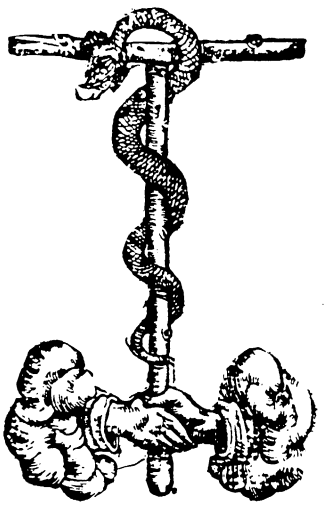
A PICTORIAL HISTORY OF
MEDICINE



A PICTORIAL

MEDI

(Fifth Printing)

A brief, nontechnical survey of the healing arts from Æsculapius to Ehrlich — retelling with the aid of select illustrations the lives and deeds of great physicians. . . . . .

CHARLES C THOMAS · PUBLISHER

HISTORY OF

CINE

BY

OTTO L. BETTMANN, Ph. D.

Founder and Director of The Bettmann Archive, New York City

WITH A FOREWORD BY

PHILIP S. HENCH, M. D.

Mayo Clinic, Rochester, Minnesota

. . . a graphic record of the untiring efforts of the medical profession to cure the sick, offer solace, allay pain and secure a better life for all mankind.

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"TO ANNE"

FOREWORD

Former President Truman once wrote me: "The best education for a President of the United States comes from an intimate study of the lives, letters, and papers of his predecessors." The study of history can be of as great spiritual and practical value to a physician as to a president.

Dr. Otto Bettmann's *Pictorial History of Medicine* shows the whole extraordinary pageant of healing. If within it are vivid colorings reflecting the scarlet terror of epidemics, the white stillness of death, the gray fog of dark ages, there is also the golden brilliance of discovery. The emotional texture is dramatic, appealing, rich in contrasts: great earnestness and compassion, sometimes cold erudition, and much wishful thinking. If the chronicle of medicine reveals follies, frauds, and foofaraw, one also finds here unsurpassed dedication, integrity, effort incredibly sustained, often heroism and total sacrifice, and thousands of victories wherein no man was loser. In this book Dr. Bettmann has traced the art and science of healing — from the medicine man of ancient times up to the medical man of the twentieth century — in a manner that is both fascinating and scholarly. As a historian he can stand among the peers.

The young doctor of today never meets the greatest of his teachers in person. To be exposed to this incomparable faculty he must go to the pages of medical history: to Hippocrates, Paré, Pasteur, Lister and Osler. These great men are present in everything the doctor does — a fact illustrated by the story of the young physician faced with a difficult case. To bolster the confidence of a patient who was seriously ill, he said, "Why, Mrs. Jones, this morning Pasteur and Roentgen briefed me before I left home; Sydenham and Osler came here with me, and Domagk and Fleming are standing by." To which she replied, "Dear me, won't they cost a lot?"

They will cost nothing. The book of history is open — and free.

Our work rests — more, perhaps, than that of any other profession — on the accomplishments of our predecessors. A knowledge of what they have given to medicine and to humanity should therefore be part of our background, and not for reasons of professional sentiment alone, but for reasons of good common sense.

Pursuing his career, the physician must of course strive to maintain a forward look; for it is ahead that both opportunity and difficulties lie. Yet despite modern complexities, most of our practical problems resemble those of our predecessors. The problems ahead are recurrences, minor variants of those in the past — the past of our elders if not our own. From our point of view they seem to come at us from in front, and to bear a fresh label. But beneath the wrappings there is usually an old problem, already examined and even, sometimes, disposed of. By borrowing experience and wisdom from predecessors we can view certain situations as if in retrospect, and view them with enormous profit.

Physicians will do well, then, to look ahead for problems. Paradoxically, how-

ever, they should look "behind" for guidance, and a study of medical history provides an excellent rear-view mirror. Most physicians are unfortunately not conscious of their medical heritage, because few find time to study it. This may not be their fault alone. It must be admitted that many medical histories, however erudite, are not very readable. The author of this book, Dr. Otto Bettmann, has spent a lifetime to remedy this situation. In years of research in art centers all over Europe he has assembled a vast library of medical illustrations, studying, analyzing, and authenticating them so that they could become part of a new medical history: a history of medicine in pictures. This book was designed less for medical historians than for the practicing physician or layman who wishes to inform himself of the background of this profession at a glance.

What is the panorama that opens up before our eyes?

Dr. Bettmann's vista of 50 centuries clearly reveals that the course of medicine has not always been one of advance. If there are volumes of hard-won facts, life-saving ingredients and conclusions, and galaxies of truths and half-truths, there are also despairs, superstitions, and sophistries. Although the over-all direction of medicine has been, at least since the Renaissance, one of improvement, its progress toward betterment has been on countless occasions retarded, or even reversed. Thus it is more accurate to speak of the "history" or the "development" of medicine, rather than of its "progress" or "advance." And for the reader, a chronicle which recounts the ebb as well as the flow of medical art and science is both more accurate and more entertaining than a mere description of clinical and technical advances.

To what extent have physicians, individually or collectively, been responsible for the course of medicine, for its forward spurts or its backward shifts? One view has it that medical progress depends chiefly on discoveries; hence the rate at which medicine advances is determined largely by the appearance of medical leaders and the results of their researches. Another view is that man is more servant of Fate than master, the product rather than the maker of environment. Thus great physicians are not "born medical leaders," but become leaders through the circumstances of their lives. Each period of travail generates its own saviors; each crisis produces discoveries.

Of these two views Dr. Bettmann supports neither extreme wholly. Because the physician is only one of many factors that have influenced the direction of medicine, the story cannot be told in terms of the medical man alone. Our medical benefactors must not be nameless, of course; but they must be seen in perspective, in the company of nonmedical contemporaries — friendly, indifferent, or hostile — whose ambitions and attitudes also require elaboration. Thus the author presents the course of medicine as part of general history. He views it not as a chronology of discoveries, but as only one of the great social forces — a continuing force, but one of fluctuating potency, now dominant, now recessive. This absorbing book shows what impact the physician has had upon each of the great cultural and political areas, and vice versa.

There seems to be no special "climate" for medical discovery; great discoveries have been made almost anywhere and everywhere. No desolate military outpost is too small and disorganized, no research center too large and too organized, to prevent them. Wherever there is a physician, in that place are the potentials for discovery of new medical truths.

To be useful, however, medical truth must be put to work; it must serve. In the last analysis, that can happen only when the informed, dedicated physician and a single patient who needs him actually meet. It is in this place, a sick room, where the truthful dreaming of the theorist, the demonstrations of the experimentalist, the magic of the chemist, the guidance of the laboratory, and the wisdom of the practitioner finally come together for the critical testing.

Such is the story that Dr. Bettmann's book reveals. The product of the author's 30-year pictorial treasure hunt — plus his lifelong study of medical texts — the material displays a richness and variety which stamp it as part of a "collector's collection." Included are previously unpublished original photographs, and many ancient illustrations not heretofore published outside their land of origin.

In view of his vast array of graphic material, the author must have been sorely tempted to appeal chiefly to the eye; to construct his own medical art gallery within cardboards; to let most of the pictures speak for themselves, with mere captions and program-notes for the less articulate of his selections. But Bettmann the specialist in medical art is not subordinate to Bettmann the textual historian. The two combine harmoniously to create a superior form; and the lucid text is brightened by the instructive anecdote, the humorous twist.

Many readers will, I believe, be fascinated by this book without pausing to analyze its special appeal. But those who disregard the identity of that appeal are depriving themselves of what is, in my opinion, an important bonus. Almost daily the physician has to do some teaching of patients, medical school and hospital personnel, fellow-physicians, or public groups. The public's avid interest in health is greatly increasing the physician's responsibilities and opportunities as a teacher and lecturer. He is not often as effective as he could be because he seldom appreciates, or employs fully, the power of visual instruction. "A picture may instantly present what a book could set forth only on a hundred pages." Today's doctor will do well to heed this century-old dictum of Turgeniev — a dictum convincingly exemplified in Dr. Bettmann's *Pictorial History of Medicine.*

Its chapters are subdivided into compact thematic units of text and illustration. Each unit covers a particular subject — perhaps one great leader, an important controversy, or the development of some specialty. But the units keep their logical places in the general text, never losing their connection with related events. Thus there is no break in the continuity of interest and the sense of progression.

A *Pictorial History of Medicine*, then, is no "pictorial souvenir" for the physician to inspect casually and then consign to the patients' waiting room. Instead it should become a permanent member of his small, desk-side privy council: as dependable as the latest medical book or journal. In order to keep the size and cost of the book practicable, Dr. Bettmann concludes his chronicle as the twentieth century begins. Others will share my hope that this is not an end, but a pause, and that a companion volume will tell the fabulous story of medicine's last 50 years.

PHILIP S. HENCH, M.D.

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Rochester, Minnesota

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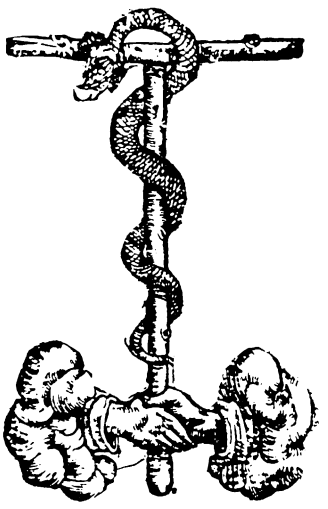
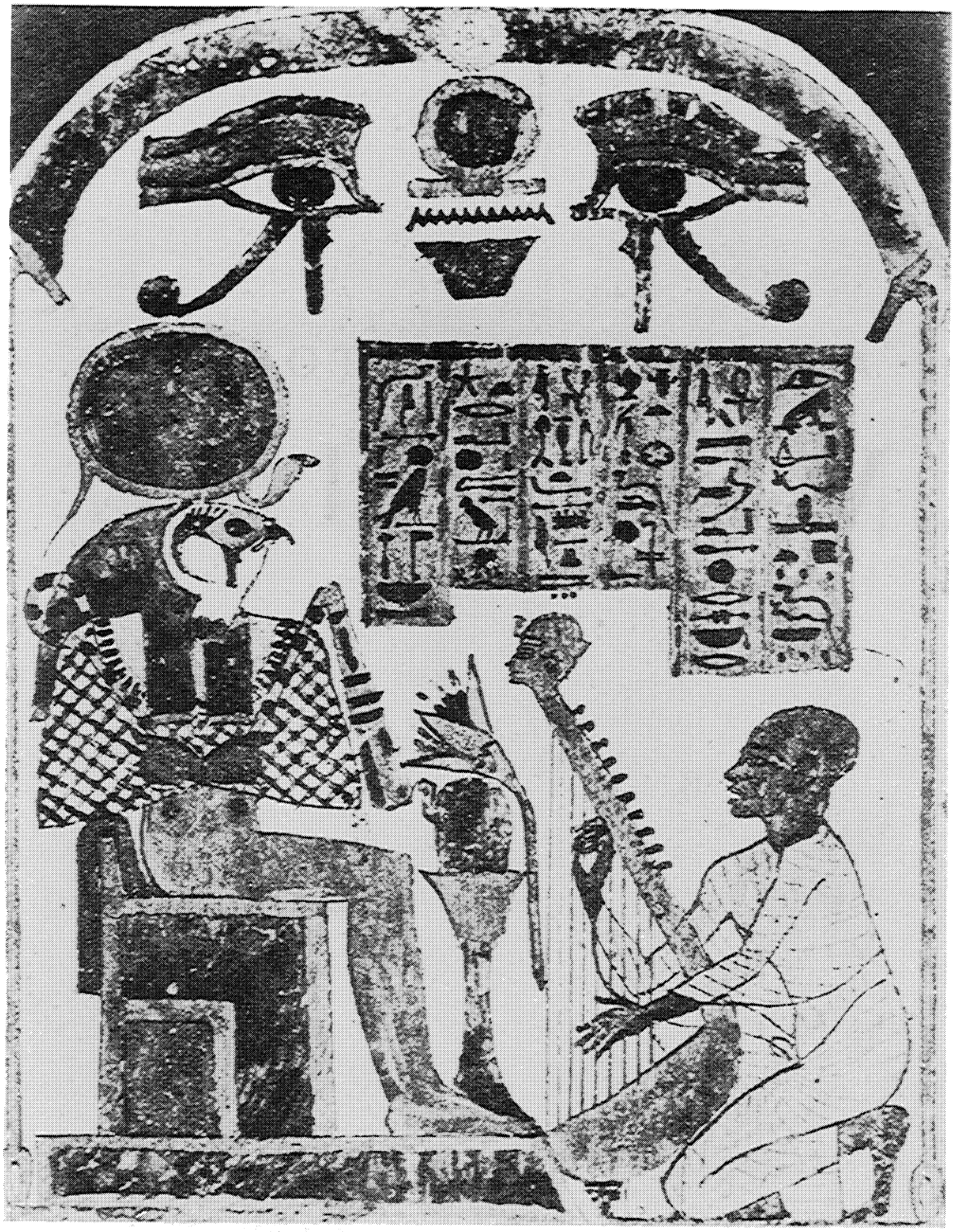
CONTENTS

Surfeyte, age, and ſickenes, are enemyes all to health,
Medicines to mende the body excell all worldly wealth:
Peſicke ſmallſlonſhe, and in daunger will giue cure,
Till death vnknit the knotte not no longer wee endure.

A PICTORIAL HISTORY OF MEDICINE





The Egyptian sick implored Horus, the ibis-headed god, to restore their health. Harps made of medicinal wood accompanied their incantations. The Eye of Horus became a symbol of recovery.

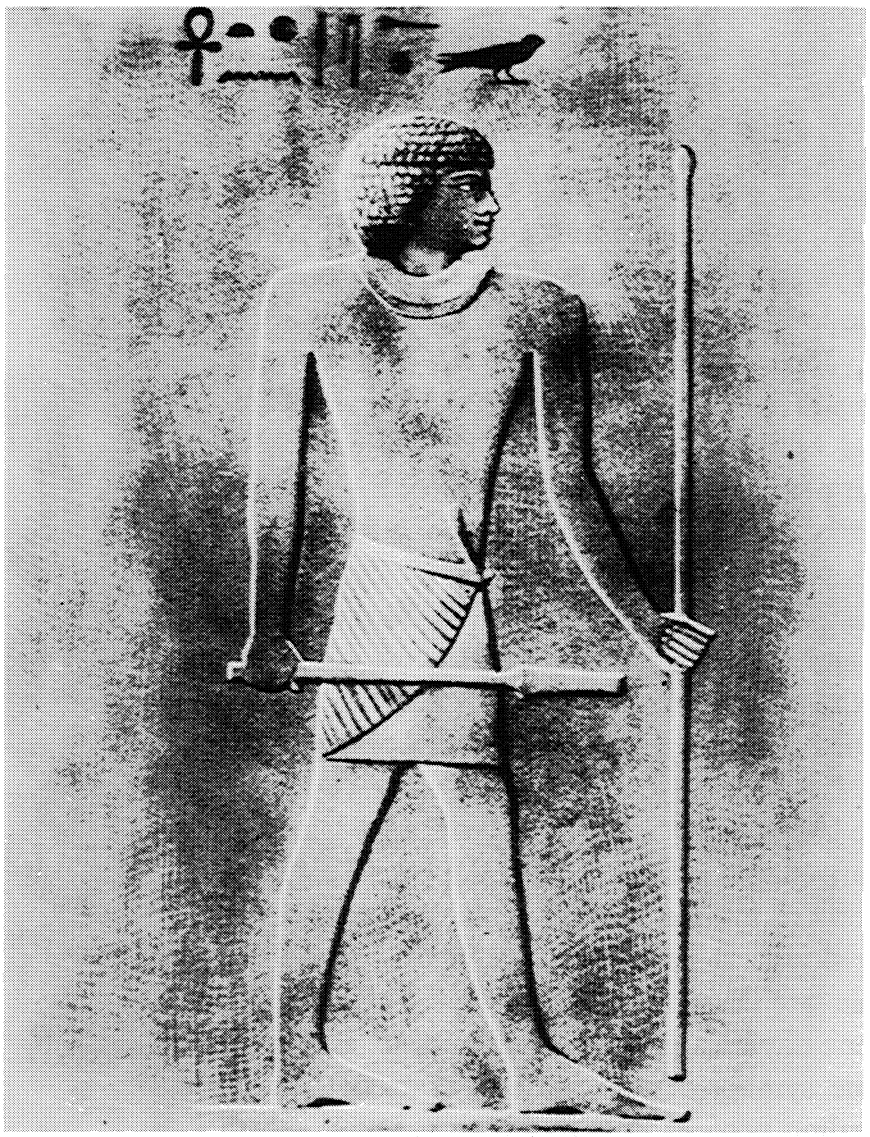
Chapter 1 Egypt and the Ancient East

From the medicine man of ancient times to the medical man of today - the evolution presents a fascinating study. The line of advance is not always straight and obvious. Yet, no professional owes more to the long-ago past than does the doctor.

To this day the mystic sign ℞ adorns the top of his prescription. Its origin appears to go back some 5000 years and to be based on the legend of the Eye of Horus. The Egyptians used this magic eye as an amulet to guard them against disease, suffering, and all manners of evil . . . Suffering had made Horus a healing god. As a child, he lost his vision after a vicious attack by Seth, demon of evil. The mother of Horus, Isis, hurriedly called Thoth, scribe and sage to the rescue. Thoth, with his wisdom, promptly restored the eye and its powers. This led the Egyptians to revere the Eye of Horus as a symbol of godly protection and recovery.

During the Middle Ages, the Horus Eye reappeared in a new form resembling our numeral 4. Doctors and alchemists scribbled it on their prescriptions to invoke the benevolent assistance of Jupiter. Gradually, by slow transformation, the Jupiter sign changed into ℞ . . . It is this late descendant of the Eye of Horus which serves to the present day as a link between ancient and modern medicine . . . a true symbol of the durability, strength and beneficence of the healing profession through the ages.

MEDICAL LIFE ALONG THE NILE

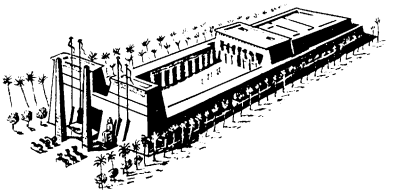


The world's first portrait of a doctor known by name: Sekhet'enanach, chief physician to Pharaoh Sahura (2550 B.C.). The inscription tells us that he gained renown "for curing the king's nostrils." The doctor carries two sceptres, the symbols of power and wisdom. It has been suggested that the king erected this monument to make amends for that age-old failing: tardy payment of the doctor's bill.

In ancient Egypt medicine basked in the sunlight of royal patronage.

The Pharaohs surrounded themselves with a prodigious staff of physicians whose task it was to prolong and protect the ruler's life. Some of the doctors took on definite functions. One served, for instance, as "keeper of the drugs"; another, as "head of the fumigation department." On his tomb near the pyramid of Gizeh, the chief physician Irj (c. 2500 B.C.) is described as "shepherd of the anus." In his reliance on "specialists" an ancestor of Tutankhamen went so far as to appoint a medical guardian for his left eye and another one for his right eye.

Centuries later, Herodotus, the Greek historian, still found Egyptian doctors grouped into specialties: "The practice of medicine is so divided up amongst them," he wrote, "that each physician is a healer of one disease and no more, some of the eye, some of the teeth, some of what pertains to the belly."



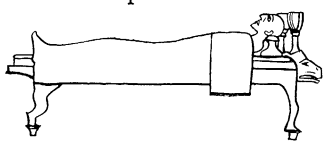
Since Egypt's official doctors belonged to the class of priests, their training centered around the temples, which served as places of worship,

medical schools, and hospitals. One hall was reserved for religious services; others were set aside for the instruction of students, and as storerooms for medicines. The rear of the building housed a library.

The novice was initiated into magic and medicine by learning the code of medical precepts by heart. On certain days he attended consultations held by the high priest in the "court of miracles."

According to Egyptian belief, all true medical knowledge was revealed by the gods. Thoth, the healer of Horus, had recorded this knowledge in secret books which contained the list of all human ills and their cures. Thoth, the Hermes of the Romans, had sealed these books "hermetically." Only the priest-physician knew how to read them and apply their wisdom to the care of the sick.

Aside from the priest-physicians, Egypt had magicians who were adept healers. When they visited the sick, they brought along a papyrus roll filled with incantations, and an ample supply of baked earth to make amulets. The belief was prevalent that demons



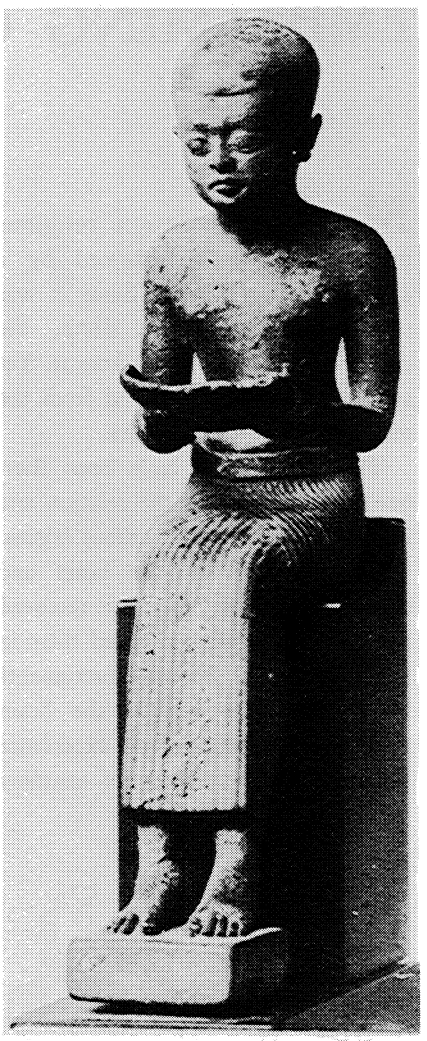
caused disease. Demons, it was thought, entered the patient's body, broke open his bones, sucked out the marrow and slowly devoured his flesh. The trick was to drive out these demons, usually by threats and incantations. "Get back, thou enemy," the doctor might shout, "Horus conjures thee — he cuts thee off, he spits thee out."

These rites were often accompanied by massages, by tramping on the patient's body, or by administering potions noxious enough to nauseate the patient, thus subjecting him to a form of "shock therapy."

Methods that in retrospect appear quite rational were not unknown to these doctors. In the case of an inflamed uterus, for instance, an early form of intravaginal diathermy was applied: The patient had to stand over hot coals sprinkled with scented wax, and the ascending smoke was to reduce the inflammation.

The enema was a common remedy when the patient needed purging. The doctor had no qualms to use it. Thoth himself had revealed the enema one day to a few priest-physicians who were standing on the banks of the Nile. The god of medicine and science had landed on the water in the form of a sacred ibis. Filling his beak with water, he had injected it into his anus. The doctors took the hint, and the result was a great boon to humanity, the Divine Clyster.

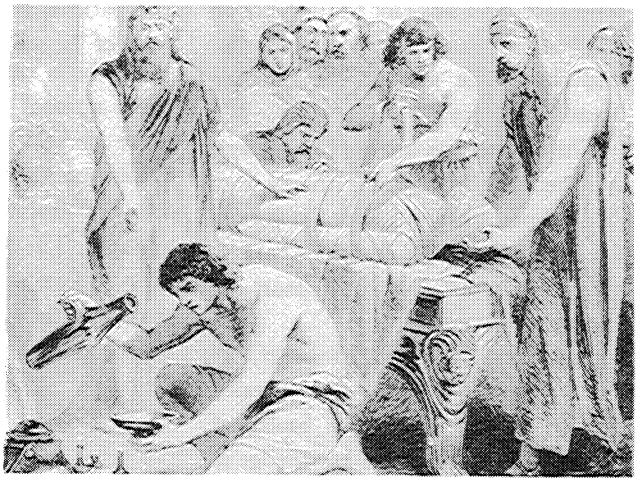
The doctor's fee for bedridden patients was at times compounded in a strange if simple way. It was a rule of hygiene among the Egyptians to shave their hair. As they were almost excessively fastidious about it, the barbershops were kept humming. But if a man became sick and was confined to his bed, he let his hair grow. Upon recovery, a barber was called in to cut it. Then the hair was carefully weighed and assessed to determine the doctor's bill. A bald Egyptian, with no basis for assessment, could hardly afford to get sick.



Imhotep (c. 3000 B.C.), physician, statesman, builder, was deified after his death.

In the eyes of the Egyptians Imhotep was the epitome of a great physician. His stature grew with the years until he was raised to full godhood. He visited the sick to give them "peaceful sleep" and in his sanctuaries votive tablets recorded his healing miracles. During his life this physician was also a statesman and builder. As a tomb for his master, King Zoser, he designed the world's oldest free standing structure, the step-pyramid of Sakkara.

EMBALMING GIVES CLUES TO SURGEONS

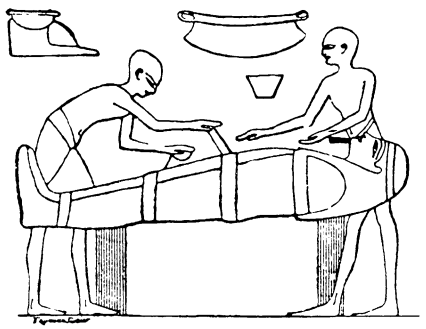


Mummification ceremony: After immersion in preservatives, corpse was artfully bandaged.

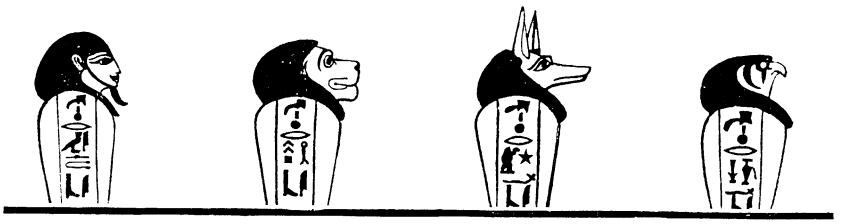
Mummification was a religious custom in Egypt, performed by a special caste of priests. Since it was wholly concerned with death, the doctor kept wisely away from it. Yet surgeons inevitably profited from the techniques of the embalmers.

These men must have been thoroughly familiar with the relation and interdependence of the various organs. The embalmers left the heart and kidneys inside the body, but removed the viscera and usually stored them in precious vases. Special instruments were devised to remove the brain through the nostrils. Such experience advanced the knowledge of anatomy and surgery. At the same time it conditioned the public to the idea of dissection.

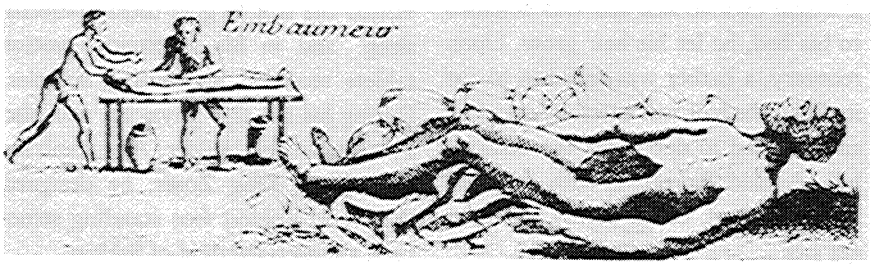
Embalming also acquainted the doctor with methods of avoiding bodily decay. Substances with strong antiseptic properties — resins, naptha, natron, liquid pitch — were used in preparing the corpse for the hereafter. This gave the physicians a faint knowledge of antiseptics. Also, the embalmers swathed the body in the finest of linen impregnated with bituminous substances. Some strips extended over 1000 yards, and compared favorably with modern gauzes. These were arranged with amazing symmetry. As Dr. Augustus Grenville stated in his *Essay on Mummies:* "There is not a single form of bandage known to modern surgery of which swathings are not seen in Egyptian mummies."



Bald assistants encase mummy in coffin. They also add final touches.



Precious alabaster vases (above) were used to preserve viscera. Animal heads symbolize the sons of Horus.



Mummy powder was used during the Middle Ages to ward off disease. Fakers made powder synthetically to fill demand.