
The Early Art of Surgery

I. THE EBERS PAPYRUS

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NOT so many years ago a German archeologist working in some ruins in Egypt was approached by a tall, swarthy, bearded stranger who winked an eye and announced that he had some treasures to sell. The archeologist took him over in a corner, where from under the folds of his robe the stranger produced various and sundry items of interest, none of which Ebers thought much of. Ebers was the name of the archeologist. It was now his turn to wink an eye at the secretive stranger and tell him that if he really had any treasures, and they really must be treasures, he was quite sure that they could do some business. The stranger left but announced that he would be back.

A couple of days later he returned, winked an eye again, and looked around with an air suggesting the need for the utmost privacy. Ebers took him off into a corner and his eyes must have popped when the stranger produced a scroll which he proceeded to unroll. Ebers was nobody's fool and he knew that he was looking at a real treasure. The only difficulty lay in who this fellow was and did he have any knowledge of the true worth of what he was showing, and above all how and where had he come by it.

The story goes that Ebers had to make some financial commitments in Leipzig before he became the possessor of this papyrus, for that is what it was.

Now while many papyri exist in various museums throughout the world, most of them have faults and defects. Some consist of only a fragment of soiled page on which

the characters are difficult to decipher. Others have been the victim of time and have been allowed to fall into a state of decay. Not so with the papyrus of Ebers. Its forty pages are clean, the characters are not dimmed and there is no sign whatever of any of the ravages of time. Ebers lost no time trying to merchandise his find. He offered it far and wide for a fabulous sum; and perhaps it was because he was so energetic and assiduous in trying to sell it, that it became known by his own name, the Ebers Papyrus, and why it is so much better known than any of the others.

The Ebers Papyrus consists essentially of many prescriptions and methods of procedure under the headings of various diseases. It is said that many of these remedies actually antedate by five hundred years their setting down in legible form; many of the formulas having been passed down by word of mouth from that time. There are sections which are of interest to the ophthalmologist because many diseases of the eye and remedies for each are mentioned. For the gynecologist it describes many uterine displacements and formulas for types of douches. The obstetrician can find advice on what to do in different labors and in too free-flowing of blood during delivery.

Prescriptions for the prevention of baldness and for the growth of hair—most of them bizarre and repugnant to say the least—are given for the dermatologist.

The surgeon will find something on fractures and splints, on trephine operations for persistent headaches and epilepsy, on

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amputations and points of election for such, but nowhere will he find any description of suture, ligation or hemostasis. The internist will be interested to know that the diagnostician of 6,000 years ago was able to recognize that certain groups of symptoms invariably occurred together, and they are so described and classified. Physicians are designated by a special term which implies that they were to try to cure in a natural way internally and externally. No where is there a term for the one who did the amputations, cauterizations, etc.

There is much to delight the heart for the gastroenterologist and proctologist. The subject of pain in the right lower quadrant, gallstones and enlargement of the spleen in the upper left quadrant are touched upon as is also cancer of the stomach, jaundice and, last but not least, gastropptosis and enteroptosis.

Chronic constipation also plagued the physician of that day. These ancients knew of the castor bean and what it would do, and also prescribed both senna leaves and senna pods. An exceptionally capable presentation of the symptoms of both round

worms and tape worms is given, and pomegranate seeds are prescribed for internal and rectal administration.

An illness of the abdomen, a "materia peccans," is described and its treatment is the thorough evacuation of the bowel, the sooner the better. Sitz baths are not at all new; the ancients used them for relief of hemorrhoidal symptoms 6,000 years ago. They knew and recognized rectal abscess, rectal fissure and fistulas, and multiple are the prescriptions for pruritus ani. An extract of juniper berries was recommended for cramps, particularly menstrual pain.

Many diarrhea prescriptions are given for the type which is with flatus and for that which is without.

"Twist in the bowel" or ileus, as we know it, is mentioned and active purgation (God forbid) is prescribed for it.

In a rough manner, this was the medicine and surgery of the oldest recording known to man. What better place to start from in order to record the additions and evolutionary processes which total up to the science as it is known to us today.



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II. MORE OF THE "EBERS PAPYRUS"

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WHEN Rokitansky was one of the "Big Four" in medical stature in Vienna about sixty years ago, he gave the following advice to prospective students:

"Those of you who are about to study medicine, and to the younger physicians also, I say that you should light your torches at the fires of the Ancients."

It is my own wish that any reader of this series of articles will read not only the words but will try to see the man described, the man behind the words. It is also the writer's wish that the reader try to see the man's contemporary environment, how he by-passed the ignorance, prejudices, superstitions and religious codes which hemmed him in and, last but not least, the envy, greed and malicious persecution of his own confrères; it has ever and always been thus, that one of the greatest of all mankind's problems is man's inhumanity to man.

The Ebers Papyrus is presumed to have been written sometime in the vicinity of 1500 B.C. but much of the material in it came down by word of mouth from perhaps as much as five centuries before.

It is not strictly a book or manuscript, it is a miscellaneous collection of jottings down or experiences; some are prescriptions, some are advice on diagnosis, some are descriptions of postmortem appearances of things and, finally, some instructions are on what to do, and it is here that surgery comes in.

Curious indeed is much of the material contained in this papyrus. Apparently calculus of the bladder was a common

affliction, arthritis of the joints another, but more curious still was the all too remarkable frequency of a fracture of the ulna about 2 inches above the wrist, and more commonly of the left ulna in women. Now the only explanation of such a fracture would be that the woman was defending herself from blows being swung by somebody else and took the blow on her arm instead of her head. Evidently husbands beat their wives three thousand years ago in the same fashion as today.

Then there is the description of how to splint this fracture using palm fiber as splint material and forming a tube-like, circular splint around the arm, drawing it tight with linen. The grotesque feature is that small slivers of palm fiber were stuck into bleeding areas in such a manner as to try to form an obstructive hemostasis.

Unfortunately in the Ebers Papyrus descriptions of actual technical procedures are missing, the usual term under treatment being "Thou shalt perform an operation," but how, it does not say.

Sutures and suturing are not mentioned. Hemostasis was apparently obtained by cauterization by means of red hot stones or sticks.

They did not try for "primary union," rather they interrupted normal healing in order to obtain a series of scars, each presumably tougher than the last.

In arteriovenous aneurysm they were smart enough to leave it alone. The instructions were "Thou shalt not put thy hand to such a thing."

In purulent affections of lymph nodes, particularly inguinal buboes, one waits

until the proper degree of softness has arrived and then "Thou shalt hit the swelling into him."

Here we find perhaps the earliest of all descriptions of a hernia: "If thou examinist a swelling of the covering of a man's belly above the pudenda, then thou shalt place thy fingers on it and knock on thy fingers (percussion). If thou examinist that which has come out and has arisen by

his coughing, then thou shalt say concerning it: it is a swelling of his belly—it is a disease which I will treat."

How? "Thou shalt heat it in order to shut it up in his belly."

They made quite a to-do about ascites and hydroceles but nothing as to paracentesis or tapping. The time is sixty-five hundred years ago and the art is young, young indeed.



S. A. Fox used preserved cartilage as an isograft in the reconstruction of eyelids and as a substitute for missing bone within and without the orbit. His results were very satisfactory and the procedure is not only simple but makes it unnecessary for the surgeon to remove cartilage from the patient's rib, ear or elsewhere. (*Richard A. Leonardo, M.D.*)

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III. THE EDWIN SMITH SURGICAL PAPYRUS

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IN addressing a group of surgeons in Chicago in the nineties, John Billings said that although no modern surgeon possessed of all the knowledge and resources available would discover any new technic or knowledge by a perusal of the methods the old masters used, he was of the opinion that they could read, compare and think; so doing it was fair to say that he would be a broader and wiser man, established on a better foundation. Billings acknowledged that there were a great many men who had neither time nor accessibility to search collections of original material, and it was his opinion that short essays that did not take up too much time should be made available to these men by way of the surgical journals. It is with such a thought in mind that one justifies inflicting this sort of material on an editor.

By opening this series with a comment on the Ebers Papyrus one accomplishes a literary chore successfully, namely, one can skip over a period of about 4,000 years before there is anything in surgical literature which can be classed as specifically informative.

The art of surgery in these early days was sharply limited because of many surrounding environmental factors. Before the time of Christ there was the Jewish abhorrence and aversion to blood. After Christ the religious shrank from doing anything to the body in the belief that it interfered with God's own handiwork. In most instances those who called themselves surgeons were afraid of venturing far, subconsciously frustrated by the inward knowledge that they were not

capable and did not know the way. Knowledge of anatomy, a necessary partner to surgery, was totally lacking. Therefore, is it any wonder that honest men were timid?

During the Crusades the story is told of a certain grand duke, a member of a party making the pilgrimage. He was so fat that he tired too easily, thus holding up the progress of the expedition; in addition, he suffered excessively from the heat. A surgeon accompanying the expedition was ordered to do something about it. He did. It was one of the earliest actually recorded cases in which the operation was successful but the patient died. The doctor cut into his noble patient's belly and removed all of the fat. The patient died that night.

On another occasion a grand duke fell from his horse, with a resulting compound fracture of the leg. After a few days it was a black, gangrenous leg. The surgeon accompanying this group would not amputate. Therefore, the duke placed a well sharpened battle axe across his leg below the hip and ordered his man servant to hit it and hit it hard with a heavy hammer. Three blows and the axe went through and the leg fell off. The duke died a few hours later. No word was mentioned about bleeding. These were certainly the men of distinction of their day.

To trace the story of surgery from the beginnings down through time is not only intriguing and inviting but is inspiring as well. It is a manifest testimonial of the ingenuity of the human mind. The paths of deviation in ideas and methods is, at best, a crooked one to trace because it is a



FIG. 1. Osseous tumor of tibia taken from J. H. Breasted's "The Edwin Smith Surgical Papyrus."

story of humans, their fallibilities, brilliant minds and the neo-brilliant (those who have managed to shine through without any right to do so), great thinkers, humanists and philosophers and with it all just enough of a sprinkling of crooks, quacks and many, many just plain "nuts."

Surgery has had its peaks and valleys in the point of estimation in the peoples around it. Discredited and in disrepute at times, almost extinct at various times—that part of it which has been honest has survived. What hurdles it has had to negotiate successfully: crazy kings who made it go underground to survive; narrow-minded bigots in high places who delighted in issuing edicts in attempts to strangle it; ecclesiastic interferences for centuries either based on religion or on the shekel; and superstition, incredulity, witches, medicine men, tribal customs and what have you.

In its time it has been the victim of intelligence, of ignorance, of the lofty-minded and cultured, and of liars and

imposters, yet it has survived. How can the story of any parts of surgical progress possibly be without interest to those in the field? How can it help but be stimulating?

We have made a beginning using the Ebers Papyrus as a sort of jumping off point because it represents the first actual recording we have and, therefore, material proof of the surgical art of the time approximately sixteen centuries before Christ.

Before we transfer our attention to the great manuscripts, which is the next logical step in tracing our way, there is one other great papyrus we could hardly afford to leave behind without mention. That is the Edwin Smith Papyrus. This was acquired by a Mr. Edwin Smith at Luxor or Thebes. The exact year is thought to be 1862. Smith was a Connecticut Yankee, one of the first of American Egyptologists, who took his work seriously enough to live in Luxor for twenty years. Although Smith was unquestionably familiar with the fact that he had acquired a fabulously valuable piece of property, unlike Ebers, he made no attempt to sell it. After he died his daughter presented it to the New York Historical Society.

Egyptian writing was purely pictographic; a drawing or picture signified the thing it meant to depict. Imagine the labor of deciphering involved in a study of page after page of such material!

The first great evolutionary step forward in the field of surgery occurred when men recognized natural causes of disease rather than demons and spirits. From superstition to a scientific point of view was an absolutely necessary change.

The Edwin Smith Papyrus is of unknown authorship. Within it is, perhaps, the first attempt of man to write a clinical history. Under each case described a list is given of the objective signs or changes present as seen by the eye or palpated by the hand. An attempt is made to marshal these facts in an orderly manner so that the whole dovetails together into an entity. Along with this is an orderly discussion on how these lesions came about

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with conclusions as to the cause of death and speculation on what might have been the antemortem picture leading up to death. Here then is the first recorded attempt at clinical diagnosis and the writing of a clinical history differing hardly any in format from that which we write today.

There is a considerable amount of scattered blurring in the papyrus, thus eliminating possible valuable segments or sections. Some of this blurring was probably done by the original Egyptian scribe who was trying for perfection and some was probably done by Edwin Smith himself, also striving for perfection, whereby in trying to eliminate minor defects he only increased them.

Man's mind was yet primitive; the mysteries of the human body baffled him because he had no plausible explanation as to the why; he was unable to grasp at logical conclusions based on observed fact.

Without entering controversy, the Smith Papyrus is presumably a work of the seventeenth century before Christ, and much of the material in it may be of as far back as a thousand years before that. Who compiled it, put it together? Nobody

knows. Wishful thinking has desired to place it as the work of Imhotep, the earliest known physician, 1300 B.C., long before Hippocrates and long before Aesculapius. The surgeons of those days followed armies and did not have much civilian practice except as a side line. That is why so much of the material in this papyrus is on fractures inflicted anywhere, in the skull, face, arms or clavicles, by ingeniously designed, heavy, long-handled instruments for dealing such blows as would produce such wounds. Tops of heads would literally be knocked off; faces in all reality would be pushed into the occiput, not to mention eyes being knocked out any which way.

The arrow wounds, show that apparently arrows were aimed more for the abdominal area where tissues were soft; or we would like to believe that if a man were a particularly good shot, he aimed for an eye. You can let imagination run loose in any direction here.

These early days of surgery were the days of a science in the making. No technical terms existed; they had to be made up as the need arose. "Brain," "fracture," "compound fracture" had to be invented.



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IV. THE EDWIN SMITH SURGICAL PAPYRUS

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IN case you think, when you turn on your radio, that "aspirin" is something new and of modern times, do not believe it. It is so written in the Smith Surgical Papyrus, that the surgeon of that day made a concoction of willow and wintergreen which he used externally for rubbing inflamed arthritic joints but he made a tea of the wintergreen and gave it to his patients to be taken internally. That was the salicylate of his day, in other words, his "aspirin."

This same surgeon had a wide repertoire of poultices for use in alleviating painful inflammations and for drawing pus and infectious material to the surface where it was usually allowed to rupture, thereby affecting its own healing. We probably would not care for many of his fabrications, speaking esthetically, because they consisted of working up the dung of different animals into either a smooth or stiff paste, heating this mixture, spreading it on lint and then applying it to the part.

Evidence proves that he was a shrewd, discerning observer, a bit puzzled perhaps as to the why but describing fairly accurately what he was looking at. He told of a skin enveloping the brain; but since he had no word for brain, he conjured up a word picture which served the purpose. The brain convolutions, therefore, he described as like "molten metal settling in a ladle." He noticed changes of speech after certain skull fractures and explained that this occurs always when the blow is in a certain area. In some who survived very severe skull injuries he noted that forever

after they walked with a shuffling gait. In these cases of blows to the head and skull fractures, of which he saw many, he put in his notes about how often the foot or hand or both are paralyzed on the side opposite to that of the injury, and how often the eye is ptosed on the same side as the injury.

He took the pulse, "in order to know the action of the heart," and told of the various places where the pulse can be taken other than at the wrist.

The method of procedure of a surgeon, when called to a case, probably set the pattern of our own procedure today: First, he obtained a history either by direct questioning of the patient, if he were conscious, or from relatives or friends, if the patient were unconscious. Second, he observed the patient by means of his ocular, olfactory and tactile senses. Upon completion of his examination he made his diagnosis which slanted a bit toward what we today would call prognosis. He used linen and lint to make plugs, tampons and compresses. Bandages he obtained either from the most skillful embalmer of all time—any Egyptian embalmer—or he called in the latter to help. He had adhesive plaster for bringing together a gaping wound. For more extensive wounds he used sutures. "In this papyrus is the first recorded instance in the history of surgery of actually sewing up a wound." The directions for suturing as given in the papyrus are as follows: "Thou shouldst draw together for him his gash with stitching." Edges of wounds were usually brought together with adhesive plaster, "in order to join one to

the other." In some cases he used both stitching and adhesive plaster.

He had a variety of splints. For instruments he used a needle and a "fire drill" for cauterization. Probing was done with the fingers, never with an instrument. In some of our American Museums and in many on the continent specimens of lancets and scalpels can be seen. Almost all are made of bronze and they come in a wide variety of sizes and shapes.

The Egyptian surgeons apparently were extremely adept in the handling of fractures, as the bones of ancient skeletons show excellent alignment and union and rarely any deformity. In an article on this subject written about fifty years ago by an English medical archeologist he calls attention to the fact that obviously the manner in which these fractures were produced would certainly predispose to a large number of compound and comminuted fractures, yet in all his experience he had seen only one skeleton in which there was any evidence that suppuration had occurred. (Fig. 1.)

There is no evidence that the Egyptian surgeons practiced trephining as is commonly believed. Their treatment of fractures of the skull was that of "laissez faire," but for some reason these patients were not placed in a reclining position. They sat up straight and a mould or cast of their body was made of clay or earth, coming up under the arms for support. This was allowed to harden and form a good plaster jacket. The Egyptian usually applied poultices of raw meat particularly after reduction of a fracture to lessen swelling and ease pain. Beef-steak for a "black eye" had its origin here—without question.

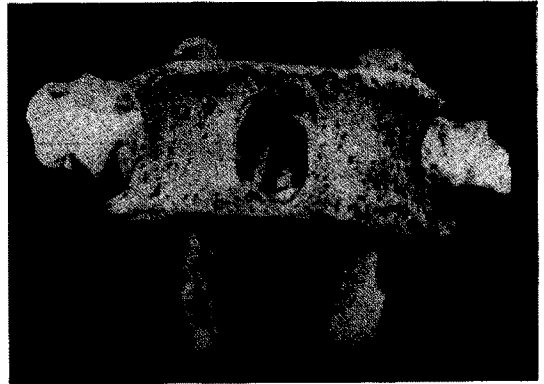


FIG. 1. Pott's disease of spine; taken from J. H. Breasted's "The Edwin Smith Surgical Papyrus."

The surgeons of those days evidently liked to present their good results in much the same manner as we moderns, because we find in one illustrative figure the skull of a man across which run several linear fractures in many directions, then there is a plate showing the healing of these fractures with very little scar and a note that the man survived.

From the bibliographical angle, the papyrus originally consisted of twenty-one complete columns. In the original deal between one Mustapha Aga and Mr. Smith, seventeen fragments were held back by the seller because he did not want to mar things up with appendages et cetera, which might give the buyer the impression that he was not getting a complete and perfect manuscript as it was supposed to be.

The illustrations used here are taken from Breasted's masterly and scholarly work on the papyrus, a work which will probably never be surpassed because of its infinite painstaking attention to minor detail, not overlooking that it is also a translation which few men are mentally equipped to accomplish successfully.



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FROM PAPYRI TO MANUSCRIPTS

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THE earliest efforts of the human race to record its thoughts and history for posterity were accomplished by scratching with some hard instrument on stone or bone. It is a quality of humans to be constantly alert in the quest for improvement. That is why the Assyrians developed the idea of scratching, or rather tracing, pictures and patterns on clay tablets, then baking them. The earliest known description of infantile paralysis exists in one of these Assyrian baked tablets, about 4,000 years old, and ingenious indeed is the crutch devised to hold the withered leg.

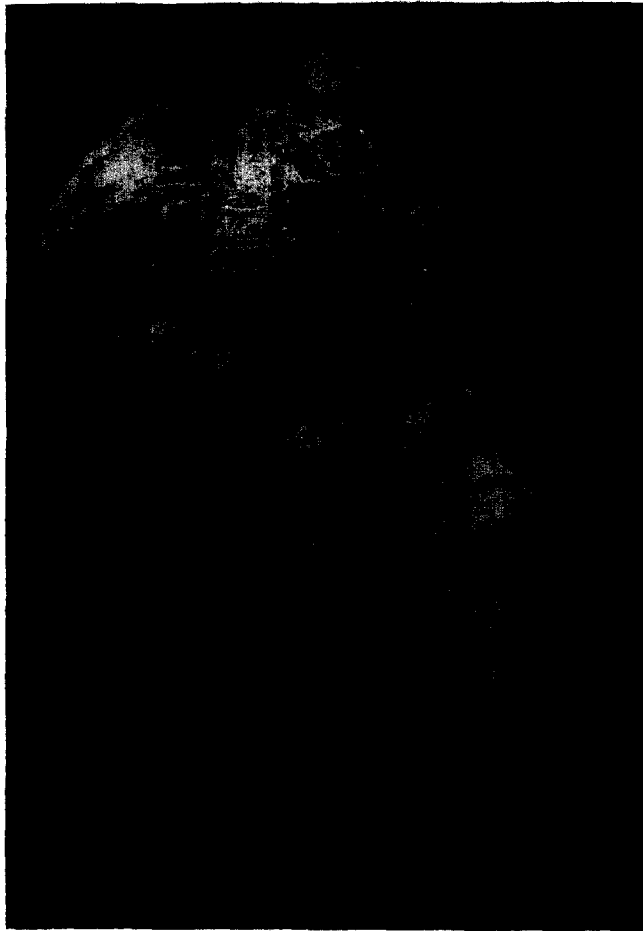
Because it was difficult to trace a curve on stone and easier to do a straight line, all early inscriptions tend to be straight, acute or obtuse angles. This was a handicap and a challenge. Almost anywhere and everywhere, particularly along river banks, a common reed grew with an inner lining which could be cut into strips substantially wide and long. A single layer was too fragile to take ink but when another layer was laid on crosswise and then the two pressed together by soaking the whole in water and letting it dry, the resulting product served its purpose well. We have discussed in previous chapters the three most important papyri of surgical interest, the Ebers, the Smith and the Hearst. As the years went by and the papyrus dried out, it crumbled like dried leaves and it is indeed a wonder that such papyri as the aforementioned have survived to our day, particularly in the fine state of the Ebers.

It was only natural that a more adaptable and satisfactory material should be found. The skin of animals, particularly

the inner lining layer, could be prepared in such manner that it would take any kind of pen or stylus stroke. The skin of the sheep and the young calf with its finer qualities was called vellum. Because the costs of production were very high, only the very finest or most important of documents could be recorded on such materials. Fortunately for the world we have access to a moderately large number of manuscripts so that instead of three, as in the case of the papyri, we have many to choose from even in the sharply limited field of those pertinent to surgical art.

Costs of getting together and binding a manuscript in those early days were so prohibitive that only the very wealthy could indulge themselves in the task. Otherwise an "angel" had to be found who would subsidize the costs. An occasional wealthy family, looking for a royal favor in the form of a higher title or a desirous land grant, would pay the costs and then present the bound manuscript as a gift to the king on his birthday or some suitable occasion. An occasional individual of great wealth, wishing to justify his place in the social scheme or aspiring to pose either as of the intelligentsia or a patron of arts and letters, would pay a stiff price for the original material, a stiffer price for the binding and putting together of the material, have the text extravagantly illuminated and illustrated, then simply run wild adorning the binding with hand-wrought silver, gold, silks, brocades and inlaying precious stones here and there.

The word manuscript translates itself by dividing into two parts, "manu" by



The oldest known illustration of infantile paralysis.

hand and “script” written. It is easy to see why only one copy was usually made, the expense plus the painstaking labor involved too often being difficult hurdles to overcome. However, if the text was something for which there was a demand (often this would be a medical or surgical text) custom demanded that it be available for consultation by those needing to do so. It was, therefore, placed in a library, usually that of the wealthy patron who had paid the costs. A hand-forged, heavy iron chain was attached to it, so that one might consult it but could not carry it away. Could this be a reflection on the people and the times?

Many chapters, even a volume or two, can be written about chain books but very few of them were of surgical import. Two

or three of them had extensive rules of daily hygiene, chapters titled “Ars Vivendi,” The Art of Living.

There is much of romance and imagination in the acquisition of a papyrus. For example, take the swarthy stranger with the intriguing wink who approached Ebers and swore that he had found the papyrus resting between the legs, under the scrotum of a mummy that had been unearthed on an expedition with which he had served as an interpreter. Chances are a native had come up with the find and the wily one took over from there, concealing the papyrus in the voluminous folds of his garment. Maybe he was even kind enough to give the finder a few shekels and tell him to get on his way and forget that he had ever seen anything.

October, 1949

The Smith surgical papyrus was obtained legitimately and it was only a question of bargaining and price. The Hearst papyrus passed through many hands and, as expected, found its way into a rich man's collection, but at a fancy price.

Another papyrus of later day, about 400 B.C., containing more medical lore than surgical interest, was found by a well known book collector as he visited the library of a Moravian Monastery. Coming down a ladder from a high shelf, a monk passed with a basket full of sheets which he threw into a fireplace preparatory to building a fire. Before he could light it, the book collector picked up a couple of the

sheets and almost passed out in a fit of apoplexy. Several baskets of similar sheets had been burned on previous days. In this one particular basket alone was the original New Testament written in Greek, many, many pages of an old herbal, a "philosophia" and an "Ars Cirurgia." Elaborate on that happening a few times using a free play on the imagination; what may we have as a final result?

Take a look at the cupidity of man. When the book collector offered to buy the sheets, the monks became suspicious, retrieved the whole thing, basket and all, and would not sell at any price. What was that surgical text? We'll never know.



K. LIAWAAG recommends partial pericardiectomy for constrictive pericarditis and he has had several successful results. The author likes the dorsolateral transpleural incision since this gives an excellent approach to the heart. He advises that the operation be performed *before* an unchangeable pathologic condition develops in the heart muscle and liver; it is a good suggestion. A. Yodice studied seven cases of Pick's diseases (compressive pericarditis) and reports that tuberculosis was the etiologic agent. As the fibrosis increases, the diastolic action of the heart is interfered with, Yodice reminds us; and this is followed by enlargement of the liver and, later, portal hypertension with ascites. It is for these reasons that Liawaag heartily recommends that ample partial pericardiectomy be done *early* before the onset of these irreversible pathologic changes. (Richard A. Leonardo, M.D.)

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VI. THE KAEHN PAPYRUS

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WHEREAS the Ebers Papyrus speaks of operations for aneurysm and hernia, yet nowhere technically describes the steps of such operations, and also speaks of cauterization and incision with a hot knife, the only words one can find elaborating on these procedures are, "Thou shalt make an operation." The Smith Papyrus differs in that it describes within its pages actual technics for suturing and ligation of vessels.

The Kaehn Papyrus is presumed to have been written about 1900 years B.C. It represents one of the casualties in the progress of knowledge. Unfortunately only a small fragment has survived the ravages of time. Papyrus dries and disintegrates. It crumbles on handling so that it is impossible to decipher much of even that small fragment which exists. What little can be deciphered is mainly of gynecologic interest but there is a sufficient amount of medical and surgical material to qualify it for inclusion among medical papyri.

The following about sums up what can be actually deciphered and in part inferred: pelvic and vaginal states of inflammation were treated with heat, poultices and a version of douching with a few recommendations or prescriptions for making the solutions to be used.

With its presumed date of origin being

1900 B.C. it is three hundred years older than the Smith Papyrus yet some of the language used is in places almost identical. Examples of such similarity of language are the following: "Moor him at his mooring stakes," meaning, put him on his customary diet and do not give him a prescription. "Thou knowest he has reached a decisive point," meaning, hold all opinions until you know whether he is going to live or die. "His countenance is clammy with sweat," meaning, he is in shock. "He has become pale and has shown exhaustion; he walks shuffling with his sole," shock. "Something entering from outside, not the intrusion of anything which his flesh engenders," meaning, infection. "While heat continually issues from the mouth of his wound at thy touch"; "Its two lips are ruddy"; meaning, infection or inflammation or both.

The aforementioned represents about the sum total which can be extracted from this fragment. For this reason the Kaehn Papyrus is more of bibliographic rather than of actual surgical interest.

It has, however, another facet, a semantic one; the expressions used, the manner of putting words together to mean certain things and emphasis on descriptive words and phrases made up the medical idiom or jargon of those days.