two Surveyors of Physic, and the two Masters of Surgery were to be re-elected yearly, and were then to be presented to the Mayor and Aldermen to be sworn to the due performance of their duties. The Rector of Medicine was to be a Doctor of Physic and a Master of Arts and Philosophy, or at the least a Bachelor of Physic of long standing. But if no such person could be found, the faculty of medicine was to

be governed by the two Surveyors only, and in like manner the surgeons by their two Masters. The interregnum was to be as short as possible, and if a Bachelor had been appointed to the post of Rector he was to give place to a Doctor as soon as one had been elected. No one was to be chosen Rector, a Surveyor of Physic or a Master of Surgery unless he had been born within the realm of England, and an effort was to be made to choose for each office the wisest, ablest, and most discreet persons of mature age.

No surgeon was to be allowed to practise in London unless he had been examined by the Rector, the two Masters of Surgery, and the majority of the craft, after which he was to be presented and licensed by the Mayor and Aldermen, under penalty of 100 shillings fine.

Every surgeon called upon to treat a case which seemed likely to end in death or permanent disablement was obliged to call into consultation the Rector of Medicine, or one of the two Masters of Surgery, within three days of his first attendance, and a like course was to be taken by every surgeon before he performed any serious operation. This regulation was made in the interests of the surgeon as well as of the patient, for it is expressly laid down that the Rector, Surveyors, and Masters shall be always ready to attend these consultations, without any fee, under pain of 20s. The Rector of Medicine, however, is to give no opinion in a surgical case without the consent of the Masters of Surgery.

A surgeon duly convicted on credible evidence of malpraxis, or of infamous professional behaviour, was to be brought before the Mayor, who should punish him with fine, imprisonment, or "puttynge him out from alle practice in chirurgery for a tyme or for evermore after the quantite and qualite of his trespass".

A patient needing a surgeon, who had fallen into such poverty that he was unable to pay a fee, was to appeal to the Rector and the Masters of Surgery, who would assign him a good practitioner "busily to take heed of him without expence".

The Rector, the two Surveyors of Physic, and the two Masters of Surgery, associating with themselves two apothecaries,

were to search the shops of suspected apothecaries for adulterated drugs. If the drugs were found impure or rotten, the apothecary was haled before the Mayor, and the drugs were thrown into the street, there to be trampled underfoot. This right of search was afterwards given to the Royal College of Physicians, and was carried out well into the present century. It has dropped into abeyance of late years, but it seems never to have been repealed.

The petition was duly granted, and on 28th May, 1423, only a fortnight later, Master Gilbert Kymer was sworn before the Mayor and Aldermen as Rector of the Faculty of Medicine, with Thomas Morestede and John Harwe, the King's surgeons, as the Surveyors of Surgery. No mention is made at this time of any Surveyors of Medicine, and it was not until 27th September that Master John Sumbershede and Master Thomas Southwell were presented and sworn to act as supervisors of physic, Dr. Gilbert Kymer being again appointed Rector of Medicine. This, I think, shows conclusively that the surgeons were the better organised community, whilst the physicians, having no guild to fall back upon, had to take time before they could appoint their officers.

Dr. Gilbert Kymer has long been known as a person of great note, but the career of Master John Sumbershede or Somerset has only lately been traced, whilst of Dr. Thomas Southwell I can find nothing. Drs. Kymer and Somerset were both graduates of the University of Oxford, and to both the University owes a deep debt of gratitude. Gilbert Kymer was educated in Oxford at Durham College, whose site is now occupied by Trinity College. He was a Master of Arts, a Bachelor of Law, and a Doctor of Physic before 1420. He acted as Proctor of the University in 1412-13, and in the same year he was principal of Hart Hall. So far reaching were the consequences of the Black Death, which had devastated Europe in 1348-9, that in 1420, whilst he was still a layman, he was presented to the living of Lutterworth, in Leicestershire. He became Dean of Wimbourne Minster and Treasurer of Salisbury Cathedral in 1427, yet he was not ordained a subdeacon until 28th February, 1428, and in 1434 he was presented to St.

Martin's, Vintry. From 1431 to 1433 and again from 1446 to 1453 he was Chancellor of the University of Oxford, where he was constantly begging for money and materials to complete the building known to us as the Divinity School. The Rev. Henry Anstey has lately printed some of his letters in his "Epistolæ Academicæ Oxon. Registrum F.," and they form a most interesting series. They show that the University, like the majority of its members, was as poor as Job, and the letters are addressed to the King, to the Bishops, to executors who had trusts to administer for charitable purposes, and to the owners of woods and quarries to give in kind if they would not give in money. There is even a letter to the Master of St. Thomas's Hospital in London, in which the University by the hand of Dr. Kymer "confidently begs that you will intercede for us with the wealthy citizens of London that they may assist us in building the new schools, and that you will advise our Chancellor how to cast his net on the right side of the ship when he appeals to them for assistance".

For a long time Dr. Kymer held the office of physician to the household of Humphry Duke of Gloucester, uncle of Henry VI., and from 1439-46 Duke Humphry, presumably at the instigation of his physician, made presents of books to the University which were afterwards augmented by similar gifts from the same library obtained through the good offices of Master John Somerset who was also his physician. These books together with a few originally belonging to Bishop Thomas Cobham of Worcester formed the nucleus of a University library which was of sufficient importance to require a local habitation. The library increased rapidly and a keeper was appointed in 1513, but it was sold and destroyed by the King's Commissioners in 1550. For thirteen years the library lay desolate, until at length it was refounded by Thomas Bodley. It may therefore be said fairly enough that to Kymer belongs the honour of founding the first public library in Oxford and the profession of surgery in London. In 1449 Dr. Kymer became Dean of Salisbury but he continued to practise medicine, for in June, 1455, he was summoned to Windsor to attend Henry VI. in the fit of imbecility which

attacked him soon after the first battle of St. Albans. This is the last event in the life of Dr. Kymer of which we have any knowledge at present. He died in 1463.

There are no means of knowing how long the conjoint faculty of medicine and surgery lasted in London. The city records contain no notice of the swearing-in of a Rector of Medicine after 27th September, 1424, nor is there any other indication of the continued existence of a conjoint college after 1425. Dr. Kymer was transferred to the West of England in 1428, and more active military operations were recommenced in France in the same year when the Earl of Salisbury invested Orleans. The guiding hands of Kymer and Morstede being thus removed it is probable that the physicians and surgeons ceased to work together harmoniously and the partnership was dissolved. The separation however was effected quietly for there is no trace of a rupture and a few years later the physicians were helping the barbers to obtain a charter.

The coalition so long as it lasted was formidable to the Guild of Barbers, for the college chose to exercise its penal powers on the barbers who practised surgery, alleging that they were ignorant and unauthorised practitioners. The barbers soon took alarm, and realising their danger obtained in 1425 a confirmation of the power to practise surgery which had been granted to them in 1415 during the mayoralty of Thomas Fauconer, "notwithstanding the false accusation of the Rector and Overseers of the Physicians and the Masters of Surgery".

The Fellowship of Surgeons.

The two bodies of physicians and surgeons seem to have gone their own way after the separation. Little is known about the physicians from 1427 until they were incorporated in 1518 by letters patent of Henry VIII. as the President and College of Physicians of London at the solicitation of Thomas Linacre, and on the recommendation of Cardinal Wolsey. But the surgeons steadily pursued their plan of consolidating the craft, and in 1435 they appear as an

established body with a code of laws for the government of their society. They consisted at this time of seventeen members, and the laws and regulations which they then promulgated may still be read in a little quarto book written on vellum which is one of the many treasures preserved in the Barbers' Hall, London.

These ordinances were enacted by the good advice of the worshipful men of the craft or science of surgery in the city of London, on the tenth day of May, in the year of our Lord one thousand four hundred and thirty-five, in the thirteenth year of King Henry VI.

It was agreed that the general meeting should take place on the day of St. Cosmo and St. Damian (27th September), in each year, when the four masters were to be chosen, "as old custom was to rule and govern the craft". Every surgeon of the fellowship was to pay twopence a quarter—that is to say, eightpence a year—to the profit and worship of the craft in helping and relieving the need of poor men of the same fellowship. All the members were to assemble four times a year, and every member failing to appear, being duly warned, was to forfeit sixpence, or if he were one of the masters he must pay three shillings and fourpence to the charity-box. Each member was to help his fellow so far as in him lay, and it was ordained most strictly that none should filch another's patient. No surgeon might keep an assistant longer than a month without bringing him for examination, when if he were found skilful he might be bound to serve his master for three years. All dangerous and doubtful cases were to be shown to the masters of the fellowship, under a penalty of thirteen shillings and fourpence, to be put into the charity-box. The members of the guild had authority to take apprentices, who were made free of the fellowship in due course after serving their indentures for six years, or if any apprentice proved unsatisfactory he was allowed a second term of six years, when, "if he be not found in those twelve years well adapted in the manner aforesaid, he is never to be chosen a master surgeon".

The remaining ordinances are common to the craft guilds

of the time, thus a dinner was to be provided annually on the day of the patron saint—in this case St. Luke—when "every man that hath a wife shall pay for his dinner two shillings, and he that hath none twenty-pence". There were also arrangements for the saying of mass and similar matters. It is noticeable that the fellowship had two saints' days. The feasts of St. Luke and that of St. Cosmo and St. Damian. This is not difficult to explain when it is remembered that St. Luke, the old patron saint of physicians, was quite dispossessed in the middle ages by the devotion paid to St. Cosmo and St. Damian, in spite of being, or perhaps because they were, "anargyri," or had given their advice without fee. The seventeen persons agreeing to these ordinances are named at the end of the last clause, and it is interesting to notice that Thomas Morstede is mentioned last, whilst his old colleague in arms at Agincourt, William Bradwardine, is put first on the list. This is the last mention of Thomas Morstede. He died in 1450, and was buried in the church of St. Olave Upwell, in the Jewry, where he had built a fair new aisle. He left to "Roger Brynard, my apprentice, ten marks sterling (£6 13s. 4d.), "meum librum Anglicanum ligatum cum duabus latitudinibus, omnia instrumenta mea Cirurgie, cum omnibus suis pertinentibus, meum cornu argento ornatum et meum magnum pyxidem argenti".

The ordinances were reconsidered and approved without alteration on 28th September, 1503, in the thirteenth year of King Henry VII., but in the interval the guild had become of sufficient importance to apply for and obtain a charter of incorporation, granted in 1462, and in 1492 it was given a grant of arms. In 1493 it was living on friendly terms with the Barbers' Company, for in this year the two guilds entered into a "Composition," dated 12th May, and signed by representatives of both bodies. This composition recognised the independence of the two fellowships "of surgeons enfranchised within the city of London," and "of barber-surgeons and surgeons barbers enfranchised in the said city". It was agreed that neither body should admit any one, except a regular apprentice, to practise surgery without the consent

and knowledge of the other, and to ensure this being carried into effect every stranger seeking a licence to practise in London was to be presented to the Mayor by the four wardens of the two guilds. Dangerous and doubtful cases were to be brought under the notice of the four wardens, instead of as heretofore coming only under the observation of the two wardens belonging to either guild. The friendly feeling remained in 1513 when the Surgeons' Guild applied to Parliament to be "discharged of constableship, watch and all manner of office bearing any armour and also of all inquests and juries within the city of London," and the guild prays that this exemption may extend to all barber-surgeons admitted and approved to exercise the mystery of surgery. After this we hear no more of the Guild of Surgeons until 1540, when they were formally united with their old competitors and more numerous rivals, the Incorporated Barbers, to form the United Barber-Surgeons Company.

II.

The Barber-Surgeons.

Thanks to the labours of Mr. Sidney Young, F.S.A., a former Master of the Barbers' Company, we have a full, authoritative and most interesting account of the progressive development of the barbers in London. The Guild of Barbers like the Fraternity of Surgeons, began at a time to which "the memory of man runneth not". It was at first religious in character, then semi-social, and finally it became a purely secular or trade guild. It is said that the barbers used to assist the monks in the surgical operations which they performed in early times, and that after the edict of Tours in 1163, which forbade ecclesiastics to shed blood, some barbers took upon themselves to practise surgery and thus obtained the name of "barber-surgeons". The earliest records in the City of London show that the barbers held a very humble position, though even then they were credited with some knowledge of disease. Thus in 1310 Gerard the barber was sworn a keeper of the gate at Newgate, and there are other entries of barbers being appointed keepers or porters of the city gates. An entry made in 1375 gives a reason for the choice of the members of this particular guild to fill such an office, for it directs the porter to keep a strict watch lest any leper should enter the city.

The barbers were at first an unincorporated guild, governed by a single master, but in 1376 the guild elected two masters annually, and at this time the members seem to have been sharply defined into two classes, those who practised barbery proper (including perhaps the letting of blood and the pulling of teeth), and those who for the sake of distinction were known as "barbers exercising the faculty of surgery". In 1376 too the barbers made complaint to the Mayor and Aldermen of unskilled practitioners in surgery, and prayed that none should become free of the city in this craft but upon due examination of their skill.

The rulers of the Barbers' Guild always had great difficulty in exerting their authority, and in 1415 it was "reported tumultuously to Thomas Fauconer, the Mayor, and to the Aldermen that certain barbers of the City of London, inexperienced in the art of surgery, very often take charge of sick and wounded persons, with the intent of fraudulently acquiring their goods: whereby the sick are often worse off at their departure than at their incoming, and on account of the unskilfulness of these barbers are oftentimes maimed, to the scandal of the skilled and the manifest harm of our Lord the King. Wherefore the Mayor and Aldermen desirous of putting down such scandals and damage determined that two of the ablest, wisest and most discreet of all the barbers practising the surgical faculty should be called in to give their opinion in all cases likely to end in death or permanent disablement." The presentation of serious cases in the form of a gratuitous consultation with the heads of the surgical profession must have been very comforting to the surgeon in charge of a difficult case. It was adopted as has been shown in the Guild of Surgeons, and it remained as a cherished custom in the United Company of Barber-Surgeons.

The barbers made the first step in advance of the Surgeons' Guild in 1462, when they obtained a charter of incorporation which converted them into a company. The charter, as Mr. Young points out, contains a great deal about surgery and little or nothing about barbery though it is granted ostensibly to the barbers. The preamble of the

charter recites that by "the ignorance, negligence and stupidity of various barbers and other practitioners in surgery, many of the King's lieges have gone the way of all flesh".

The Barbers' Company was to be presided over by four masters, chosen annually according to ancient custom, the chief or first master being alternately a barber and a barber-surgeon.

The barber-surgeons had much ado to vindicate their privileges, for they were beset on the one side with the opposition of the Guild of Surgeons and on the other with the encroachment of unlicensed practitioners and quacks who set up for themselves and owed allegiance neither to guild nor company. Their prestige too received a very serious blow in 1511, when an Act of Parliament transferred the approbation and licensing of surgeons in London to the Bishop of London and the Dean of St. Paul's, and to the Bishops and their Vicars-General for various parts of the country. The Act speedily became unpopular and was amended by one still more retrograde in principle, for it made it "lawful to any person being the King's subject, having knowledge or experience of the nature of herbs, etc., to minister in and to any outward sore or wound according to their cunning. This Act remained in force until 1540, when the United Company of Barber-Surgeons was called into existence. The Bishops however claimed and exercised their right to license surgeons as late as the middle of the eighteenth century, but there was no settled policy in their action. The Bishop licensed whom he thought fit, and the barber-surgeons continued to grant authority to the large majority of applicants without any reference to the Bishop. Occasionally the Bishop issued his licence to a candidate whom the barber-surgeons had examined in his behalf. But in 1715, when a Bishop of London more active than his predecessors in this matter tried to urge his claims unfairly and refused to be bought off, the clerk of the company wrote a peremptory letter to his lordship, saying that the barber-surgeons were prepared to contest the whole matter in a court of law and nothing more was heard of his claim.

In 1530 the company drew up a most interesting series of

ordinances for the better governance of its members, and the ordinances were signed by Sir Thomas More then Lord Chancellor. The document is of great value to the history of surgery in London, because it shows that the Barbers' Company had already made special provision for the teaching of surgery by a regular course of lectures. The clause runs, "also it is ordained that every man enfranchised in the said fellowship and occupying surgery shall come to their Hall to the reading of the lecture concerning surgery every day of the assembly thereof and every man in his turn shall read the lecture himself or else find an able man of the said fellowship to read for him. And he shall not absent himself at his day of the said reading without reasonable cause and unless he give warning thereof before the day, upon pain to forfeit and lose for every time doing the contrary twenty shillings."

The progress of surgery in London was traced in a former article from the time of its first records until it had reached a recognised corporate existence as The United Company of Barbers and Surgeons. It was shown that during the early period two guilds of surgeons existed side by side in London, the one a numerous and flourishing body embracing most of the civil surgeons who formed the bulk of the profession ; the other a small and somewhat aristocratic fellowship, apparently recruited from the military surgeons of each generation. The larger body, beginning as the Guild of Barbers, became the Company of Barbers in the first year of Edward IV. (1462), whilst the king was still the people's favourite ; the Surgeons' Guild on the other hand remained poor and unincorporate until it was merged in the Barbers' Company by the Act of Union, dated 25th July, 1540. A union which remained in force until 1745, when the barbers continued under their original style of The Barbers' Company, whilst the surgeons were reconstituted under the title of "The Company of Surgeons," which lapsed after a few years, and from which the present Royal College of Surgeons of England was evolved.

Surgery reached the lowest ebb in the years which immediately preceded, and followed the formation of the

United Company. It was then of no account as a profession for as has been shown an Act of Parliament was passed to allow any quack to practise. But even at this dark time there existed a band of men to whom we must always be grateful for they made a serious endeavour to advance the best interests of the profession in face of the greatest difficulties. Some of these men lived in the provinces, others resided in London. They worked at first independently of each other, afterwards recognising each other's worth and that they had a common end in view, they became friends and toiled together. Their methods of reform were often rough and their abuse did not measure its terms, but they were suited to the times, and it must be remembered that they had often to deal with the very lowest of the population.

The best known members of the band were Thomas Gale, William Clowes, John Halle, John Read and John Banester. Gale and Clowes were well known, for they were high in office in the Barber-Surgeons' Company. Halle practised in Kent, Read in Gloucester, and John Banester at Nottingham.

Thomas Gale was the senior in point of years. He was born in 1507 and died in 1587. He was apprenticed to John Field and to Richard Ferris, Serjeant-surgeon to Queen Elizabeth, and he was twice master of the Barber-Surgeons' Company. For a time he practised in London, then he served at Montreuil (1544) in the army of Henry VIII. In 1557 he was at the battle of St. Quentin with Philip II. of Spain, where Ambroise Paré in the French Army was dressing the wounds made by the English. Guise took Calais in the following year and, the war being over, Gale returned to London.

Gale was one of the first English writers on surgery to publish his books in the vernacular that they might be of use to his brethren who were unskilled in Latin. His two important works were published in 1563, the first entitled: *An Excellent Treatise on Wounds made by Gunshot*, the other *An Enchiridion of Surgery*. His treatise on gunshot wounds was intended to confute the opinion then generally held, that gunpowder caused a poisoned wound. He therefore adopted

milder methods than usual, and treated these wounds as though they had been simple contusions. The enchiridion is a less important work, for it is chiefly composed of facts and observations collected from the writings of others.

Gale, however, had a very great reverence for his profession and took a high ideal of a surgeon. At a time when he confesses that "few who have well brought up their son will put him to the art of surgery, because it is accounted so beggarly and vile," he urged that a surgeon should observe these six things in relation to his patient: "First, that he doth his operation safely without hurt and damage to the patient: secondly, that he do not detract time or let sleep good occasions offered in working, but with such speed as art will suffer, let him finish the cure: thirdly, that he work gently, courteously and with as little pain to the patient as conveniently you may, and not roughly, butcherly, rudely and without acombleness. Fourthly, that he be as free from craft and deceit in all his working as the east is from the west. Fifthly, that he take no cure in hand for lucre or gain's sake only, but rather for an honest and competent reward with a godly affection to do his diligence. Last of all that he make no warrant of such sickness as is incurable, as to cure a cancer or a long-standing elephantiasis, but circumspectly to consider what the effect is and promise no more than art can perform."

It is not without reason that Gale spoke of surgery as a beggarly occupation in his days, for he says: "I remember when I was in the wars in the time of the most famous prince, King Henry VIII., there was a rabblement there that took upon them to be surgeons. Some were sow-gelders and some horse-gelders with tinkers and cobblers. This noble sect did such great cures that they got themselves a perpetual name, for like as Thessalus' sect were called Thessalians, so was this rabblement, for their notorious cures, called dog-leechers, for in two dressings they did commonly make their cures whole and sound for ever, so that they neither felt heat nor cold, nor no manner of pain after. But when the Duke of Norfolk, who was then general, understood how the people did die, and that

of small wounds, he sent for me and certain other surgeons, commanding us to make search how these men came to their death, whether it were by the grievousness of their wounds or by the lack of knowledge of the surgeons: and we, according to our commandment, made search through all the camp and found many of the same good fellows, which took upon them the name of surgeons,—not only the name but the wages also. We asking of them whether they were surgeons, or no, they said they were. We demanded with whom they were brought up, and they with shameless faces would answer either with one cunning man or another, who was dead. Then we demanded of them what chirurgery stuff they had to cure men withal and they would show us a pot or a box, which they had in a budget, wherein was such trumpery as they did use to grease horses' heels withal, and laid upon scabbed horses backs, with nerval and such like. And other that were cobblers and tinkers, they used shoemakers' wax with the rust of old pans and made therewithal a noble salve, as they did term it. But in the end this worthy rabblement was committed to the Marshalsea and threatened by the Duke's grace to be hanged for their worthy deeds, except they would declare the truth what they were and of what occupations, and in the end they did confess as I have declared to you before."

William Clowes the elder was even more distinguished than Gale as a leader amongst the great English surgeons in the reign of Elizabeth. He was born in 1540, a Warwickshire man, and was apprenticed to George Keble. In 1563 he was a surgeon in the army commanded by Ambrose, Earl of Warwick, and after the Havre expedition he served for several years in the navy. He was admitted to the Barber-Surgeons Company in 1569, and then settled in London. In 1575 he was appointed a surgeon to St. Bartholomew's Hospital, becoming full surgeon in 1581, and he was also surgeon to Christ's Hospital—the Bluecoat School. He went to the Low Countries with the Earl of Leicester in May, 1585, and on his return to London he was admitted a member of the Court of Assistants of the Barber-Surgeons Company. In 1588 he served in the English Fleet against the Spanish

Armada and was afterwards appointed surgeon to Queen Elizabeth. He died at Plaistow in Essex in 1604.

Clowes published his books at intervals from 1575 to 1596, and Dr. Norman Moore well estimated their value when he said of them: "They are the very best surgical writings of the Elizabethan age: they are all in English, the style is easy and forcible, sometimes a little prolix but never obscure". They have the great merit that the author gives his own experience and relies but little upon the theories of other people.

Master Clowes in the following sentences gives a taste of his quality as well as a picture of the condition of surgery as he saw it: "Where the learned physician or surgeon cannot be had for counsel, I am herein to admonish the friendly reader to take heed and not to commit themselves into the hands of every blind buzzard that will take upon them to let blood, yea, to the utter undoing of a number. For many in these days being no better than runagates or vagabonds, do extraordinarily, yea, disorderly and unadvisedly intrude themselves into other men's professions, that is to say, not only in letting of blood, but also do take upon them further to intermeddle and practice in this art, wherein they were never trained nor had any experience: of the which a great number be shameless in countenance, lewd in disposition, brutish in judgment and understanding as was their unlearned leader and master Thessalus, a vain practitioner, who when his cunning failed, straightways sent his patients to Lybia for change of air. . . . This their grand captain was by profession a teazler of wool and also the forerunner of this beastly brood following: which do forsake their honest trades, whereunto God hath called them, and do daily rush into physic and surgery. And some of them be Painters, some Glaziers, some Tailors, some Weavers, some Joiners, some Cutlers, some Cooks, some Bakers, and some Chandlers. Yea, now-a-days it is apparent to see how Tinkers, Tooth-drawers, Pedlers, Ostlers, Carters, Porters, Horse-gelders, and horse-leeches, Idiots, Apple-squires, broom-men, Bawds, witches, conjurers, Sooth-sayers and sow-gelders, Rogues, rat-catchers, runagates and proctors of Spittle-houses with such other like rotten and stinking weeds

which do in town and country without order, honesty or skill daily abuse both physic and surgery, having no more perseverance, reason or knowledge in this art than hath a goose, but a certain blind practice without wisdom or judgment, and most commonly useth one remedy for all diseases and one way of curing to all persons both old and young, men, women and children, which is as possible to be performed or to be true as for a shoemaker with one last to make a shoe to fit for every man's foot and this is one principal cause that so many perish." The picture though deplorable does not seem to be greatly exaggerated, as it is confirmed—as has been shown—by Gale who says in almost identical words that a similar state of things existed in the army in his time, and by Halle who met with the same hindrances in the provinces.

Clowes' outspoken expressions of opinion did not render him a *persona grata* to his contemporaries and sometimes led him into trouble. Thus it is recorded in the books of the Barber-Surgeons' Company that on "28th February, 1576. Here was a complaint against William Clowes by one Goodinge for that the said Clowes had not only misused the said Goodinge in speech but also most of the Masters of the Company with scoffing words and jests and they all forgave him here openly in the Court and so the strife was ended upon condition that he should never so misbehave himself again, and bonds were caused to be made to that effect." But, alas, for the frailty of human nature! in the very next year on "25th March, 1577. Here at this Court was a great contention and strife spoken of and ended between George Baker and William Clowes for that they both contrary to order and the good and wholesome rules of this house misused each other and fought in the fields together. But the Master, Wardens and Assistance wishing that they might be and continue loving brothers pardoned this great offence in hope of amendment." Clowes' opponent on this occasion was one of the Earl of Oxford's men, who afterwards became Serjeant-surgeon to Queen Elizabeth and was master of the company in 1597.

III.

WE know very little about John Halle. He was born in 1529: lived for some time at Maidstone in Kent, and was admitted a member of the Barber-Surgeons' Company comparatively late in life. He was the sturdiest representative of the best type of English country surgeon. Throughout his life he objected to the division of medical science and had as high a reverence for his profession as Gale and Clowes. He says "as the physicians think their learning sufficient, without practice or experience, so the chirurgeon, for the most part having experience and practice, thinketh it unneedful to have any learning at all, which also hath boldened every ignorant, rustical, yea, and foolish women to think themselves sufficient to profess and work in so noble and worthy an art". He then goes on to ask: "Why is every rude, rustick, brainsick beast, fond fool, indiscreet idiot: yea, every bedlam bawd and scolding drab, suffered thus (without order) to abuse this worthy art upon the body of man? What aileth the goodly orders, taken by our forefathers and ancient authors, that none should be admitted to the art of chirurgery that are miscreate or deformed of body: as goggle or squint-

eyed, imperfect of sight, unhealthy of body, imperfect of mind, not whole in his members, boistrous fingers or shaking hands. But contrariwise that all that should be admitted to that art should be of clear and perfect sight, well formed in person, whole of mind and of members, slender and tender fingered, having a soft and steadfast hand : or, as the common sentence is, a chirurgeon should have three divers properties in his person. That is to say, a heart as the heart of a lion, his eyes like the eyes of a hawk, and his hands as the hands of a woman. . . . He ought to be well mannered, of good audacity and bold where he may work surely : and contrariwise, doubtful and careful in things that be dangerous and desperate. He must be gentle to his patients, witty in prognostications and foreseeing of dangers, apt and reasonable to answer and dissolve all doubts and questions belonging to his work. He must also be chaste, sober, meek and merciful : no extortioner, but so to accomplish his reward at the hands of the rich to maintain his science and necessary living that he may help the poor for the only sake of God. What meaneth it I say (these things considered) that so many sheep heads, unwitty, unlearned, unchaste, ribalds, lechers, fornicators, drunkards, bellygods, beastly gluttons, wrathful, envious and evil-mannered shall thus miserably be suffered to abuse so noble an art?" It was also Halle's special mission in life to expose and humiliate the numerous quacks who came to settle in Maidstone. His "Historiall expostulation against the beastly abusers both of chirurgery and physic in our time," was appended to his translation of Lanfranc's *Chirurgia parva* issued in 1565. It is well worth the attention of every student of the history of English surgery for it contains a lively account of the manner in which Halle dealt faithfully with itinerant surgeons and astrologers.

John Read like Clowes, Gale and Halle was instant that the practice of surgery should attain a high level and should be freed from the quackery which then formed so abundant a leaven in it. Only a few details remain of his life. He was living at Gloucester in 1587 and in 1588 he came to London and was admitted a foreign brother of the Company of Barber-

Surgeons. On 24th June, 1588, he obtained a licence to marry Cicely, daughter of John Banester. He published a volume of translations of medical writers in 1588 dedicated to John Banester (his father-in-law), William Clowes and William Pickering. The preface to this work shows that Read was far in advance of his time for he lays down very strongly the doctrine "that all chirurgeons ought to be experienced in physic: and that the barbers' craft ought to be a distinct mistery from chirurgery".

John Banester is mentioned last of this noble band because he wrote less strongly in favour of reform, though there is no doubt that he was in full sympathy with the movement. He held in fact somewhat the same relation to the surgical advance in the reign of Elizabeth as did Canon Pusey to the Tractarian movement in our time. He lent it the influence of his name.

He was born of parents in a good position about 1540, and in 1563 he acted as surgeon to the forces sent under the Earl of Warwick to relieve Havre. Here he became acquainted with William Clowes, who speaks of him as "Master Banester, my dear and loving friend". In 1572 he was admitted a member of the Barber-Surgeons' Company, and there is a note stating that "Mr. Bannester of Nottingham was sworn and admitted a brother of this mystery. Whereupon he hath granted to the House yearly twenty shillings so long as he liveth, and to be liberal and commodious to this house in what he may, and will send yearly a buck or two and hath paid ten shillings and shall have his letter of licence." Clowes may have helped him to obtain this favour, but it is possible too that he had other interest in the company, for a John Banester was a member in 1537. The University of Oxford granted him a licence to practise medicine on 30th June, 1573, and he thus acted both as a physician and as a surgeon, a very unusual combination at this time when the surgeons were still servants of the physician.

In 1585 he served on board ship during the Earl of Leicester's expedition to the Low Countries, and on 15th February, 1594, in obedience to a letter from Queen Elizabeth

"given under our signet at our manor of Oatlands" he was licensed by the College of Physicians to practise physic, "on condition that in every serious case and when there is much danger he shall call in some other member of the College to help him in the cure". He died in 1610 and was buried in the church of St. Olave's, Silver Street, London.

It is no wonder that with such men at the helm the Barber-Surgeons' Company steered a straight course at the beginning, and endeavoured to the uttermost of its power to maintain and improve the knowledge of surgery possessed by its members. The easiest way to understand this perhaps is to follow the course of a boy whose father was anxious that he should attain a high position as a surgeon in London towards the end of the reign of King Edward VI. or whilst Mary or Elizabeth was on the throne. Such a boy would be taught to read and write in one of the grammar schools then recently founded in London. He had learnt too a little arithmetic and some Latin, but his knowledge of Greek would be of the scantiest. About the age of fourteen he would leave school when his father had found some member of the Barber-Surgeons' Company who was in need of an apprentice. Terms being agreed upon, the boy, his father and the barber-surgeon would meet at the Barber-Surgeon's Hall in Monkwell Street, where the candidate for apprenticeship was duly presented to the Court (or council) of the company to show that he was sound in wind and limb and that he had received a sufficient education. If he were approved the clerk of the company made out his indentures which were then taken to the Guildhall to be registered. The lad was bound to his master for seven years, which in some cases was extended to eight and even nine years. The master received a lump sum of money, in return for which he undertook to find his apprentice "meat, drink, apparel, lodging and all other necessaries according to the custom of the City". Each master was allowed to take three or four apprentices according to his position in the United Company, and if he died the apprentice was "turned over" to another

master. During his indentures the apprentice remained the slave of his master who might whip or starve him into submission, or might even have him imprisoned in the city compter. The boy, however, had a right of appeal to the Barber-Surgeons' Company, which he sometimes exercised, though more often he revenged himself by a thousand impish tricks, for he was constantly in hot water. Usually, however, things came right in the end and the apprentice was admitted to the freedom of the company by servitude, upon the recommendation of his master, and he thus obtained a licence to practise surgery within the City of London.

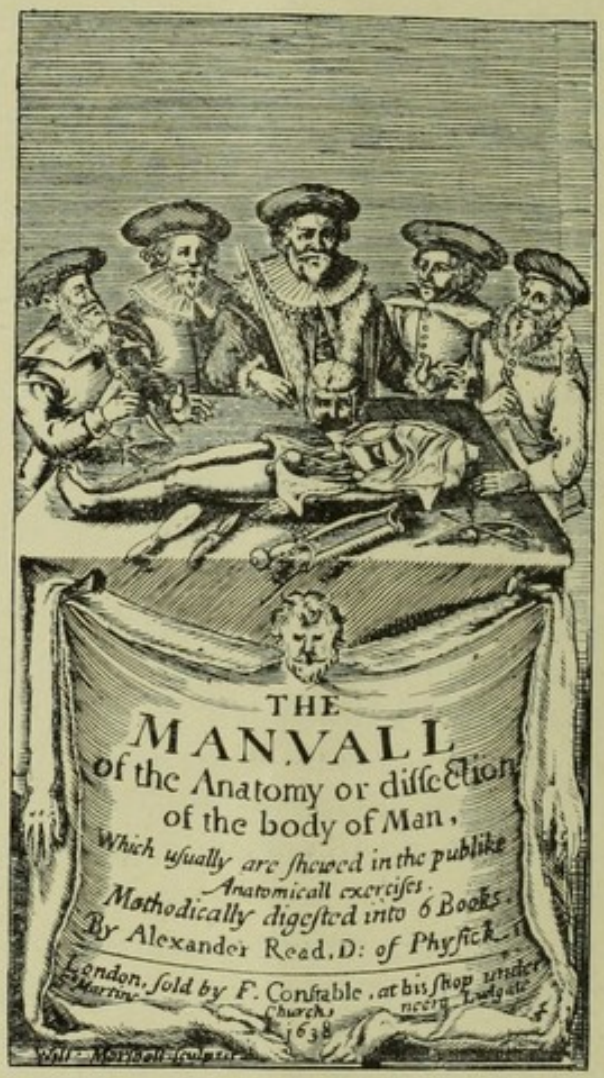
The licence was granted in two forms. The one after a comparatively simple examination, when the candidate was allowed to practise in a definite place or for a certain number of months or years, at the end of which he was told to appear again before the company that his further proficiency might be ascertained; secondly, the Grand Diploma was granted to those who had submitted themselves to a more severe test. It entitled its owner to be called a Master in Surgery and Anatomy and allowed him to practise his art anywhere and during the whole of his life. Such a diploma was necessarily more expensive than the ordinary licence. The examination was public and was of old-standing, for so early as 8th August, 1497, it is said in a licence granted to Robert Anson: "We have prayed and required Master John Smith, doctor in physic, instructor and examiner of the said fellowship to enter upon an examination. . . . Whereupon Robert Anson appeared at the Common Hall of the said Commonalty in his own proper person on the first of August last, submitting himself to examination. Whereupon the said Robert by the said John Smith in a great audience of many right well expert men in surgery and others was openly examined in divers things concerning the practice, operative and directive, in the said craft of surgery . . . and was found able and discreet to occupy and use the practice of surgery as well about new wounds, as cancers, fistulæ, ulcers, and many other diseases and divers: and the said Robert, thus approved and abled to occupy and practise in the said faculty in every place

when and as often as him best liketh, we have licensed and granted him by these presents."

The education of the surgeon did not end with the granting of his licence; indeed it only now began, and to the end of his life he was bound to attend the lectures and demonstrations given at the Barber-Surgeons' Hall, unless he chose to stay away and pay a fine. The company taught especially the subjects of surgery and anatomy; surgery by lectures, anatomy by demonstrations as well as by lectures. At first, and afterwards at intervals during the existence of the United Company, an attempt was made to compel the members of the company to become the teachers, but it always seems to have been impossible to obtain a sufficient number of properly qualified men, and on each occasion the attempt ended in failure after a longer or shorter period. The company therefore appointed and paid liberally special teachers, who were usually younger members of the College of Physicians, whilst from time to time a munificent barber-surgeon would endow a lectureship. Two of these benefactions still remain at the College of Surgeons of England, where they have been converted into a single professorship, "the Arris and Gale," which retains the names of the original benefactors.

The company's charter gave permission for four dead bodies of malefactors to be dissected yearly, and these "public anatomies" were carried out with great solemnity. They became semi-public exhibitions, and on each day there was a great feast at the company's expense. Each body was dissected for a special purpose, thus there was the osteological lecture, the visceral lecture, the muscular lecture, etc. Each lasted three or more days, but as there were no means of preserving the subject, the course was never unduly prolonged. The "parts," or rather "the systems," were first dissected by the demonstrators, who afterwards stood on either side of the lecturer and pointed with a little rod to each structure as he mentioned it, as is seen in the following block taken from the frontispiece to Alexander Reid's *Manual of Anatomy*. The whole arrangements of the lecture were under the

control of two masters or stewards of anatomy, who were elected to the office annually, and whose business it was to



Frontispiece to Dr. Alexander Reid's *Manual of Anatomy*, showing the usual manner of conducting a lecture on anatomy in England at the beginning of the 17th century. Dr. Reid, the lecturer, is seated at the centre of the table holding his wand in the right hand, on either side are his stewards of anatomy, whilst at the corners are the two demonstrators of anatomy, or prosectors, each holding a scalpel. William Marshall, the designer of the plate, was one of the best-known book illustrators from 1630-1650. He drew the frontispiece of "Εἰκὼν Βασιλικὴ, a pourctraicture of his Sacred Majesty King Charles I.".

see that everything was done decently and in order, that the auditors were seated in due precedence, and that the subse-

quent banquet was carried out to every one's satisfaction. The lecturer was allowed to teach a small class after he had performed his public duties, and from time to time, as opportunity occurred, "a private anatomy was wrought upon". Special leave, however, had to be obtained, and every member of the company was especially prohibited from making dissections except at the Common Hall. The attendance at the public anatomy lectures was compulsory, a member being fined threepence each time he was absent. The lectures on surgery were equally well managed; they were delivered by a special lecturer, and they also were compulsory. During the early years of Charles I.'s reign they were given every Tuesday throughout the year by Alexander Reid, who afterwards published them, when they were so much appreciated that they were pirated during his life, and were republished more than fifty years after his death.

But the interference of the company was not limited to the theoretical side of the surgeon's work. It even dealt with his treatment at the bedside, for, as has been shown already, a surgeon who had charge of a difficult, dangerous or obscure case was obliged to call the senior members of his company into consultation. This system of "presenting" patients, as it was called, had much to recommend it, but as competition became keener it opened a way to abuse. At first the consultations were gratuitous, but after a time a present was accepted, yet it was not until the dissolution of the United Company in 1745 that the custom ceased to exist, though it had doubtless fallen into abeyance many years previously.

A surgeon who was bent upon rising in the company had yet other duties to perform. He acted as a steward at the three great festivals of the year. The Anatomy Feast, the Ladies' Banquet and the Lord Mayor's Dinner, and these posts he usually filled in successive years whilst he was still a liveryman. Unless he happened to receive an appointment at court (when he took a high place by right) he was in due time elected in rotation to the Court of Assistants, whence by gradation he served the annual office of third, second and firs warden, until in the fulness of time and after the payment of

many fees he filled the supreme office of Master of the United Company of Barber-Surgeons.

It must be confessed, however, that under the late Tudor dynasty and during the whole of the Stuart and Commonwealth period surgery held no high position socially. The surgical members of the United Barber-Surgeons' Company, with very few exceptions, were overweighted by their barber associates, and surgery was looked upon as a trade rather than as a profession. Perhaps the unceasing care exercised by the company had something to do with this position. Gale, Clowes and Banester died and left no worthy successors, yet their work was not wholly lost. The tradition remained, but it was carried on so far as we now know only by single links. Woodall and Wiseman almost bridge over the gulf which separates the great Elizabethan surgeons from the founders of modern surgery—Cheselden and Pott.

IV.

The tradition of Elizabethan surgery lingered for some time in London in the possession of the United Company of Barber-Surgeons, and John Woodall was its chief repository. Of his life we know but little. He was born about 1569 and at the age of twenty he served in Lord Willoughby's expedition to render assistance to Henry IV. of France. He then travelled for many years through France, Germany and Poland, gaining his livelihood by the practice of his profession, until his familiarity with the plague tempted him to settle in London during the great plague year of 1603. Shortly afterwards he was appointed by Sir Thomas Smith to the post of Surgeon-General to the East India Company. He became surgeon to St. Bartholomew's Hospital, 9th January, 1616, and was the youngest warden of the Barber-Surgeons' Company in 1625, though he was not elected second warden until 1627 nor master until 1633, having in the interval escaped the office of first warden, though the usual course was to fill the four offices in annual succession. He was appointed in 1627 "to go to Portsmouth to cure the wounded soldiers that come from the isle of Rea in France". In 1641 he was engaged in examining in surgery for the United Company of Barbers and Surgeons, and it was reported during his year of office that "the Examiners of Surgeons taking into their considerations the manner of reading of lectures in surgery have thought fit and ordered that the surgery lectures shall be read by approved surgeons

only and the lecture to begin by the first surgeon that is approved next the Examiners, and so every one by his turn to read the Tuesday's lectures and every one to have a preceding month's time of warning or notice to prepare himself for such lecture as he shall read". Woodall complains in 1639 that time has overtaken him "so that now I am forced to conclude, having run through the cares of sixty-nine years: old age being an enemy to study, for my sight being weakened, my memory much impaired and my capacity utterly unable to perform so hard a task," as the continuation of his surgical treatises. He died in October or in the early part of November, 1643.

If Woodall had done nothing else he would deserve the lasting gratitude of every sailor, for he inferred the efficacy of limejuice from the happy accident of two ships' crews, one smitten with scurvy, the other free from it, differing in this one article of diet and nothing else. In the eyes of his contemporaries Woodall did much more. He published in 1617 the *Surgion's Mate*, and in 1628 *The Viaticum: being the pathway to the Surgion's Chest*, text-books of surgery which long formed part of the library of every surgeon and surgeon's mate or assistant by sea as well as by land. To us Woodall stands out as the one surgeon in the reign of James I. who carried on his craft as a profession and not as a trade. The art of surgery had fallen to so low an ebb that he is almost literally correct when he says in his preface to the *Viaticum* that "for this forty years last past no Surgeon of our Nation hath published any book of the true practice of surgery, to benefit the younger sort, these my mean Treatises only excepted".

It had been the duty of the earlier Elizabethan surgeons to struggle against the usurpation of surgery by quacks. Woodall fought to secure the freedom of the surgeons against the physicians. It had been long laid down that a surgeon ought not to give inward medicines without the counsel of a physician but Woodall says :—

"To clear this, I answer first, it is expedient and just, where learned counsell may be had to make use of it, for that by such counsell there is safety :

nevertheless know that it is uncharitable to forbid an expert surgeon at any time or in any place the use of the instruments and medicines which are necessary to his art for the curing of his patients . . . for worthy artists, *viz.*, Surgeons approved by the laws of the realm, ought to be free to exercise their art; for, as in Mr. Gale's comparison [who was a late good writer in Surgery], which upon the like difference he then made of a Shipwright and a Carpenter, who were both of necessity to use one and the same instruments to perform their several works withal; even so must every honest artist, legally bred in the art of medicine, be tolerated to practise by what title soever you please to call him. Then, if so, he must by consequence have the free use of all such instruments and means as may best and with most ease perfect what he intends, to wit, the cure of man's body: for, although the Carpenter may say to the Shipwright, Thou art not to use the Axe, the Adze, the Saw, the Hammer nor the Plane, etc., for all these tools appertain and are proper to me for my art, and I cannot build without them; even so might the other make a like fair answer and say, They are also as proper for my art, and without them in like manner I cannot build. In like manner might the Joyner and other Tradesmen say. And no less may it be said of the art of medicine: for whether he be called Physician, Surgeon or Leech, or what other name men please to impose upon him, if they admit, yea, and appoint him to cure wounds, tumours against nature, ulcers, erysipelas, herpes, the French pox, the pestilence, or whatsoever other disease is incident to man's body, it is but fitting that he be free to have the proper use of all medicines and instruments, most apt and meet to bring the same his intended scope to pass, yea, and that without offence of the law, notwithstanding any by-Law made by any for private lucre, to hinder the prosecution of the well-healing of the diseased people. For who is so fit, or to whom doth the whole use of all good medicines so justly appertain to, as to the Surgeon that is expert, who by his Majesty is prest, and thereby commanded, as well as by christian duty tyed, upon all occasions to heale wounded and other diseased persons."

The attempt to obtain a free hand for the surgeons was quite futile. The physicians at this time and for many years afterwards were too strong, and in June, 1632, they obtained an order of council with a clause to the effect that no chirurgeon "doe dismember, Trepan the head, open the chest or belly, cut for the stone, or do any great operation with his hand upon the body of any person to which they are usually tied to call their Wardens and Assistants but in the presence of a learned physician, one or more of the College or of her Majesty's physicians".

The physicians afterwards exhibited a bill in the Star Chamber to still further strengthen their powers, but the

surgeons petitioned against it successfully, and in 1635 Charles I. ordered it to be expunged. The desire however remained, and for many years the physician struggled hard to keep the surgeons in an inferior position. It was useless for Woodall to write—

"Galen in his third and fourth books, *De Methodo Medendi*, doth name the artists Medicus that doth cure ulcers and wounds, etc., and many ancient writers call him Medicus Chirurgus; whereby it appeareth, that the surgeon is Medicus a Medendo, and retains the name Chirurgus by performing the art of healing in a practick way, namely by the hand, and, therefore, is rightly called Medicus Chirurgus, and thereby is capable to use all medicines for healing. And if so, he must not of necessity be forbidden lawful practice; otherwise how shall he well perform his scope of healing, when he is either in Ship, in Camp, or anywhere in the Country, where Physicians are either not at hand, or will not come? as when and where contagious diseases happen, namely the small and great pox and the pestilence, etc. Now here in all conscience the surgeon must be admitted to show his utmost skill for healing men's infirmities without danger of any law, if he be a man lawfully called, as aforesaid to the exercise thereof: otherwise it were very unreasonable that the surgeon alone should be pressed to the healing of his Majesty's subjects, where no Physician or Apothecary is admitted to advise, assist or direct him, and yet to practise should be held unlawful to him when he performeth his best in any action or part of healing to his patient's good. But God be thanked, there are both ancient and modern good laws, orders and ordinances, which do manifestly enable a surgeon to exercise his science, and to breed up servants to be expert therein, for the better continuance of the art, and for the future increase of good and able Surgeons for the service of his Majesty and the commonwealth. And to manifest the same his Highness not only alloweth the use of inward and physical drugs and medicines to the surgeons of his own service, but is further graciously pleased (out of his own Coffers) to pay for them."

Woodall gives some interesting details about the pay of surgeons in the navy at the beginning of the seventeenth century in the following sentences:—

"In July 1626 there were rumors of wars, and our Company of Barber Surgeons were then commanded by His Majesties Authority forthwith to provide sixteen of the best surgeons as the then time afforded for his especial service by land, such as were men most expert in the healing of wounds made with gun shot: and generally for the most part, by reason of the long and happy peace that our nation had enjoyed, many good surgeons being put to it at the first, were likely to have found somewhat to seek therein; how much more then our younger men? Wherefore the charge of providing, preparing

and fitting his Majesties whole service by land and sea, being by his Highness referred to our Corporation and our Company, having for that time made choice of myself, and deputed me to the work, I held myself in conscience and duty tied to do somewhat, although I confess it was little, to the better enabling and encouraging of our younger men unto their duties in that point. But here under favour I must pardon a little digression: namely that before my entrance unto any further discourse I acquaint the younger sort of surgeons, my Brethren, with those especial favours, which it then pleased our most gracious King Charles to bestow upon our Corporation in particular, above and beyond his ever blessed Ancestors, for the good of his souldiers and Seamen, and our encouragements thereby to animate and enable us the more heartfully to serve him: And namely:—

"First His Highness was graciously pleased, when also he increased the Sea-mens wages, to augment the monthly wages of each Surgeon and Surgeons Mate in his service by sea and land, to above a third penny from former custom: namely from nineteen shillings four pence a month to thirty shillings.* He hath also been pleased graciously to give a free benevolence to the Surgeons in all his sea services, which never was given them by any of the former Kings nor Queens of this Land before, as followeth, *viz.*, To all Surgeons that serve in his Highness own ships, I mean towards the furnishing of their Surgeons chests with Physicall drugs and medicaments, I say for each of them ten pounds: and to each Merchants ship five pounds and to each new Castle-ship [Newcastle-on-Tyne] or Colliers-ship serving in his highness his affairs three pound. And nevertheless all the Surgeons in His Highness service have as formerly by the head of all men that are in pay in any of his ships or Land-service two pence of each man by the moneth: And for the Surgeons in his Land service, hee alloweth to the Surgeon-Major of the whole Campe five shillings a day: and for his two mates or servants four shillings a day. Also His Majestie alloweth to each Surgeon two shillings and sixpence the day, which is three pounds and fifteen shillings the moneth, and to each Mate three pounds a moneth, and moreover allowed and gave to each Surgeon appointed to 250 men a surgery Chest of 17 pounds valew, free of account: And moreover His Majestie alloweth to the Surgeon Major a store Chest or Magazeen Chest of 48 pound valew, for a supply to furnish upon all wants and occasions."

Woodall gives incidentally, from his own observation, an account of the condition of surgery abroad, which shows that it was on a much less satisfactory footing than in England, for it was a close guild, whereas here it was open to any one who chose to be apprenticed to a member of the United Company. He says:—

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*These amounts must be multiplied by four or five to arrive at the present value of the money.

"Imprimis the Surgeons orders are generally that everie City, Town Corporate or place priviledged, hath a constant rule, as by ancient tradition of the allowing of onely an usuall, accustomed number of Chirurgions therunto appertaining, so that for one instance if the Citie of Hamburge hath twelve Chirurgions belonging therunto, although a thousand pounds should be tendered in any way to produce a freedome for a thirteenth Chirurgion, it could not prevail, nor would be taken there; as likewise it generally is so all over Germany, and each Chirurgion is bred and must be a Barber, and so are all Barber-Chirurgions: and if any one die his office, Art, and place rests in the power or disposing of his wife to the use of her and hers, so that whoso marrieth her or compoundeth with her, of what nation or countrey soever he be that shall exercise the place, it is alike provided he be brought in by the widdow, as her husband or Agent for her, he is capable of a place void, having first made his master-piece, and performed some Manuall exercises usuall with them in his Art of Chirurgerie, thereby to give a sufficient testimonie to the world of his answerable skill in his Art or Science, as namely, either by grinding and setting a delicate lancet, and therewith opening severall veins smoothly, for the more manifest effecting thereof to the brethren of his calling, one will lend him his veine, namely one on the thumbe, one on the foot, and one on the arme, one other on the forehead, as also by the neat and exact making an artificiall Emplaster, Unguent or the like: which done, being by the rest of the Masters of the Citie approved of, and some other rites and ceremonies answering to his calling by him performed, according to the custome of the place that he intendeth to reside in, he is then being esteemed a Regular person, and also having made the Brotherhood of the place and himself well drunk once, twice or thrice, he is, I say (*ipso facto*) admitted to be a brother and freely to use his function, and is styled by the name and honour of a Master of his profession. Thus much of their custome. But our customes are different from theirs and farre better, namely our Companie of Chirurgions of the Citie of London, in the Hall of the Society have a more commendable custome, for we not onely examine Chirurgions and try their skils in that way, as being of ancient time used and practised amongst us, but also we have profitable, learned and experienced lectures read amongst us, having two laudable ends and effects in them, the one in testifying their own, I meane the Readers sufficiencies: the other in seasoning and instructing of their auditours, namely the younger sort of practitioners in the Art they professe: and yet they have a third good end, namely, they serve for the public good of the whole Common-wealth, by training up and breeding of able Chirurgions upon all occasions."

Fortunately for the profession of surgery Woodall was succeeded by Richard Wiseman, to my mind one of the best, most observant and most practical surgeons who had as yet appeared in London. Woodall to a certain extent, but Wiseman pre-eminently, gave to surgery the tone which enabled it

to emerge from a mere handicraft and become a profession. Wiseman was born in London at some time between 1621 and 1623 and was apprenticed at the Barber-Surgeons' Hall in the early part of 1637. He then entered the Dutch naval service and saw much active service in the Spanish war. When the civil war broke out in England he took the field on the King's side and was in continuous attendance upon Charles, Prince of Wales, afterwards Charles II., for many months, at first merely as a surgeon attached to the troops under the Prince's command, but after the dismissal of Surgeon Pyle in Jersey Lord Hopton recommended Wiseman as a proper person to become the Prince's immediate medical attendant. Wiseman went with his royal master from France to the Hague, from the Hague to Breda, thence to France and afterwards to Scotland. He was taken prisoner at the battle of Worcester, but was soon set at liberty. He arrived in London in 1652, made himself free of the Barber-Surgeons' Company and began to act as assistant to Edward Molines,* who had been taken in arms against the Parliament at Arundel Castle, and who may thus have been an old comrade of Wiseman's. He then set up in practice for himself at the Old Bailey where he speedily obtained a large Royalist connection. Early in 1654 he was rearrested (for he had been admitted to bail) on a charge of assisting one of his patients to escape from the Tower, and he was sent a prisoner to Lambeth House. His release was obtained by the intercession of his friends and he once again settled in London to practise. Here he remained for two years after which he served for three years in the Spanish naval service, partly in the tropics and partly at Dunkirk. He returned to London at the Restoration and to his former quarters in the Old Bailey, but he soon moved to Covent Garden and was appointed Surgeon in Ordinary with a pension and afterwards Serjeant Surgeon to the King. He died suddenly at Bath in 1676.

Wiseman, like Woodall, inherited from the Elizabethan

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* Of whom Dr. Payne has given an account in vol. xxiii. of *The St. Thomas's Hospital Reports*.

surgeons the gift of clear and forcible writing in the narration of interesting cases which had come under his observation. He differs from all his predecessors in his powers of arguing from the particular case under discussion to a generalisation upon the principle involved. This, I think, was the great advance in surgery made by Wiseman. He no longer considered it an art to be followed for the sake of its immediate results, but he brought it into the condition of a science, crude, no doubt, but still into a new phase and one of which his predecessors and contemporaries had as yet no conception. Wiseman is a connecting link between the old and the new surgery. As became the personal attendant upon Charles II., who touched nearly 100,000 people for the cure of the King's Evil, Wiseman bore his testimony that "I, myself, have been a frequent eye-witness of many hundreds of cures performed by his Majestie's touch alone, without any assistance of Chirurgery: and those many of them, such as had tired out the endeavours of able Chirurgeons before they came hither". On the other hand he strenuously opposed the use of tents in the treatment of wounds, just as we now strive against the insertion of drainage tubes as a routine practice, and he could write: "If the great intestines be wounded and the excrements discharge that way, it may be reasonable to lay open the wound and stitch the gut with the glover's suture, sprinkling it with agglutinatives, and reducing it back, stitch up the external wound of the belly". Wiseman's teaching became popular, for his book went through seven editions in little more than half a century, and three of these editions were published in folio at a high price. The personal character of Wiseman and his position at Court must also have helped the whole surgical profession in its struggle with the physicians. A gentleman, a scholar, and one who tried to advance surgery along scientific lines could not be wholly despised by the physicians, indeed there is much evidence in his surgical treatises that he was on terms of equality and friendship with the leading physicians of his time.

The leaven introduced into surgery by Woodall and Wiseman took some time to work. The period from 1676 to 1740

was much less fruitful in surgery than either the Commonwealth or the Elizabethan epochs, and if it had not been for Cheselden it would have proved quite barren.

William Cheselden was born on the 19th of October, 1688, at Somerby, in the county of Leicester, close to the great British encampment of Burrow Hill. He was descended from a wealthy family of graziers and after receiving a good classical education he came as a house-pupil to William Cowper, the anatomist. He began to teach anatomy in 1711 as soon as he had obtained "the grand diploma" of the Barber-Surgeons' Company and his course consisted of thirty-five lectures repeated four times a year. The popularity of his lectures and the way in which they interfered with the routine courses delivered at the Barber-Surgeons' Hall are attested by the minute still extant in the books of the Barber-Surgeons' Company, which runs :—

"At a Court of Assistants of the Company of Barbers and Surgeons, held on the 25th of March, 1714 : our Master acquainting the Court that Mr. William Cheselden, a member of this Company, did frequently procure the dead bodies of malefactors from the place of execution and dissect the same at his own house, as well during the Company's public lectures as at other times without the leave of the Governors and contrary to the Company's by-law in that behalf ; by which it became more difficult for the beadles to bring away the Company's bodies, and likewise drew many members of this Company and others from the public dissections and lectures at the Hall. The said Mr. Cheselden was thereupon called in, but having submitted himself to the pleasure of the Court with a promise never to dissect at the same time as the Company had their lecture at the Hall, nor without leave of the Governors for the time being, the said Mr. Cheselden was excused for what had passed, with a reproof for the same pronounced by the Master at the desire of the Court."

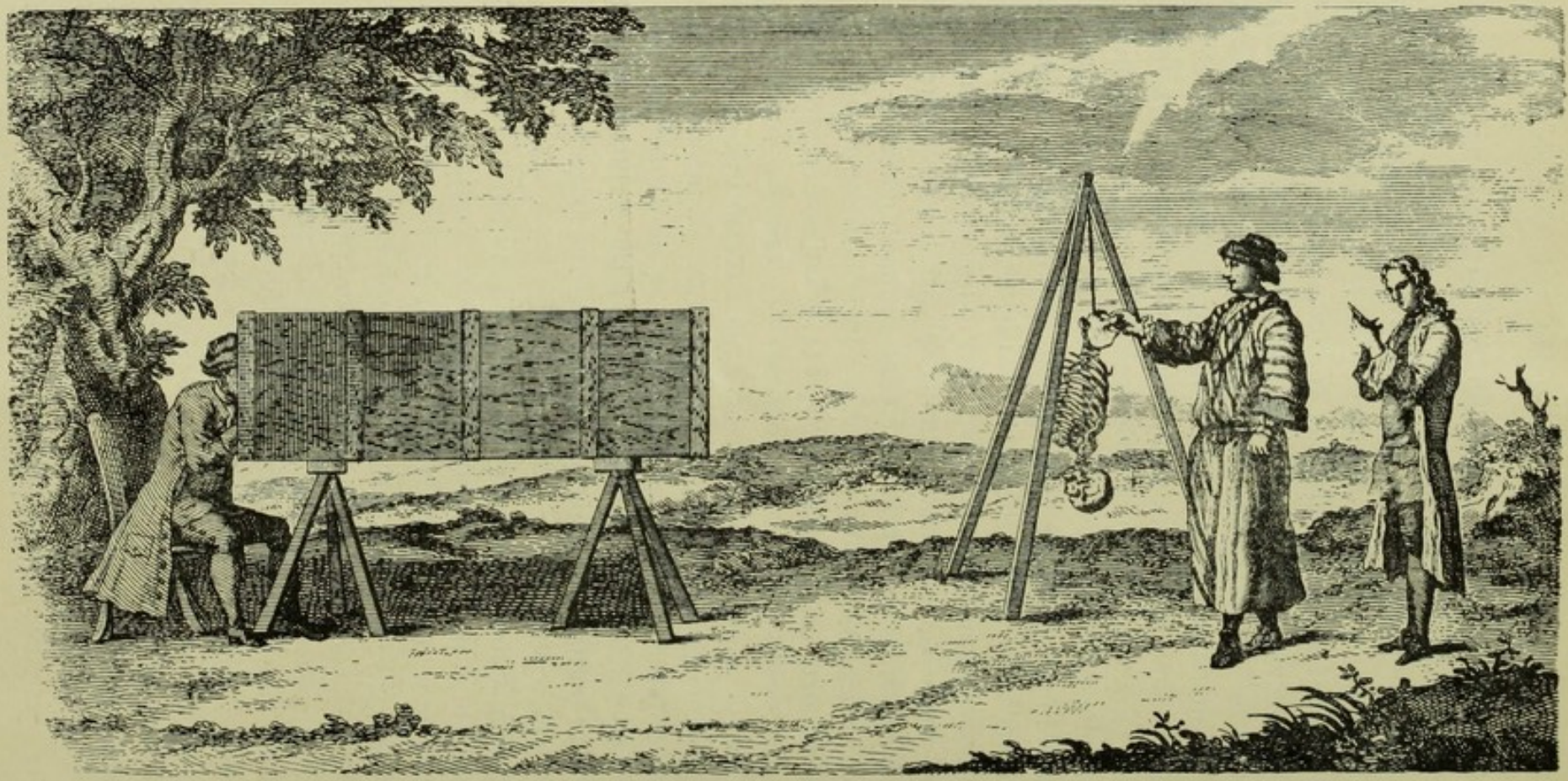
The lectures were accordingly continued first at Cheselden's own house and afterwards for twenty years at St. Thomas' Hospital, to which the lecturer was appointed Surgeon in 1719. From 1723 to 1727 Cheselden was engaged in perfecting the operation of lateral lithotomy, which he executed with such extraordinary skill, brilliancy and success that it was hardly modified until in our own times it has been supplanted by litholapaxy. On one occasion at least he removed a stone in fifty-four seconds, and there is a pleasing story told of his dexterity,

that having tied up a child for lithotomy he promised it sugar-plums if it did not move: and the operation over, the little patient immediately demanded the fulfilment of the promise. It is somewhat remarkable that Cheselden only learnt the value of plugging after many years of practice, for it was not until he had been for some time surgeon to the Chelsea Hospital, to which he was appointed in 1737, that he observed for the first time that "a piece of wetted sponge pushed into a bleeding wound powerfully arrested the loss of blood and sometimes did away with the necessity for ligature". Cheselden was one of the earliest surgeons to take an interest in diseases of the eye, a department which had hitherto been wholly given over to quacks, and he described a method of treating certain forms of blindness by the formation of an artificial pupil. He was made surgeon to Queen Caroline in 1728, but he had lost favour at Court by 1731, and he was not consulted when she died of an umbilical hernia in 1733. He was living in Queen's Square, Westminster, in 1735-36, when Alexander Pope was his patient and lay ill in his house. At the foundation of St. George's Hospital Cheselden was elected one of the surgeons, for he had been a surgeon to the Infirmary for the Sick and Needy, which proved to be the mother of the present Westminster and St. George's Hospitals, and in 1738 he retired from St. George's Hospital. He filled the usual offices at the Barber Surgeons' Company, where he was Junior Warden in 1744. It is said that in conjunction with John Ranby he was instrumental in procuring the separation of the Barbers from the Surgeons and the formation of a distinct Surgeons' Company of which he was master in 1746. In the latter part of 1751 he had a paralytic seizure but appeared to regain his former health until 10th April, 1752, when being at Bath he partook too heartily of ale and hot buns. A physician who was summoned ordered an emetic, but his advice was not followed, and the great surgeon died the same day. He was buried on the north side of the burial ground of Chelsea Hospital, and his tomb, lately renovated by the pious care of Col. Ligertwood, R.A.M.C., can still be seen from Queen's Road.

Cheselden was the first of a long line of surgeons who were distinguished for their knowledge of anatomy, which was then as important as a knowledge of pathology is at the present time. He was too the first of the great hospital surgeons in London, whilst his reputation stood so high that he was elected the first foreign associate when the Royal Academy of Surgery was founded in Paris. Cheselden was no mean artist, for he published in 1733 a magnificent Osteographia or anatomy of the bones, and he is said to have drawn the plans for the Old Putney Bridge and for the first Surgeons' Hall in the Old Bailey. The annexed woodcut is a portion of the frontispiece of the Osteographia, showing the manner in which his artist drew the bones with the help of a camera obscura whilst his assistant Belchier superintended the position of the specimen and Samuel Sharp, his favourite pupil and successor at St. Thomas' Hospital, made notes.

Cheselden had many talents. He was a keen patron of athletic sports, especially boxing. He had a taste for literature and some pretension to critical judgment, yet he had hardly any power of writing and his descriptions are often short and meagre. His intimacy with Pope, Jonathan Richardson the painter and Sir Hans Sloane, show how much surgeons had progressed in the social scale during the brilliant literary period through which England passed at the beginning of the eighteenth century.

Samuel Sharp, surgeon to Guy's Hospital, was the most distinguished pupil of William Cheselden, and he deserves mention here because he did much by his example to raise the social position of surgery as a profession. He was born in Jamaica about the year 1700 and was apprenticed to Cheselden on 2nd March, 1724, with a premium of £300. He was made free of the Barber-Surgeons' Company, 7th March, 1731, and on 9th August, 1733, he was elected surgeon to Guy's Hospital. Sharp soon acquired a large and lucrative practice and in 1746 for want of leisure he resigned to William Hunter, then a surgeon, "the course of anatomical lectures to which were added the operations of surgery with the applications of bandages," which he had



Description of Fig. 2. A woodcut from the title-page of Cheselden's "Osteographia" published in 1733. It is traditionally reported that the figures represent Van der Gucht the artist drawing a skeleton which has been posed by Belchier, whilst Samuel Sharp is taking notes. Cheselden was in the picture originally, but he chose to have his two assistants represented rather than himself.

been in the habit of delivering in Covent Garden to a society of navy surgeons. These lectures became in the hands of Hunter the nucleus of the Great Windmill Street School of Medicine and was thus the origin of all modern surgical teaching in London. Sharp resigned his appointment at Guy's Hospital in 1757 and led a life of leisure until his death which occurred 24th March, 1778. Sharp, like his master Cheselden, was a thoroughly well-informed surgeon, well read, observant, judicious, but interested in the practice rather than in the principles of surgery. There is nothing in his books that can be called pathology, yet John Hunter, if he was not actually his pupil, learned from him by tradition. Sharp, therefore, forms the connecting links between the old surgery and the new. Percivall Pott, his contemporary, must I think be classed as one of the founders of modern surgery rather than as a member of the old school, for he had a very clear perception of the principles underlying surgery as a science, though he practised it also as an art and was conspicuous for the social success which attended him in his profession.

Surgery had vastly improved its condition in London between the years 1700 and 1750. It had freed itself from the Barbers. A new race of well-educated surgeons—often the sons of gentlemen—had arisen and it no longer depended for social recognition upon one or two men in each generation. On the other hand some amongst its leaders were still of the baser sort, who, though eminent as surgeons, conferred no lustre upon their profession and did nothing to advance its interests. The ignorance of the general practitioners was only equalled by the ignorance of the masses they had to treat. Who can remember without shame the appalling credulity brought to light in 1727 when all London was convulsed to know whether Mary Tofts, a poor and hysterical woman living at Godalming, did or did not give birth to rabbits? The belief was fostered by John Howard her medical attendant as well as by Nathanael St. André, an unqualified surgeon who held the post of Court anatomist.

V.

THE social condition of surgery as a profession was at a very low ebb in the middle of the eighteenth century. The United Company of Barber-Surgeons was still the licensing body in London, but the union was becoming unbearable to the surgeons. Sometimes it led almost to ludicrous results as when a surgeon, taken prisoner by a French man-of-war, complained that he had been put into the common prison because the interpreter said he could not understand from his diploma whether he was a barber or a surgeon. The social position of the members licensed by the Scotch colleges has been very forcibly depicted for us by Smollett, and even when something is allowed for exaggeration we blush for their degradation. Yet at this time Cheselden, Pott and Hunter were actually practising in London as surgeons, and it is to the personal influence exercised by these three men that surgery was transformed from a trade into a profession. They represent the three great lines along which surgery has advanced to its present eminence. Cheselden the brilliant operator of whom mention has already been made, William Hunter the great anatomist, second, if indeed second, to his brother John whom he taught, and Pott, the first represen-

tative of the scientific or pathological surgeon, who was eclipsed by John Hunter his pupil, just as John Hunter in some departments of surgical knowledge is outshone by Lord Lister.

The year 1745 is very noteworthy in the history of English surgery, for in this year the surgeons seceded in a body from the United Company, and Pott began those courses of lectures to his pupils which afterwards became renowned throughout Europe. The surgeons were separated from the barbers and were established as the Surgeons' Company by Act of Parliament which received the royal assent 2nd May, 1745. John Ranby, principal surgeon to the king, and the last serjeant surgeon who personally accompanied his sovereign into battle, was appointed the first master of the new company, with Joseph Sandford and William Cheselden as his wardens. The Surgeons' Company ran upon the same lines as the previous one, but the fees were more moderate; liberty of teaching was allowed to all its members, and for the first time since the union of the barbers with the guild of surgeons surgery took rank as an independent profession. But the company had an inglorious existence. It was hampered by poverty, its affairs were entrusted to incompetent hands and it incurred the ill-will of its members because it failed to protect them from the competition of such unlicensed practitioners as retired army and navy surgeons. No great regret was occasioned therefore when the company put an end to its own existence by an informal action on 7th July, 1796. The most strenuous opposition was offered to its reconstruction, and it was not until 22nd March, 1800, that the present College of Surgeons in London was founded upon its ashes by a charter of George III. The charter gave extensive privileges to the college, but it has since been amended in several particulars, and in 1843 the order of Fellows was founded and the institution was named the Royal College of Surgeons of England.

Percivall Pott, the only son of a scrivener living in that part of Threadneedle Street which is now covered by the Bank of England, was born in 1714. His father died in 1717, leaving his mother with such very inadequate means of

support that after Pott's death in 1788 a small box was found amongst his papers containing a few pieces of money amounting to less than £5, which was the whole sum he received from the wreck of his father's fortune. He received his preliminary education at a private school in Kent, and was apprenticed on 1st August, 1729, to Edward Nourse, the younger, then assistant surgeon at St. Bartholomew's Hospital and one of the first in this country to give private lectures on anatomy. Pott acted as prosector to his master and soon acquired a good professional reputation, for on 7th September, 1736, the records of the Barber-Surgeons Company state that "Percivall Pott, who was the apprentice of Edward Nourse, was admitted into the Freedom of the Company by service upon the testimony of his said master and was sworn. At a subsequent meeting of the Court of Examiners, September 7, 1736, the question being put whether Mr. Percivall Pott should be examined at this Court, he not having waited on all the Governors and Examiners to desire the favour of their presence at his examination, and it appearing to the Court that Mr. Pott had been sent for out of Town to attend Sir Robert Goodesall's Lady where he was detained so long as not to be able to return within the time limited for his attendance on the Governors and Examiners and Mr. Warden Petty having been pleased to say that he would make his excuse to the Court: it was resolved that the Court proceed to the examination of the said Mr. Pott notwithstanding his default in attending the Examiners, but this is not to be a precedent in time to come to any other person:—And then

"The said Mr. Percivall Pott was examined touching his skill in surgery in order to have the Great Diploma, his answers were approved and he was ordered a Diploma under the seal of the Company and the hands of the Governors testifying his skill and impowering him to practise." The extract is an interesting one because it shows that the candidates for the great diploma were expected to call upon the examiners, a practice which has hardly yet been given up in some parts of the country.

Pott became assistant surgeon to St. Bartholomew's

Hospital in 1744, and in 1749 he was appointed full surgeon to the hospital, when his first endeavour was to abolish the actual cautery and the painful escharotic dressings which then formed a routine part of the treatment of wounds. In 1756 he broke his leg by a fall from his horse when he was riding in the Old Kent Road to see a patient. The accident almost cost him his limb for it was only the advice of his old master Edward Nourse which prevented the surgeons who attended him from perfoming an amputation, but we owe to it a description which has led to this form of injury being called Pott's fracture throughout Europe. For a time Pott lived in Fenchurch Street and afterwards he removed to Bow Lane, thence to Watling Street, and after the death of Sir Cæsar Hawkins, when he gained the largest surgical practice in London, he moved to Hanover Square, I think into the house now numbered 17 at the corner of Tenterden Street, which has lately been altered for business purposes. Whilst he lived in Watling Street, Pott began a course of lectures for his pupils at St. Bartholomew's Hospital, where the lectures were private at first, but in the year 1765, when he succeeded Nourse as senior surgeon at the hospital he lectured publicly and with such success that many foreign surgeons became his pupils and he thus exercised a very great influence upon contemporary surgery. In this way he helped greatly to raise surgery to a profession. No one before him had taught with authority or had been able to impress upon a whole body of pupils the mark of individuality which originating with Pott was carried to perfection by Hunter. Yet Pott's teaching was widely different from that of Hunter. Pott first and foremost was refined, he was widely read and he had the manners and thoughts of a gentleman. As a practical surgeon Pott ranks far before his pupil Hunter, but as a scientific surgeon the pupil was greater than his master. Pott, too, was more fortunate in the fact that the clearness of his style enabled him to place his facts and speculations in the most attractive form; whilst Hunter was constantly struggling to make his feeble powers of expression convey the greatness of his ideas, for he was no master of words.

Pott and Hunter are alike remarkable by the manner in which they freed themselves from the trammels of authority and introduced a wholesome scepticism into the practice of surgery. And this is more remarkable in Pott than in Hunter, for Pott had been educated in the conservative atmosphere of London and was well acquainted with the work of his predecessors, whilst Hunter had been brought up in the much freer air of Scotland and in a part of that country where several of his contemporaries had shown themselves conspicuous by independence of thought. Pott strikes the keynote to his life's-work in the passages which form the opening sentences of his essay on fractures and dislocations :—

"No part of surgery is thought to be so easy to understand, as that which relates to fractures and dislocations. Every, the most inexpert and least instructed, practitioner deems himself perfectly qualified to fulfil this part of the chirurgic art : and the majority, even of these, are affronted by an offer of instruction, on a subject with which they think themselves already so well acquainted.

"This is also the opinion of a considerable part of the people. They regard bone-setting (as it is called) as no matter of science : as a thing which the most ignorant farrier may with the utmost ease become soon and perfectly master of : nay that he may receive it from his father and family as a kind of heritage. We all remember the great though short-lived reputation of the late Mrs. Mapp. We all remember that even the absurdity and impracticability of her own promises and engagements were by no means equal to the expectations and credulity of those who ran after her : that is, of all ranks and degrees of people from the lowest labourer or mechanic, up to those of the most exalted rank and station : several of whom not only did not hesitate to believe implicitly the most extravagant assertions of an ignorant, illiberal, drunken, female savage : but even solicited her company : and, at least, seemed to enjoy her conversation.

"The desire of health and ease, like that of money, seems to put all understandings and all men upon a level : the avaricious are duped by every bubble : the lame and the un-

healthy by every quack. Each party resigns his understanding: swallows greedily, and for a time believes implicitly the most groundless, ill-founded, and delusory promises, and nothing but loss and disappointment ever produces conviction. Arts, trades and manufactures are allowed to be learnt, in general by those who have employed a proper quantity of time and attention in such pursuits: and it seems most singularly unjust, as well as untrue, to suppose that physical people are the only part of mankind who are all either so dull as not to be able to learn: or so profligately wicked, as not to practise their art to the best of their judgment, and to the greatest possible advantage of mankind. Surely there are and always have been among us, as well as in all other classes, men truly able and perfectly honest: men who well understood the science which they profess: and who practise it not only with great ability, but with strict integrity. I cannot be supposed to say or to mean this as a vindication of every individual. Different men have different powers and capacities. The multitude with us, as with all ranks and degrees (not excepting any) will always be deficient. Advancements in knowledge will always be owing to the ingenuity and industry of a few particular people: but such advancements will always in due time more or less influence the rest. They have so done: and notwithstanding that there remains a great deal yet to be done to bring surgery to that degree of perfection of which it is capable, yet whoever will compare the present practice of it, with that of a very few years ago, cannot justly, or with any degree of candour, withhold his commendation from his contemporaries.

"I remember some years ago to have heard a judge from the bench tell a jury, that he believed a country bone-setter knew full as much, if not more of the matter of his own business, than any, the most eminent surgeon in the kingdom. I will not enter into a disquisition concerning the rightness of a judge's opinion: perhaps his lordship might very little understand the thing concerning which he decided so peremptorily: without either injustice or partiality, I may certainly suppose him to have been a much more able lawyer than

surgeon: and I believe it will also be allowed, that general reflections of this kind are, and must be the consequences of a petulant attempt to be witty, rather than of conviction: and therefore at best are frivolous and idle. But on the other hand, I am very willing to allow (what indeed I have already allowed) that many parts of surgery are still capable of considerable improvement: and this part perhaps, as much as, if not more than any: it being one of those in which a general observance of and rigid adherence to old prescribed rules have prevented the majority of practitioners from venturing to think for themselves: and have induced them to go on in the beaten track, from which they might not only safely but advantageously deviate."

It is no matter of surprise that the social position of surgeons should improve when a teacher holding such lofty and wise views of his profession was in a position to influence nearly the whole of the rising generation of surgeons in England. Cheselden I think raised surgery as a manual art; Hunter left it richer in pathology, which he may be said to have created, but Pott and his school gave to it a tone which it has never lost. Yet it was not to Pott alone that surgery owes the social improvement which it attained under the Hanoverian dynasty. Claudius Amyand, Serjeant-Surgeon to George II. and Master of the Barber-Surgeons' Company in 1731, attained to so good a position that his eldest son was Under-Secretary of State in 1750, whilst his second son George, a director of the East India Company, was created a baronet on the 4th August, 1764.

It was not until 1778, however, that a surgeon was created a baronet on account of his surgical eminence. The records of the Barber-Surgeons show that many members of the company, from the time of Sir Christopher Frederick and Sir Peter Proby, in the reign of Elizabeth, to Sir John Bull and Sir Thomas Challoner had been knighted, but their services had always been civic and they had shone as lord mayors, sheriffs or wealthy merchants rather than as barber-surgeons. Sir Cæsar Hawkins (1711-86) claims, I think, the distinction of being the first surgeon who was made

a baronet for his professional services. He was the son of Mr. Cæsar Hawkins, a surgeon at Ludlow in Shropshire, and great-grandson of Colonel Cæsar Hawkins who commanded a regiment of horse in the time of Charles I. He was born 10th January, 1711, and was apprenticed to John Ranby, Serjeant-Surgeon to George II. In 1736 at the early age of twenty-five he was chosen a Demonstrator of Anatomy by Barber-Surgeons' Company, but it is recorded in the books of the company under the date 18th August, 1737, that "Mr. Cæsar Hawkins, one of the Demonstrators of Anatomy, attended at this Court and surrendered the said office, and after returning this Court his thanks for the honour they had done him to choose him one of their Demonstrators acquainted them that he being appointed Surgeon to his Royal Highness the Prince of Wales and also Surgeon to one of the troops of Guards, could not perform the office of a Demonstrator and therefore the Court accepted of such surrender". From 1735 to 1774 Hawkins was Surgeon to St. George's Hospital, and on 7th September, 1747, he was appointed Serjeant-Surgeon to George II., a post he continued to hold when George III. came to the throne. He was Master of the Surgeons' Company in 1748 and 1779 and he was created a baronet in 1778. He died 13th February, 1786. Hawkins seems to have been a good operator and a genial man. He wrote little or nothing. It is recorded of him that he invented the cutting gorget, one of the instruments which marked the decadence of lateral lithotomy and that he made a thousand a year by the operation of phlebotomy, as it was then the custom for people to be bled in the spring and autumn of each year.

The social position of the higher rank of surgeons was thoroughly established at the beginning of the present century, as is shown by the position in society attained by Sir Astley Cooper, Sir William Lawrence and Sir Benjamin Brodie; but the social position of the general mass of medical practitioners corresponded in too many cases to their origin, which was often extremely humble. One reason for this condition was the very imperfect general knowledge possessed by many general practitioners. The

system of apprenticeship had survived from the old times, but the College of Surgeons required no evidence of general education. It happened therefore that the doctor's apprentice was in reality the "doctor's boy," who blacked his boots, carried out his medicines and performed other menial services. So late as 1832 the following incident occurred: A student came to his former teacher and said, "I have settled myself in the city". His teacher replied, "I hope you will succeed". "Yes," said he, "I have nothing to do at present, but I hope I soon shall: but I want an apprentice." So his teacher said, "What do you want with an apprentice if you have nothing to do yourself?" "But I may have," he replied, "and then I should want somebody to answer the door and receive messages that may be sent to me: and if I have anything to do, to make up medicines and in fact to answer any purposes that may be desired of him." "Now this is the case," says the narrator of the story, Mr. G. J. Guthrie, the President of the Royal College of Surgeons of England, "all over the country and as it is imperative upon a gentleman to have somebody in his house, he is willing to take a boy upon the most moderate terms. There are always in every village persons in such a station of life that they can afford to pay a moderate fee with a son, although they are not competent to give him that preliminary education which would qualify him to take a proper and respectable place in his profession. A surgeon therefore takes the boy for a small fee, who does all sorts of work but learns comparatively very little. At the end of his apprenticeship, or at the end of five years, he comes up to London or goes to Edinburgh for those two years of study which are required of him by the College. He then returns, being now made a qualified practitioner. But this is not the sole misfortune. The original gentleman, having got a little more practice, takes a second and a third, and great is the manufacture in this way of young doctors, who are for the most part, in regard to their preliminary education, unqualified people." It is no wonder therefore if the College of Surgeons long compelled its members to enter their own college by a back door, reserving the main entrance for the councillors, or

that as lately as 1834 none of the greater surgical operations could be performed at the Sheffield Infirmary without a previous consultation of the surgeons with the physicians, to all of whom the house surgeon was obliged to send a written note.

There was a second point which long kept the surgeon-apothecary low in the public esteem, and this was the necessity he was under to charge his patient for medicine rather than for his time and skill. It was currently reported by malicious people that the doctor made his patients swallow three times as much medicine as was necessary in order that he might be reasonably and properly remunerated, and Mr. Guthrie tells an amusing story of the shifts to which even reputable practitioners were put by this custom. He says: "I have been called in with a general practitioner to see a patient and it has happened that he says to me, 'Sir, are you going to order that person a pill?' 'Yes, sir,' I have replied, 'I hate physic myself, and I never take any, and I am going to give him the least possible quantity.' 'Yes, sir,' says he, 'that is all very well for you, but it is not very well for me. This gentleman is a very parsimonious person, and he will give me but two pence for the pill, and in addition to having me here now, he will probably have me here again in the morning to know the effect of it.' 'Well,' I say, 'what is to be done?' He says, 'At all events put it into a bottle'. 'Well, I cannot refuse such a request: so I generally accede to the apothecary in attendance, giving the medicine in such manner as he pleases, provided he gives only the proper dose." It was from this custom no doubt that the packet of black draughts, each in a bottle having a little box containing a blue pill perched on the cork, still remains in the minds of many as a reminiscence of the visit of the family doctor.

Little by little the practice changed, first by general practitioners entering into a private agreement with the more liberal-minded of their patients to abstain from selling medicines and to receive payment only for their advice and attention, which they did by putting an item "For attendance" at the foot of each, and allowing the patient to fill in the amount at his

discretion. But it was not until the Medical Act of 1858 that an apothecary could legally charge for his advice, though it had long been evident that the more ignorant a man was and the less capable of curing his patients the larger was his income.

The charge for medicine was the indirect cause of the first great advance in the education of medical practitioners —the passage of the Apothecaries Act in the year 1815. The agitation which ended in the adoption of this important measure began in 1812, in consequence of a requisition signed by a number of gentlemen who had been previously drawn together by a legislative enactment which had raised the price of glass excessively. A committee of twenty was formed, who after due discussion drew up a report upon the causes which had led to the degradation of the apothecary from a gentleman to a tradesman by the mode in which he was remunerated; by the inadequacy of his remuneration; by the remuneration remaining stationary for a century, though his expenses had increased a hundred per cent., glass indeed even from eight shillings to forty-five shillings; to the encroachments of druggists; to the practising of improper persons; and, lastly, to the necessity which existed for placing the apothecary, the surgeon-apothecary and the practitioner in midwifery under the direction of a proper controlling body. Neither the physicians, the surgeons, nor the Society of Apothecaries would at first help to secure these laudable objects, but the apothecaries were at last induced to accept the responsibility imposed upon them by Parliament, and the first step in advance towards the present position was made when the Society of Apothecaries compelled their apprentices to be examined publicly in the *Selecta e Profanis*, a selection of passages from classical authors. But, as we have seen, it was many years before the College of Surgeons adopted so wholesome a rule. The first Medical Act in 1858 replaced apprenticeship and practical teaching by an elaborate series of lectures, though it still allowed a student to become legally qualified to practise his profession after he had been examined and found proficient in only a part of his duties. It was not until 1886

that it became compulsory for every one to be examined in medicine, surgery and midwifery.

Much has been done but much still remains to be done. A hundred and fifty years ago, if we may believe contemporary accounts, parson and doctor were equally degraded. The parson early set his house in order and soon outdistanced his professional brother in the popular estimation. This position he still maintains in many a village, but the improved education of the doctor and increasing knowledge of the value of hygiene amongst the people leads us to hope that in due time the clergyman and the general practitioner will be equally respected and will everywhere work harmoniously to improve the moral and physical welfare of their charges.