

appurtenances, and allowing sufficient time to elapse to insure an absolute eradication of the disease.

In view of these and other occurrences of a like character, the following letter was sent to all medical officers of the army:

I am directed by the Surgeon General to invite your attention to the necessity of giving careful attention to the details of disinfection in the effort to stamp out epidemics of typhoid fever. The evidence of barrack, company and latrine infection is constantly accumulating. Whenever, therefore, a case of typhoid fever occurs in a barrack room, quarters or tent, that room or tent, the latrine, bathroom and washroom used by the patient, and everything else used by him, should be regarded as infected and all persons occupying the same room regarded as suspects. The patient having been removed everything which has been infected should be thoroughly disinfected. All contacts should be kept under observation for the full period of incubation, during which time all their discharges should be disinfected and their blood tested by the Widal method at least twice a week.

In 1906 medical officers were further directed to regard typhoid fever as essentially a contagious disease.

In order to stamp it out the following measures are considered necessary:

1. Early recognition of all cases, especially those of a mild or ambulant type.
2. Isolation of all those infected.
3. Complete destruction of all typhoid bacilli as soon as they leave the patient.

All undetermined fevers are to be regarded with suspicion and managed as though they were typhoid until the contrary is proven. All cases of typhoid fever should be isolated in a separate room or ward and carefully screened against flies and other insects. In the field they should be immediately removed from the camp and treated in a stationary hospital.

Detailed instructions were also given as to disinfection of all excreta and articles which had come in contact with patients, and for the personal precautions to be taken by nurses.

There has been practically a continuous fall in the ratio of deaths from typhoid fever per thousand of mean strength in the Army since 1898, the rate for 1906 being 0.28, a lower rate than that which obtained prior to the Spanish-American War. The admission rate follows the same course up to 1906, when there was a marked increase in this rate notwithstanding the continued fall in the death rate. This increase, however, is believed to be largely due to two factors, of which one was the increasing recognition of mild cases as shown by the fact that the case mortality fell from 8.5 to 5.2 per cent., and the other to the presence of practically the entire mobile army in the field at maneuvers during the summer; 40 per cent. of the cases occurred in the summer camps and were believed to have been contracted while on the march through country districts.

FIRST PICTURES OF SURGICAL OPERATIONS EXTANT.

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A recent publication of the Carnegie Institution of Washington contains some material that will doubtless prove of great interest to surgeons and to those who are especially attracted to the history of medicine. Mr. W. Max Müller,¹ while on a mission for the Carnegie In-

stitution in the summer of 1904, discovered what are the earliest representations of surgical operations so far known. The date of the next earliest pictures of surgeons at work are probably at least a thousand years later. Because of this primacy of historical import, it has seemed worth while to reproduce the pictures for the medical profession, since they are buried in a publication that ordinarily is not likely to be consulted by physicians.

The pictures were found in a tomb excavated by Loret in the northern part of the necropolis or burying ground of Saqqârah at Memphis, which was the early capital of Egypt. Memphis, it will be remembered, was situated on the western bank of the Nile somewhat south of the present Cairo. It is said to have been built by Menes, who is usually considered as the founder of the first dynasty of Egyptian kings. The date of the foundation of the city is still in dispute, but was probably not long after 5000 B. C. Memphis continued to be an important city until after the Mohammedan conquest and down to nearly 1000 of our era; it then gradually fell into ruins, and the remains of Saqqârah, sometimes written Sakkara, are not far away.

The tomb on which the surgical pictures were found belonged to a high official who lived under the first king of the sixth dynasty, one of the Atotys or Othoes of the old historian Manetho. This would be one of the so-called Pharaohs of scripture history, and the date of the tomb is not later than 2500 B. C. It is not quite clear just why surgery occupies so prominent a place among the sculptures of the tomb of this official, but it is presumed that he must have had something to do with surgery, and this was a method of recalling it for posterity. If this is the real reason, then it seems not unlikely that surgery occupied a much more honorable place at this time than has hitherto been thought.

The pictures as given are sculptured on the door-posts at the entrance of the tomb. Their discoverer, Mr. Müller, describes them as follows:

The pictures which I have extracted here are sculptured on the door-posts of the entrance. The left side begins above with a scene unintelligible to myself. Is the operator the man to the right, of whom only one knee has been preserved? The operation ought then to be on the left hand of the person squatting in the middle. Or is the left side the important one? We might find an argument for this in the way in which the left "physician" looks, namely, away from the patient toward the hand to be operated on while the other "physician" looking at the patient, would rather seem to watch him, lest he should stir during the operation. I am at a loss about this operation. The left physician seems to open the hand of the patient or to do something with his fingers. Unfortunately the inscription gives no help, only the words of the patient, "Ye move (?) in (my ?) life," seem to suggest that the patient complains of pain. Below are operations on the hand (palm) and foot (toe), both not very clearly represented. The drawing of the hand holding the knife in the left scene is as impossible as some of the proportions of the limbs. The left patient says: "Do this (and) let me go." The physician replies: "I'll do as bids (or praises) me the king." Evidently this address is jocular, if I have translated it correctly. The patient to the right implores the operator: "Don't hurt me thus!"—a cry in which he has our full sympathy. Both patients hold their arms to suppress their pain. The operating knives might be metal (little square plates of copper sharpened on one side) not flint, but as the colors have gone, I can not decide this with certainty; also stone might be possible.

It is not surprising that the most interesting thing about the pictures is the fact that the patients are represented as suffering intensely at the surgeons' hands in

1. Egyptological Researches, Results of a Journey in 1904. Published by the Carnegie Institution in Washington, 1906.

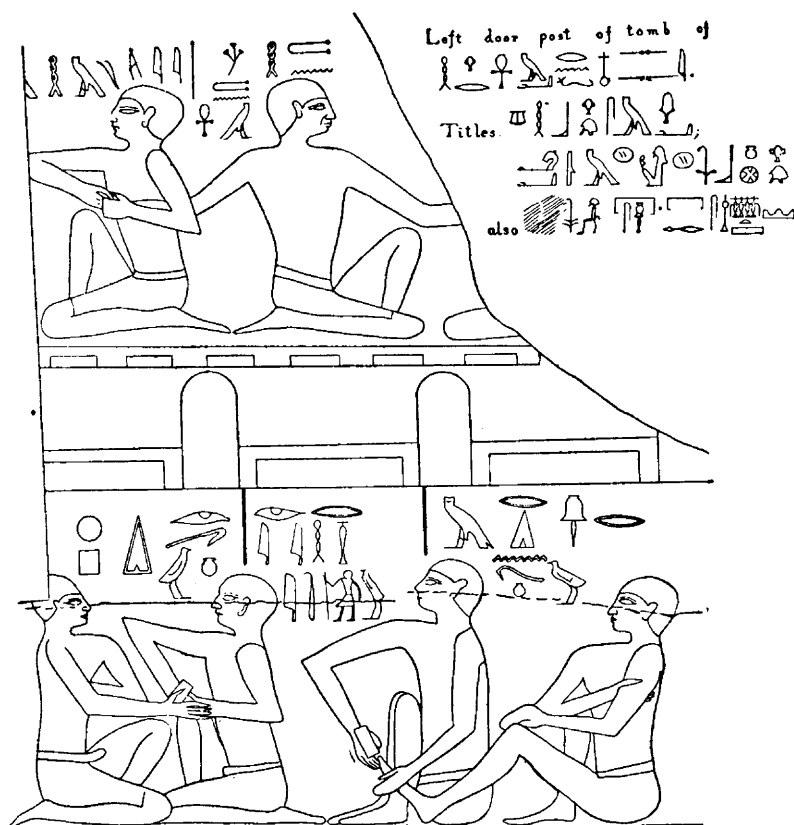
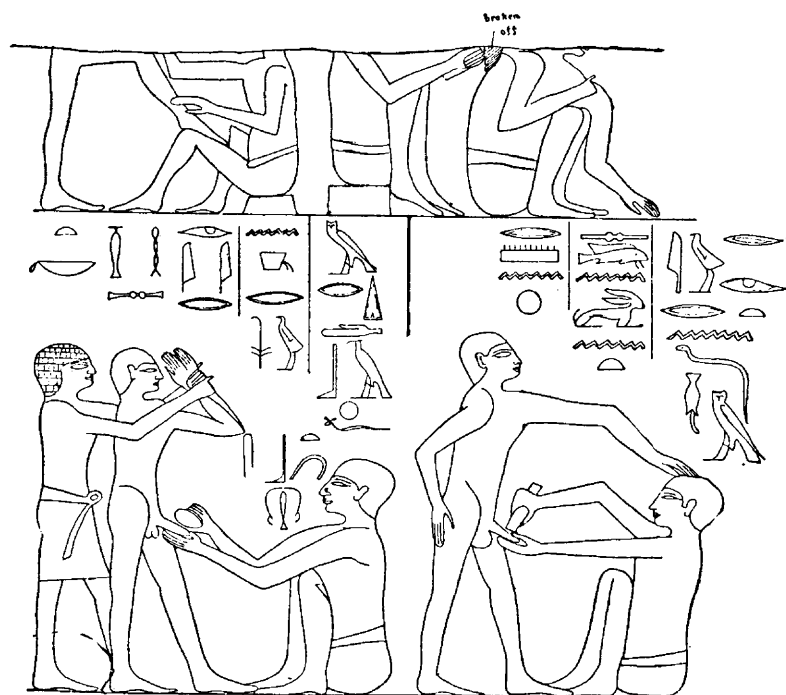


Fig. 1.—Earliest surgical operations pictured (2500 B. C.). Figures and inscriptions on left door-post showing in lower part operations on the hand and foot.



Door post of the tomb of
Var for date cp. the
occurring name

Fig. 2.—Figures and inscriptions on right door post showing in upper portion operation on the neck (carbuncle?) and in the lower portion operations on the penis (circumcision and breaking a chordee?).

those days before anesthetics were even thought of and, therefore, as putting themselves in positions in which they will be able to stand pain without flinching, or at least without seriously disturbing the surgeon's work. In the first operation at the top of the left door-post (Fig. 1) an attendant is represented as holding the right hand of the patient while the surgeon, who is missing because of a mutilation of the stone, operates in some way on his left hand. In the two lower pictures (Fig. 1), one of the operations of which is on the hand and the other on the foot of a patient, both patients are represented as holding one hand firmly in the axilla as if with the purpose of keeping themselves from interfering with the surgeon while he was operating. The attitudes are very characteristic of the effort to suppress pain manifestations and show how little human nature has changed in the nearly 4,500 years since then.

With regard to the upper row of pictures on the other door-post (Fig. 2), that on the right, Mr. Müller says, evidently represents the opening of a boil in the neck. The operator sits on a brick in order to see better and seems to hold the head of his victim with the left hand while the right hand operates. In an editorial comment on this picture,² THE JOURNAL of the American Medical Association suggests that the location of the lesion and the size of it would seem to indicate that it was not a boil, but a carbuncle, that was being opened in this case. This, of course, would make the group of interest to pathologists, as well as surgeons, since it would point to the occurrence of carbuncles in this characteristic location nearly 4,500 years ago.

The left group of this upper row on the right door-post (Fig. 2) needs restoration, and this can not be made with certainty. Mr. Müller suggests that the right hand of the surgeon, which has been broken off, may hold a knife, with which he is opening a boil on the knee. This is not, however, a location—the front part of the thigh just above the knee joint—where boils are at all likely to come, and so it is probable that the surgeon may be performing some other surgical manipulation.

The lower row of pictures on the right door-post (Fig. 2) represent some surgical manipulations on the penis. Mr. Müller considers that they are both circumcisions, and, as there has only been a single representation of such a ceremony in very old times before, this adds to the interest. The earliest examples before this was published by Chabas.³ This came from the Temple of Khons in Thebes. The picture was reproduced and further discussed in Ebers' "Ägypten und die Bucher Mosis," page 278. The present picture has the advan-

2. THE JOURNAL A. M. A., May 25, 1907.

3. Revue Archéologique, 1861, p. 298.

tage of being about 1,300 years earlier than this, and is, besides, un mutilated. The person or persons circumcised in this representation are not boys of from 6 to 8 years, as in the other picture that we have just mentioned, but young men, so that, as Mr. Müller says, it is clear that the earliest custom in Egypt in this matter was perfectly in harmony with the earlier Semitic usage. Circumcisions seem, therefore, to have preceded marriage only by a comparatively short time. According to Müller, this is known to have been the case with regard to females from a papyrus of the Greek period in the British Museum, and it is now seen to have been the custom also for males.

Though Mr. Müller considers that both these operations are circumcisions, and that they may be grouped together, a little study of the two pictures scarcely seems to justify this. While in the picture on the right the penis is flaccid and small, and the instrument used is the old flint knife which, according to ritual usage had to be employed for circumcisions, it is hard to connect the idea of this cutting instrument with what is seen in the surgeon's hand in the picture on the left. Besides, the penis is pictured quite differently and, instead of being flaccid, would seem to be erect. One would be almost tempted to think that possibly this was an illustration of the breaking of a chordee. The fact that in the picture on the right the patient is supposed to bear the operation without much bother, and consequently needs only the confidence that would be given him by placing his hand on the surgeon's head, while in the picture on the left both the patient's hands are firmly held by an assistant, would seem to show that there is evidently the expectancy of the infliction of much more pain.

This interpretation is somewhat confirmed by the inscriptions which occur in connection with the pictures in hieroglyphics. The operator on the right, according to Müller, says very simply, "I shall do you good." The youth's reply indicates that he accepts the surgeon's assurance, for he says: "Physician, this is excellent." The fact, however, that he presses his right hand firmly against his hip while his left hand is placed on the operator's head shows that he is nervous, but has braced himself to stand some pain. The other young man is much more fearful of what is going to be done to him. The surgeon is represented saying to his assistant, "Hold him; do not allow him to stir (or to fall back)." To this the attendant replies, "I will do thy bidding." There are some other words, but Mr. Müller is not able to make out their meaning.

It may seem farfetched to suggest that one of the earliest operations in surgery of which we have a representation should be for chordee, but it is not impossible. There is no doubt at all that urethritis existed in various forms at least as early as this, and some of the ritual regulations of the Jews show that precautions were taken with regard to it. It would be surprising, of course, if such an operation should be represented on the door-post of the tomb of a high official, yet it is not impossible that such an operation was looked at very differently in the earlier time and did not have any of the lack of dignity about it which came to attach to it later. Certainly it would seem better to consider the two pictures as representing different operations rather than the same one repeated. The other representations are not in pairs, and why should this one have been, although it is true there is some similarity of purport in them?

The relation of the surgical and the priestly rank was

discussed in the editorial² already mentioned. Suffice it to say here that it can not be concluded from the pictures that the physicians then were always priests, though from other sources it is known that this was the rule for the better class physicians at least. It is possible, therefore, that these pictures indicate a beginning of separation of surgery and of medicine from the priestly caste, since the priestly costume is not represented in most of these operators. The whole subject is most interesting, since it forms a contribution to the history of medicine nearly a thousand years before the next important document with regard to medicine or surgery, which is probably the Ebers papyrus dating from about 1800 B. C.

TARDY MALNUTRITION: ITS TREATMENT BY DIET AND REST.*

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By tardy malnutrition I am to be understood as referring to the condition met in children who, after the age of two years, while free from diseases such as tuberculosis, syphilis and chronic nephritis, show marked physical developmental defects in that they are underweight or are both undersized and underweight. They may be of average height, but are invariably underweight usually from five to fifteen pounds. They show poor muscle development, a condition which is often emphasized by the prominent scapulæ, drop shoulder and spinal curvature, conditions due to muscle weakness and faulty postural habits. These children tire easily and have a diminished resistance not only to exercise or its equivalent work, but to disease as well. A simple digestive disturbance or bronchitis requires several days before relief is furnished. They almost invariably suffer from secondary anemia; they have indifferent appetites and often are habitually constipated. This picture briefly drawn is familiar to all physicians. Those children are to be found among all classes of society. I have treated a large number among out-patients and they form a large portion of my office clientele. This type of patient has always interested me greatly for the reason possibly that a careful study of each case and acquaintance with the child's daily life has almost invariably demonstrated that the child was not getting a "square deal." He is not getting what a growing child has a right to expect.

Observation among children covering nearly twenty years has satisfied me that we treat growing children rather badly. One fact in child management is lost sight of by most of us, and this is that the child has a definite business to perform, and that this business is growth and development into physically the best type of an adult. All other interests of the child must be subservient to this feature. The acquirement of knowledge, for example, should never stand for one moment in the way of the child's physical development. An individual who is to succeed in any walk of life in this day of stress and competition requires all the bodily powers and nerve energy available. The individual of the future who is to do the nation's work must be physi-

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.