"Respectful Image"
Revenge of the Barber Surgeon

Charles E. Bagwell, MD

Abstract: Although some separation of surgery from the practice of medicine had begun to develop in early medieval times, this was accentuated in 1215 by the Fourth Lateran Council, a papal edict which forbade physicians (most of whom where clergy) from performing surgical procedures, as contact with blood or body fluids was viewed as contaminating to men of the church. As a result, the practice of surgery was relegated to craft status with training by apprenticeship through guilds. Physicians followed a university-directed program of education, which involved knowledge of the classics and writings of ancient medical authors such as those by Galen, which allowed no independent thought or inquiry. Competition among physicians and surgeons, including the lowest group of surgical practitioners, the barbers, continued until Henry VIII signed a charter in 1540 uniting barbers and surgeons in London. This Guild of Barbers and Surgeons, forerunner of the Royal College of Surgeons, established a regulatory agency for training and certification of surgical practice, which set the stage for legitimizing surgery as a profession.

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At the 2003 annual meeting of the Southern Surgical Association, the term *respectful image* was used to describe established "codes of conduct" for professionalism in surgical practice. Few realize it was the evolution of surgery as a separate branch of medicine in the late Middle Ages which established not only that professionalism but created a revolution which would set the stage for major scientific achievements in all of medicine.

Though commonly conceived as a dark age between the fall of the Roman empire and the Renaissance, the Middle Ages were a watershed era in Western culture and civilization. In the early Middle Ages, as vestiges of Roman civilization were destroyed by waves of barbarian invaders across western Europe, attempts to establish order were, in general, fragmentary and short lived. In English-speaking Europe, the conquest of Britain in 1066 by William the Conqueror of Normandy at the Battle of Hastings resulted in some degree of stability to an isle beset by waves of unrest. After subjugation of the English, William replaced those figures of authority in government and the developing church with Normans (French), allied with his new dominion.[1] Those selected to receive medical training through a prescribed university course of study were, for the most part, clergy (clerics) appointed by and answerable to the church hierarchy. What impact did this clergy-physician attachment have on the practice of medicine in that day? To address this question, one must look at the foundations of medicine/surgery and their development prior to the Middle Ages.

Medieval practitioners, far from common misconception as unlearned, inherited a rich legacy of medical lore from ancient civilizations. Early writings on medical topics are limited but include works from ancient Babylon and Egypt; in the former, the code of Hammurabi (c. 1700 BC) established guidelines for surgical practice and severe penalties for malfeasance (ie, "If a doctor has treated a man with a metal knife for a severe wound, and has caused the man to die . . . his hands shall be cut off . . ").[2] Egypt also contributed to early medical lore, for the ancient name for Egypt (*chem*) suggested secret knowledge known only to an elite group of healers, with a mystic fascination which persists today regarding ritual practices such as mummification. Surgical treatments were outlined in the Edwin Smith Papyrus (17th century BC) in an encyclopedic form, although this was little more than a recitation of accepted methods for practice. On the other hand, a rich legacy of the healing arts was handed down from ancient Greece, where numerous teachers of medicine promoted principles of care which have been accepted throughout the ages: observation and study of the patient, understanding of bodily function as basis for treatment, and responsibility for conducting treatment within norms of "established therapy." That such norms of "estab-

From the Department of Surgery at the Medical College of Virginia/Virginia Commonwealth University, Richmond, Virginia.
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Reprints: Charles E. Bagwell, MD, P.O. Box 980015, Medical College of Virginia Hospitals, West Hospital 7th Floor East Wing, 1200 E. Broad St, Richmond, VA 23298. E-mail: Cebagwel@vcu.edu.

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lished therapy" might change based on scientific or social/political/religious concepts is both a logical outgrowth of this thinking, and highly relevant to understanding medical developments yet to come.

Best known of these early healers is Hippocrates, a historical figure from the Greek island of Cos, born about 460 BC, who taught a select group of student followers his precepts of illness/treatment. His fame as a healer was so respected that he was invited to Asia Minor to banish the plague, though he chose to remain in Greece to treat his own countrymen.[2] His influence was legendary: even honey collected from a beehive at his gravesite was said to possess miraculous healing properties. As a result much of the Corpus Hippocraticum, the unorganized collection of 72 collected works and 59 treatises attributed to Hippocrates, was written by an assortment of authors, some of whom were not even contemporary to him but used his name to augment their position.[2] In his view, surgical practice was integrated into all of medicine, with ingenious methods for wound care and surgical procedures, including reduction of dislocations, which have been used and modified ever since. Hippocratic theory involves careful observation of the patient, with attempts to assist nature in restoring health without harmful effects (primum non nocere). Hippocrates recognized the importance of practical experience for surgeons, stating, "he who desires to practice surgery must go to war."[2] In the well-known Hippocratic oath, taken by aspiring medical graduates since the 16th century, the role of surgery in the spectrum of medical care is defined, "I will not use the knife, not even on sufferers from [bladder] stone, but will withdraw in favor of such men as are engaged in this work."[2] Rather than a repudiation of surgery as removed from medical practice, the surgical arts were affirmed as intrinsic to the knowledge of all healers ("what drugs fail to cure, the knife cures")[3] but required skills which could only be developed with dedicated training.

In addition to this immense legacy from ancient Greece, the writings of Galen had profound influence over virtually all of medieval medical thought and practice. Born to a wealthy family in Pergamon, Turkey (c. AD 129), Galen was directed to the study of medicine when his father had a vision from Asklepios, the Greek god of healing, that his son would achieve fame in the healing arts. He was trained at the renowned school of Alexandria established by Aristotle, whose illustrious faculty included Euclid, Archimedes, and Herophilus, the father of natural sciences, who named the duodenum for "12 digits," its length. Upon completing his course of medical studies, Galen traveled the Mediterranean world extensively before his appointment as chief physician and surgeon to the gladiators. This allowed the brilliant and inquisitive medic unparalleled opportunity to study anatomy in a variety of wounds, and the results of his treatment were outstanding. His growing reputation led to appointment as chief physician at the court of Emperor Marcus Aurelius, which necessitated he give up surgical practice under "political pressures."[2] Galen used this position of prestige and influence to establish his views on virtually every aspect of medicine. His prodigious output (22 massive volumes) was said to represent over half the bulk of extant medical literature of that time,[3] and so thorough was his discussion that every facet of bodily function, illness, or remedy was extensively and dogmatically detailed. It is difficult for modern readers accustomed to a rapidly expanding body of medical literature to comprehend that Galenic views were taught, virtually unchanged, from his lifetime well into the 16th century. Between 1500 and 1600, over 590 different editions of Galen were published; even early Renaissance attempts to reform medicine involved "purer" translations of ancient Greek writings and Galen.[4] Despite this position of recognized and unrivaled authority, Galen subjected any who might disagree with his views to caustic scorn. As a result, the obvious errors in his writings, such as purported interventricular channels for blood to pass from one side of the heart to the other, were merely overlooked. Galen's teleologic view of "purpose" to every bodily function and illness was found appealing to the early Christian church. The resultant dogmatism, embraced and encouraged by the corporate Church, not only established the Galenic view as absolute but branded as heretic any who would disagree.

Galenic physiology was based on the Greek theory that all substances originate from 4 components: earth, wind, fire, and water. Bodily functions (and health) were thought to be dependent on 4 humors, blood, phlegm, black bile, and yellow bile, which existed in a dynamic balance and incorporated 4 innate qualities: hot, dry, cold, and moist. These were reflected in 4 temperaments: sanguine, phlegmatic, choleric, and melancholic. The humors were "brewed" in the stomach as a result of digestion, and illness resulted from their imbalance, so therapy often involved strict dietary regimens and bloodletting to restore proper balance and health. Diagnosis of the type of humoral imbalance required inspection of urine, using extensive charts for uroscopy to determine a proper treatment regimen, with the optimum timing and conditions for cure influenced by prevailing astrologic signs. According to one such regimen, "roosters are hot and dry, . . . the best kind to eat . . . those that crow desperately . . . especially good for patients suffering from colic . . . [but] may cause irritation of the stomach if the birds are tired out before they are slaughtered . . . recommended for people of frigid complexion, in old age, in Winter and in Northern regions . . . ."[5]

During the Middle Ages, the Christian church established itself as the dominant force over all aspects of medieval life, including the practice of medicine. Although early Christians had been persecuted by a succession of Roman emperors, the conversion of Constantine I after a legendary

cure from leprosy (c. AD 300)[2] gave Christianity equal footing with other religions and initiated widespread conversion throughout the empire. The early church viewed sickness as punishment for sin; healing could only occur through the grace of God as a miraculous event. It was believed that Christian charity to the poor and afflicted served as a means to receive God's forgiveness and ensure salvation. As a result of this belief, hospitals in the 4th and 5th centuries evolved as places for charitable works for the destitute, based on Roman military camps known as nosocomia, designed to care for soldiers wounded in battle. Rather than providing temporary care, these facilities provided long-term care for the ill and were largely staffed by caring, but untrained, Christian women. Often these women came from privileged backgrounds, such as the wealthy matron Fabiola, who established the first public municipal hospital, in Rome in 394.[2] So influential were the efforts of these charitable ladies that attempts by Constantine's successor, Julian the Apostate (c. AD 350), to return the empire to its earlier pagan religions were unsuccessful and the Christian influence and institutions remained.

As the Church's influence expanded across Europe, the role of lay practitioners in medicine declined, and clerics gradually assumed the role of healers in medical practice as the cure of the soul was felt to take precedence over cure of bodily ills. It was felt acceptable to use "natural means" to cure illness (Galen listed 6 "naturals," including diet, as means of restoring health or treating illness), while the Christian duty to maintain the body as temple of the soul included an acceptance of healers and their knowledge as ordained by God. In fact, medieval preachers often used medical references in their sermons, with Christus Medicus (Christ the healer) described as "the most sovereign leech [surgeon], . . . [who] devised a regimen for each of his patients who by following it might purge his diseased soul of the corruption of sin."[6]

Members of the monastic orders rapidly expanded into the social and religious life of medieval times and exerted a special significance on medical practice. Envisioned by Benedict of Nursia, founder of the Benedictine order (c. AD 500), as a place of contemplation and worship isolated from worldly vice, the monastery became a resting place for travelers, as well as a place of refuge for the sick. As this role expanded, monks often developed considerable surgical expertise. By the later Middle Ages, many monasteries included an infirmary, library, and herb garden within the grounds; some had become noted centers for care of particular afflictions or ailments. This notoriety was bolstered by the belief that healing powers emanated from the saints and their shrines. This led to fierce competition for saintly relics to attract the supplicant hoards, such as the pilgrims described in Chaucer's *Canterbury Tales* en route to the tomb of Thomas Becket. Among the myriad of saints to whom powers of healing were ascribed, the names of Damian and Cosmas figure prominently in medical history. Converts to Christianity, the Arabian brothers were martyred for their beliefs by the emperor Diocletian (c. AD 380) Even prior to death, they were revered for care of the ill, especially the poor, whom they treated without charge. Legendary cures attributed to them abound, including the well-known story of transplanting a leg to replace the gangrenous extremity of a church sexton. Cosmas (the surgeon) would figure later in a select society of master surgeons (the Confraternity of St Comé) which was established in France in the 13th century, and whose members were allowed to wear a long robe as a sign of distinction while directing operative procedures. (Until recently, only surgical residents at the chief level in many surgical training programs were allowed to wear a long (laboratory) coat, awarded in a special ceremony to signify their newly designated status.)

Specialized centers for the study of medicine began to develop in the 10th century with the famous school of Selerno, site of an early Roman spa and the reputed resting place for the relics of St. Matthew. Here, students of all religions and nationalities were taught in Greek, Latin, and Arabic, remarkably free from clerical control. Based on the fame which spread from Selerno, other schools of medicine were founded at Montpelier, Bologna, Paris, Oxford, and Cambridge. Recognized benefits from an established academic program in these early medical schools led to proliferation of general Universities from 1100–1400, now offering a defined course of study in nonmedical fields (studium generale). Despite prescribed curricula in the study of medicine, standards for medical practice were far from uniform. In Sicily, Roger II forced legislation (1140) requiring an examination for licensure to practice,[5] and in 1224, Frederick II, Emperor of the Holy Roman empire, forbade medical practice until candidates completed a 5-year course of study and year of apprenticeship, then passed an examination given by masters from Selerno.[7] These efforts at certification, however, were exceptions.

With the advent of specialized programs for education in medicine (physic), surgical training came to occupy a lesser status in the curriculum. A few notable surgeons sought to establish a literate (Latin-based) surgical discipline, including the 11th-century Benedictine monk Constantinus Africanus, who translated the Arabic surgical works of Averroes and Avicenna. Roger Frugard of Parma published an encyclopedic text on surgery (1170), which included vivid descriptions for treatment of a wide spectrum of injuries; this text was widely used (and plagiarized) in the 13th and 14th centuries and influenced surgical practice even into the 16th century.[5] Other literate medieval surgeons include Lanfranco of Milan, who brought a tradition of surgical instruction from Italy to Paris, where he completed his major work on surgery in 1296, and French authors Guy de Chauliac and Henri de

Mondeville, whose texts were widely read and contributed to a uniquely surgical body of medieval knowledge. English surgical authors were rare; John of Arderne was recognized for treatment of fistula in ano and described operative procedures and instruments for its cure.[8] However, early surgical authors were the exception, and the gulf between physician/cleric and surgical practitioner gradually widened.

By the late Middle Ages, the Church became increasingly concerned with surgical practice by clerics/physicians. Attempts to discourage members of monastic orders from engaging in surgical practice were reflected in church policies of 1131 (Council of Reims) and 1163 (Council of Tours), though with little apparent effect.[1] In 1215, Pope Innocent III issued the Fourth Lateran Council, a signal document in the history of medieval medicine. This edict contained several directives which had enormous impact on medieval life, designed not only to exert Papal influence over the whole culture of Western Europe and involve the priesthood in everyday life but to "control the efforts of 12th century learning, piety, and power."[9] Rulings from the (Lateran) Council recognized marriage as a sacrament of the Church, requiring church ceremony to legitimize the marriage, as well as offspring and property for inheritance. The Council also decreed that an ill patient must receive confession and absolution for sin *before* treatment could commence, as "the sick should provide for the soul before the body; since bodily disease so often sprang from sin, how else could one hope for cure."[6] Since most physics (university-trained physicians) were ordained clergy, this meant that confessor/physic must attend to matters of the soul before any treatment could be undertaken, even to stanch the flow of blood. One can only imagine the conflict between physician and surgeon at a patient's side under desperate circumstances.

Of even greater significance to surgeons, Council also forbade members of the clergy (physicians) from performing any form of surgical treatment as contact with blood or bodily fluids was felt to be contaminating. Men of the church could not celebrate the Eucharist with bloodstained hands. As an aside, medieval surgical procedures of any sort carried considerable risk, and the possibility that charges of manslaughter might be directed against the clergy exposed the accumulating church assets to jeopardy in case of lawsuit. As a direct result of this ruling from Council, the upper hierarchy of university-trained physicians, well versed in the classics and Galen, were isolated from their patients, not only unable to perform procedures but unable even to examine wounds. Practice was limited to the wealthy and nobility, and "despite the Christian ethic of charitable care of the sick, the learned or university educated physicians especially were viewed as expensive and uncharitable."[4] Chaucer's portrayal of the Doctor of Physic in the *Canterbury Tales* reflects a general view of the "lucrative science" [medicine]:

For gold in physik is a cordial.
Therefore he lovede gold in special.[5]

Surgical care was rendered largely by untrained practitioners (village wise women, quacks, and charlatans) or by those monks who left the monastery to continue in the practice of surgery. Lesser procedures were performed by a class of barbers, who also cut hair and performed bloodletting, as prescribed by doctors of physic to restore humoral balance. Other surgical duties involved care of wounds from falls, accidents (or conflict) and burns, pulling of teeth, application of topical corrosives or cautery to skin lesions or growths, drainage of abscesses or buboes (especially in times of plague), treatment of leprosy or the new disease, pox (syphilis), which was rampant in Western Europe from the late 15th century. In addition, surgeons were responsible for embalming the dead and conducting postmortem examinations to determine cause of death, not infrequently a politically charged responsibility in an era of brutality and frequent regime change. Although amputations were occasionally performed, these were not generally done through living tissue or above the knee due to the risk of hemorrhage from divided and cauterized vessels, as the use of ligature in amputation had not been described. Rare operations for inguinal hernia (punctum aureum), excision of (bladder) stones or (couching for) cataracts were usually performed by itinerant "surgeons" who could move from village to village hastily to avoid reprisal from the inevitable complications of these crude procedures.

Undoubtedly, surgical care was of utmost importance in the military arena. Wound care was clearly the surgeon's unchallenged territory, and advances in treatment were necessary to keep pace with the advancing technology of warfare. This was especially true with the advent of wounds from gunshot, first seen in the Battle of Crecy (1346).[10] Military officers hired their own surgeons for campaigns, but the surgeons were free to treat other wounded if their employer was not in need of their services. Needless to say, having a notable surgeon along was highly advantageous. It was said that the famous French surgeon Ambroise Paré was worth the equivalent of 10,000 soldiers on the battlefield, as the men knew their chances of survival were greatest if he was present.[11]

Surgical training began at age 13 or 14 to sons (usually) from lower-class yeomen or tradesmen and consisted of an apprenticeship of 7–9 years, after which the applicant received a first-stage qualification which gave limited license to practice surgery "provided (he) does not exercise the art of medicine and does not style himself to be a physician."[1] A second stage of training might allow designation as "Master of Anatomy and Surgery;" a select few obtained advanced training to receive the "Bishop of London's license."[1] This Great Diploma allowed treatment of "outward hurts and

tokens of disease" but [the applicant] was forbidden to administer medications for "inward complaints."[1]

All in all, review of surgical cases from the medieval era shows surprisingly good results despite the lack of anesthesia and antiseptic principles. Records of Joseph Binns, a London surgeon who practiced from 1633 to 1663, describe 616 patient cases, 196 of venereal origin (apparently a special interest of his), 77 of swellings, 61 of medical symptoms (including aches, stomach illness, headaches, insomnia, diarrhea, and epilepsy), 15 with battle injuries, 14 from work-related injuries, 19 with injuries in falls from horses or coaches, and 41 injured in fights. Of the 402 outcomes listed, 265 were cured; 62 improved. There was no improvement in 22; 53 (8%) died.[7]

The late Middle Ages saw an expanding role for the middle class merchant in a society previously stratified into only 3 classes: laborers, clergy, and nobility. The merchant class expansion was reflected in trade unions or guilds for every field of commerce, including medicine. Surgeons attempted to use guild regulations to distinguish themselves from barbers or other lesser-trained practitioners. As stated by the Italian surgeon Bruno Longoburgo, "I think scarcely anyone who is illiterate can understand this art [surgery], but at the present time . . . those who exercise this art are for the most part ignorant and stupid peasants; and on account of their stupidity the worst possible diseases are generated in people, by which indeed the patients are killed since the surgeons operate neither wisely nor according to certain reasoning, but haphazardly."[5] The greatest conflict occurred between the small group of literate surgeons and the physicians, as these groups competed aggressively for wealthy private patients. Henri de Mondeville, surgeon to the French royal court, was as critical of learned physicians as he was of unlearned surgeons when he commented to the former group that "God himself had acted as a surgeon when he made Eve from Adam's rib and when Jesus made clay to anoint the eyes of a blind man, but that scripture nowhere recorded that the Lord engaged in the characteristic medical activities of feeling the pulse and inspecting the urine."[5]

Various groups of surgical practitioners sought to consolidate power through the guild system over time. In London, the Barber's Company was organized in 1308 and established by ordinance in 1376; the small number of members in the Fellowship of Surgeons, established in 1365, precluded corporation as a Guild. (There were only 8–20 such surgeons in 15th-century London).[1] Even prominent surgeons who had positions at court and belonged to the Fellowship of Surgeons held office in the Barber's Company, which saw increasing political influence from their numbers and from royal patronage (Kings Edward IV and Richard III were members of the Company).[1] As a result, the Company received a royal charter in 1462. With continued rivalry for prestige and patients, even among the surgically oriented groups, alliances formed with other trade guilds to consolidate influence, such as between the Guild of Leeches and Brothmakers, an apparent oddity explained by the use of specially formulated broths which were thought to decrease swelling of the spleen.[1] There is one recorded alliance between physicians and surgeons, the Conjoint College of Physicians and Surgeons, which was established in 1423 when the university physicians, led by Gilbert Kymer, dean of Oxford, petitioned Henry V to regulate all medical practitioners under the direction of the physicians. This Conjoint College was short lived as history records a single report from review of alleged malpractice involving surgical care of an injured hand. The case was dismissed without judgment since cure was felt impossible due to misalignment of astrologic forces at the time of operation.[12] After this short-lived "alliance," history records little attempted reconciliation among the warring medical guilds for over 100 years.

In the late 1520s, King Henry VIII began treatment of chronic leg (varicose?) ulcers. The king retained 2 full-time surgeons between 1528 and 1531, 3 in 1538, 5 in 1543, and no fewer than 6 the following year.[13] During this prolonged period of treatment, surgeon Thomas Vicary was recipient of the King's confidence. Perhaps sympathy with the practice of surgery and gratitude to Vicary were motivating factors; in 1540 Henry VIII signed a charter incorporating barbers and surgeons by act of Parliament as the Guild of Barbers and Surgeons of London, later to become the Royal College of Surgeons. This union not only established a framework for surgical education by apprenticeship within the guild system but also legitimized surgical skills through governmental recognition. This recognition became especially important with developing interest in the study of anatomy, facilitated by one of the articles of incorporation which granted the bodies of 4 executed criminals yearly to the Guild for anatomic lectures, attendance at which was required by all members.

Although a new sense of legitimacy for the surgical arts resulted from incorporation, a body of factual knowledge regarding bodily structure and illness was lacking, as well as an attitude which would encourage observation and experimentation over reliance on authority and antiquity. Two key figures, Andreas Vesalius and Ambroise Paré, would prove instrumental in these areas.

In 1537, Vesalius was appointed Chair of Surgery and Anatomy in Padua, one of a few schools in northern Italy recognized for medical innovation with an emphasis on surgical instruction. As newly appointed lecturer, Vesalius took full advantage of the license to perform human dissection, considerably more accepted in Italy than in the remainder of Europe. Recognized for his prowess in anatomic instruction, Vesalius dedicated himself to a new description of anatomy and in 1543 published his massive work *De Humani Corporis Fabrica* (On the Fabric of the Human

Body), one of the most important medical books ever written. In this lavish text, he pointed out (and illustrated) anatomic errors in Galens's writings so clearly that none could refute his findings. So revolutionary was this new attitude that members of the faculty, including his former teacher, maligned him personally and attempted to explain the differences he depicted as changes in human anatomy over the intervening 1200 years since Galen. Faced by overt hostility from the medical profession and threatened by ecclesiastics for heresy in challenging Galenism and Church doctrine, Vesalius gathered his unpublished works and burned them, leaving a brilliant scientific career and Padua for private practice at the court of Emperor Charles V.[3]

No figure could more clearly illustrate a new thinking based on observation or honest reporting of outcomes as a basis for treatment more clearly than the legendary French barber surgeon of the 16th century, Ambrois Paré. Born in 1510 to a working-class family, Paré apprenticed in Paris and remained there at the illustrious hospital, Hotel Dieu, for further surgical training. Unable to afford the fee for licensure, he departed in 1537 for military service as surgeon to Marshal Montejan, colonel general of the French infantry, leading an invasion into northern Italy against Charles V. On his first military campaign, Paré recounted the overwhelming number of soldiers with gunshot wounds, treated at that time with boiling oil poured into the missile tract to counteract the suspected "venomous nature" of wounds from gunshot. Although reluctant to do so, Paré was advised by other surgeons this was necessary, but his supply of heated oil ran out and he was forced to apply "a digestive of yolkes of egges, oyle of Roses, and Turpentine."[14] The next day, he found to his astonishment that patients treated with his improvised mixture were much improved over those to whom the boiling oil had been applied, who were "feverish with great paine and tumor about the edges of their wounds," a result which he reported in clear defiance of customary practice.[14]

Not only was Paré a skilled technical surgeon but his writings (in the French vernacular) were widely circulated and acclaimed, eventually gaining him a position of influence in the French Court. As a result, Paré was present in June of 1559 when King Henry II was wounded by a lance blow above the eye in a jousting tournament, rendering him immediately comatose. When the king died 11 days after the injury, Paré performed the postmortem examination and was the first to describe countre-coup injury from closed head trauma "on the side opposite the blow, toward the middle of the commissure of the occipital bone, a quantity of blood effused between the dura mater and the pia mater: an alteration in the substance of the brain . . . but no fracture of the bone . . . ."[15]

It was inevitable that with prominence and court influence Paré would become drawn into the conflict between physicians and surgeons. As he was admittedly uneducated in the classics, his acceptance into the Confraternity of St Comé, though supported by the King, was somewhat "irregular." As a result, physicians used the opportunity to openly criticize this group, "among surgeons who are excellent in practice, there are some (everybody knows whom I mean, without my having to name them) who cannot decline their own names. We have seen them called from the barber's shop to be Masters of Surgery and admitted gratis against the rules, for fear, the barbers, their superior skill being recognized, should put the college to shame . . . ."[16] Nonetheless, their new recruit was to figure prominently in a new surgical discipline, for he was a prodigious author. He published over 20 articles on subjects ranging from anatomy to obstetrics, where he was the first to describe podalic version for delivery of a fetus in breech presentation. He authored several books, including *Dix Livres de la Chirurgie* (1564) in 7 volumes, and *Les Oeuvres* (1575), his collected works, which was in its fourth edition at the time of his death in 1590. Other texts, including *Traicte de la Peste* (1568, 1580), were written as pocket-sized handbooks for treatment of plague victims. With the publication of the first edition of *Les Oeuvres* in 1575, the envious physicians forced a bill through parliament to forbid sale of any medical text without faculty approval. By the time this bill had passed, the book had been long in print, and publicity generated must have boosted its popularity considerably.[11] The first 3 editions of this work were marked by such opposition by the physicians (chiefly over Paré's use of the vernacular) that Paré's biographer Paget refers to this as the "War of the Three Editions . . . , a sort of Holy War for the deliverance of surgery from the bondage of medicine; and it is pleasant to read the fatuous indignation and futile reprisals of the physicians, as they lost one battle after another."[15] In one such attack, Etienne Gourmelen, dean of the Faculty of Medicine, criticized Paré for his innovation of ligature in tying blood vessels during amputation rather than customary use of cautery to sear the tissues. Responding in "Journeys in Diverse Places" from *Les Oeuvres* (fourth edition, 1585), Paré refers to Gourmelen as *mon petit maistre* (my little teacher) and reminds him that surgery can only be learned by practical experience. "More over, you say that you will teach me my lesson in the operations of Chirurgery, which I thinke you cannot doe: because I have not onely learned them in my study, and by the hearing for many yeares the lessons of Doctors of Physicke . . . Now dare you . . . say you will teach mee to performe the workes of Chirurgery, since you never went further than your study? . . . The operations of Chirurgery are learn't by the eye, and by the touch . . . that which you cannot in any wise doe, because you have not gone from your study or the schooles . . . ."[14]

As a result of his exploits, cures, and literary accomplishments, Paré's legacy defines the birth of surgery as a discipline based on observation rather than dictum and one which binds the surgeon to a new code of professional

responsibility for his actions, as exemplified by his epitaph: *je le pensay, Dieu le guarit* (I dressed him, God healed him).

At last, surgery as a legitimate profession had come of age, and a "respectful image" was established, with a new body of anatomic knowledge and practical skills based on objective data and recognized within a system of training and standards for licensure. Though the major discoveries of antisepsis and anesthesia were centuries away, this rebirth of surgery would usher in a rebirth for all of medicine, as adherence to ancient doctrine would give way to an attitude of scientific inquiry.

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Discussions

DR. J. ALEX HALLER, JR. (BALTIMORE, MARYLAND): I think this brilliant lecture that you have given us, Dr. Bagwell, is outstanding in so many ways. And I will not speak for a group of surgeons; I will speak only for myself, since I have learned over the years not to be so brave. I would like to ask you 1 question as you close. Since you brought us up to the time of the recognition of barber surgeons in England at the time of Henry VIII, at the time that took place, could you tell from your studies at Cambridge whether surgeons were accepted for the first time by their medical colleagues as members of a profession or were they still delegated to the role of the technician?

I know that our British colleagues recognize the fact that they are different, because as they become members of the Royal College of Surgeons they are no longer called "Doctor," they are called "Mister," to recognize their heritage. But what was the situation at that time? Were they allowed then to become a part of the medical profession?

DR. CHARLES E. BAGWELL (RICHMOND, VIRGINIA): Thank you very much for your kind comments, Dr. Haller. I am not sure surgeons are respected even today.

On an economic basis, the practice of surgery wasn't remunerative until recently. You couldn't make a living solely from practicing surgery until the 18th century. The arbitrary separation of barbers and surgeons, as I hope I have pointed out in this short time, was an ongoing process involving professional identity. Members of the "surgical" establishment had gravitated towards more complex procedures, but such individuals were few in number. Remember, surgery wasn't what we think of as involving body cavities but was mostly external, involving skin and soft tissues. Bloodletting was the "hernia repair" of the day, if you will. But a surgical practitioner still had a very hard time making a living.

There were a few select surgeons of eminence—Paré is a great example—who won favor at court. And with court appointment, you could do pretty well. But by and large, the physicians really ran the show for quite some time.

I think the gist of this particular paper and the lesson for all of us involved in surgical education, is that surgery couldn't have developed, even medicine couldn't have developed into the science it is, if practitioners remained bound to doctrine and dogma with no deviation from the status quo.

It really took the barber surgeons, "untrained" as they were, to revolutionize thinking based on results and experimentation. But it is that kind of revelation by results, as demonstrated by presentations at this meeting, that I think are setting the stage for advancement of our specialty on an ongoing basis. Paré would be very proud to be a member of this organization. And I commend you for the papers and the discussion that keep our specialty alive and makes us a respected group.