

Charitable Chirurgion

THROUGH a night in 1536 a young French army barber-surgeon worried because he had treated gunshot wounds with a salve of egg yolk, attar of roses and turpentine instead of cauterizing them with boiling oil as prescribed by the leading medical authorities.

But in the morning he noted: "Those to whom I had applied my digestive medicine, felt little pain, and their wounds were without inflammation or tumour . . . the others on whom was used the said burning oil, I found them feverish, with great pain and tumour about the edges of their wounds."

By such serendipity did Ambroise Paré, surgeon to four kings and the greatest of his time, make a surgical discovery in spite of its conflict with theory; he thereby helped to lift surgery from its lowly position and free it from the dead hand of dogma.

Life. Ambroise Paré was born into a period of the Renaissance which produced such giants as Raphael, Titian, Luther, Erasmus, Francis Bacon, Vesalius.

Unlike most of these great figures he rose from very humble origins. He was born in the village of Bourg-Hersent,

now part of the town of Laval (180 miles west of Paris) probably in 1510.* His father was either a cabinetmaker or a valet-barber to the hereditary *Sieur de Laval*.

He received an elementary education in the village, including time spent with the chaplain of a neighboring manor who had a large library. One story is that he watched the great surgeon Laurent Colot operate on one of the chaplain's friends and that this fired the lad to become a surgeon.

Most likely chain of events is that the boy was naturally drawn into a profession practiced by his brother Jean and his brother-in-law Gaspard. He served an apprenticeship with a barber-surgeon when he was around 15, though whether in Angers or in Vitré with his brother is not known.

His first appearance in Paris was around 1532 at the time of a plague epidemic. Paris was then a city of about 150,000 inhabitants, of whom some 6000 were criminals and more than 8000 were paupers or beggars.

The medical profession was at that time divided into three classes: the physicians, members of the *Faculté de Médecine*, who considered themselves

*Some sources give 1509 or even 1517.



FROM A CONTEMPORARY WOODCUT

AMBROISE PARÉ

True Renaissance Man

the highest rank; the surgeons, incorporated in the *Confrérie de Saint-Côme* (Fraternity of St. Cosmas, patron saint of surgery); the barber-surgeons, a lowly estate.

Surgeons were confined to the dressing of wounds and abscesses, cautery, and the treatment of surgical condition with plasters and unguents; they were regarded with considerable contempt by the physicians.

Barber-surgeons practiced venesection, cupping, leeching; others extended their skill to lithotomy, hernia and cataract. They were constantly attacked by surgeons and physicians for attempting to extend their work into the realm of medicine, while physicians and surgeons were also at war with one another.

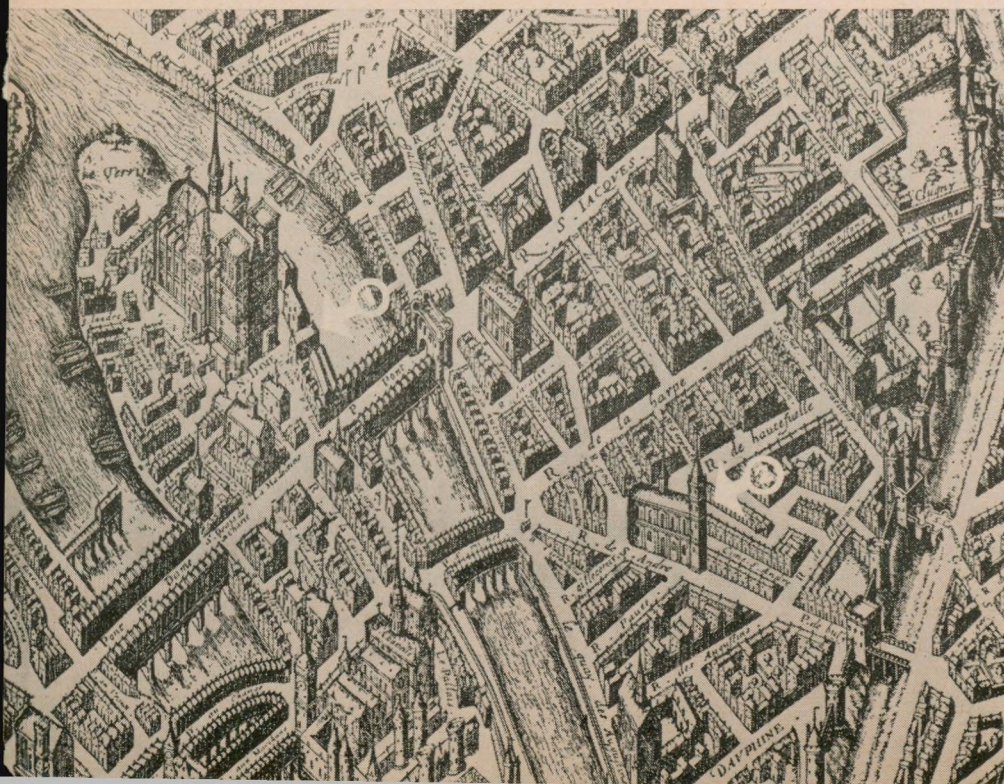
After serving some further time as an apprentice barber-surgeon, Paré obtained the post of *compagnon-chirur-gien* at Hôtel-Dieu, the oldest hospital in Paris, founded in the 7th century by Bishop Landri. It was an ancient group of buildings opposite Notre Dame cathedral, bounded by the dank Seine, an overcrowded insanitary institution that accepted every form of injury or illness, including difficult maternity cases. Paré remained there three to four years as a kind of resident, obtained a rich medical experience.

His long military career began in 1536, when he was appointed barber surgeon to René de Montéjan (Monte Jan), colonel general of the foot soldiery.* The Holy Roman Empire forces of Charles V had just invaded

*At this stage Paré had not yet passed official examination as a barber-surgeon.

SIXTEENTH CENTURY PARIS

Hôtel-Dieu ①; *Saint André-des-Arts* ②



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southern France, in an attempt to frustrate France's King Francis I's designs on the Duchy of Milan.

Paré crossed the Alps into Italy with the French forces, saw the bloody fighting for the capture of the castle of Villaine. During this engagement an intrepid Captain Rat was shot in the ankle. Noted Paré in his journal: "I dressed him, God healed him."* Also during this campaign occurred the historic incident of the salve substituted for the boiling oil.

When Marshal Montéjan was appointed the King's Lieutenant in conquered Piedmont, Paré stayed with him and practiced his surgery in mending the wounds of dueling officers and squabbling soldiers. An Italian surgeon (reported Paré) at this point told the Marshal: "You have a surgeon young in years but old in knowledge and experience. Keep him well for he will do you service and honor."†

When the Marshal died (of a "hepatic flux"), Paré returned to Paris, studied anatomy, passed his examinations as barber-surgeon in 1541. That same year he married Jeanne Maze-lin,** set up practice and prospered.

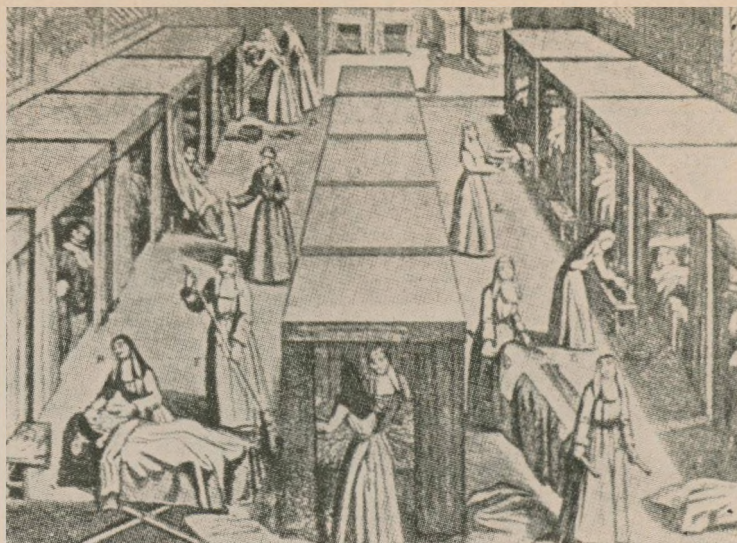
For the next thirty years, Paré alternated between civil and military surgery. At the siege of Perpignan (1542) he located a musket ball in an officer's shoulder where other surgeons had failed, by having the patient assume the position he was in when wounded.

Paré described this method of reconstructing the path of a projectile to Jacques Dubois (Sylvius), one of Ve-

*The first use of a phrase that became his watchword.

†What the old surgeon did not know (adds Paré slyly) was that he had served three years in the Hôtel-Dieu.

**Two children died in infancy; one daughter survived.



WARD IN THE HÔTEL-DIEU

Three to a Bed

salius' teachers; he was encouraged to publish his views, which resulted in 1545 in the first of many works, the *Méthode de traicter les playes*. . . . This modest work also contained his view that gunpowder did not poison a wound.

With the army in Germany in 1552, Paré earned the sobriquet of "the charitable surgeon" because of his solicitude for the common soldier. At the siege of Danvillier he first used a ligature in amputating a leg, became convinced that it should replace cautery.

When the Duc de Guise was besieged by imperial forces in the fortified town of Metz the mortality among the wounded was extraordinarily high, causing the suspicion that the drugs used were poisoned. De Guise asked the king to smuggle Paré into the city

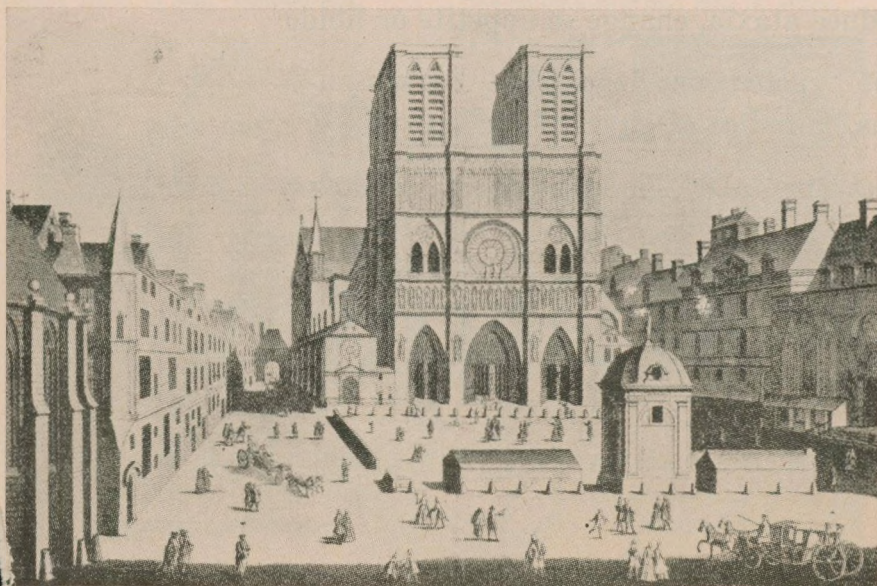
with a fresh supply of drugs; this was done by paying an Italian captain to convoy the surgeon secretly through the Spanish lines.

He treated many of the wounded in the beleaguered city, including the successful trephining of a man who had been hit in the head by a cannon ball and had lain in a coma for 14 days. When the plague finally forced the emperor to lift the siege, Paré returned to Paris where the king gave him 200 écus in addition to the 100 écus he received for risking his life to enter Metz.

The following year Paré's life was in real danger when he was captured by the Spaniards at Hesdin (southeast of Boulogne). He disguised himself as a common soldier and persuaded Monsieur de Martigues whom he was treating for a perforated lung, to take him as his dresser. De Martigues was put in the care of a Spanish impostor and died; Paré embalmed the body and so impressed the emperor's surgeon that he was offered a post. He declined, and declined again when the Duke of Savoy asked for his services. The Duke was furious and said the surgeon deserved to be sent to the galleys.

A Monsieur de Vaudeville asked the Duke to let him have Paré to see if he could cure a seven-year-old leg ulcer, promising Paré his freedom if he did so. The leg was cured and the surgeon returned to King Henry II who gave him another 200 écus.

In his 45th year, Ambroise Paré was made a member of the College of Surgeons of Paris, which gave him the dignity of a surgeon of the long robe; he was received into the faculty with great pomp at the Church of the Mathurins on December 18, 1554, though



HÔTEL-DIEU LEFT AND NOTRE-DAME

Bounded by Dank Seine

the examination in a Latin he did not understand was somewhat of a farce.

When the king was struck in the forehead by a lance during a tourney, Paré and Vesalius were summoned. Wrote Paré later: "The muscular skin of the forehead, over the bone, was torn across to the inner angle of the left eye, and there were many little fragments or splinters of the broken shaft lodged in the eye; but no fracture of the bone." He and Vesalius dissected the heads of two recently executed criminals in an effort to learn the proper procedure, but failed; the king died on the 11th day.

Attached to one of the most intrigue-ridden courts in Europe, Paré survived by virtue of his manifest honesty and friendliness, his Gallic humor and his exceptional talents. He served four kings loyally; the death of Francis II, a frail monarch who held the throne only 18 months, spawned rumors that Paré had poured poison in his ear; fortunately for him Queen Catherine de Médicis did not believe the rumors.

During the intermittent Wars of Religion that rent French Protestants and Catholics for most of the second half of the 16th century, Ambroise Paré managed to steer a cautious course. His own religious views were never made clear, though there is some evidence that he was secretly a Protestant at one time.*

When Admiral Coligny, the Huguenot leader, was wounded in an attempted assassination, Paré removed a bullet from his arm and amputated a finger. He was with his patient two days later (August 24, 1572) when the ghastly St. Bartholomew's Massacre was unleashed; Coligny was slain

*Yet all his children were baptized in a Catholic church, and he was himself buried in his favorite church of Saint André-des-Arts.



BATTLE OF ORLÉANS, 1563

Pillage and Carnage

and Paré barely succeeded in escaping to the palace where Charles IX insisted on keeping him safe in the royal apartments. Contemporary historian Pierre de Brantôme wrote that the king said it was not reasonable that one who could save so many people should be massacred, and that he would not urge Paré to change his religion.

Even in those troubled times of civil strife, the surgeon managed to acquire and develop considerable real estate holdings. In Paris he preferred the left bank region around the church of St. André-des-Arts, across the river from the Hôtel-Dieu*; he was married in that church and his children were baptized there. He bought his first house in 1550, continued to buy others in the district until he had a phalanx of adjoining houses. He also bought

*Not far from the present Place St. Michel.

houses and vineyards at Meudon (near Versailles) where fellow-physician François Rabelais was the *curé*.*

His first wife died in 1573 and in the following year he married Jacqueline Rousselet, daughter of a royal stables official (her brother later married Paré's daughter). The couple had six children, the last one sired when Paré was around 72. The eldest daughter Anne was married to a King's councillor, was saved in childbirth by the method of induced labor taught to her physician by her father.

Paré's last royal master was Henry III, who added to his title of First Surgeon that of *valet de chambre du roi*. This king was assassinated, and the Protestant Henry IV blockaded Paris. Paré lived long enough to see the blockade lifted, died a few days before Christmas, 1590. He was buried in his favorite Saint-André-des-Arts, but when this church was rebuilt in 1800 his bones were mixed up with hundreds of others and scattered in a catacomb.

Surgeon. In an age of cruelty and fanatic intolerance, Ambroise Paré had a singularly humane character, yet one with its share of contradictions. An essentially peaceful man he followed the wars intermittently for some 30 years, passing through the grisly 16th century routine of pillage and carnage by the traditionally brutal and licentious soldiery.

During the Italian Wars, at the outset of his career, he recounted his feeling of pity for the wounded being trampled beneath the conquerors' horses hoofs. On one occasion he found three badly powder-burned soldiers in a barn; an old soldier asked him if they could be helped, on being

*Although Rabelais' books were Paré's favorites there is no evidence that the two men met.



ASSASSINATION OF ADMIRAL COLIGNY
St. Bartholomew's Massacre



FROM AMBROISE PARÉ'S COLLECTED WORKS

Left: combination crutch and stilt for lame man.

Right: Paré's mechanical arm with ratchet mechanism.

told no he gently slit their throats. The physician reprimanded the soldier, but the old man answered that he hoped someone would do the same kindness for him in like circumstances.

In his private life he seems to have been a kindly man, a faithful husband and fond of children. His two sons by the first marriage died in infancy; it is said that the parents consoled themselves by helping other people's children and by endowing nieces and nephews. Many of Paré's and his wives' relatives were settled in the houses he bought in Paris and Meudon.

Considering his many years in military camps, Paré seems to have had a remarkably rugged constitution. When he first entered Hôtel-Dieu a plague epidemic was raging; he contracted the disease in a mild form, developing a bubo in the right axilla and another on his abdomen that left a scar as large as the palm of his hand. Wrote he later: "Plague is a disease that comes from God's wrath. . ."

He suffered a compound fracture of the left leg when a horse kicked him, the broken sections sticking through flesh and boot. The only other reported dysfunction seems to have been an attack of hematuria after long hours in the saddle.

After his first little work on the method of treating gunshot wounds was published in 1545, Paré published in 1549 his *Briefve collection de l'administration Anatomique*, which included methods for splinting broken bones and the first description of podalic version.

This is the work that was violently attacked by French physician Guy Patin (1601-72) in the following century, accusing Paré of having blithely stolen from contemporary texts, including Vesalius' works.*

Later scholars have demonstrated that Paré did in fact borrow heavily, not from Vesalius (whose Latin he could not read) but from a French

*The same Patin who fanatically opposed William Harvey's theory of the circulation of the blood.

translation of *In Anatomen corporis humani tabulae quatuor*, by Louis Le Vasseur, another disciple of Sylvius, published seven years before Paré's work. This work was itself largely a compilation of Galen's anatomic notes.

But in matters of practical surgery, Paré needed to borrow from no one, having a wealth of experience beyond that of any contemporary. In 1564 appeared his *Dix Livres de la Chirurgie . . .* which contained his first printed description of the use of ligatures in amputations; he now bore the title of First Surgeon to the King, granted to him on January 1, 1562.

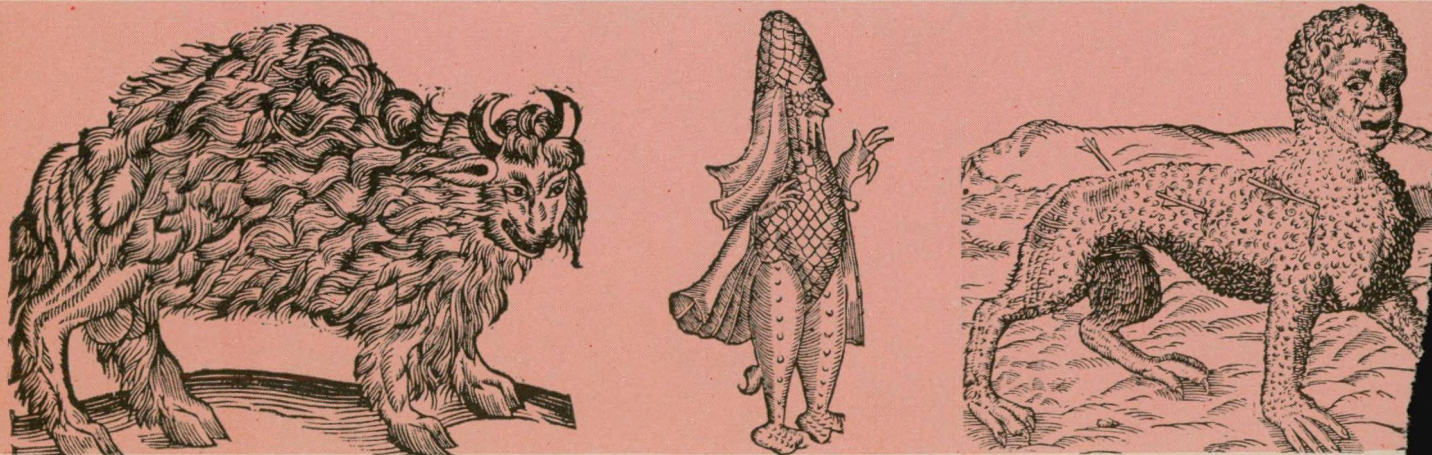
The important surgical treatise (*Cinq Livres de Chirurgie*) appeared in 1572, the year of the St. Bartholomew Massacre, followed three years later by the first edition of Paré's works.*

This unleashed a concerted attack on the surgeon, led by Etienne Gourmelen, Dean of the Faculty of Medicine. Paré was accused before the *Parlement* (Court of Justice) of violating a 1535 decree that no medical books should be published without the Faculty's permission. He was also accused of publishing matters that (being in French) could hurt the morals of the community, notably his accounts of congenital monsters.

Paré defended himself in a pamphlet in which he accused his accusers of being moved by "willful hate, envy and jealousy" and noted ironically that Hippocrates himself wrote in his mother tongue. The court upheld its decree of 1535 but no further action was taken either against Paré or his book.

The embittered Gourmelen returned to the attack five years later, in a book that tried to prove by the Ancients that Paré's treatment of wounds and ligature of amputated vessels were all

*He was by now also King's Councillor.



FROM AMBROISE PARÉ'S COLLECTED WORKS

PARÉ COLLECTION OF MONSTERS

Left: approximate buffalo; center: marine monster "resembling a bishop"; a "tanachth," tiger with man's head.

wrong. The reply to this provoked the famous *Apologie et Traité . . .* in 1585 in which Paré benevolently flayed his detractors and at the same time revealed fascinating details of his experiences as a military surgeon.*

In an age of professional rivalries and quacks, Paré had a crystal clear notion of what surgery should be. Its five duties were: to remove the superfluous, restore displaced organs, separate what is joined, join what is separated, supply the defects of nature.

But he pleaded eloquently against the then current division of medicine into three compartments: dieticians, apothecaries, surgeons.

He was a truly Renaissance man in holding some belief in spells and amulets, but had no faith whatsoever in the medicinal virtues of the bezoar stone, mummies and unicorn's horn. He demonstrated to Charles IX that bezoar was powerless against poison by giving mercuric chloride to a palace cook condemned to death for stealing; the wretched man died in agony.

Throughout his life Paré scoffed at the theorists, the bookworms without practical experience. Wrote he:

*Science without experience
Yields no great assurance.*

During his first campaigns in Italy in 1537 he was called on to dress the burns of a kitchen boy who fell into a caldron of burning oil. An old countrywoman persuaded the young surgeon to try a dressing of raw onion beaten with a little salt; he was surprised to find no blisters where the onion had touched.

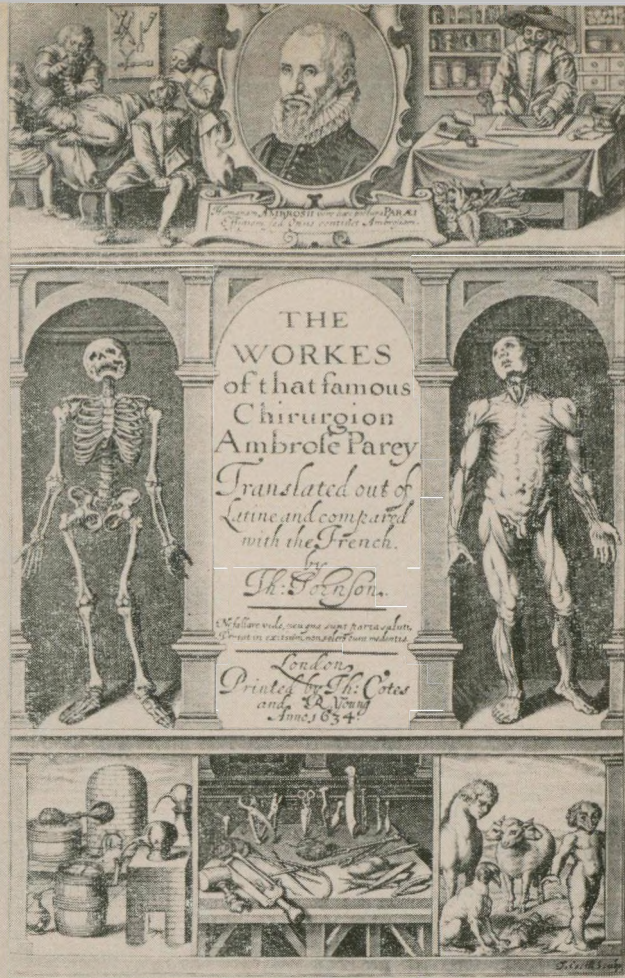
He made one of medicine's first controlled tests in that same campaign, thus described by him:

It happened later that a German in Montéjan's guard had his powder flask set on fire whereby his hands

*Gourmelen and his type are throughout scathingly referred to as *mon petit maistre* (literally "my little master") meaning a pretentious person.



PARÉ GALLERY OF MONSTERS



FROM AMBROISE PARÉ'S COLLECTED WORKS
ENGLISH TRANSLATION OF PARÉ WORK

Title Page of 1634

and face were grievously burnt; I being called, applied the onions . . . to one half of his face, and to the other half I applied medicines usually applied to burns. At the second dressing I observed the part dressed with the onions quite free from blisters and excoriation, the other being troubled with both, whereby I gave credit to the medicine.

The method remained in use for more than a century. Soviet investigators claimed during the last war that

onions emitted bactericidal effluvia.

Paré's contributions to surgery included the design of instruments to extract bullets and arrowheads, for separating jaws in tetanus, for tooth extraction. He invented and had made a number of ingenious prosthetic devices for the limbs.

His humane treatment of hernias with trusses made him many enemies among the "gelders," unscrupulous quacks who persuaded people with scrotal hernia that the only cure was orchiectomy. Paré's treatment consisted of gently manipulating the intestine back into place, astringent fomentations and a truss; he resorted to the knife only when the protruded gut contained impacted feces or was badly infected.

In his treatment of wounds, Paré was guided by these principles: cruel pain and much loss of blood should not be provoked, it being better to let nature take its course than to exasperate a wound by too violent hastening; nature will often extrude any foreign body in the pus; "rough and boisterous" handling of wounds is frequently more dangerous than the wound itself. For the remainder, this great pioneer Renaissance surgeon placed his faith in God.

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