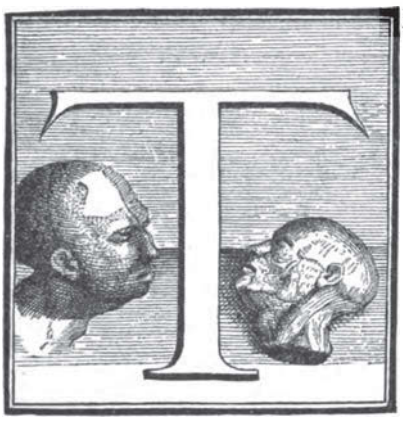
HISTORICAL AND BIBLIOGRAPHICAL NOTES.

A SERIES OF SKETCHES OF THE LIVES, TIMES AND WORKS OF THE OLD MASTERS OF ANATOMY AND SURGERY.

By GEORGE JACKSON FISHER, M. D.

XIII.—HIPPOCRATES.

460—350 B. C.



HERE is a little island in the Ægean sea, anciently belonging to Greece and now to Turkey, which is but five miles broad and three and twenty long, blessed with a mild and balmy climate, and honored with a history no less interesting than ancient. It is memorable as the birth-place of some of the most renowned men of antiquity. This little isle was the birth-place of Ptolemy Philadelphus, the second of the Greek kings of Egypt; of Ariston, the philosopher; Apelles, the famous painter; and of Hippocrates, the great physician. It is the island of Cos, referred to by Homer, and commercially noted in ancient times for its precious ointment, its purple dye, and the superiority of its wines.

The Temples of Æsculapius—the popular sanitariums or hospitals of that remote age—were distributed in many parts of Greece. Shultze, in his *Historia Medicinæ*, has enumer-

ated no less than sixty-four of these Temples. They were located with special reference to salubrity, when practicable in the vicinity of medicinal and thermal springs, surrounded by lofty groves, shady avenues and fragrant gardens. The Temples were among the noblest and most imposing examples of Grecian architecture, ornate in detail, they were adorned with the most admirable works of the painters and sculptors of a country so famous for the culture of the fine arts. Here were to be seen impressive statues of the presiding deity of the Temples of health—Æsculapius, and his daughters Hygeia and Panacea. Hither the sick and wounded resorted for medical and surgical treatment, which was faithfully ministered by the Asclepiadæ, or Priest-physicians, who had been rendered skillful by systematic instruction, by clinical experience, and by the accumulated records of numerous cases, preserved in votive tablets in accordance with a time-honored custom.

Of all the Temples of Æsculapius existing at the beginning of the fifth century before the Christian era, those of Rhodes, Cnidos and Cos, especially the latter, were the most celebrated. The Temple, or Asclepion, of Cos contained many admirable works of art, among which were two magnificent and famous paintings—the masterpieces of Apelles, a portrait in profile of Antigonus on horseback; and the Venus Anadyomene, or Venus rising from the sea and wringing her hair with her fingers. The latter was held in admiration for centuries, and was so greatly admired by Augustus that he had it taken to Rome and consecrated to Julius Cæsar, and in consideration of thus despoiling the Temple of one of its richest treasures, he relieved the Coans from the payment of a heavy tribute which he had levied upon them. The city of Cos still exists at the present time. In the Turkish castle, where no Christian is permitted to enter, are some elaborate sculptures which are believed to have belonged to the Asclepion of ancient times.

It was in this famous and favored city that Hippocrates the Great was born in the first year of the 80th Olympiad, which corresponds with the 460th year before the birth of our Saviour. This is the commonly accepted year of his birth, and is given on the authority of Soranus Ephesius, though some biographers have made it a few years earlier. The exact date of his birth was known and celebrated at Cos with sacrifices on the twenty-sixth day of the month Agrianus, but it is not now known to what month this corresponds in any other calendar.

Hippocrates was the son of Heraclides, a physician, who belonged to an ancient and illustrious family, and it is claimed for him that he was a lineal descendant of Æsculapius. Certain it is that he belonged to the order of Asclepiadæ, or Priest-physicians. There are no less than nineteen distinguished persons mentioned in classical works who bore the honored name of Hippocrates. Some were generals, tyrants and philosophers, while eight of the number were physicians, and yet but one—Hippocrates II., surnamed the Great, and styled in more modern times the Father of Medcine—remains famous at this day.

Hippocrates lived in an age of extraordinary intellectual development. He had for his contemporaries Pericles, the famous statesman; the poets Æschylus, Sophocles, Euripides, Aristophanes and Pindar; the philosopher Socrates, with his distinguished disciples Plato and Xenophon; the venerable father of history—Herodotus—and his young rival, Thucydides; the unrivalled statuary—Phidias—with his illustrious pupils; to which list many other eminent names could be added of those whose fame has shed a lustre on the page of human history. At this time flourished Artaxerxes Longimanus, King of Persia, who then sat upon his throne in Babylon. Nehemiah and Ezra were then, by this king's consent and aid, rebuilding the ruined walls of Jerusalem, and the sacred books which bear their names were not yet

written. Only a few years previous to the birth of Hippocrates, Confucius and Zoroaster had ended their career in the Orient.

While many absurd and untrustworthy stories are related concerning the personal life of Hippocrates, I am pleased to find that Dr. Francis Adams, the learned translator and commentator of our author, and of other medical classics, to whom I am indebted for much of the material in this sketch, gives credence to the story of Hippocrates refusing the presents sent by Artaxerxes, by a royal embassy, to induce him to leave his native country and become his court physician. It heightens the pleasure of looking upon our fine office engraving, representing this scene, and the staunch and incorruptible old Grecian in the act of spurning these offers with the famous answer: "Tell your master that I am rich enough, and that honor will not permit me to accept his presents and go into Asia to give succor to the enemies of Greece."

Hippocrates was instructed in the polite literature and philosophy of the age by two men of classical celebrity—Gorgias and Democritus—the latter a student of medical science, at least of comparative anatomy and physiology. He was initiated into the rudiments of medical knowledge, and no doubt practiced his art, in that great school of medicine, the Asclepion of Cos, for it is well known that these Temples were both hospitals and institutions for the training of physicians. While here he saw the good and evil effects of gymnastic exercises in the cure of disease, being under the tuition of Herodius, who was the first person known to have used this art as a branch of medicine.

He became very celebrated, left his native island, visited and practiced in remote regions of the earth, was everywhere respected, honored and fairly venerated on account of his profound wisdom and consummate skill. He visited

Thrace, Delos, Thessaly, Athens, and other regions, where it is presumed that he not only practiced his profession, but lectured upon medicine and surgery.

According to all accounts, he spent the latter part of his life in Thessaly, and died at an advanced age in Larissa. His age is quite variously stated by different authorities. Thus by these traditions we find it given at 85, 90, 104, and even 109 years. The scanty facts relating to his personal history are derived from his three biographers—viz.: Soranus Ephesius, of whom we do not even know the age in which he flourished; Suidas, a lexicographer of the eleventh century; and Tzetzes, who wrote in the twelfth century.

Hippocrates was remarkably free from the popular superstitions of his age. In no portion of his works do we find him prescribing amulets and charms, or other supernatural modes of cure; in short, he had a hearty contempt of all the ostentatious practices of the charlatan. When rational means failed, he left the cure to Deity and the *vis medicatrix naturæ*, which he ever recognized as the great physician. The legitimate province of art he considered was merely to aid this innate power. He lived in the midst of a great transitorial epoch, when the faith of mankind was passing from polytheism to a belief in a single Supreme Intelligence.

The works of Hippocrates are referred to by no less than ten writers before the foundation of the Alexandrian school, among others by Aristotle and Plato. They were first collected together about three hundred years before the vulgar era, being soon after the opening of the Alexandrian library. The *Hippocratic Collection* consisted of eighty-seven treatises, of which sixty-one are now extant. These are all printed in Kühn's edition. Only a small portion of these writings are now accepted as genuine. Dr. Adams, the translator of the Sydenham edition (*The Genuine Works of*

Hippocrates, 2 vols., 8°, pp. 872, London, 1849), accepts but seventeen of the treatises; while some critical scholars have reduced the number to six or eight. The entire collection has been subjected to the most searching scrutiny by numerous critics and commentators in both ancient and modern times. Dr. Adams (op. cit.) has published a list of fifty-five commentaries, beginning with Herophilus [310-280 B. C.], who was the first; down through the ages to Theophilus, who flourished in the seventh century of our era. Of these, Erotian, who lived during the reign of Nero; and the famous Galen, who flourished in the latter part of the second century, are the most important. Since the seventh century, editions and commentaries have multiplied without number.

Galen mentions three editions of the collection which were more or less complete. It would appear that there was in his day one text which was generally recognized to be authentic, and the one usually copied and quoted, and that it was from this text that the first printed editions were derived.

M. Littré (whose edition of Hippocrates, translated into French, was published in 10 vols., 8°, Paris, 1839–1861), the most critical and learned modern commentator on the *Hippocratic Collection*, divided the sixty-one treatises of which it now consists into eleven classes. As the entire collection has been so long read, and in view of the uncertainty of the authorship of many of the treatises, and also of the differences of opinion among the critics, I have thought it would be interesting to transcribe the headings of Littré's classes, as being the result of the most recent and judicious scholarship in this department of ancient criticism.

Class I.—Contains thirteen treatises which truly belong to Hippocrates. II.—Two treatises written by Polybus. III.—Writings anterior to Hippocrates. IV.—Thirteen works,

the writings of the School of Cos—of the contemporaries or Disciples of Hippocrates. V.—Two Books, which are but Extracts and Notes. VI.—Six treatises which belong to some unknown author, and form a particular series in the Collection. VII.—One (on superfœtation) referred to by Aristotle, belonging to Leophanes. VIII.—Seven treatises posterior to Hippocrates, and composed about the age of Aristotle and Praxagoras. IX.—A series of thirteen treatises, of Fragments, and Compilations which have not been quoted by any ancient critic. X.—Three writings now lost, which once formed a part of the Collection. XI.—Apocryphal pieces—Letters and Discourses.

There are at this time in the Royal Library of Paris no less than sixty-two MSS., of which large number only two contain the whole of the *Hippocratic Collection*, most of the others being only one or two of the smaller and less important treatises. One of these complete manuscripts dates back to the tenth century, which is the oldest copy of which I am informed. Of the others, two are of the twelfth, one of the thirteenth, and twenty of the fourteenth century. The first printed edition of Hippocrates' works was published at Rome, by Fabius Calvus, folio, 1525. This was in Latin, translated directly from the Greek text. Four other editions were published in the sixteenth century—at Basel, at Frankfort, and at Venice. The earliest Greek edition was published at Venice by Aldus, folio, 1526, which was soon followed by that of Frobenius, much more accurate and complete, folio, Basel, 1538. The works of the father of medicine have been so highly valued that they have been translated into many languages—English, French, Latin, Arabic, Syriac Hebrew, and perhaps others. Of the separate treatises the translations and editions are almost innumerable. Seventy editions of the *Prognostics* are known, while of the aphorisms not less than three hundred different

editions are said to exist. What would be the emotions of the great physician of Cos were he to return to earth and be informed of the reputation of his works, the universal admiration of his genius, and the homage paid to his immortal fame by successive generations of men through the long period of twenty-three centuries! No wonder that he is regarded as the Father of Medicine and that he has been styled the Divine Hippocrates!

And yet he is only historically the father of medicine. He was not its author, its creator, or even its founder. When he was born there already existed many cultivators of the healing art, and no mean literature of medicine and surgery already existed. Medicine had been studied, practiced and taught long antecedent to him. It was from the traditional and recorded observations and experience of previous ages, which had been derived from the Æsculapian Temples—those remarkable hospitals and dispensaries, so long presided over by the priest-physicians—from the practice of the Grecian gymnasia, and from the teachings of the Pythagorean philosophers, that pre-Hippocratean medicine had its origin and fair foundation. The mention of previous medical writers by Hippocrates proves the correctness of this statement.

The concluding portion of this sketch will be devoted to the consideration of surgery as taught and practiced by Hippocrates.

[To be Concluded.]

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XIII.—HIPPOCRATES (Concluded).

460—350 B. C.

THE medical opinions of Hippocrates are not unfrequently referred to, and in terms of merited eulogy by modern authors, while his surgical precepts and practice are but seldom alluded to, being evidently far less generally known to the profession of the present time. There are good reasons to sustain the belief that in this practical and utilitarian age, this age of original investigation, of restless ambition, of strain for novelty, of medical skepticism, of almost contempt for the past, very few, indeed, of the members of our profession take any interest whatever in the ancient literature of medicine and surgery. It is exceedingly rare that a medical gentleman can be found who has read any of the treatises of the Coan Sage, or a single book of the elegant Celsus, or even a chapter of the works of Galen, not

to mention the other medical classics of ancient and mediæval times.

Hippocrates is no less entitled to the distinction of being termed the Father of Surgery, than to the universal and undisputed rank of being styled the "Father of Medicine." No less than eight of the seventeen treatises now admitted to be his genuine works are strictly surgical. They embrace the consideration of many important subjects; and though not constituting a complete system of surgery, they nevertheless furnish us a very clear insight of the principles and practice of this science and art as it was understood twenty-three centuries ago.

These treatises vary in length and in completeness of finish. They are on things relating to the surgery, injuries of the head, fractures, on the articulations, ulcers, fistulæ, hemorrhoids, and also numerous surgical aphorisms.

In that far-off age surgery was practiced with remarkable skill and success. Fractures and dislocations were reduced; extension and counter-extension was made by ingenious apparatus; the most exact coaptation of fractured bones was insisted on, as it was considered disgraceful to the surgeon to allow his patient to have a crooked or a shortened limb. Splints and waxed bandages, as immovable as modern starch or plaster-of-Paris dressings, were then in use. The projecting ends of bones in compound fractures were carefully resected. The bones of the cranium were trepanned; and so also were the ribs, for the purpose of evacuating fluids accumulated in the chest. Abscesses of the liver, and even of the kidneys, were opened. The chest and abdomen were tapped for dropsy of these cavities. The rectum and uterus were explored by speculums; fistula-in-ano and hemorrhoids were operated upon; club feet were adjusted by bandaging and the use of leather and leaden shoes; the bladder was sounded for stone; lithotomy was performed; limbs were

amputated; the dead fœtus was extracted from the uterus; venesection, scarification, and cupping were also practiced in that day.

In reading his works we are impressed with the candor and honesty as well as the caution and practical experience of this grand old master. He illustrated his books of epidemics with short histories of forty-two individual cases, of which he frankly tells that twenty-five ended fatally and but seventeen in recovery. In speaking of injuries of the head he cautions the surgeon against hazarding a hasty prognosis, even though the case may appear at first to be a very slight one. Everywhere he exhibits caution without timidity, and yet we have abundant evidence of his boldness in practice as well as of the astonishing amplitude of his resources.

He commences his work on the articulations with an elaborate account of dislocation of the shoulder-joint, and the several modes of reducing the same. He says, "I am acquainted with one form in which the shoulder-joint is dislocated—namely, that into the armpit; I have never seen it take place upwards nor outwards; and yet I do not positively affirm whether it might be dislocated in these directions or not; although I have something which I might say on this subject. But neither have I ever seen what I considered to be a dislocation forwards." The translator, Dr. Adams, says that his own experience of thirty years confirms this opinion, which also coincides with my own personal experience in an active practice of a third of a century.

As an example of our author's style of writing and of his carefulness of observation, as well as to furnish a very satisfactory proof that human dissection was practiced in that age, I will continue the quotation of the first section of the book on articulations:

"Physicians, indeed, fancy that the dislocation is very apt to occur forwards, and they are more particularly deceived in

those persons who have the fleshy parts about the joint and arm much emaciated ; for, in all such cases, the head of the arm appears to protrude forwards. And I in one case of this kind having said that there was no dislocation, exposed myself to censure from certain physicians and common people on that account, for they fancied that I alone was ignorant of what everybody else was acquainted with, and I could not convince them but with difficulty that the matter was so. But if one will strip the joint of the shoulder of the fleshy parts, and where the muscle (*deltoid?*) extends, and also lay bare the tendon that goes from the armpit and clavicle to the breast (*pectoral muscle?*), the head of the humerus will appear to protrude strongly forwards, although not dislocated, for the head of the humerus naturally inclines forwards, but the rest of the bone is turned outwards. The humerus is connected obliquely with the cavity of the scapula, when the arm is stretched along the sides; but when the whole arm is stretched forwards, then the head of the humerus is in a line with the cavity of the scapula, and no longer appears to protrude forwards."

He then speaks of the frequency of this dislocation, and says that many persons know how to reduce it. In those who are subject to frequent recurrence of this accident, he says they can reduce it by putting the fist in the axilla, forcing the joint upward, and then bringing the elbow to the chest. His next method is to bring the fore-arm to the spine, then to grasp the elbow, bend the arm upwards, and with the other hand support it behind the articulation.

The third method, which by some writers has been referred to the inventive genius of our good master Ambroise Paré, or to some other more modern surgeon, that by the heel in the axilla, is so fully described in the third section of the treatise on articulations, that I cannot forbear quoting it:

"Those who attempt to perform reduction with the heel, operate in a manner which is an approach to the natural. The patient must lie on the ground upon his back, while the person who is to effect the reduction is seated on the ground upon the side of the dislocation ; then the operator, seizing with his hand the affected arm, is to pull it, while with his heel in the

armpit he pushes in the contrary direction, the right heel being placed in the right armpit, and the left heel in the left armpit. But a round ball of a suitable size must be placed in the hollow of the armpit; the most convenient are very small and hard balls, formed from several pieces of leather sewed together. For without something of the kind the heel cannot reach to the head of the humerus, since, when the arm is stretched, the armpit becomes hollow, the tendons on both sides of the armpit making counter-contraction so as to oppose the reduction. But another person should be seated on the other side of the patient to hold the sound shoulder, so that the body may not be dragged along when the arm of the affected side is pulled; and then, when the ball is placed in the armpit, a supple piece of thong sufficiently broad is to be placed round it, and some person taking hold of its two ends is to seat himself above the patient's head to make counter-extension, while at the same time he pushes with his foot against the bone at the top of the shoulder. The ball should be placed as much on the inside as possible, upon the ribs, and not upon the head of the humerus."

Several other methods are described, over the shoulder of another person, over a pestle, over a chair, over a double door, over a ladder, with an instrument called the *ambe*, which is a variety of lever, with which he reduced not only recent but old dislocations.

Space will not admit more than the mere mention of some of his favorite surgical remedies and appliances, among which were the actual cautery in the treatment of chronic diseases, such as epilepsy, phthisis, sciatica, and dropsy; steam inhalations for inflammation of the throat; warm baths, fomentations, cataplasms, ointments, gargles, collyria, and other local remedies. He suspended fractured limbs in slings; used wax to give support and fixity to bandages as we now do starch and plaster-of-Paris; treated fistula-in-ano by introducing threads, by a flexible metallic needle or probe, and tying them, and day by day tightening the ligature until the parts embraced by it were cut through; treated

hemorrhoids by caustics, by the actual cautery protected by a canula, or by excision.

Our grand master makes his pupils swear in the Oath not to perform lithotomy. This was doubtless due to the imperfect state of anatomical knowledge and the general want of success which attended the performance of that operation in that day. It was unquestionably a prudential and wise act of conservatism on his part.

When we contemplate the fact that more than a score of centuries has rolled on since all these surgical achievements were made, we are led to ask if the present age, with all its vaunted progress, has as much to boast of, as much to excite our admiration, to claim our gratitude, to inspire our hopes, as it should have had? With such a marvellous state of progress in the fifth century before the birth of Christ, it would appear that this long period of time had failed to develop such results in the healing art as the world should have enjoyed at this time. The study of the medical profession in ancient times, with its wonderful therapeutical and operative resources, invests the past with honor and glory, while the continued prevalence of superstition and credulity, the popular reliance on multitudinous secret nostrums, the existence of contending medical sects, the unstable, vacillating and ever-changing theories of disease, and the diverse methods of treatment—the currents and counter-currents—which characterize the present age, is lamentable if not positively humiliating.

A complete bibliography of the works of Hippocrates would require a volume.

The earliest Greek edition was published by Aldus, at Venice, in folio, 1526. In 1538, Froben, of Basel, published a more accurate and complete edition in folio. The first Latin edition was printed at Rome, folio, 1525. The editions of Foes, which have always been held in high esteem, were

printed at Frankfort in 1595, 1621; Geneva, 1657. Littré's French edition, in ten large octavo volumes, printed at Paris, 1839–1861, is one of the most valuable in recent times. Adam's edition of *The Genuine Works of Hippocrates*, translated for, and published, by the Sydenham Society, 2 vols., 8°, London, 1849, is the only edition to be found in the English language, is very ably edited and deserves to be generally read. The works of this ancient author have been published in connection with those of Galen, the most sumptuous edition being that of René Chartier, in thirteen ponderous folio tomes, Greek and Latin, Paris, 1639–1679, at a cost which would wreck a princely fortune. If the reader is interested in the subject he should consult Fabricius, *Bibliotheca Græca;* Haller, *Bib. Med. Pract.;* Vander Linden, *Scriptis Medicis;* Eloy, *Dict. Hist. de la Med.;* Dezeimeris, *Dict. Hist. de la Med.*, and other similar works.