

"who had come here from Heidelberg, where his father, whose wife was a sister of Casper and John Wister, was an aide-de-camp to the reigning Prince," states Rev. S. F. Hotchkins, M.A., in his admirable history of "Ancient and Modern Germantown, Mt. Airy and Chestnut Hill." (1189, 66.)

David Deshler was "in successful business in Philadelphia. . . . 'As honest as David Deshler' was an old saying. Mrs. Deshler bought a salve from a butcher, which was called 'Butcher's Salve' and afterward 'Deshler's Salve.' Dr. Wister put the recipe in his *Pharmacopœia*." So, apparently, Deshler's Salve was known as early as the American Revolution, and in all probability it was used in Germany and Europe long before.

Dr. Hotchkins writes, also, that:

"David Deshler dressed in olive-colored silk velvet, with knee buckles and silk stockings, bright silver buckles and the usual three-looped hat—a custom that well became his handsome face and manly form. His wife, Mary, was a granddaughter of Madam Mary Ferree, a French Huguenot widow, who owned much land in Pequea Valley, where a Huguenot settlement arose, favored by the Indian King, Tanawa. She died in Revolutionary Days, but David, her husband, lived until 1792."¹

The Deshler Family of Germantown should not be confused with the Deshler Drug Store in New Brunswick, described by Dr. F. B. Kilmer in the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION* of July 1929. Dr. Kilmer writes me:

"So far as I know this man and his store had no connection with Deshler's Salve, although among the laity and the druggists of New Brunswick they have erroneously been joined together. Of course, I am familiar with this Salve; I have made and dispensed it, but so far as I know the David Deshler of whom you speak was not in any way connected with the New Brunswick druggist."

BINDING UP A WOUND.*

BY FRED B. KILMER.

When the dawn man swung from limb to limb in the primeval forest, crawled on all fours or walked upright, roamed in search of food and shelter, hunted, fished or fought his fellows, he got hurt. In every move man made he was beset with bruises, cuts, stabs, scratches, bites, blows, breaks—injuries of many kinds. The Stone Age brought axes, arrows, knives, lances, spears, clubs, hooks, tools and weapons of many sorts. The Bronze Age, closely followed by the Iron Age, which extends to the present, added to and amplified the implements which would injure and maim man's flesh. Every step in man's progress has brought new forms of injury; fire, the wheel, gunpowder, steam, the wagon, the engine, the machine, the motor, the aeroplane, electricity—and now in sight is radio power—atomic energy—all carrying elements for the mutilation of humankind. Wherever man may go, whatever he may do, he is prone to get hurt. In our highly civilized United

¹ Dr. James W. Wister, of Germantown, writes me (August 12, 1933) that: "All that you say concerning David Deshler I think is correct. Dr. Caspar Wistar, great nephew of John Wister, from whom I am descended, spelled both his names with an 'a.' The Doctor used the salve in his practice, but so far as I know, was not the author of a *Pharmacopœia*."

* Section on Historical Pharmacy, Madison meeting, 1933.

States upward of nine million accidents occur every year. Three million of them occur in the home.

When primal man was maimed, instinctively he sought out a way to care for his wounds. Out of this arose the healing art. The first physician was a man of magic. He dispelled demons and invoked angels with incantations, dances, rattles and the beating of drums. With his potions and lotions he applied charms and amulets. He made cures. Somewhere from twenty to a hundred thousand years ago in caring for his wounds he washed them with water and, in turn, arrested bleeding with compresses and ligatures. He preserved blood clots, a practice revived and renewed through the ages. He covered wounds with moss, leaves and plant fibres. He applied juices, decoctions, potions and lotions made from plants, poultices, fats, ointments, salves and cerates. He made plasters of pitch and gums spread on leaves and skins. He used wound-healing compounds made of ashes, balsams and animal excretions. With flint lancets he opened congested blood spots, abscesses, and drained away pus. With stone saws and knives he amputated limbs. After the invention of the bone needle, wounds were sutured with animal threads. The trephining operations of the Stone Ages would be a credit to the present-day practitioner. An interesting feature of primitive surgical customs is revealed in figures of human hands imprinted on the walls of the caves of France and Spain wherein one or more joints of the fingers have been cut off as a religious and superstitious practice. This custom was extended through the primitive people of many lands.

In the Bible the use of roller bandages in fractures is referred to. Among all ancient people wounds were dressed with "oil and wine" and balsams, and bound with bandages. This custom is conspicuously delineated in the parable of "The Good Samaritan." In the Talmud, sutures and bandages are referred to, together with the freshening of the edges of old wounds to secure more perfect union. Among the Hindus five to ten centuries before Christ surgical treatment attained a high point of development. Their manuscripts describe a variety of surgical implements and important operative procedures. They devised the bamboo splint centuries afterward adopted by the British Army. They were skilled in the use of bandages, and taught the art of bandaging by applying them to plants, fruits, stuffed leather bags and even dead animals. The student, at least, went through the motions.

The Chinese from a very early period formulated intricate systems of anatomy and physiology which they applied to the cure of disease. Religious tenets, however, forbade the shedding of blood and any cutting or mutilation of the body. However, they did apply plaster compounds spread upon silk, skins, paper and other fabrics to open wounds and injuries.

The Japanese, before they came in contact with European nations, followed the methods of China. It was not until the nineteenth century that the modern period of medicine and surgery began in Japan.

Ancient Egypt reached to high attainments in the arts only to meet with a lamentable decline. The healing art was controlled by the priesthood and was guided by magic. Disease was a kind of demoniac possession. Injuries to the body were caused by agents from the invisible world. Methods of treatment, even to the care for wounds, were carried out through charms and incantations to which were added material measures and remedies. Practitioners were

highly specialized, each confining his attention to one disease or one part of the body. The physician who treated a cough could not be consulted in a backache. The man who treated a cut finger would not care for a cut nose.

Through the embalmer's art came a knowledge of anatomy. Translators have agreed that certain terms found in the records can be used interchangeably and made to mean "embalmer," "physician" or "surgeon." The Egyptian surgeon never cut through the unbroken skin. The initial incision even in venesection was performed by an embalmer who was thereby held in contempt.

The wound dressings of the Egyptians were quite extended and varied. In their use of substances which were antiseptic in action they antedated the practices hailed as discoveries in the nineteenth century. The bandages and wound dressing materials of the Egyptians were made of linen, animal skins, papyrus (paper-like tissue) and the membranous omentum tissue of animals.

The various substances applied to wounds by the Egyptians included resins, balsams and gums, especially those from coniferous trees; oils of juniper and cedar; the ground wood of aromatic trees; powdered cassia, olibanum and myrrh; clays and the mud of the Nile (anticipating the later antiphlogistines); bitumen (the asphaltum of the Dead Sea)—the predecessor of the coal-tar products; dried lichens, including moss grown on the human skull. Resins, waxes and bitumen were at times applied boiling hot (cauterization).

From the embalmers came the art of bandaging and suturing (linen cord). Examination of mummies reveals their knowledge of many forms of bandages in use to-day. These include the circular, the figure of eight, the spiral, the "puttee" leg bandage, "finger cots." They covered wounds and packed them with pads of cloth and bundled cords. They filled them with resinous antiseptics like pastes and drained them. Bed sores were dressed with resin cerates spread on gargoyles' skin. Gold and silver plates were placed on wounds. This was a forerunner of our present-day application of gold and silver foil. For fractures, splints and stucco bandages were applied as supports. These latter were the equivalent of our present plaster of Paris splints.

Among the "lost Arts" attributed to the Egyptians may be classed some of their methods of applying surgical dressings.

In the "Iliad" of Homer we learn that warriors and, in some instances, women had a knowledge of wound treatment. The methods were simple, and evidently effectual. The effused blood was pressed out; the surface was washed with warm water; crushed roots or bruised leaves having styptic action were applied to check hemorrhage. Finally, emollients were applied and the part was bandaged. The surgical practice of the time is revealed in Hippocrates' "On Wounds, Fractures, Dislocations and Ulcers." Strenuous wrestling and athletic games provided ample practice in fractures, dislocations, sprains and strains. Slings, splints and bandages were used. Boiled water was used in cleansing. The importance of primary wound healing was known. Wounds were drained, and dry dressings were applied. Fomentations, poultices, washes, oils, cerates, ointments, liniments and plasters were employed.

In the passing of the centuries between Hippocrates and the dawn of the Christian Era Greek influence waned and became submerged in the Roman. We gain pictures of the medicine and surgery of the time through such writers as Cel-

sus, the voluminous encyclopedist who lived in the time of Tiberius Cæsar in the first century after Christ. In the second century A.D. came the immortal Galen, apothecary-physician who wrote five hundred treatises and whose influence held in the world of medicine almost if not quite to our time. Among the Byzantine scholars of the period was Paulus Eginata, who lived in the seventh century A.D. Eginata was a surgeon and wrote accurately and with originality.

Surgery in Galen's time was medical. While the physician might care for an injury already present, he would not cut or incise. In this era and for centuries following, hemorrhage was checked by compression, and styptics, roasted resin flour and gypsum were applied. In aneurysm ligatures of thread and catgut were used. Tumors and cancerous growths were excised. Dressings were made of lint, used dry or wet with vinegar or wine, and changed frequently. This age and those which followed must have kept the apothecary busy in preparing plaster applications. The books enumerate many hundred formulas running from the lead and oil compounds—our diachylon mass—through innumerable mixtures; adhesive, vulnerary, desiccative, cicatrizing, emollient, anodyne, discutient, epispastic and suppurative plasters of countless sorts and kinds—to which were added poultices, oils, ointments, cerates, lotions and liniments.

With the rise of Arab power the works of the Greek fathers were translated and revised. The followers of Islam carried a knowledge of medicine, surgery and wound dressing to the remote parts of the known world. They introduced Eastern forms of bandages and dressings and the materials for their elaboration.

When Constantine placed the cross upon his banner—medicine—the Roman domination of the world of science, art, literature and trade waned. Medicine, surgery and wound treatment became Christianized. The monks practised medicine as a work of piety and charity, but ruled out surgery as a heathen art. They did, however, follow most faithfully the "Good Samaritan." They sought out the ill and injured, poured "oil and wine" over their wounds and carried them to the "Inn" of the parable, which was found at the gate of every monastery. This was the hospital of these ages. The nuns taught and practised the care of the ill and injured, as trained nurses do to-day. They prepared bandages and dressing material for the wrapping of wounds, and supplied the crusading armies with outfits for the care of wounds and injuries on the battle-field—the forerunners of the modern first-aid packets and cabinets.

During the so-called "Dark Ages" medicine passed into the monasteries. Surgery was forbidden to the priests. Blood-letting, surgery and wound dressing were relegated to the "barbers." For many centuries practitioners of medicine held that surgical procedures were beneath them. They were forbidden to "soil their hands" in wound treatment. It is to the credit of the barbers that they created a class of "barber surgeons," some of whom reached to high attainment in the surgical art.

The passing centuries produced at intervals surgeons whose work is notable. At times there is seen dimly the foundation of the subsequent discoveries upon which modern surgery has been builded. In this period came Paracelsus, at one time a teacher of surgery at Basle. In the treatment of wounds he aimed at aiding, not combating, nature. To prevent putrefaction he applied substances which were essentially antiseptic.

Outstanding is the famous Ambroise Paré, the author of the classical exclamation, "I dress the wound, God heals it." He discarded the hot iron and boiling oil cauteries. He propounded the idea that pure air was beneficial in wound healing; that the impurities in the air were the source of putrefaction. This he combated with substances which were antiseptic.

Francis Arcaeus (1574) washed his wounds with alcohol, wine and myrrh, and introduced systematic drainage. From his efforts arose the "balsam of Arcaeus" composed of suet, lard, resin and turpentine, applied on lint, an antiseptic dressing which remained for centuries.

A Holland scientist, Leewenhock (1675), saw dimly but unmistakably the microscopic bodies which we now know as bacteria, and laid the foundation upon which modern practice has been built.

A year later Robert Boyle announced his discovery of the nature of fermentations and propounded prophecies as to the subsequent advances in wound treatment.

A notable event in the history of wound treatment is revealed in the work of Sir John Coltbach (1698), who in theory and practice anticipated the modern era. He used an antiseptic powder and devised that which would now be termed a typical aseptic course. Unfortunately, he kept the composition of his antiseptic a secret, and thereby became subject to the condemnation of his colleagues.

Among the practices of the seventeenth century was the "sympathetic" treatment of wounds. Here the wound itself was washed with water and covered with a linen bandage. But to the weapon which had caused the wound a healing "sympathetic" compound was applied. Paracelsus originated a "weapon salve." Digby's "sympathetic powder" became famous.

The eighteenth century produced no marked advancement in the evolution of surgical dressings. Sporadically antiseptic substances for application to wounds were suggested, but were not generally accepted. Among these were sulphurous and lead lotions. In 1765 Pringle called attention to the use of cinchona bark as possessing the power of preventing wound putrefaction. This was later confirmed by several investigators and its use was carried down almost to our time.

It has been stated that medicine and surgery, including the art of wound treatment, "made more progress in the nineteenth century than in all the centuries preceding." It was in this century that the microbes which were the cause of disease, wound inflammation and suppuration were caught and convicted. The journey which led to the surgical revolution of this century was a long one. Finally, Pasteur showed that the fermentation of wine and beer was due to living organisms. The idea that suppuration in wounds and infective diseases were due to the same cause naturally followed. Out of this was born a new method of dressing and treating wounds—a new surgery.

(To be continued)

GIFTS OF THE GODS TO PRIMITIVE MAN.

BY JOHN THOMAS LLOYD.

It has been said that every vegetable drug in our materia medica was first used in medicine by the aborigines. Perhaps such a statement is too all-embracing,