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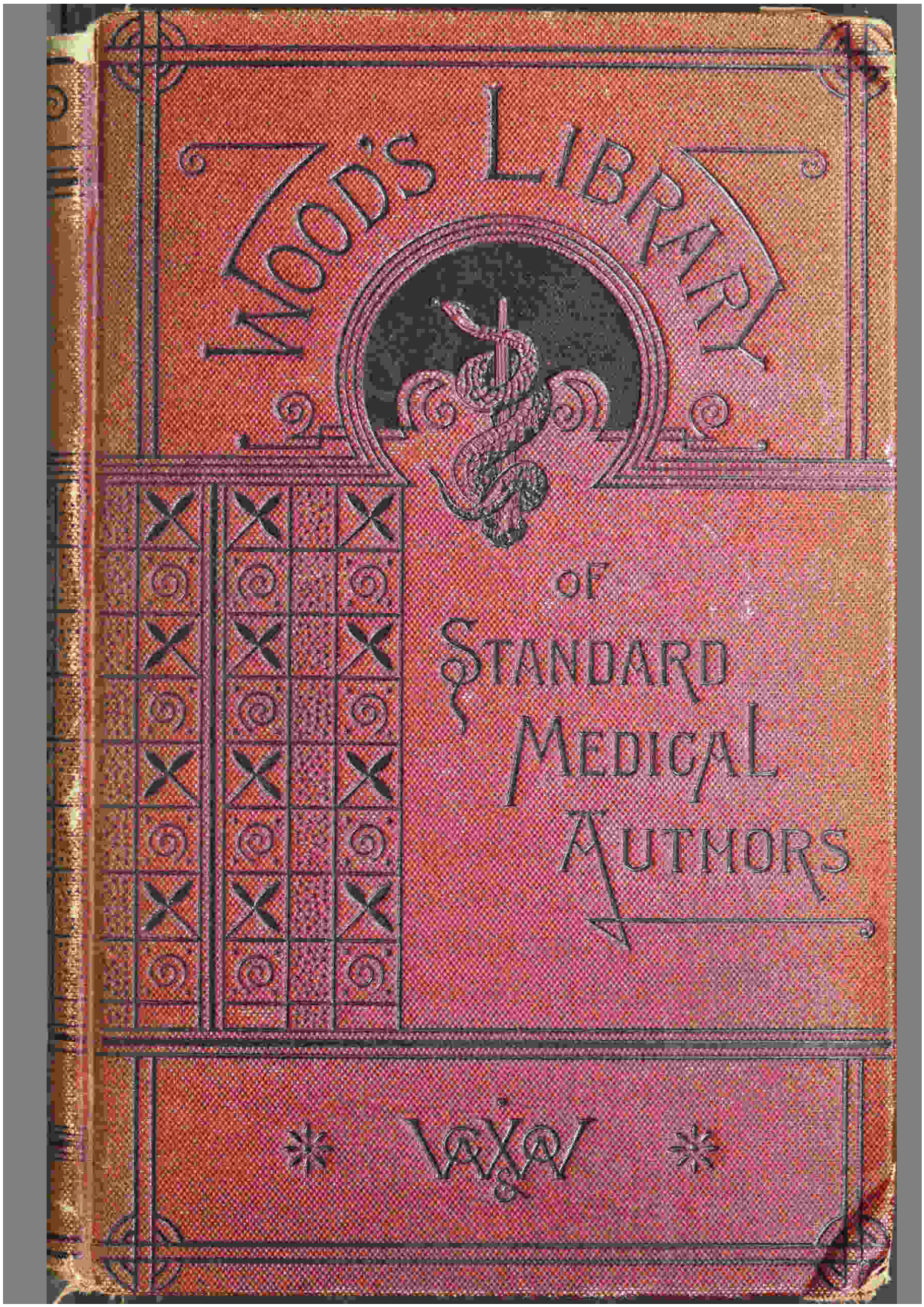
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THE

GENUINE WORKS

OF

H I P P O C R A T E S

TRANSLATED FROM THE GREEK

WITH

A PRELIMINARY DISCOURSE AND ANNOTATIONS

BY

FRANCIS ADAMS, LL.D.
SURGEON

IN TWO VOLUMES

VOL. I

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TRANSLATOR'S PREFACE.

The Council of the Sydenham Society having done me the honor of consulting me respecting a proposed volume of translations from the Works of Hippocrates, I ventured to give it as my opinion that such a selection ought to comprehend the whole of those Treatises which are now regarded as genuine; and this suggestion having been approved of, I was appointed to the task of translating and editing them according to the best of my judgment. The design, then, of the present Work,[1] is to give a translation of all the genuine remains of the GREAT HIPPOCRATES, along with such an amount of illustration as may be sufficient to render them intelligible to any well-educated member of the profession at the present day. It was understood, indeed, when I first engaged in this undertaking, that I was merely to give a faithful translation of the original; but I soon became satisfied, that a considerable amount of illustration, in the form of Annotations, Arguments, and so forth, would be indispensable to the general utility of such a publication. It is well known that many parts of my author's works are very obscure, owing to the conciseness of the language, and the difficulty which now exists of properly apprehending the views entertained on certain abstruse questions at so very distant a period; and, consequently, it will readily be understood, that a simple version, without either comment or illustration, would have been nearly as unintelligible to most of my readers as the original itself. And that the works of Hippocrates stand in need of illustration is rendered apparent from the number of commentaries which have been written upon them in all ages, commencing almost with his own time. But whether or not I have been fortunate enough to give just such an amount of illustration as was necessary, and have taken proper care at the same time not to load my pages with superfluous matters of this description, must be left to the judgment of my readers to determine. However, I may be permitted to say, that whatever value shall be put upon my performances in this line, I have certainly spared no pains to make myself well acquainted with the true doctrines of my author, and that for this purpose I have consulted all the best authorities to which I could obtain access, from the commentaries of Apollonius and Galen down to the learned labors of several continental scholars, my contemporaries,

especially Dr. Ermerins, of Holland, and MM. Littré and Malgaigne, of France. I flatter myself it will also be admitted, that I have further collected from a variety of sources, a considerable store of valuable material, for which I am in nowise indebted to any of my predecessors in the same field of research.

Considering how scanty all the information is which the English language can supply on many questions connected with the medical literature of the ancients, I have judged it necessary to enter into a discussion of several of those subjects, in order to prepare my readers for understanding the doctrines of my author. These are contained in the Preliminary Discourse, and will be found to relate principally to the origin of Grecian Medicine, to the Biography of Hippocrates, and an analysis of the works which bear his name, and to an exposition of the principles of the Physical Philosophy which form the basis of most of the hypotheses which occur in the Hippocratic Collection. Having bestowed much pains on the illustration of the philosophical tenets of the ancients, I shall feel anxious to learn how far the judgment pronounced by me on various controverted points is approved of by persons possessing the necessary degree of information to enable them to form a correct estimate of them, along with a proper degree of candor in judging between the conventional opinions of the present time, and those which prevailed in so remote an age.

That I have imposed upon myself a very serious additional task, by engaging not only to give a true version of the language of my author, but also to expound his opinions, and place them, so to speak, in juxtaposition with those of the present age, will be readily admitted; and I have reason perhaps to apprehend, that I have thereby exposed myself to the strictures of a certain class of critics, who have formed to themselves a very different ideal of the duties of a translator, fancying that he ought merely to concern himself with the words of the original author, and not venture to sit in judgment on the doctrines. I shall not attempt, however, any formal defense of the method which I have pursued, but may be allowed to remark, that, if I shall be found to have failed in satisfying the reasonable expectations of such readers as are sincerely desirous of becoming familiarly acquainted with the opinions of an author, whom I verily believe to be the highest exemplar of professional excellence which the world has ever seen, it is not

from want of zeal in the discharge of the arduous duties which I had undertaken.

I have little left to say in this place respecting most of the critical subjects connected with the work, as I have entered at considerable length into the discussion of these matters in the Preliminary Discourse. It is proper, however, to acknowledge that I have derived great assistance from M. Littré's excellent edition, of which the parts already published embrace all the treatises here given, with the exception of the last four. On all occasions I have freely availed myself of his labors, more especially in amending the text, in which respect his edition undoubtedly surpasses all those which preceded it. I have also not neglected to consult all the other standard editions, especially those of Foës, Van der Linden, and Kühn, and likewise, as will be seen, many other editions of separate treatises, so that, altogether, I trust it will be found that I have not often failed in attaining the true meaning of my author, as far as it can now be ascertained. I am aware, indeed, that, situated as I am, at a distance from public libraries, and deprived of personal intercourse with learned men of congenial pursuits whom I could consult in cases where I felt myself in doubt, I have labored under disadvantages which may render my work not so perfect in all respects as could have been wished; and that, by sending it to the press as soon as completed, it is not unlikely I may have left it disfigured by certain blemishes which *multa dies et multa litura* might have enabled me to remove. But the urgency of my other professional and private concerns forbade me to devote much longer time to any one task, however interesting or important; while the weight of increasing years, and the confirmed conviction of the endless nature of literary research on such a subject as this, disposed me, on the present occasion, to keep in mind the solemn admonition of my Author, that "Life is short, and Art is long."

F. A.

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PRELIMINARY DISCOURSE.

BY THE EDITOR.

PRELIMINARY DISCOURSE.

SECTION I

ON THE ORIGIN OF GRECIAN MEDICINE, WITH A SKETCH OF THE LIFE OF HIPPOCRATES.

It is well known that the oldest documents which we possess relative to the practice of Medicine, are the various treatises contained in the Collection which bears the name of Hippocrates. Their great excellence has been acknowledged in all ages, and it has always been a question which has naturally excited literary curiosity, by what steps the art had attained to such perfection at so early a period. This investigation, however, is attended with peculiar difficulties, and has never been marked by any very satisfactory results. At one time, indeed, it was usual to solve the question by supposing that Greece had derived all the arts and sciences, in a state of considerable advancement, from the oriental nations, who are admitted to have possessed a considerable degree of civilization before the Hellenic race became distinguished for intellectual development.[2] The question with regard to the origin of Medicine was thus supposed to have met with a satisfactory solution. For, it being generally admitted that the Hippocratic Medicine had emerged from the schools of philosophy, and it having been assumed as incontrovertible that the early philosophy of the Greeks had been derived from the East, the inference appeared to be quite legitimate that medicine, in a state of considerable advancement, had been imported from the same quarter. Recent research, however, has cast great doubts on the supposed descent of Grecian philosophy from a foreign source, and it is now pretty generally admitted that the Orientals, in early times, had never made any considerable progress in mental science.[3] Instead, then, of looking upon philosophy as having been an exotic production in the land of Hellas, we have every reason to believe that it was, what its inhabitants, in the noble pride of political freedom and intellectual superiority, boasted that their forefathers had been, namely, “the offspring of their own soil.”[4] Since the philosophy of the Greeks was indigenous, there is every reason to suppose that their medicine was so in like manner. How long the union between medicine and philosophy had subsisted before the time of Hippocrates, has not been determined upon any contemporary evidence, but the disciples of Pythagoras, in after ages, did not hesitate to ascribe to him the honor of effecting this alliance.[5] However this may be, it appears to me very doubtful whether these philosophers ever practised medicine as a craft. Indeed, it is much more likely that they merely speculated upon the phenomena of disease. Thus we shall see afterwards, that Plato himself did not discard speculative medicine from his system of philosophy, although we are quite sure that he never practised it as an art. But this connection between medicine and philosophy was by no means regarded, in after times, as having been favorable to the advancement of the former, for we find

Hippocrates complimented by Celsus for having brought about a separation between them.[6]

It is clearly established that, long before the birth of philosophy, medicine had been zealously and successfully cultivated by the Asclepiadæ, an order of priest-physicians that traced its origin to a mythical personage bearing the distinguished name of Æsculapius. Two of his sons, Podalirius and Machaon, figure in the Homeric poems, not however as priests, but as warriors possessed of surgical skill in the treatment of wounds, for which they are highly complimented by the poet. It was probably some generations after this time (if one may venture a conjecture on a matter partaking very much of the legendary character) that Æsculapius was deified, and that Temples of Health, called *Asclepia*, presided over by the Asclepiadæ, were erected in various parts of Greece, as receptacles for the sick, to which invalids resorted in those days for the cure of diseases, under the same circumstances as they go to hospitals and spas at the present time. What remedial measures were adopted in these temples we have no means of ascertaining so fully as could be wished, but the following facts, collected from a variety of sources, may be pretty confidently relied upon for their accuracy. In the first place, then, it is well ascertained that a large proportion of these temples were built in the vicinity of thermæ, or medicinal springs, the virtues of which would no doubt contribute greatly to the cure of the sick.[7] At his entrance into the temple, the devotee was subjected to purifications, and made to go through a regular course of bathing, accompanied with methodical frictions, resembling the oriental system now well known by the name of *shampooing*. Fomentations with decoctions of odoriferous herbs were also not forgotten. A total abstinence from food was at first prescribed,[8] but afterwards the patient would no doubt be permitted to partake of the flesh of the animals which were brought to the temples as sacrifices. Every means that could be thought of was used for working upon the imagination of the sick, such as religious ceremonies of an imposing nature, accompanied by music, and whatever else could arouse their senses, conciliate their confidence, and in certain cases, contribute to their amusement.[9] In addition to these means, it is believed by many intelligent Mesmerists of the present day, that the aid of Animal magnetism was called in to contribute to the cure;[10] but on this point the proof is not so complete as could be wished. Certain it is, however, that as the Mesmerists administer medicines which are suggested to the imagination of patients during the state of clairvoyance, the Asclepiadæ prescribed drugs as indicated in dreams. These, indeed, were generally of a very inert description; but sometimes medicines of a more dangerous nature, such as hemlock and gypsum, were used in this way,[11] and regular reports of the effects which they produced were kept by the priests in the temples. It is also well known that the Asclepiadæ noted down with great care the symptoms and issue of every case, and that, from such observations, they became in time great adepts in the art of prognosis. When we come to an analysis of the different Hippocratic treatises, it will be seen that there is strong reason to believe we are still possessed of two documents composed from the results of

observations made in the ancient Temples of Health. It would also contribute much to the increase of medical knowledge in this way, that the office of priesthood was hereditary in certain families, so that information thus acquired would be transmitted from father to son, and go on accumulating from one generation to another.[12] Whether the Asclepiadæ availed themselves of the great opportunities which they must undoubtedly have had of cultivating human and comparative anatomy, has been much disputed in modern times; indeed, the contrary is expressly maintained by some eminent authorities, such as Gruner[13] and Sprengel.[14] But it will be shown in another place, that there is good reason for believing that these two scholars have greatly underrated the amount of anatomical knowledge possessed by Hippocrates, and his predecessors the priest-physicians in the Temples of Health. Moreover, it is worthy of remark, that Galen holds Hippocrates to have been a very successful cultivator of anatomy.[15] Galen further states, upon the authority of Plato,[16] that the Asclepiadæ paid no attention to dietetics; but this opinion would require to be received with considerable modification, for, most assuredly, whoever reflects on the great amount of valuable information on this subject which is contained in the Hippocratic treatises, will not readily bring himself to believe that it could have been all collected by one man, or in the course of one generation. It is worthy of remark, moreover, that Strabo, whose authority I need scarcely say stands deservedly high in all literary matters, does not hesitate to affirm that Hippocrates was trained in the knowledge of dietetics, from documents preserved in the Asclepion of Cos.[17] That gymnastics, as stated by Galen, [18] wire not recognized as a regular branch of the healing art, until the age of Hippocrates, is indeed not improbable, and this perhaps is what Plato meant when he says that the Asclepiadæ did not make any use of the pedagogic art until it was introduced by Herodicus. But at the same time there can be no doubt, as further stated by Galen,[19] that exercise, and especially riding on horseback, constituted *one* of the measures used by the Asclepiadæ for the recovery of health, having been introduced by Æsculapius himself.

Of the *Asclepia* we have mentioned above, it will naturally be supposed that some were in much higher repute than others, either from being possessed of peculiar advantages, or from the prevalence of fashion. In the beginning of the fifth century before the Christian era, the temples of Rhodes, Cnidos, and Cos were held in especial favor, and on the extinction of the first of these, another rose up in Italy in its stead.[20] But the temple of Cos was destined to throw the reputation of all the others into the background, by producing among the priests of Æsculapius the individual who, in all after ages, has been distinguished by the name of the GREAT HIPPOCRATES.[21]

Before proceeding, however, to give a brief sketch of his biography, I may state, partly by way of recapitulation, and partly in anticipation of what will be found in a subsequent part of this work, the leading facts which are known relative to the state of medicine before his time.

1. The origin of Grecian medicine is involved in impenetrable darkness, being anterior to all authentic history, and nothing being known either as to its rise or the steps by which it grow up to be a regular art.

2. There is no reason to suppose that the germs of medical science, any more than those of philosophy, had been originally imported into Greece from the East.

3. The earliest practitioners of medicine concerning whom we have any authentic information, were the Asclepiadæ, or priest-physicians, who endeavored to cure the sick partly by superstitious modes of working upon the imagination, and partly by more rational means, suggested by observation and a patient study of the phenomena of disease.

4. Though the men of letters who directed their attention to the phenomena of disease, as constituting a branch of philosophy, may in so far have improved the theory of medicine by freeing it from the trammels of superstition, it is not likely they could have contributed much to the practice of medicine, which is well known to be founded on observation and experience.

5. Though there can be little or no doubt that the priest-physicians, and the philosophers together, were possessed of all the knowledge of medicine which had been acquired at that time, it is not satisfactorily ascertained by what means the art had attained that remarkable degree of perfection which we shall soon see that it exhibited in the hands of Hippocrates. But I must now proceed with my Sketch of his Life.

That Hippocrates was lineally descended from Æsculapius was generally admitted by his countrymen, and a genealogical table, professing to give a list of the names of his forefathers, up to Æsculapius, has been transmitted to us from remote antiquity. Although I am well aware that but little reliance can be put on these mythical genealogies, I will subjoin the list to this section, in order that it may be at hand for reference, as many allusions will have to be made to it in the subsequent pages.[22]

Of the circumstances connected with the life of Hippocrates little is known for certain, the only biographies which we have of him being all of comparatively recent date, and of little authority. They are three in number, and bear the names of Soranus Ephesins, Suidas, and Tzetzes. Of the age in which the first of these authors flourished, nothing is known for certain; the second is a lexicographer, who lived in the beginning of the eleventh century; and the third flourished in the twelfth century. The birth of Hippocrates is generally fixed, upon the authority of Soranus, as having occurred in the first year of the 80th Olympiad, that is to say, in the 460th year before the vulgar era. On this point, however, I must say that I see no good grounds for the unanimity of opinion which has generally prevailed among modern scholars. In fact, the counter-

evidence of Aulus Gellius has always appeared to me to be unjustly overlooked, as I cannot but think that his authority ought to rank much higher than that of Soranus, of whom nothing is known, not even the century in which he lived. Aulus Gellius, then, in an elaborate disquisition on Greek and Roman chronology, states decidedly that Socrates was contemporary with Hippocrates, but younger than he.[23] Now it is well ascertained, that the death of Socrates took place about the year 400 A.C., and as he was then nearly seventy years old, his birth must be dated as happening about the year 470 A.C. This statement would throw the birth of Hippocrates back several years beyond the common date, as given by Soranus. There is also much uncertainty as to the time of his death: according to one tradition he died at the age of 85, whereas others raise it to 90, 104, and even 109 years. These dates of his birth and death, although vague, are sufficient to show that the period at which we may reasonably suppose he had practised his profession with the greatest activity and reputation, must have been the latter part of the fifth century A.C. It will readily occur to the reader, then, that our author flourished at one of the most memorable epochs in the intellectual development of the human race. 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, and many other distinguished names, which have conferred immortal honor on the age in which they lived, and exalted the dignity of human nature. Nor was Greece the only region of the earth remarkable at this time for moral and intellectual improvement; for, if we may believe oriental chronology, Confucius and Zoroaster had gone off the stage of life only a very few years before the dawn of this celebrated age of Grecian superiority in the arts and sciences. Hippocrates, it thus appears, came into the world under circumstances which must have co-operated with his own remarkable powers of intellect in raising him to that extraordinary eminence which his name has attained in all ages. From his forefathers he inherited a distinguished situation in one of the most eminent hospitals, or Temples of Health, then in existence, where he must have enjoyed free access to all the treasures of observations collected during many generations, and at the same time would have an opportunity of assisting his own father in the management of the sick.[24] Thus from his youth he must have been familiar with the principles of medicine, both in the abstract and in the concrete,—the greatest advantage, I may be permitted to remark, which any tyro in the healing art can possibly enjoy. In addition to all this, he had excellent opportunities of estimating the good and bad effects resulting from the application of gymnastic exercises in the cure of diseases, under the tuition of Herodicus, the first person who is known for certain to have cultivated this art as a branch of medicine.[25] He was further instructed in the polite literature and philosophy of the age, by two men of classical celebrity, Gorgias and Democritus; the latter of whom is well known to have devoted much attention to the study of medicine, and its cognate sciences, comparative anatomy and physiology.

Initiated in the theory and first principles of medicine, as now described, Hippocrates no doubt commenced the practice of his art in the Asclepion of Cos, as his forefathers had done before him. Why he afterwards left the place of his nativity, and visited distant regions of the earth, whither the duties of his profession and the calls of humanity invited him, cannot now be satisfactorily determined. The respect paid to him in his lifetime by the good and wise in all the countries which he visited, and the veneration in which his memory has been held by all subsequent generations, are more than sufficient to confute the base calumny, invented, no doubt, by some envious rival, that he was obliged to flee from the land of his nativity in consequence of his having set fire to the library attached to the Temple of Health, at Cnidos, in order that he might enjoy a monopoly of the knowledge which he had extracted from the records which it had contained.[26] Certain it is, that he afterwards visited Thrace, Delos, Thessaly, Athens, and many other regions, and that he practised, and probably taught, his profession in all these places.[27] There are many traditions of what he did during his long life, but with regard to the truth of them, the greatest diversity of opinion has prevailed in modern times. Thus he is said to have cured Perdiccas, the Macedonian king, of love-sickness; and although there are circumstances connected with this story which give it an air of improbability, it is by no means unlikely that he may have devoted his professional services to the court of Macedonia, since very many of the places mentioned in his works as having been visited by him, such as Pella and Acanthus, are situated in that country; and further, in confirmation of the narrative, it deserves to be mentioned, that there is most satisfactory evidence of his son Thessalus having been court physician to Archelaus, king of Macedonia;[28] and it is well ascertained that another of his descendants, the Fourth Hippocrates, attended Roxane, the queen of Alexander the Great.[29] Our author's name is also connected with the great plague of Athens, the contagion of which he is reported to have extinguished there and in other places, by kindling fires.[30] The only serious objection to the truth of this story is the want of proper contemporary evidence in support of it. It is no sufficient objection, however, that Thucydides, in his description of the circumstances attending the outbreak of the pestilence in Attica, makes no mention of any services having been rendered to the community by Hippocrates; while, on the contrary, he states decidedly that the skill of the physicians could do nothing to mitigate the severity of this malady. It is highly probable, that, if Hippocrates was actually called upon to administer professional assistance in this way, it must have been during one of the subsequent attacks or exacerbations of the disease which occurred some years afterwards. We know that this plague did not expend its fury in Greece during one season, and then was no more heard of; but on the contrary, we learn that it continued to lurk about in Athens and elsewhere, and sometimes broke out anew with all its original severity. Thucydides briefly mentions a second attack of the plague at Athens about two years after the first,[31] attended with a frightful degree of mortality; nor is it at all improbable that this was not the last visitation of the malady. Though the name of Hippocrates, then, may not have been heard of at its first invasion, it is not at all

unlikely that, after he had risen to the head of his profession in Greece, as we know that he subsequently did, he should have been publicly consulted regarding the treatment of the most formidable disease which was prevailing at the time.[32] What adds an appearance of truth to the tale is, that several of the genuine works of Hippocrates, which were probably published in its lifetime, relate to the causes and treatment of epidemic and endemic diseases.[33] That the magistrates of Athens, then, should have applied to him as the most eminent authority on the subject, to assist them in their sanitary regulations[34] during the prevalence of this great pestilence, is so far from being improbable, that I think it would have been very extraordinary if they had omitted to consult him, seeing that he was undoubtedly looked up to as the *facile princeps* among the physicians of the day. That his services in this way have been exaggerated by the blind admiration of his worshipers, both at that time and in after ages, may be readily admitted; but this circumstance ought not to make us reject the whole story as being fabulous. I repeat, then, that although this part of the history of Hippocrates be not vouched by any contemporary evidence, it is by no means devoid of probability, while the objections which have been started to it by modern authorities have not so much weight as is generally supposed.

Another circumstance in the life of Hippocrates, for the truth of which Soranus, Suidas, and a host of ancient authorities concur in vouching, namely, that he refused a formal invitation to pay a professional visit to the court of Persia, is rejected with disdain by almost all the modern scholars who have touched upon this subject. But was it an uncommon thing for the king of Persia to manœuvre in this way with Grecian talent in order to attract it to his court? So far is the contrary known to be the case that, as every person who is familiar with the early history of Greece must be well aware, the manner in which "the Great King" rendered himself most formidable to the Grecian Republics after the humiliating defeats which the military forces of Persia had sustained at Marathon, Salamis, and Platæa, was by intriguing with all those distinguished persons in Greece who would render themselves accessible to his bribes and flatteries, and thus endeavoring to detach them from the cause of their country. Of this we have notable examples in the case of two illustrious individuals, who were nearly contemporary with Hippocrates—I mean Pausanias and Themistocles. Moreover, it is well known that Grecian physicians at all times were in high repute at the court of Babylon;[35] witness Ctesias, the contemporary and kinsman of Hippocrates,[36] who was court physician to the king of Persia, and was employed in that capacity in the most serious emergencies.[37] What more natural, then, or more likely to happen, than that the king of Persia, when he saw his country overrun by the plague,[38] should seek advice from a neighboring people, whose superiority to his own subjects in all the arts of war and peace he and his predecessors had learned from sad experience? I readily admit that the letters in the Hippocratic Collection which relate to this story can scarcely be received as genuine; but does this prove that the event upon which they are made to turn is also devoid of truth? I can see no probability in this

supposition; for whether we regard these documents as willful forgeries, executed with the fraudulent intention of palming them on the literary world as genuine productions, or whether we look upon them as mere exercises made on given subjects by the Sophists or Scholiasts to display their ability in sustaining an assumed character, it would have been preposterous to make them relate to stories of which every person of that age must have been able to detect the falsehood. Were any person at the present day, from whatever motive, desirous of palming upon the public certain letters said to have been written by the celebrated John Hunter, he would surely not be so imprudent as to endeavor to pass off as genuine a correspondence purporting to have taken place between him and the king of France, as every one at all acquainted with professional biography, would at once perceive that the authenticity of the documents in question was completely disproved by the falsity of the narrative upon which they are founded. Seeing, then, that these letters are admitted on all hands to be very ancient, that is to say, of a date not much later than the time of Hippocrates, we may rest assured that the main facts to which they allude were believed at the time to be of an authentic nature.

For the like reasons I am disposed to think that, although the letters in the Collection which refer to a pretended correspondence between him and Democritus are most probably to be regarded as spurious, it is far from being improbable that the physician may have rendered the services of his profession to the philosopher. Had there been no grounds whatever for this story, why so many ancient authors should have agreed in giving credit to it I cannot imagine.

According to all the accounts which have come down to us of his life, he spent the latter part of it in Thessaly, and died at Larissa, when far advanced in years. The corruptions with regard to numbers which, in the course of transcription, have crept into all works of great antiquity, sufficiently account for the differences already mentioned in the statements respecting his age at the time of his death.

These are all the particulars of any importance which can now be gathered regarding the life of him who has been venerated in all ages as “The Father of Medicine.” That they are scanty and rather unsatisfactory, must be admitted; but yet what more, in general, can we desire to know respecting the biography of a physician than the manner in which he was educated, how he was esteemed by his contemporaries, and what he did and wrote to reflect credit on his profession? The approbation and gratitude of those who have consulted him for the cure of their maladies are the best testimony to the public character of a physician, and the estimation in which his writings are held by the members of his own profession is what constitutes his professional reputation. I need scarcely say that, as a medical author, the name of Hippocrates stands pre-eminently illustrious. In this way he has left monuments of his genius more durable than the marble statues of Phidias, his contemporary, and as enduring as the tragedies of Sophocles, or the Olympian odes of Pindar.

In the next section I intend to give a careful analysis of all the writings which have come down to us from antiquity under the name of Hippocrates, and to state clearly the grounds upon which some are to be received as genuine, and others rejected as supposititious. I shall conclude the present section, although it may appear that I am anticipating some things which had better have come after the succeeding one, with a brief account of our author's general principles, both as regards the theory and the practice of medicine; and in doing this I mean not to confine myself strictly to the treatises which are acknowledged to be genuine, as they are unfortunately so few in number, that we are often obliged to guess at the tenets of our author from those held by his immediate successors and disciples.

The opinions which he held as to the origin of medicine, and the necessities in human life which gave rise to it, are such as bespeak the soundness of his views, and the eminently practical bent of his genius. It was the necessity, he says,[39] which men in the first stages of society must have felt of ascertaining the properties of vegetable productions as articles of food that gave rise to the science of Dietetics; and the discovery having been made that the same system of regimen does not apply in a disordered as in a healthy condition of the body, men felt themselves compelled to study what changes of the aliment are proper in disease; and it was the accumulation of facts bearing on this subject which gave rise to the art of Medicine. Looking upon the animal system as one whole, every part of which conspires and sympathizes with all the other parts, he would appear to have regarded disease also as one, and to have referred all its modifications to peculiarities of situation.[40] Whatever may now be thought of his general views on Pathology, all must admit that his mode of prosecuting the cultivation of medicine is in the true spirit of the Inductive Philosophy; all his descriptions of disease are evidently derived from patient observation of its phenomena, and all his rules of practice are clearly based on experience. Of the fallaciousness of experience by itself he was well aware, however, and has embodied this great truth in a memorable aphorism,[41] and therefore he never exempts the apparent results of experience from the strict scrutiny of reason. Above all others, Hippocrates was strictly the physician of experience and common sense. In short, the basis of his system was a rational experience, and not a blind empiricism, so that the Empirics in after ages had no good grounds for claiming him as belonging to their sect. [42]

What he appears to have studied with particular attention is the natural history of diseases, that is to say, their tendencies to a favorable or fatal issue; and without this knowledge, what can all medical practice be but blind empiricism?—a haphazard experiment, which perchance may turn out either to cure or to kill the patient? In a word, let me take this opportunity of saying, that the physician who cannot inform his patient what would be the probable issue of his complaint, if allowed to follow its natural course, is not qualified to prescribe any rational plan of treatment for its cure.

One of the most distinguishing characteristics, then, of the Hippocratic system of medicine, is the importance attached in it to *prognosis*, under which was comprehended a complete acquaintance with the previous and present condition of the patient, and the tendency of the disease. To the overstrained system of Diagnosis practised in the school of Cnidos, agreeably to which diseases were divided and subdivided arbitrarily into endless varieties, Hippocrates was decidedly opposed; his own strong sense and high intellectual cultivation having, no doubt, led him to the discovery, that to accidental varieties of diseased action there is no limit, and that what is indefinite cannot be reduced to science.[43]

Nothing strikes one as a stronger proof of his nobility of soul, when we take into account the early period in human cultivation at which he lived, and his descent from a priestly order, than the contempt which he everywhere expresses for ostentatious charlatanry, and his perfect freedom from all popular superstition.[44] Of amulets and complicated machines to impose on the credulity of the ignorant multitude, there is no mention in any part of his works. All diseases he traces to natural causes, and counts it impiety to maintain that any one more than another is an infliction from the Divinity. How strikingly the Hippocratic system differs from that of all other nations in their infantine state must be well known to every person who is well acquainted with the early history of medicine.[45] His theory of medicine was further based on the physical philosophy of the ancients, more especially on the doctrines then held regarding the elements of things, and the belief in the existence of a spiritual essence diffused through the whole works of creation, which was regarded as the agent that presides over the acts of generation, and which constantly strives to preserve all things in their natural state, and to restore them when they are preternaturally deranged. This is the principle which he called Nature, and which he held to be a *vis medicatrix*. "Nature," says he, or at least one of his immediate followers says, "is the physician of diseases."[46] His physical opinions are so important, that I have resolved to devote an entire section to an exposition of the ancient doctrines on this head. (See Sect. III.)

Though his belief in this restorative principle would naturally dispose him to watch its operations carefully, and make him cautious not to do anything that would interfere with their tendencies to rectify deranged actions, and though he lays it down as a general rule by which the physician should regulate his treatment, "to do good, or at least to do no harm,"[47] there is ample evidence that on proper occasions his practice was sufficiently bold and decided. In inflammatory affections of the chest he bled freely, if not, as has been said, *ad deliquum animi*,[48] and in milder cases he practised cupping with or without scarification.[49] Though in ordinary cases of constipation he merely prescribed laxative herbs, such as the mercury (*mercurialis perennis*),[50] beet,[50] and cabbage,[50] he had in reserve elaterium,[51] scammony,[52] spurges,[53] and other drastic cathartics, when more potent medicines of this class were indicated. And although when it was merely wished to evacuate upwards in a gentle manner, he was

content with giving hyssop,[54] and other simple means, he did not fail, when it was desirable to make a more powerful impression, to administer the white hellebore with a degree of boldness, which his successors in the healing art were afraid to imitate.[55] A high authority has expressly stated that he was the discoverer of the principles of derivation and revulsion in the treatment of diseases.[56] Fevers he treated as a general rule, upon the diluent system, but did not fail to administer gentle laxatives, and even to practise venesection in certain cases.[57] When narcotics were indicated, he had recourse to mandragora, henbane, and perhaps to poppy-juice.[58]

In the practice of surgery he was a bold operator. He fearlessly, and as we would now think, in some cases unnecessarily, perforated the skull with the trepan and the trephine in injuries of the head. He opened the chest also in empyema and hydrothorax. His extensive practice, and no doubt his great familiarity with the accidents occurring at the public games of his country, must have furnished him with ample opportunities of becoming acquainted with dislocations and fractures of all kinds; and how well he had profited by the opportunities which he thus enjoyed, every page of his treatises "On Fractures," and "On the Articulations," abundantly testifies. In fact, until within a very recent period, the modern plan of treatment in such cases was not at all to be compared with his skillful mode of adjusting fractured bones, and of securing them by means of waxed bandages. In particular, his description of the accidents which occur at the elbow- and hip-joints will be allowed, even at the present day, to display a most wonderful acquaintance with the subject. In the treatment of dislocations, when human strength was not sufficient to restore the displacement, he skillfully availed himself of all the mechanical powers which were then known.[59] In his views with regard to the nature of club-foot, it might have been affirmed of him a few years ago, that he was twenty-four centuries in advance of his profession when he stated that in this case there is no dislocation, but merely a declination of the foot; and that in infancy, by means of methodical bandaging, a cure may in most cases be effected without any surgical operation. In a word, until the days of Delpech and Stromeyer, no one entertained ideas so sound and scientific on the nature of this deformity as Hippocrates.

But I must not allow my enthusiastic admiration to carry me too far. I will therefore conclude the present section by making a few observations on the peculiar style of our author's writings. According to Galen, whose extensive acquaintance with Greek literature rendered him a most competent judge, the characteristics of his style are extreme conciseness, precision, and, in certain cases, obscurity, as the natural result of labored brevity.[60] To these traits of character he adds, elsewhere, that Hippocrates makes it a rule to avoid all superfluity of discussion and unnecessary repetitions, and never says more than what is indispensable.[61] Now, it is no proper objection to this general view of the character of his style, as stated by M. Littré, that it is not the same in all his works; as, for example, in his treatise "On Airs, Waters, and Places," where the style is certainly not so laconic as in some of his others; although, even with regard to it, I must be permitted to say that I agree with a most competent authority, the late

Dr. Coray, that its style is remarkable for conciseness.[62] And, indeed, if brevity of expression, bordering at times upon obscurity, be not the characteristic of the style of Hippocrates, we must admit that his mode of composition is not in accordance with the taste of his age. There can be no doubt that the style of Hippocrates is nearly akin to that of his contemporary, the historian Thucydides, which is thus described by a very acute and original critic: "The most obvious and characteristic of his peculiarities is an endeavor to express as much matter as possible in as few words as possible, to combine many thoughts into one, and always to leave the reader to supply something of his own. Hence his conciseness often becomes obscure."[63] I would beg leave to add that other peculiarities in the style of Thucydides, which are severely animadverted upon by Dionysius, may be clearly recognized also in the writings of Hippocrates, especially irregularities of syntax, with a somewhat rude and inartificial mode of constructing his sentences. I mention this the rather that the English reader may not expect to find in my translation any of those well-turned periods and graceful modes of construction by which elegant composition is now distinguished. I wish it to be known that in making this translation, I have followed the example of the modern authority lately referred to, that is to say, I have been more studious of fidelity than of elegance, and have endeavored to give not only the matter, but also the manner, of my author.[64]

As promised above, I here subjoin that Mythical Genealogy of Hippocrates from Tzetzes.

Æsculapius was the father of Podalirius, who was the father of Hippolochus, who was the father of Sostratus, who was the father of Dardanus, who was the father of Crisamis, who was the father of Cleomyttades, who was the father of Thedorus, who was the father of Sostratus II., who was the father of Theodorus II., who was the father of Sostratus III., who was the father of Nebrus, who was the father of Gnosidicus, who was the father of Hippocrates I., who was the father of Heraclides, who was the father of HIPPOCRATES II., otherwise called the GREAT HIPPOCRATES. (Chiliad. vii., 155.)

I may also add a few particulars, deserving to be known, respecting the family of Hippocrates. As Galen relates, he had two sons, Thessalus and Draco, each of whom had a son who bore the name of Hippocrates. (Comment. ii., in Lib. de Nat. Human.) It thus appears that there were in the family four persons of the name of Hippocrates, closely related to one another. First, the father of Heraclides, and grandfather of Hippocrates II.; second, Hippocrates II., our author; third and fourth, his grandchildren, the sons of Thessalus and Draco. Besides these, three or four other members of the family bearing the name of Hippocrates are enumerated by Suidas. Of Thessalus, it is related by Galen (l.c.) that he adhered strictly to the principles of his father, and became physician to Archelaus, king of Macedonia. Of Draco little mention is made, only it is well known that he also followed his father's profession. But of all the family

of Hippocrates the Great, Polybus, his son-in-law, is the most celebrated. Galen calls him the disciple of Hippocrates and successor in his school, and adds, that he made no innovations on the doctrines of his teacher. (Comment. i., in Libr. de Nat. Hum.)

SECTION II.

DISQUISITION ON THE AUTHENTICITY OF THE DIFFERENT TREATISES WHICH HAVE BEEN ATTRIBUTED TO HIPPOCRATES.

There can scarcely be a doubt that Hippocrates followed the practice which we know to have been adopted by almost all the great writers of antiquity with regard to the publication of their works, namely, that of publishing them separately, at the time they were composed. We know, for example (to begin with a distinguished author, regarding whom our information is particularly ample), that Horace published his books of satires, epistles, odes, and epodes separately, and at different times; and that the collection of them in its present form was not compiled until after his death.[65] We have every reason for concluding that the same rule was followed by Martial,[66] Cicero,[67] and other Roman authors. It is further well ascertained (to come to a period not far removed from the age of Hippocrates) that Plato[68] and Aristotle[69] likewise gave their works to the literary world upon the same plan. We have every reason, therefore, to suppose that Hippocrates published several of his works separately, in his life time; and indeed Galen often expresses himself so as to leave little or no ground for doubt on this point.[70] It would be most interesting and important then to know, were this possible, in what order the different works of our author were published. But unfortunately this is a question which we have no proper data for solving satisfactorily, only as the "Aphorisms" are evidently made up in a great measure of conclusions drawn from the results of discussions and observations recorded in other of his works, we have every reason to infer that this important work was among that latest of his literary labors.[71] But although we may not be able to determine the order in which the different pieces were composed and published, we need have no hesitation in deciding with all the best authorities, ancient and modern, that all the following treatises were composed by him, and, from the first, obtained the sanction of his name, viz.: the "Prognostics;" the "First and Third Epidemics;" "On Regimen in Acute Diseases;" "On Airs, Waters, and Places;" "On Wounds of the Head;" the "Aphorisms." It is in so far satisfactory, then, to know, that respecting the authorship of these works there has never been any reasonable question, and that whoever entertains doubts on this point of literary history, ought, on the same principles of criticism, to dispute the authenticity of the "Protagoras" and "Phædo" of Plato; of the "History of Animals" and "Politics" of Aristotle; and of the "Olynthiacs" and "Philippics" of Demosthenes. In a word, nothing but the most lawless spirit of scepticism can lead any one to challenge the genuineness of the works which I have just now enumerated. These, however, it will be seen, constitute but a very small portion of the treatises contained in the Hippocratic Collection; and with regard to a very great number of the others, it is unfortunately not only impossible to bring any competent evidence of their genuineness, but it is also

quite apparent that they betray marks of an entirely different authorship; and this is abundantly obvious, whether we look to the matters which they contain, or the manner in which these are given. Thus in some of the treatises we discover hypothetical doctrine and rules of practice utterly at variance with those which are contained in the works of acknowledged authenticity; and in some of them, instead of that nervous conciseness which, as we have already stated, has always been held to be characteristic of the style of Hippocrates, we find an insipid verbosity and vagueness of expression, which clearly stamp them as being productions of a very different hand. But, besides this internal evidence which we have to assist us in forming a correct judgment on these works, we fortunately still possess a considerable number of ancient Commentaries, written expressly in illustration of them, from which, in many instances, modern critics have been enabled to draw very satisfactory data for forming a correct judgment on the points at issue. Before proceeding further, it is but fair to acknowledge that I have freely availed myself of the labors of Vander Linden, Ackerman, Gruner, Littré, and other learned men, who have preceded me in this field of investigation, but at the same time I may venture to assure the reader that there is scarcely a passage in any of the ancient authorities, bearing on the points in discussion, which I have not examined carefully for myself.

The oldest commentator of whom we have any mention, is the celebrated Herophilus, who flourished about the year 300 A.C.[72] But of his Commentaries we have no remains, nor of those of the other commentators down to Apollonius Citiensis, a writer of the first century A.C. His Scholia on the Hippocratic treatise, "De Articulis," along with those of Palladius, Stephanus, Theophilus, Meletius, and Joannes Alexandrinus, all writers of an uncertain date, but certainly much later than the Christian era, were published by the late Dr. Dietz, at Konigsburg, in 1834. To these we have to add two others, of much higher celebrity, namely, Erotian, who lived during the reign of Nero, and the famous Galen, who, it is well known, flourished in the latter part of the second century, P.C. It is from the works of these two writers that the most important facts are to be elicited, for forming a correct judgment respecting the authenticity of the Hippocratic treatises. As we shall have occasion to quote their opinions on the different heads of our inquiry, it would be useless to occupy room by giving their entire list in this place. Suffice it to say, that Erotian rarely assigns any reason for admitting the treatises into his list of genuine works, and that Galen generally rests his judgment, when he assigns any grounds for it, upon the evidence of preceding authorities, and upon what he holds to be the characteristics of the doctrines and style of Hippocrates. These, assuredly, are most sound and legitimate principles of criticism; but it has been often supposed, that in applying them the great commentator is at times very dogmatic, and not always consistent with himself. But, upon the whole, all must allow that Galen is our best guide on the subject of our present inquiry. And, moreover, it is from his works especially that we are enabled to glean whatever information we possess with regard to the opinions of the earlier commentators, from Herophilus down to his own times.

I will now proceed to give a brief sketch of the labors of modern critics in this department.

The earliest modern authority is Lemos, whose work was published in the end of the sixteenth century. It appears that he follows almost entirely the opinions of Galen, and seldom or never ventures to exercise an independent judgment of his own.

The work of Mercuriali is a much more elaborate and important performance, and his principles of judgment appear to me most unexceptionable, being founded entirely upon ancient authority and peculiarity of style; only it may, perhaps, be objected, that he rather exaggerates the importance of the latter at the expense of the former; for it must be admitted that very contradictory conclusions have sometimes been founded on imaginary peculiarities of style. I cannot agree with M. Littré, however, that the whole system of Mercuriali is founded on a *petitio principii*; as if, before describing the style of his author, he ought to have decided which were his genuine writings.[73] For, as already stated, any one is perfectly warranted in assuming that certain of the works which bear the name of Hippocrates are genuine, and from them, and the general voice of antiquity, Mercuriali was further justified in deciding what are the peculiarities of the style of Hippocrates, and in applying them as a test of the genuineness of other works which had been attributed to the same author. Mercuriali divides the Hippocratic treatises into four classes, as follows: The first comprehends those which bear the characters of his doctrine and style. The second comprises those which are composed of notes taken from memory, and published by Thessalus, Polybus, or other of his disciples, and contain foreign matter interpolated with them. The third class consists of those which have not been composed by Hippocrates, but are the work of his sons or disciples, and represent his doctrines with greater or less exactness. The fourth includes those tracts which have nothing to do with the school of Hippocrates. As the views and principles of Mercuriali accord, in the main, very well with my own, I think it proper to set down his classification of the treatises.

CLASSIS I.

1. De Natura Humana.
2. De Aëribus, Aquis, et Locis.
3. Aphorismi.
4. Prognostica.
5. De Morbis popularibus.
6. De Morbis acutis.
7. De Vulneribus Capitis.
8. De Fracturis.
9. De Articulis.
10. De Officina Medici.
11. Mochlicus.
12. De Alimento.
13. De Humoribus.
14. De Ulceribus.

CLASSIS II.

1. De Locis in Homine.
2. De Flatibus.
3. De Septimestri Partu.
4. De Octimestri Partu.
5. De Ossibus.

CLASSIS III.

1. De Carnibus seu Principiis.
2. De Genitura.
3. De Natura Pueri.
4. De Affectionibus.
5. De Affectionibus internis.
6. De Morbis.
7. De Natura Muliebri.
8. De Morbis Muliebribus.
9. De Sterilibus.
10. De Fœtatione et Superfœtatione.
11. De Virginium Morbis.
12. De Sacro Morbo.
13. De Hemorrhoidibus.
14. De Fistulis.
15. De Salubri Diæta.
16. De Diæta, tres Libri.
17. De Usu Liquidorum.
18. De Judicationibus.
19. De Diebus Judicatoriis.
20. Prædictionum Libri.
21. Coacæ Prænotiones.
22. De Insomniis.

CLASSIS IV.

1. Jusjurandum.
2. Præceptiones.
3. De Lege.
4. De Arte.
5. De Arte Veteri.
6. De Medico.
7. De Decenti Ornatu.
8. De Exsectione Fœtus.
9. De Resectione Corporum.
10. De Corde.
11. De Glandulis.
12. De Dentitione.
13. De Visu.
14. Epistolæ.
15. De Medicamentis purgantibus |Latinè tantum.[74]
16. De Hominis Structura |

Perhaps we may venture to affirm, without much risk of challenge, that the works of no ancient author owe more to the exertions of a single individual than those of Hippocrates due to the labors of Foës. Of his excellencies as an editor, and expositor of the meaning of his author, I will have occasion to speak afterwards; and here I shall merely state regarding him, that as a critic called upon to decide with regard to the authenticity and spuriousness of the different works, his merits are by no means proportionally high. He rarely or never ventures to differ from Galen, and everywhere evinces so easy a disposition to recognize the works in question as being the productions of his beloved author, that his opinion on any point connected with their authenticity is not deserving of much weight.

Haller arranges the Hippocratic treatises in the following classes: The first contains those which in all ages have been admitted as being genuine.[75] The second embraces those which contain doctrines at variance with those "of the divine old man," or inventions of a later date, or vices which Hippocrates disclaims. The third embraces those which are manifestly spurious, as is obvious from their being mere compendia of the works of Hippocrates, or which betray a manner totally at variance with his. The fourth embraces a certain number of pieces not contained in the preceding classes. Such is Haller's arrangement, which, however, is not entitled to much consideration; for the illustrious author himself seems to admit, candidly, that his critical knowledge of the language was too slender to warrant him in trusting his own judgment when it came into collision with any high authority, such as Foës; and, moreover, it would appear, that his edition of the works of Hippocrates had been got up in a very slovenly manner, by some incompetent person, after his death.

Gruner is one the most learned and original of our authorities on the literature of the Hippocratic works.[76] His decision, with regard to the authenticity of the different pieces, is made to rest mainly on internal evidence, that is to say, upon their possessing the proper characteristics of the language and style of Hippocrates. These he is at great pains in showing to be, in the first place, brevity, approaching to the laconic, which he justly holds with Galen[77] to be one of the most striking peculiarities of the ancient style of writing. To conciseness and simplicity, he adds gravity of manner, and an absence of all subtlety of reasoning. This last trait in the literary character of Hippocrates I hold to be particularly apparent in the works which are generally admitted to be genuine. Some stress is also laid by him on the use of the Ionic dialect, but this is a most fallacious criterion, and had better have been left out of the question altogether; as there is good reason to believe that great liberties were used with the language of Hippocrates by the ancient editors and commentators, more especially by Artemidorus Capito, who lived a short time before Galen.[78] And besides, as every person who is generally acquainted with Greek literature knows, although the Ionic dialect in the age of Hippocrates had been fused into the Attic,[79] for several centuries afterwards it continued to be arbitrarily used by many writers, both of prose and verse, owing to the high character which it possessed, as being the dialect of the Homeric

poems. Hence it is used in later times, not only by the poets such as Quintus Smyrnæus, Nonnus, and Oppian, but also by at least one great medical author, I mean Aretæus. It would appear, however, that Gruner himself was sensible that much stress ought not to be laid on peculiarity of dialect; for, in resuming his conclusions as to the proper tests of genuineness in judging of the Hippocratic writings, he determines them to be conciseness and gravity of language, paucity of reasoning, and accuracy of observation, along with the authority of the ancient critics, that is to say, of the commentators. Now, it certainly must be admitted that, taken together, these principles are most just and reasonable; only it is apparent, that, like Mercuriali, he has ranked last what he ought to have laid most stress upon, namely, ancient authority. For, as remarked above, unless ancient authority had previously determined certain works in the Collection to be genuine, the modern critic would have had no premises from which he could have drawn conclusions as to the characteristics of our author's style. Starting, then, from the principles now stated, Gruner arranges the works of Hippocrates in two divisions, namely, the genuine and the supposititous. We shall only give the former list, which embraces the following ten treatises:

1. Jusjurandum.
2. Aphorismi.
3. De Aëre, Aquis, et Locis.
4. Prænotiones.
5. Prædictionum, ii.
6. De Officina Medici.
7. Popularium Morborum, i., iii.
8. De Victu Acutorum.
9. De Vulneribus Capitis.
10. De Fracturis.

It will be shown below that in this list he has admitted one work (Prædict. ii.), which certainly has not sufficient claims to the place which he has assigned it; and, on the other hand, he has acted most inconsistently in rejecting the work "De Articulis," while he admitted "De Fracturis," for, as we shall see, there is the strongest reason for believing that the two originally constituted one work. But the truth of the matter is, that Gruner having hastily adopted the notion that Hippocrates was altogether ignorant of human anatomy, the celebrated passage in this treatise which so strikingly alludes to the dissection of the human body[80] would decide him to reject it from his list of genuine works.

Though Le Clerc, in his "History of Medicine" (b. iii.), shows himself to be well acquainted with the fact that many of the treatises ascribed to Hippocrates are supposititious, he nowhere lays down any rules for distinguishing the genuine from the spurious, only he insists strongly on conciseness as being one of the most striking

characteristics of the style of Hippocrates, and shrewdly remarks that the treatises which abound most in reasoning are those which are most suspected of being spurious.

Schulze also, in his "History of Medicine," with much learning and excellent judgment, enters cursorily upon the examination of the question regarding the genuineness of the works ascribed to Hippocrates, but he scarcely ever deviates from the rules laid down by Mercuriali and Le Clerc. Indeed, he almost always agrees with the latter. We shall have occasion to refer pretty frequently to his opinions when we come to give our own judgment on the authenticity of the particular treatises contained in the Hippocratic Collection.

Ackerman,[81] in the first place, gives an elaborate and very lucid exposition of the labors of all preceding critics in the same line, and then proceeds to deliver his own opinions *seriatim* on the different treatises. He rests his judgment generally on the authority of the ancients, and more especially of Erotian and Galen; and in so doing, M. Littré thinks he acted so judiciously, that he does not hesitate to pronounce Ackerman to be the safest guide which we can follow. Like Gruner, he divides the works into two classes, the genuine and the spurious. The former list is as follows:—

1. Epidemica, i., iii.
2. Prænotiones.
3. Prædictorum, ii.
4. Aphorismi.
5. De Victu Acutorum.
6. De Aëre, Aquis, Locis.
7. De Vulneribus Capitis.

This, it will be remarked, is the smallest list which we have yet encountered, and one cannot but feel saddened to find the remains of the great Hippocrates thus reduced to so small a compass. We shall have occasion, however, by and by, to show that Ackerman has been too unsparing in applying the obelisk[82] to treatises of suspected authenticity.

Grimm, the German translator of Hippocrates, professes also, like Ackerman, to be guided principally by ancient authority, such as that of Galen and Erotian, but he only reposes full confidence in it when confirmed by internal evidence. The style, he says, should be simple, brief, and expressive, and the language in accordance with the epoch. He adds, no hypothesis, no subtlety, however ancient, no extraordinary remedies or modes of treatment, should be found in these books. Starting from these principles, which, it will be remarked, are rather fancifully laid down, Grimm reduces the number of genuine works to the following very meagre list:

1. Popularium Morborum, i., iii.
2. Prognostica.
3. Aphorismi.
4. De Victu Acutorum, p. i.
5. De Aëre, Aquis, Locis.

The reader will not fail to remark, in this result of Grimm's inquiry, indications of that bold spirit of scepticism for which the learned criticism of Germany has been distinguished of late—the spirit of her Wolfs and Lachmans, of her Asts and Schliermachers, which has deprived the Iliad and Odyssey of their ancient authorship, and reduced the bulky tomes of Plato to a very small volume. It is impossible not to admire the learning, the ingenuity, and the love of truth which these critics display, but surely the sober judgment of other scholars, not infected with the same spirit of innovation, will pause before acquiescing in the justness of a verdict which would deprive so many immortal performances of the *prestige* with which they have so long been regarded. For my own part, I would venture to say, *pace tantorum virorum*, that these learned critics are deficient in a practical acquaintance with the laws of evidence, and do not properly take into account that, in matters of common life, negative evidence is never allowed to bear down positive, unless the former be remarkably strong, and the latter particularly weak. When, then, the voice of antiquity pronounces strongly and consistently in favor of any work, no negative evidence, unless of a very remarkable character, ought to be allowed to counterbalance the positive. In short, what I object to in Grimm is, that he gives an undue preponderance to the internal evidence over the external, that is to say, over the traditionary evidence of antiquity, and that in this respect he goes to greater lengths than even Gruner and Ackerman.

Kurt Sprengel is the author of a separate work on the Hippocratic writings[83] which I have not seen, but I have reason to believe that the substance of it is contained in his "History of Medicine," where (t. i., p. 295) he enters into a very elaborate disquisition on the authenticity of the works ascribed to Hippocrates. He insists much, as a test of authenticity, upon the style, which, in imitation of Galen, he describes as being concise and laconic to a degree which sometimes renders it obscure. Hippocrates, he adds, avoids all superfluous discussion and unseasonable repetitions, and expresses himself as briefly as possible, without adding conditions or restrictions. He justly remarks, that what Celsus says of Hippocrates, namely, that he separated philosophy from medicine, must be received with considerable limitations, and not in too strict a sense, as if there were no philosophical tenets in his works. On the other hand, Sprengel uses these philosophical doctrines as a guide for determining the date of the different treatises. This is a new, and no doubt a very important, element in the criticism of these works; but it is one very liable to be abused, as our information on many occasions, with regard to the introduction of new doctrines in philosophy, is by no means such as can be safely trusted to. Sprengel's opinion on the various works in question we shall have occasion to state when we come to revise them separately.

We now proceed to the examination of the labors of two very learned and ingenious critics, Link and Petersen, who, treading in the footsteps of Sprengel, have expended much research in endeavoring to solve the question regarding the date of the Hippocratic treatises, by considering the philosophical and pathological theories which prevail in them. I think it right to state that I have not had an opportunity of consulting the work of Link, and therefore have been obliged to judge of his opinions, in a great measure, from Petersen's essay, which is professedly based on the principles of Link. Of Peterson's little tract, I have no hesitation in declaring that I have seldom seen a work of the kind which displays more critical acumen and deep research; and although I cannot bring myself to subscribe to many of his general conclusions, I feel bound in gratitude to acknowledge the benefits which I have derived from many of his special investigations.[84] On one important point, which he is at great pains to make out, I have already stated that I am disposed to agree with him, namely, respecting the date of our author's birth, which I certainly think he has proved by the most unexceptionable authorities to have been considerably earlier than as generally stated. Petersen divides the Hippocratic works into nine classes, in the following chronological order:—The first contains those treatises in which the flow of bile and phlegm is considered to be the cause of disease;[85] the second recognizes fire,[86] and the third, air, as the principle of things;[87] in the fourth, bile and phlegm are spoken of as the primary humors of the human body;[88] in the fifth, spirit (πνεῦμα) and humidity are held to be the first principles of generation;[89] in the sixth, the elements of the body are held to be contrary to one another;[90] in the seventh, yellow and black bile, phlegm, and blood are set down as being the primary humors of the human body:[91] in the eighth bile, water, phlegm, and blood are held to be the primary humors;[92] and in the ninth, fire and water are held to be the principles of things.[93]

Now, assuredly, no reasonable person will deny to the author of this distribution the praise of great boldness and originality of thought. We may well apply to him the words of the poet, that if he has failed in attaining his object, "magnis tamen excidit ausis." For my own part, I cannot but regret to see so much talent and research expended upon conjectural points of criticism, which, from their nature, can never be determined with any degree of certainty; for, after all his labors, few scholars, I venture to predict, will prefer being guided by his hypothetical reasoning, however ingenious, rather than by the authority of the ancient commentators. I must also use the liberty to remark, that M. Petersen appears to me to have no well defined ideas regarding the doctrines which the ancient philosophers held respecting the elements of things. For example, when he states, as the basis of the theory which prevails in the tract "On Ancient Medicine," that the elements are the contraries to one another, he evidently confounds the elements, namely, fire, air, earth, and water, with the powers, or, as we should now call them, the qualities, hot, cold, moist, and dry. (See the next Section.) And although, in the treatises "On the Seventh Month Fœtus," and "On the Eighth Month Fœtus," much and deserved importance is attached to heat as the prime mover

of conception, and although, in the treatise "On Airs," the importance of air as a cause of disease be strongly insisted upon, one is not warranted, as he contends, in concluding that the authors of these treatises recognize respectively fire and air as the first principle of all things. M. Littré, also, in his candid reviews of M. Petersen's work, points out some very striking oversights which M. Petersen has committed in his arrangement of the different treatises.[94]

I now come to M. Littré, who, in the Introduction to his edition of Hippocrates, has certainly surpassed all who went before him, in the extent of his labors on the general literature of the Hippocratic Treatises. How highly I estimate his work I need not here stop to declare; indeed the reputation it has already gained is so established, that it would be vain to blame and useless to praise it. I have to express my regret, however, in entering upon my exposition of his opinions, that they are given in a very expanded form, and with a degree of diffuseness, *plus quam Galenica*, so that I find it difficult, within my necessary limits, to convey to the reader a distinct view of the very important matters which M. Littré has brought together to bear upon his subject.

He is at great pains to establish the following positions with regard to the various treatises contained in the Collection which bears the name of Hippocrates: 1st. That the Collection did not exist in an authentic form, earlier than the date of Herophilus and his disciples, that is to say, until nearly 100 years after the death of Hippocrates. 2d. That it contains portions which certainly do not belong to Hippocrates; and, 3d, also Collections of Notes, etc., which would never have been published by the author in their present form; and, 4th, Compilations, which are either abridged, or copied word for word from other works which still form part of the Collection. 5th. As the different treatises do not belong to the same author, so neither were they all composed at the same time, some being much more modern than the others. 6th. We find in the Collection mention made of numerous treatises written by the followers of Hippocrates, which are now lost, and which were no longer in existence when the Collection was first published. 7th. The most ancient writers do not know, for certain, to whom the several works forming the Collection belonged; 8th, with the exception of a small number, which all of them, for one reason or another, agreed in attributing to Hippocrates himself.[95]

I have now a few observations to make upon each of these positions. The first, which is a most important one in connection with our present subject, I regret to say, is, I think, by no means satisfactorily made out by M. Littré. He shows, it is true, that Herophilus is the first commentator on any of the Hippocratic Treatises of whom there is any mention, but all we know of his labors in this line merely amounts to this, that he had commented on certain passages in the "Prognostics," and probably also in the "Aphorisms,"[96] but I do not see that this amounts to any proof either that the Collection was or was not formed in his time. The proof of the second position is made to rest upon a fact, which has attracted the attention of all the critics on the Hippocratic Treatises, namely, that a memorable description of the veins, which appears in the

Hippocratic treatise "On the Nature of Man," is published by Aristotle, in the third book of his "History of Animals," as the production of his son-in-law, Polybus. Now, M. Littré argues here, that as the publication of the Aristotelian Collection did not take place until long after that of the Hippocratic, the persons who made the latter could not have taken the passage in question from the other, and the only way in which we can account for the change of title, is by supposing that the works of Polybus had retained the name of their true author in the days of Aristotle, but had lost it at the time the Hippocratic Collection was made. Hence he infers that the Hippocratic Collection must have been made subsequently to the time of Aristotle.[97] But I must say that I do not recognize the force of this argument; for, although the whole of Aristotle's works were not published in a collected form, until the time of Apellicon, we have every reason to believe that many of his works were published separately, in his own lifetime. The fact, then, would rather tell the other way, and it might be argued, that the Hippocratic Collection must have been made before the time of Aristotle, otherwise the persons who made it would never have fallen into the mistake of attributing to Hippocrates a passage which so high an authority as Aristotle had referred to Polybus. But the truth is, that we are not entitled to draw any positive inference from all this, with regard to the epoch in question. It is well known that, in all ages, literary publications have sometimes come abroad into the world in an anonymous shape; and it need excite no surprise that with regard to the fragment in question, as in many other cases, there should have been a diversity of opinion as to its authorship.

The third we shall see fully made out in our analysis of the different treatises given below.

The fourth will also be clearly proved, when we come to the examination of certain treatises, as, for example, the "Officina Medici."

The fifth is not made out to my satisfaction. M. Littré, however, thinks it is satisfactorily proved that the latest epoch of these productions does not come lower down than Aristotle and Praxagoras, and none so low as Erasistratus and Herophilus. Hence he draws the conclusion that the Collection must have been made between the time of Aristotle and Herophilus.[98]

The sixth we shall see clearly made out, in our critique on the separate treatises.

The seventh is abundantly evident from what has been already stated, and will be made more apparent in the subsequent parts of this Section. But there is nothing peculiar to the Hippocratic Collection in all this, for there is as great uncertainty respecting many of the works ascribed to Plato, and other collections of pieces which have come down to us from high antiquity. Nay, every person who is conversant with biblical criticism must be aware how difficult it has proved to determine the authorship of many of the Psalms which bear the sainted name of King David.[99]

In support of the eighth position, little need be said in addition to what has been already stated. I need only repeat briefly that we have as much certainty that some of the treatises in the Hippocratic Collection are genuine, as we have that any other ancient works which have come down to us are the productions of the authors whose names they bear. But I hasten to give M. Littré's distribution of the different works in the Collection. He divides them into the following classes.

Class I.—The Works which truly belong to Hippocrates.

1. On Ancient Medicine.
2. The Prognostics.
3. The Aphorisms.
4. The Epidemics, i., iii.
5. The Regimen in Acute Diseases.
6. On Airs, Waters, and Places.
7. On the Articulations.
8. On Fractures.
9. The Instruments of Reduction (Mochlicus).
10. The Physician's Establishment, *or* Surgery.
11. On Injuries of the Head.
12. The Oath.
13. The Law.

Class II.—The Writings of Polybus.

1. On the Nature of Man.
2. Regimen of Persons in Health.

Class III.—Writings anterior to Hippocrates.

1. The Coan Prænotions.
2. The First Book of Prorrhetics.

Class IV.—Writings of the School of Cos,—of the Contemporaries or Disciples of Hippocrates.

1. Of Ulcers.
2. Of Fistulæ.
3. Of Hemorrhoids.
4. Of the Pneuma.
5. Of the Sacred Disease.
6. Of the Places in Man.
7. Of Art.
8. Of Regimen, and of Dreams.
9. Of Affections.
10. Of Internal Affections.
11. Of Diseases, i., ii., iii.
12. Of the Seventh Month Fœtus.
13. Of the Eighth Month Fœtus.

Class V.—Books which are but Extracts and Notes.

1. Epidemics, ii., iv., v., vi., vii.
2. On the Surgery.[100]

Class VI.—Treatises which belong to some unknown author, and form a particular series in the Collection.

1. On Generation.
2. On the Nature of the Infant.

3. On Diseases, iv.
4. On the Diseases of Women.
5. On the Diseases of Young Women.
6. On Unfruitful Women.

Class VII.—Writing belonging to Leophanes.

On Superfœtation.

Class VIII.—Treatises posterior to Hippocrates, and composed about the age of Aristotle and Praxagoras.

1. On the Heart.
2. On Aliment.
3. On Fleshes.
4. On the Weeks.
5. Prorrhetic, ii.
6. On the Glands.
7. A fragment of the piece “On the Nature of Bones.”

Class IX.—Series of Treatises, of Fragments and of Compilations, which have not been quoted by any ancient critic.

1. On the Physician.
2. On Honorable Conduct.
3. Precepts.
4. On Anatomy.
5. On the Sight.
6. On Dentition.
7. On the Nature of the Woman.
8. On the Excision of the Fœtus.
9. The eighth Section of the Aphorisms.
10. On the Nature of the Bones.
11. On Crisis.
12. On Critical Days.
13. On Purgative Medicines.

Class X.—Writings now lost, which once formed a part of the Collection:

1. On dangerous Wounds.
2. On Missiles and Wounds.
3. The first Book of Doses—the Small.

Class XI.—Apocryphal pieces—Letters and Discourses.

Such is the classification of M. Littré, which he professes to have founded on the four following rules, or principles: firstly, on the authority of direct witnesses, that is to say, of authors who preceded the formation of the Alexandrian Library; secondly, on the consent of the ancient critics; thirdly, on the application of certain points in the history of medicine, which appear to him to offer a date, and consequently a positive determination; fourthly, on the concordance of the doctrines, the similitude of the writings, and the characters of the style. Of these rules, the one which he professes to have been most guided by is the first, all the others being of subordinate importance. From what has now been stated, the reader will not fail to remark that the principles upon which the classification of Littré is founded scarcely differ at all from those of Ackerman. The reasonableness of these rules, moreover, no one, I presume, will venture to call in question, whatever may be thought of the judgment with which they

are applied in particular instances. My own opinions on this point I need not state here, as they will come out more properly in my own disquisition on the characters of the particular treatises.

But, before concluding this part of my task, I must not neglect to notice the learned labors of a much esteemed friend and countryman—the first, the last, the only, scholar (I lament to say) which England has produced in this department of ancient criticism—Dr. Greenhill, of Oxford, who, in his excellent article on *Hippocrates* in Smith's "Dictionary of Greek and Roman Biography and Mythology," enters into a very elaborate disquisition on the authenticity of the various works which compose the Collection. His general distribution appears to me to be very ingenious, and his judgment in particular cases most correct, but it is proper I should state that I, perhaps, am scarcely qualified to pronounce an impartial judgment on this point, having had the honor of being consulted by the author, as he himself candidly acknowledges, while he was employed on this task. On the following page is his tabular view of the different divisions and subdivisions of the Collection.

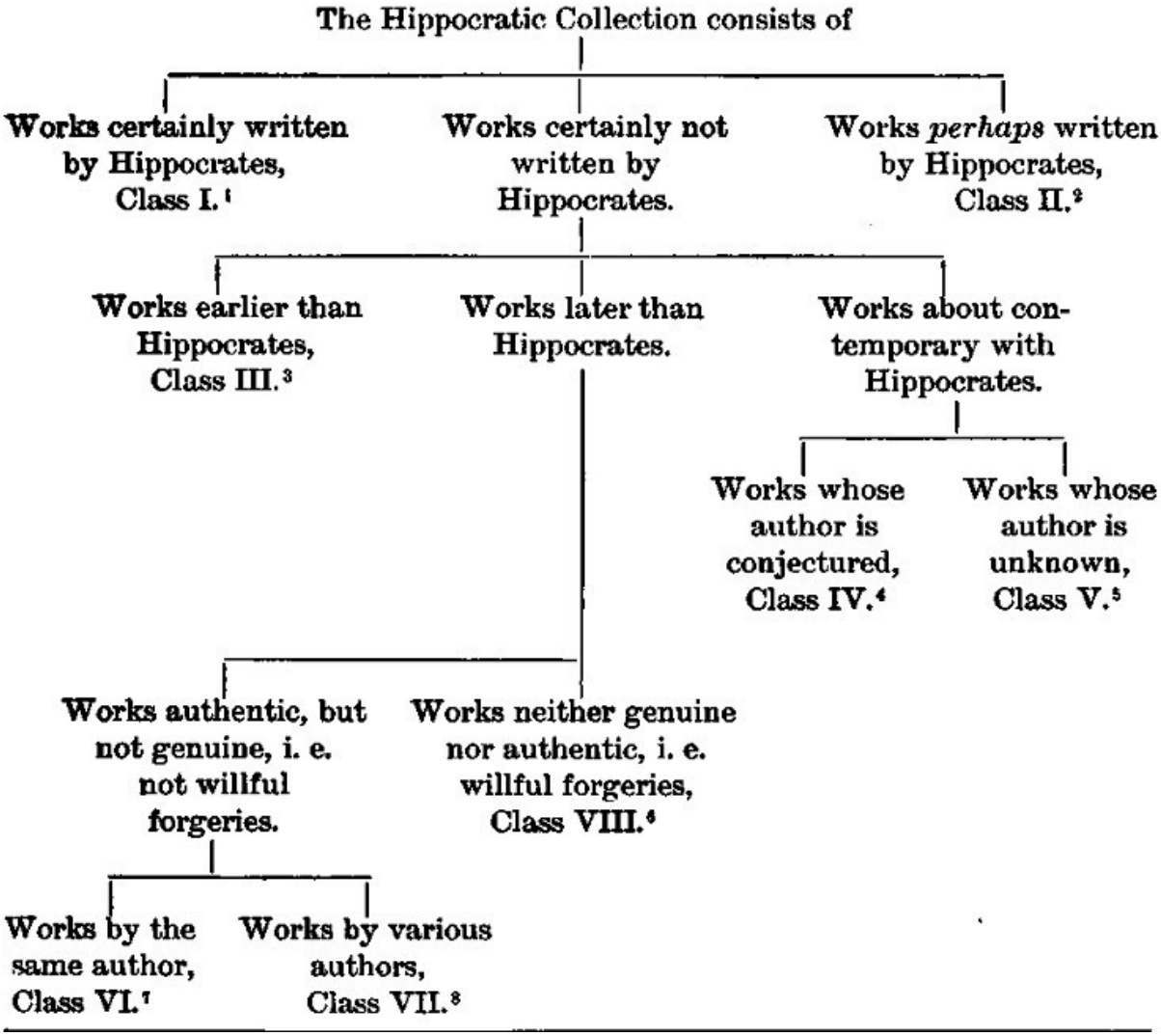
Having now finished this survey of the labors of preceding inquirers, I proceed to state the results of my own investigations in the same department; and in doing so, I shall give *seriatim* the evidence for and against the authenticity of the different treatises, along with my own decision in every instance. And, in order to add to the value of this disquisition, I mean to give an abstract of the contents of those works which I look upon as spurious, that the reader may be enabled to compare the doctrines contained in them with those which are delivered in the treatises which are recognized as genuine. Moreover, it is my object that the present volume should contain a summary of all the valuable matters to be found in the Hippocratic Treatises, whether genuine or not.

Before proceeding further, I must state the *rules by which I test the genuineness of the works in the Hippocratic Collection*:

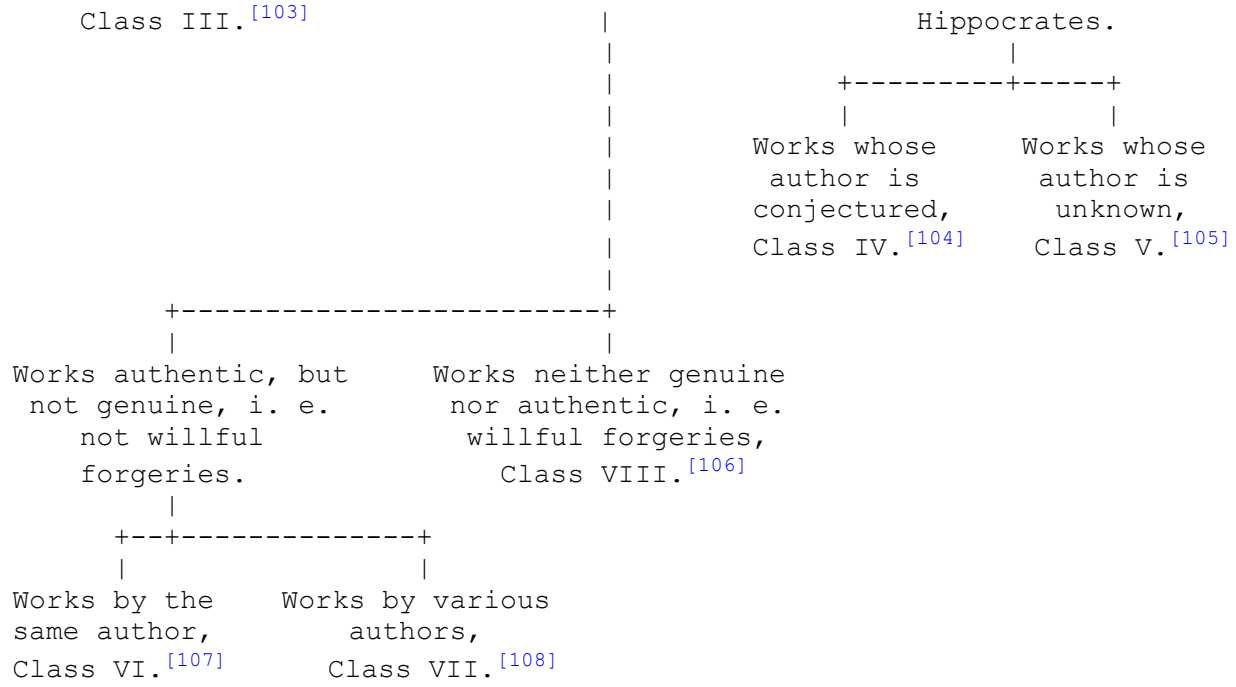
1. All the works which are acknowledged as genuine by the ancient commentators and lexicographers which have come down to us, and especially by Erotian and Galen, are to be admitted as such, unless it can be shown that still older authorities held a different opinion regarding them, or that they contain doctrines and views decidedly at variance with those contained in the treatises which all allow to be genuine, or that the style and mode of handling the subject matter be altogether different from the well-known method of Hippocrates.

2. The peculiar style and method of Hippocrates are held to be—conciseness of expression, great condensation of matter, and disposition to regard all professional

subjects in a practical point of view, to eschew subtle hypotheses, and modes of treatment based on vague abstractions.



The Hippocratic Collection consists of
Works certainly written by Hippocrates, Class I.[101]
Works certainly not written by Hippocrates.
Works *perhaps* written by Hippocrates, Class II.[102]
Works earlier than Hippocrates,
Works later than Hippocrates.
Works about contemporary with



3. No treatise is to be received as genuine which is not recognized as such by any one of the ancient authorities, however strong a case may be made out in favor of its claims by modern critics from internal evidence.

I. Περὶ ἀρχαίης ἰητρικῆς—*On Ancient Medicine*.

Of all the treatises which are recognized as the genuine productions of "The Great Hippocrates," by M. Littré, this is decidedly the one which possesses the most questionable title to that honor. The only ancient authority that admits it as such is Erotian; it is passed over unnoticed by Galen and Palladius; and Athenæus does not scruple to affirm, respecting it, that some considered the one half of it spurious, and others the whole. (Deipn., ii., 16.) Foës, Schulze, and Zuinger,[109] are almost the only modern names in its favor; and it is rejected by Mercuriali, Gruner, Conringius, Ackerman, and Kühn.[110] The grounds, however, upon which Ackerman decides against its authenticity are of little weight, namely, that as it is stated in it (§ 1, 2) that medical works were numerous at the time it was composed, this circumstance implies a date considerably posterior to Hippocrates. But it is to be borne in mind, that Xenophon, who was almost contemporary with Hippocrates, puts into the mouth of Socrates, who was certainly nearly of the same age, the saying, that there were many medical works then in existence (Memorab., iv.), so that at all events the argument of Ackerman falls to the ground. M. Littré, moreover, espouses its claims with remarkable zeal, and persuades himself that he has settled this point by showing that a passage in the Phædrus of Plato,[111] which is quoted by Galen, as referring to a sentiment contained in the Hippocratic treatise "De Natura Pueri,"[112] does, in fact,

have reference to the work now under consideration. This position he labors hard to establish, and succeeds at last so much to his own satisfaction, that he does not hesitate to declare, as the result of his elaborate disquisition, "that he had demonstrated the treatise "On Ancient Medicine" to be the work of Hippocrates."[113] Now, I must be permitted to say, with great deference to M. Littré, that his prolix process of argumentation, spun out as it is over twenty-six pages, does not carry the same conviction to my mind as it does to his own.[114] But still, as this treatise has, at all events, one ancient authority in its favor, and as the matter contained in it appears to me to be highly valuable, I have not scrupled to follow the example of M. Littré in placing it at the head of the Works of Hippocrates. I shall have occasion to say more on the contents of it in the Argument prefixed to my translation.

II. Προγνωστικόν—*Prognostics*.

Of the genuineness of this work there has never been any question, so far as I am aware, from the time of the earliest of the ancient commentators, Herophilus, down to the present day.[115] That it is an admirable specimen of the plan upon which the Hippocratic practice was founded, there can be no doubt. The most important critical question to be decided with regard to it is the relation it bears to two other treatises on the same subject, namely, the "Prorrhetica," and "Coacæ Prænotiones," whether the "Prognostics" be founded on them, or whether they be made up from the "Prognostics." This question will come more properly to be discussed in the Argument to the "Prognostics."

Of this treatise there have been the following translations into English:

"The Booke of the Presages of the Divine Hippocrates, divided into three parts, etc. By Peter Low, Arrelian Doctor in the Faculty of Chirurgery in Paris. Lond., 1597."

"The Prognostics and Prorrhetics of Hippocrates, translated from the original Greek, with large annotations, critical and explanatory; to which is prefixed a short account of the Life of Hippocrates. By John Moffat. Lond., 1788."

"Hippocrates on Air, Water, and Situation: or, Prognostics, etc. By Francis Clifton, M.D. Lond., 1734."

Of these the last is the only one which possesses the slightest claim to consideration. It is the work of a scholar, who had evidently paid the most studious attention to his author with the intention of publishing a new edition of his works, a design, by the way, which it is much to be regretted, that he did not live to execute. What became of his literary labors in this department I have never been able to ascertain. The greatest fault I find with his translation is the quaintness of his style; for it cannot be alleged of him, as of Moffat, that he often mistakes the meaning of his author. The translations of the latter are utterly worthless, in fact, they are disgraceful to the translator, who ought to have been ashamed to engage in a task for which he was so utterly unqualified. The translations by Low are done in a strangely antiquated style, and otherwise have nothing to recommend them on the score of fidelity. Moreover, all

these translators introduce confusion into the subject by mixing up together the contents of the "Prognostica," "Prorrhetica," and "Coacæ Prænotiones." Even Clifton is guilty of this indiscretion, although better might have been expected from him; for, considering how well acquainted he appears to have been with the spirit of his author, he ought to have been able to appreciate properly the obligations which Hippocrates had conferred on his profession by methodising subject-matters which had previously been destitute of scientific arrangement.

III. Ἀφορισμοί—*Aphorisms*.

That the greater part of the Book of Aphorisms is the work of Hippocrates himself there can be little or no doubt, but that it contains interpolations, some of which are of high antiquity, is equally indisputable. This is distinctly stated by Galen.[116] On this subject I would beg leave to quote the remarks of Dr. Greenhill: "Some doubts have arisen in the minds of several eminent critics as to the origin of the Aphorisms, and, indeed, the discussion of the genuineness of this work may be said to be an epitome of the questions relating to the whole Hippocratic Collection. We find here a very celebrated work, which has, from early times, borne the name of Hippocrates, but of which some parts have always been condemned as spurious. Upon examining these portions, which are considered to be genuine, we observe that the greater part of the first three sections agrees almost word for word with passages to be found in his acknowledged works; while in the remaining sections we find sentences taken apparently from spurious or doubtful treatises, thus adding greatly to our difficulties, inasmuch as they sometimes contain doctrines and theories opposed to those which we find in the works acknowledged to be genuine. And these facts are (in the opinion of the critics alluded to) to be accounted for in one of two ways; either Hippocrates himself, in his old age (for the Aphorisms have always been attributed to this period of his life), put together certain extracts from his own works, to which were afterwards added other sentences taken from later authors; or else, the collection was not formed by Hippocrates himself, but by some person or persons after his death, who made aphoristical extracts from his works, and from those of other writers, of a later date, and the whole was attributed to Hippocrates, because he was the author of the sentences that were most valuable and came first in order. This account of the formation of the Aphorisms appears extremely plausible, nor does it seem to be any decisive objection to say, that we find among them sentences which are not to be met with elsewhere; for when we recollect how many works of the old medical writers, and perhaps of Hippocrates himself, are lost, it is easy to conceive that these sentences may have been extracted from some treatise that is no longer in existence. It must, however, be confessed, that this conjecture, however plausible and probable, requires further proof and examination before it can be received as true."[117] The fact of the matter is, that interpolation is a mode of corruption from which few works of antiquity have escaped altogether free, and it was, no doubt, often practised upon them in a very

innocent manner, and without any fraudulent intention. Thus, when the subject treated of by any author came afterwards to receive any notable improvements or alterations, the possessors of such a work would naturally mark them down on the margins of their MS., and these annotations in the course of transcription would often come to be incorporated with the genuine text. Such a work as the Aphorisms, consisting of detached sentences, was particularly liable to suffer in the manner now adverted to. Another mode of vitiation, which has been frequently practised upon ancient works, is the addition of appendices to them. Every classical reader must be aware that the Odyssey of Homer is generally admitted by the critics to have come down to us in this state; nay, many learned divines do not scruple to admit that certain portions of the Sacred Volume have not been exempt from this casualty. I may mention that the last chapter of the Pentateuch, the last Psalm in the Septuagint, and even the last chapter of the Gospel of St. John, have been suspected, by very able critics, of being appendices. I have stated in another place (PAULUS ÆGINETA, Vol. III., p. 437), that an addition in this way has probably been made to the medical works of Aëtius. On the addition of appendices to works, see further, Galen (de Placit. Hippocrat. et Plat., vi., 3). Taking all this into account, it need excite no wonder that an appendix should have been added, by some unknown hand, to the seven sections of Aphorisms, and, accordingly, it is generally admitted that the eighth section is spurious.

I shall reserve my analysis of the contents of the genuine sections to the Argument prefixed to the translation.

We have the following translations of the Aphorisms into English: “The Aphorisms of Hippocrates”, translated into English:

“By S. H. Load. 1610.”
“By Conrad Sprengel. Lond. 1708.”
“By T. Coar. Lond. 1822.”
“By J. W. Underwood. Lond. 1828.”

Of these I have only carefully examined the translations by Sprengel and Coar. That of Sprengel displays considerable pretensions to erudition, but, upon a careful examination, it will be quite apparent that the translator was not possessed of a competent acquaintance either with the Greek or English language. In short, nothing can be conceived more quaint, inelegant, and inaccurate, than the language of this translation. Lest I should be suspected of prejudices against my predecessor, and of exaggerating his faults, I shall subjoin a short list of passages which I hold to be mistranslated, so that the reader may judge for himself, whether my opinion of the work be well founded or not. (See Aph. i., 11,[118] 15,[119] 20,[120] 23;[121] ii., 6,[122] 15,[123] 27, 31, 34, 40; iii., 16, 21.)

The production of Coar is not destitute of some merit, although it is but too apparent that he was not fully competent for the task which he had undertaken. He

gives, separately, every Aphorism in Greek, to which he subjoins first a Latin and then an English translation. In the Preface, he admits that "in executing the English translation considerable assistance had been derived from the elegant French translation of M. de Mercy." From this admission it will readily be gathered, that the translator felt conscious that he did not possess a proper acquaintance with the language of the original. I subjoin references to a few of the passages which, upon examination, appeared to me to be incorrectly rendered. (See Aph. i., 2,[124] 10,[125] 20; [126] ii., 49;[127] iii., 11,[128] 26, 31; iv., 1; v., 26, 44, 68.)

IV. Ἐπιδημιῶν α' και γ'—*The First and Third Books of the Epidemics*.

These are among the most undoubtedly genuine remains of Hippocrates, and well sustain the high reputation of their great author. In fact, of all the earlier records of medicine, these are about the most precious which have come down to us. Although, as I have stated, no one has questioned their genuineness, Galen complains that, by some mishap or other, they had not wholly escaped from some derangement of the subject-matters which they contain, and from additions being made to them.[129]

The following, I believe, are the only English translations of them which have ever been published.

> "A Comment on forty-two histories described by Hippocrates in the First, and Third Books of his Epidemics. By J. Floyer."
>
> "The History of Epidemics, by Hippocrates, in Seven Books. Translated into English from the Greek, with Notes and Observations. By Samuel Farr, M.D. Lond. 1780."

The former of these I have not been able to see. The other, although it appears to have been got up with considerable care, is manifestly the work of a man not properly acquainted with the language and doctrines of his author. In proof of this, I subjoin below a few examples collected from the first book, near the beginning.[130]

V. Περὶ διαίτης ὀξέων—*On the Regimen in Acute Diseases*.

This work is acknowledged as genuine by Erotian,[131] Palladius,[132] and Galen, [133] and other ancient authorities, as well as by all the modern critics, from Mercuriali and Lemos down to Littré and Greenhill. The authenticity of the latter part, indeed, is questioned by Galen, who pronounces the style, theories, and language to be different from those of Hippocrates. Yet even he admits that it is of great antiquity, being more ancient than the time of Erasistratus, who lived within less than a century from the death of Hippocrates.[134] Even if not genuine, then, this part (which is published by M. Littré as an appendix) possesses great value, not only as containing important matter, but as furnishing us with the opinions of the Coan school at a very early period after the time of our author. We shall have occasion to give a fuller analysis of its contents, in the Argument prefixed to the translation of it.

VI. Περὶ ἀέρων, ὑδάτων, καὶ τόπων—*On Airs, Waters, and Places*.

Fortunately there are no reasonable grounds for questioning the authenticity of this highly important work. It is admitted as genuine by Erotian, Palladius,[135] Athenæus,[136] and Galen,[137] and by every one of the modern critics, with the exception of Haller, who pronounces against it upon very insufficient grounds. He argues that it is obvious, from its contents, that the author of this treatise was a European, which cannot be said of Hippocrates, seeing that his native place, Cos, was one of the Asiatic islands.[138] But, if Haller had possessed any competent acquaintance with classical literature, he must have been aware that all the inhabitants of the islands adjoining to Asia Minor were colonists from Greece, and consequently looked upon themselves as Europeans, and not as Asiatics.[139] Nor is this more remarkable than that the present inhabitants of America should rank themselves ethnologically with the Europeans, and not with the native inhabitants of the country they now occupy.

An edition of this treatise, with a French translation, was published at Paris by a learned modern Greek, Dr. Coray, in the beginning of this century; the annotations to which are highly valuable. The only English translation of it which we possess, as far as I know, is the following:

"Hippocrates upon Air, Water, and Situation. By Francis Clifton, M.D. Lond. 1734."

This, I am inclined to think, is the best English translation which we have of any of the Hippocratic treatises. It is generally accurate, and the only drawback to it which I am aware of, is the style, which is often exceedingly quaint and obsolete. The translator, as we stated above, was well acquainted with all the works of Hippocrates, and of his painstaking industry the notes in this treatise bear undoubted evidence. Of these I have availed myself, whenever I could derive any assistance from them, but from the translation itself I have never copied literally.

VII. Περὶ ἄρθρων—*On the Articulations*.

This work was received as genuine by all the ancient commentators, from Bacchius and Philinus, the disciples of Herophilus, down to Erotian, Galen,[140] and Palladius.[141] It was also admitted by all the earlier modern critics, down to Gruner, who rejected it on these grounds: 1. Because it contains a reference to the treatise "On Glands," which all acknowledge to be spurious. 2. That in the course of the work a degree of anatomical knowledge is evinced, far beyond what its actual state in the time of Hippocrates would warrant. 3. That the legend of the Amazons, which is received as true history in the treatise "On Airs, etc." is rejected as fabulous in this work. Grimm also agrees with Gruner in condemning it as spurious; but Littré shows good reasons for admitting it into the list of genuine productions. He replies in a very satisfactory manner to Gruner's objections. Thus he shows, in particular, what we have adverted to previously, that the knowledge of anatomy which was possessed in the Hippocratic

age, had been much underrated by Gruner and others, and that the two passages in which the Amazons are supposed to be referred to, are not parallel, and do not admit of a comparison. He also very properly insists upon it, as a strong argument in favor of the genuineness of this treatise, that it had been commented upon by Ctesias.[142] The work, indeed, contains so much valuable matter, of which subsequent authors (as Celsus and Paulus Ægineta) have freely availed themselves, in handling the subjects which are treated of in it, that I have every disposition to receive it as genuine. We shall see, afterwards, that, taken in connection with the next work, it is a perfect masterpiece on the subject of Fractures and Dislocations.

VIII. Περὶ ἀγμῶν—*On Fractures*.

Tried by the tests laid down by us above, this treatise must undoubtedly be received as genuine. It is decidedly acknowledged as such by Palladius, Erotian, Galen, and, in short, by all the ancient authorities, and the only modern critics who venture to question its claim are Grimm, the German translator of Hippocrates, and Kühn; and, in fact, the latter does so merely in deference to Grimm, for his arguments on the question of its authenticity all tell the other way. That the treatises "On Fractures" and "On Articulations" constituted originally one work, is shown in a very convincing manner by Galen, in his introductory comment on the latter.[143] This is an additional reason for admitting the work "On Articulations" as genuine. Indeed, I do not hesitate to declare that whoever refuses to admit these two treatises as genuine, may consistently dispute the claims of any other work of the same date.

IX. Μοχλικός—*On the Instruments of Reduction*.

This work is quoted by Galen as one of the acknowledged books of Hippocrates, [144] and is admitted by Erotian into his list of genuine works; nay, it appears from the latter that it had been commented upon by Bacchius. Of the modern authorities, Foës and Littré concur with the ancient in admitting its claims, but it is rejected by Lemos, Mercuriali, Haller, Gruner, Grimm, and Kühn. No one who reads it carefully can fail to remark that, as stated by Galen,[145] it is a compendium of the work "On the Articulations," so that whoever admits the latter to be genuine must acknowledge the treatise now under consideration to be one which embodies the opinions of Hippocrates, whether it were actually composed by him or not. Taking all this into account, it appears to me superfluous diligence in modern critics to search out grounds for questioning its authenticity.

X. Περὶ τῶν ἐν κεφαλῇ τρωμάτων—*On Injuries of the Head*.

This work is acknowledged as genuine by all the authorities, ancient and modern. The only objection to its genuineness is the appearance of certain interpolations

towards the end of it.[146] This, however, as we have remarked above (No. III.), is a mode of vitiation from which few ancient works are altogether exempt.

XI. Ὅρκος—*The Oath*.

This interesting little piece is quoted as genuine by Erotian,[147] Theodore Priscian,[148] Soranus Ephesius,[149] St. Jerome,[150] Gregory Nazianzen,[151] Suidas,[152] and Scribonius Largus.[153] It is also received as such by Foës, Gruner, and Littré, but is rejected by Mercuriali, Schulze, Haller, Kühn, Ackerman, and other modern authorities, as quoted by Ackerman. The only reasonable grounds which I can see for questioning its authenticity is the silence of Galen with regard to it; but when we take into account that Galen has nowhere given an entire list of what he considers to be the genuine works of Hippocrates, this omission on his part may be merely incidental, and is not of much weight. On the other hand, the argument which M. Littré seeks to establish in favor of its authenticity on fancied allusions to it by Aristophanes[154] and Plato,[155] appears to me to have no weight; indeed, he himself gives up the former in another place.[156]

I have met with the following English translations of this piece, and no doubt there may be others:

"The Protestation which Hippocrates caused his Scholars to make, by Peter Low; Lond. 1597."

"——, by Francis Clifton, M.D.; Lond. 1734."

The translation by Low is in a quaint and antiquated style; that by Clifton is carefully done.

XII. Νόμος—*The Law*.

This little piece is noticed by Erotian, and admitted as genuine by M. Littré, but Mercuriali, Gruner, Ackerman, Kühn, and Greenhill incline to reject it. It is well written, but the style is rather too scholastic for the age and taste of the great Father of Medicine. At the same time, it has so many points of accordance with "The Oath," that it seems inconsistent to admit the one as authentic and reject the other as spurious.

XIII. Κατ' ἰητρεῖον—*On the Surgery*.

All the ancient commentators which have come down to us, such as Erotian, Galen, and Palladius, admit it to be genuine; but it would appear from Galen that some of the older commentators were not satisfied upon this point, some doubting whether it was the production of the great Hippocrates or of Thessalus, and some referring it to Hippocrates, the son of Gnosidicus.[157] It is received also by Foës, Gruner, and, after a good deal of hesitation, by M. Littré. Schulze expresses himself on this point doubtfully,[158] and the work is rejected by Grimm, Ackerman, and Kühn. Beyond all

doubt, it is a compendium of the treatises “On Fractures” and “On the Articulations,” so that, whether the composition of Hippocrates himself or not, there can be no question that the subject-matter of it is derived from him. Galen appears to have been remarkably fond of this treatise, and makes frequent reference to it in his great work “On the Dogmata of Hippocrates and Plato.” It would appear that Diocles, Philotimus, and Mantias had written treatises bearing the same title.

There is some difficulty in determining accurately what was the nature of the ancient *Iatrium* ιητρεῖον. See an interesting disquisition on this subject in Littré’s edition of Hippocrates, t. v., p. 25. It most probably was an establishment kept by the physician, in which were contained not only all sorts of medicines, but also all kinds of surgical apparatus. Mention of the *Iatrium* is made by Plato (Legg. iv., p. 720, and i., p. 646; ed. Tauch.) Aristotle is said to have possessed an *Iatrium*, which, if the story be true, he had no doubt acquired from his father, who was a medical practitioner.[159] From what is stated by Plato, it would appear that the assistants were qualified to administer professional assistance in the absence of their superior, and were also called doctors. (Legg. iv.) So it appears that the modern abuse of this title was sanctioned by classical usage! It must be recollected that, in the time of Hippocrates, eminent physicians were *periodeutæ*, that is to say, wanderers from place to place, and consequently they would stand in need of such an establishment as we have described the *Iatrium* to be. See further the Argument to this work.

XIV. Περὶ φύσεως ἀνθρώπου—*On the Nature of Man*.

Erotian, Galen, Palladius, and Macrobius[160] do not hesitate to quote the doctrines contained in this treatise as being those of the great Hippocrates, but its authenticity has long been considered very questionable, owing to the circumstance that a passage in it of considerable length, relative to the anatomy of the venous system, is quoted by Aristotle[161] as being the production of Polybus, and it is accordingly received as such by Haller,[162] Gruner, Littré, and most of our recent authorities on ancient medicine. Galen, however, contends that the passage quoted by Aristotle is not the work either of Hippocrates or of Polybus, but an interpolation, and that the rest of the treatise is genuine.[163] But Galen, at the same time, admits that Dioscorides, the Commentator (he must not be confounded with the celebrated author of the Materia Medica), had marked the first part of this treatise with the sign of the obelisk, as indicating his suspicion of its being spurious, and that he held it to be the work of Hippocrates, the son of Thessalus, that is to say, of a grandson of the great Hippocrates. But, whatever may be decided regarding its authorship, a careful perusal of the treatise will satisfy any one that it is a piece of patchwork; made up of several fragments, which do not cohere properly together. It certainly also appears to me that many of the philosophical dogmata which are delivered in it do not accord well with the doctrines contained in those treatises which are universally admitted to be genuine.

After alluding briefly to the opinions of those philosophers who held that the human body is formed from the four elements, that is to say, fire, air, water, and earth, the writer proceeds to state his own doctrines regarding the four humors, namely, blood, phlegm, yellow and black bile, and the diseases which are occasioned by the prevalence of one or other of them, according to the seasons of the year, and other circumstances. The doctrines, as herein stated, are very hypothetical, and certainly, as already hinted, not in accordance with those delivered in the genuine works. It is proper to mention, however, that Galen, in several parts of his works, makes Hippocrates to be the author of the theories of the elements and of the humors.[164] The treatise contains certain general truths and rules of practice not unworthy of some consideration, such as this, that diseases are cured by their contraries, that is to say, that diseases arising from repletion are removed by evacuation, and *vice versa*; and that diseases in general are occasioned either by the food we eat, or the air we breathe, those which prevail epidemically being produced by the latter cause. All sudden changes of diet are held to be attended with danger, and to be avoided. It is also an important rule of practice that, in venesection, blood should be abstracted from a part as distant as possible from the seat of the pain and of the collection of blood. There can be no doubt, in a word, as we have stated in the preceding section, on the authority of Galen, that Hippocrates was well acquainted with the principle of revulsion in the practice of medicine. The natural heat, or, as it is now called, the animal heat, is stated to be greater the younger the body is—a physiological doctrine strenuously advocated by Galen in several parts of his works, but more especially in the treatise "Against Lycus."[165] The theory of the formation of urinary calculi is also discussed. The same occurs in the treatise "De Aëre," etc., and in the work "De Morbis" (iv., 28). Allusion is likewise made to the occurrence of substances in the urine resembling hairs.[166] The last fragment of which this treatise is composed relates to fevers, the greater part of which are held to be occasioned by bile. It is said that there are four varieties of them, namely, synochus, quotidian, tertian and quartan; that the synochus is formed from the most intense bile, and comes soonest to a crisis, and the others in the order we have stated them. This is very unlike the doctrines of fever laid down in the genuine works, and accordingly this portion of the treatise was a great stumbling-block to those among the ancient commentators who contended for the genuineness of the treatise.[167] Altogether, then, I must say, that a careful perusal of the work leads me to the conclusion that, notwithstanding the high authorities in its favor, it does not deserve to be received as a genuine production of Hippocrates.[168]

XV. Περὶ διαίτης ὑγιεινῆς—*On Diet in Health*.

This work is passed over unnoticed by Palladius and Erotian; and Galen, although he wrote a commentary on it which still remains, informs us that some of the elder commentators had assigned it to Polybus, the son-in-law to Hippocrates.[169] He further mentions that it had been variously referred to Euryphon, Phaon, Philistion, and others;

ancient authority in its favor is, therefore, very equivocal. The modern critics are pretty unanimous in rejecting it; indeed, Littré, improving on the hint cast out by Galen, does not scruple to refer it and the preceding treatise to Polybus. Though the subject-matters of it are not, in the main, of much importance, it contains some directions for the regulation of the diet, which are by no means injudicious. One of his directions, with regard to clothing, is very different, however, from what we might have expected, considering the fondness of the ancients for the use of oil to counteract the effects of cold.[170] The author of this work directs oily garments to be used in summer, but clean ones in winter. Emetics are recommended to be taken by persons of a gross habit of body, but to be avoided by those who are slender. This rule is expressed by Celsus in the following terms: "Vomitus inutilis gracilibus et imbecillum stomachum habentibus, utilis plenis et biliosis omnibus, si vel nimium se repleverint vel parum concoxerint."[171] The author of this treatise recommends hyssop as an emetic, and we find its use in this way not infrequently noticed in the Hippocratic treatises, but not in the works of subsequent authorities, as far as I am aware. The work concludes with a passage on diseases of the brain, which also occurs, "De Morbis" (ii.), and seems much out of place here. It is said that they are first manifested by stupor of the head, frequent passing of urine, and other symptoms of strangury; and it is added, that a discharge of water or of mucus by the nose or ears relieves these complaints.

Altogether, considering how slender the evidence is, both external and internal, in favor of the authenticity of this treatise, I can have no hesitation in rejecting it as spurious.

XVI. Προρρητικον, α'—*First Book of Prorrhetics*.

XVII. Κωακὰι προγνώσεις—*Coan Prognostics*.

These two works are so evidently allied to one another, that I have judged it expedient to treat of them together. The greatest difference of opinion has prevailed among the critics, both ancient and modern, with regard to them. Erotian declares expressly that the "Prorrhetics," both first and second, are not genuine; and Galen, although he writes a commentary on the first book, complains of the difficulty he experienced in explaining certain vocables of dubious meaning contained in it,[172] and elsewhere states that the treatise is composed of extracts from the "Prognostics," "Epidemics," and "Aphorisms." Foës is almost the only modern scholar of any note who stands up for the genuineness of the first book of the "Prorrhetics;" and it is decidedly rejected by Grimm, Ackerman, Haller, Littré and nearly all the other modern authorities. The "Coacæ Prænotiones" have very little ancient authority in their favor, and even Foës rejects the work with greater disdain than it would seem to merit. Of late years, the opinion has gained pretty general assent that these two treatises are more ancient than the days of Hippocrates;[173] that, in fact, they constitute the materials out

of which he composed the “Prognostics,” and are the results of the observations made by the priest-physicians in the Asclepion, or Temple of Health, at Cos. This idea is followed out with great ability by Dr. Ermerius, in his “Specimen Historico-Medicum Inaugurale de Hippocratis doctrina a Prognostice oriunda,” where, by a most ingenious and convincing process of comparison, he appears clearly to make out that the “Coacæ Prænotiones” are formed from the first book of the “Prorrhetica,” and the “Prognostics” from the “Coacæ Prænotiones.” These positions, I repeat, he seems to me to have established most satisfactorily, and I cannot hesitate to declare it as my opinion that Dr. Ermerius has thereby thrown great light on this department of the Hippocratic literature. M. Littré has justly appreciated the labors of Dr. Ermerius, and adopted his views without reserve. (v. i., p. 351.) As I shall have occasion to compare the contents of these two treatises now under consideration with the subject-matters of the “Prognostics” in my Argument to the latter, I shall confine myself at present to a few observations, selected in a good measure from M. Littré’s argument to the “Coacæ Prænotiones.”

In the first place, M. Littré makes some interesting remarks on vomicæ of the chest after pneumonia and pleurisy; but this subject will come to be treated of in the notes on the “Prognostics.” He next gives some important observations on the following passage in the “Coacæ Prænotiones,” § 418: “All sprains are troublesome, and cause intense pains at the commencement, and in certain cases occasion after-consequences; the most troublesome are those about the breast, and the most dangerous are those in which there is vomiting of blood, much fever, and pain about the mammæ, chest, and back; when all these occur, the patients quickly die; but in those cases in which they do not all occur, nor are severe, they are longer protracted; the inflammation at farthest is protracted to forty days.” He relates, in illustration of this passage, a case very much in point, from the “Journal de Médecine,” Juillet, 1843, of a healthy person who, in lifting a log of wood, strained the parts about the chest so as to experience a cracking sensation about the breast; it was followed by intense inflammation, which, in spite of plentiful depletion, ended in an empyema which opened by the fifth intervertebral space. The patient recovered. This case is a good illustration of a species of accident frequently described in the Hippocratic Collection. He then briefly considers the question whether or not Hippocrates was acquainted with *the croup*, on which he does not give any decided opinion. In my opinion, the term *croup* is now used in a vague sense, being applied to cases of angina, in which the inflammation spreads down to the glottis and trachea, and also to cases of bronchitis attended with a croupy cough. I am confident that pure *cynanche trachealis*, that is to say, acute disease originating in the trachea, is of very rare occurrence, at least, it certainly is so in the north of Scotland. That the ancients were well acquainted with that species of cynanche in which the disease spreads down to the windpipe there can be no doubt. See the Commentary on §§ 26, 27, Book III., of Paulus Ægineta. It may reasonably be doubted whether they were not fully as well acquainted with diseases of the fauces and windpipe as the moderns are.

M. Littré's observations on sphacelus of the brain do not at all accord with the opinions of Dr. Coray,[174] nor with those advanced in the Commentary on Paulus Ægineta, B. III., § 7. He thinks that Hippocrates meant by it necrosis of the cranium. Although I still so far adhere to my former opinion that by sphacelus was generally meant *ramollissement* of the brain, I must admit that some of the passages in the Hippocratic Collection, where it is described, would bear out M. Littré's ideas regarding it. On the subject of sphacelus, see "De Morbis," near the beginning.

M. Littré draws, from a variety of sources, much interesting matter in illustration of § 500 of the "Coacæ Prænotiones:" "Amaurosis is produced by wounds in the eyelash, and a little above it; the more recent the wound, they see the better; but when the cicatrix becomes older the amaurosis increases." Plattner[175] held that in this case the amaurosis is connected with lesion of the frontal nerve. Beer[176] shows that the affection of the sight is not connected with injury of the nerve, but is rather the result of concussion of the ball of the eye. Walker, and Littré himself, are rather disposed to question altogether the truth of the statement made by Hippocrates.

M. Littré concludes his argument with some observations on the lethargus of the ancients, which he holds, and correctly, as I think, to be a pseudo-continual fever. My own opinion, as delivered in the Commentary on Book III., § 9, of Paulus Ægineta, will be found to be very similar. Lethargus is there stated to have been a species of remittent fever, resembling the causus. M. Littré, further in illustration of this subject, gives from the works of Mr. R. Clark, an English physician at Sierra Leone, an interesting account of a sleepy-dropsy, to which the Negroes there are subject.

The greater part of the contents of these treatises are mixed up by Clifton with his translation of the "Prognostics;" and Moffat gives a complete translation of this book of the "Prorrhetics." The latter, like all the other translations by the same hand, is utterly worthless. Clifton is only culpable for having introduced confusion into the contents of works which had been so admirably arranged by Hippocrates.

XVIII. Προῤῥητικόν, β'—*The Second Book of Prorrhetics*.

The reception which this work has met with from the critics, ancient and modern, appears rather singular. Erotian and Galen, who, in general, are too facile in admitting the claims of suspected works, in the present instance reject a work which many modern authorities acknowledge as genuine; as, for example, Haller, Gruner, Grimm, and, with certain qualifications, Ackerman and Kühn. I must say, however, with Foës, Littré, and Greenhill, that I cannot see how we can consistently recognize as genuine a work which has so large an amount of ancient authority against it, and none in its favor. At the same time, all must admit that the treatise in question contains nothing unworthy of the name of Hippocrates, and that, if estimated by the value of its contents, it is one of the most important works in the whole Collection. I will, therefore, give an abstract of its contents, along with my translation of the

"Prognostics." It is deserving of much attention, as being the only work we possess which gives us an insight into the method taken by the ancient physicians to gain the confidence of their patients by their mode of conducting the preliminary examination of every case. In my younger days I knew an old physician, who was an adept in this art of conciliating the confidence of his patients by anticipating their histories of their own complaints.

XIX. Περὶ ἑλκῶν—*On Ulcers*.

This treatise is decidedly admitted as genuine by Galen,[177] Erotian, Celsus, and by Foës, Lemos, Mercuriali, Schulze,[178] and Vidus Vidius,[179] but is rejected by Haller, Gruner, Ackerman, and Kühn, on internal evidence, the nature of which we shall presently examine. M. Littré in so far concurs in the judgment of the authorities who reject it, although he does not admit the grounds of their decision. Gruner's principal, indeed I may say his sole, argument against the authenticity of this work is founded on the nature of the substances recommended by the author for the treatment of ulcers; namely, such acrid and (as Gruner chooses to call them) *absurd* medicines as arsenic, black hellebore, and cantharides. But how does it appear that these are "absurd" applications to ulcers, when even at the present day the two strongest of them, namely, arsenic and cantharides, are the means often resorted to for the cure of indolent and malignant ulcers? The same articles are recommended by Celsus (v.), and by Paulus Ægineta.[180] It is true that the titles given to certain of the prescriptions contained in this treatise are not appropriate, such as *emollient* (μαλθακώδεα), applied to applications which contain many acrid ingredients. But in this case, as is remarked by Foës, we should consider the text to be in so far corrupt, for certainly this does not constitute a legitimate reason for rejecting the treatise *in toto*.

Vidus Vidius, in his interesting commentary on this work, mentions, as a proof of its authenticity, that most of the principles laid down by Galen for the treatment of ulcers, are taken from this part of the works of Hippocrates. In a word, agreeably to the rules laid down by me for testing the authenticity of these treatises, I do not see that I am warranted in refusing to admit the claims of this work to be considered genuine. I hold myself bound, therefore, to give a translation of it.

It may be proper in this place to mention that the term ulcer (ἕλκος) is used in this treatise to signify both a wound inflicted by an external body, and a solution of continuity from any internal cause. This usage of the word is sanctioned by the older poets, as, for example, Homer (Iliad, ii., 723; Ib., xiv., 130); Pindar (Nem., viii., 50; Pyth., iii., 84); and Bion (Adonis).

XX. Περὶ συρίγγων—*On Fistulæ*.

Though this work be acknowledged as genuine by Erotian, Dioscorides, Celsus, Paulus Ægineta, and by Foës and Vidus Vidius, it is set down for spurious by Haller,

Gruner, and Ackerman; and even by Littré and Greenhill its claims are not fully recognized. I can see no good reason, however, for rejecting it, since, as I have stated, the ancient authority in favor of it is very strong, and I can detect nothing in the doctrines and rules of practice delivered in it which are at variance with those laid down in the treatises which all admit to be genuine. Ackerman, indeed, pretends that the theory of bile and phlegm, as being the cause of disease, does not belong to Hippocrates or his school. But this is evidently begging the question; and, moreover, Galen, who must be admitted to be a high authority in such a case, decidedly holds Hippocrates to be the author of the Theory of the Humors.[181] Galen seems to say that this treatise, and the following one on hemorrhoids, constituted one work in his time; and he does not throw out the slightest suspicion against the genuineness of either, as the words of Ackerman would lead one to suppose.[182]

Vidus Vidius, although he acknowledges Hippocrates as the author of this work, holds that it had not been published by him, but had been left in an unfinished state. The argument, however, which he uses in proof of this opinion, is by no means convincing; he contends that the part which relates to inflammation of the anus is quite out of place in a work devoted to the consideration of fistulæ. But few who have much practical acquaintance with the subject will agree with him on this point, for it is well known that fistulæ, for the most part, originate in inflammation and abscess about the verge of the anus.

XXI. Περὶ αἱμορῥοιδων—*On Piles*.

This little tract has experienced the same reception from the critics as the preceding one, that is to say, it is acknowledged as genuine by ErotianΠερὶ αἱμορῥοιδων and Galen, and by Foës and Vidus Vidius, but is decidedly rejected as such by Mercuriali, Gruner, Grimm, and Ackerman. I can remark nothing in it, however, which appears to me at all inconsistent with the doctrines contained in the genuine works, unless it be that in this tract the author appears to direct that in operating upon hemorrhoids they should be all extirpated, whereas in one of his Aphorisms, which is quoted by Paulus Ægineta, in his chapter on this subject, he recommends that one should be left, as an outlet to the superfluous blood. (vi., 79.) I do not know how this divergence of opinion is to be explained, but, at all events, such an apparent contradiction would not warrant us in rejecting the treatise altogether.

XXII. Περὶ ἱερῆς νούσου—*On the Sacred Disease*.

This work is acknowledged as genuine by Erotian, Galen,[183] and Cælius Aurelianus,[184] but is rejected by Lemos, Mercuriali, Haller, Gruner, Ackerman, Kühn, and even by M. Littré, although the last of these admits that the grounds upon which it had been refused a place among the genuine works are very equivocal. I feel very much at a loss what to decide with regard to it. It is unquestionably the work of a man

possessed of a highly cultivated mind, free from the popular superstition of his age, and familiarly acquainted with comparative anatomy, and having no contemptible knowledge of human physiology. There is, in fact, no name, whether in ancient or modern times, to which it might not do honor. That it is not unworthy, then, of the great Hippocrates, all must allow, but whether or not he be the actual author of it, there is much difficulty in determining satisfactorily. That, in certain respects, it is very unlike his other works, must be admitted; the talent which it displays is more of a reflective than of a perceptive nature, which is the reverse of the common character of Hippocrates, who, in his genuine works, evidently evinces a disposition to trust to accurate observation rather than to acute ratiocination. The style, too, I must admit, is more diffuse than the true Hippocratic style generally is. All this might, no doubt, be accounted for, upon the supposition that the work was addressed to the general reader, and not to the professional. Other reasons might be imagined, to account for the diversity of style and matter, but these I shall not occupy time in discussing, as I have decided upon giving a translation of it, so that the English reader may be enabled to judge for himself as to its genuineness. Whether the tract in question be the work of Hippocrates, or, as some have supposed, of his philosophical friend Democritus,[185] there can be little or no doubt that it is a production of that age, for it appears to me that their contemporary, Plato, has evidently made reference to it. Thus, in that portion of his "Timæus" which treats of the causes of diseases, he clearly seems, in accounting for epilepsy, to have had in view the doctrines contained in this treatise. For although he uses the term "sacred disease," and applies "most divine," as an epithet to the cavities (*ventricles*?) of the head, he still, in imitation of the author of this work, accounts for the disease upon natural causes, that is to say, from derangements of the pneuma and phlegm.[186]

XXIII. Περὶ φυσῶν—*On Airs*.

This treatise deserves, in many respects, to be put in the same category as the last; that is to say, it is generally admitted by the ancient authorities, but rejected by the modern. Thus it is noticed as genuine by Erotian and Galen, and by Gregory Nazianzen and Stobæus.[187] On the other hand Mercuriali, Le Clerc,[188] Haller, Gruner, Ackerman, and Kühn reject it. M. Littré, also, in deference to the opinion of later critics, refuses it a place in his list of genuine works, but, at the same time, expresses himself doubtfully on this point. Le Clerc, although, as we have stated, he inclines to the opinion of those who reject it, does not hesitate to declare, "that this book, upon reading it, seems to be one of the most rational and coherent of all Hippocrates's works." And I in so far agree with Le Clerc, that the contents of it are of great importance for the right understanding of the ancient theory of medicine, whether we refer the tract in question to Hippocrates or not. I shall now give a summary of the doctrines contained in it, which I must say appear to me to smack rather of the school

of philosophy, than of the practical good sense for which the author of the First and Third Epidemics, and of the Prognostics, is so remarkable.

The author sets out with stating "that there are certain arts which are of laborious acquisition, but are profitable to those who practise them; of general utility to the common people, but painful to those who exercise them. Of such a nature is the art of medicine. The physician contemplates dreadful things (δεινὰ), comes in contact with what are unpleasant, and reaps sorrow to himself from the afflictions of others; but the sick are freed from the greatest evils by the art, namely, from diseases, pains, sorrow, and death; for medicine has been found decidedly to be a cure for all these. In the manual parts of medicine (surgery) practice is necessary. For in all that relates to manipulation, usage is the best teacher. But with regard to the most obscure and difficult diseases, a judgment is to be formed rather from opinion than art; and it is in such cases that experience differs much from inexperience. And it is a most important consideration to determine what is the cause of diseases, and what the beginning and fountain-head, as it were, of the evils in the body; for if one be acquainted with the cause of the disease, he may be able to apply the suitable remedies to the affections of the body, judging of diseases from their contraries: for this mode of cure is that which is most in accordance with nature. Thus, for example, hunger is a disease; for whatever afflicts man is called a disease. What, then, is the cure of hunger? Whatever will allay hunger, that is to say, food, and by it the other is to be cured. Again, drink cures thirst; and, moreover, evacuation cures repletion, and repletion evacuation, and rest labor, and labor rest; and, in a word, *the contraries are the cure of contraries*. For medicine consists of addition and subtraction—the subtraction of what is redundant, and the addition of what is deficient. And he that does these things best, is the best physician; and he that is most removed from this system, is the most removed from a knowledge of the art. The manner of all diseases is the same, but they differ in place; and hence diseases appear to have no resemblance to one another, owing to the diversity and dissimilarity of situations. For there is but one form (ἰδίη) of all disease, and the cause is the same. What that is I will attempt to explain in the following discourse. The bodies of men and of other animals are nourished by three kinds of aliment, namely, food, drink, and airs; and those winds in the body are called spirits, which are named airs out of it. This it is which exercises the greatest power over the symptoms, and it is worth while to attend to the power of it; for the wind is a current and stream of air. When, then, much air makes a strong current, trees are torn from their roots by the force of the blast, and the sea is raised in billows, and ships of immense size are tossed aloft. Such power it possesses, and yet it is invisible to the sight, and is manifest only to the understanding. And what would there be without it, and from what thing is it absent? and with what is it not present? For the whole space between the earth and heaven is full of air, and it is the cause of winter and of summer; in winter becoming condensed and cold, and in summer mild and tranquil. The path also of the sun, moon, and stars is through air—for air is the pabulum of fire, and fire deprived of air could not live.... And with regard to the sea, that it contains a portion of air is obvious to

everybody. For water-animals could not exist if they did not participate in the air; and how could they participate in it otherwise, except by means of the water, and by drawing in the air along with it. And the moon's foundation is upon it, and this it is which supports the earth,[189] and nothing is void of it. And why the air is possessed of such power in other things has been now stated; but in men this is the cause of life, and of disease to those who are in ill health. And all bodies stand so much in need of air, that whereas if deprived of everything else, such as food and drink, a man may subsist for two, three, or more days; if the passage of air into the body be stopped, he will perish in a short part of a day, so necessary is air to the body. And, besides, there is some intermission of every other operation which men perform, for life is full of change; but this operation alone living animals perform incessantly, sometimes inspiring, and sometimes expiring. That all living animals, then, are closely connected with air has now been shown. After this we must forthwith declare what infirmities probably arise in an especial manner from this source—when it is redundant or deficient in quantity, or when polluted with morbific miasmata it enters the body. That diseases are the offspring of air I will show from the most common of all diseases, I mean, fever; for this disease accompanies all others, and most especially inflammations. This is well illustrated by the accidents which befall the feet; for along with the inflammation a bubo and fever speedily supervene. There are two kinds of fever (that I may touch upon that subject); the one common to all, which is called the plague, and the other being connected with vitiated food in those who use it. The air, then, is the cause of both these. A common fever (epidemic?) therefore is such, because all draw in the same breath (pneuma)." The author afterwards attempts an explanation of the phenomena of rigors, which, however, is not very intelligible, and then of the febrile heat and sweats which succeed them. The latter he compares to the condensed steam of boiling-water. He afterwards proceeds to explain that when the blood is mixed up with vitiated air (gases?), it occasions diseases in various parts of the body; for example, pain in the eyes, when it fixes there; when in the ears, the disease is seated there; when in the nose, coryza is the consequence; and when in the chest, branchus (bronchitis?), and so forth. To the same cause he ascribes the origin of dropsy, namely, to the prevalence of airs, and the melting down of the flesh. He also accounts for the formation of apoplexy, by supposing that it arises from the flesh of the parts being filled up with gases; and in the same way he explains the origin of epilepsy very elaborately, and most ingeniously, but at too great length to suit my limits in this place. Altogether the treatise is one of the most interesting pieces of medical philosophy which has come down to us from antiquity. It shows very decidedly what a talent for dealing with abstract ideas the ancient Greeks were endued with.

XXIV. Περὶ τόπων τῶν κατ' ἄνθρωπον—*On the Places in Man*.

The ancient authority in favor of this treatise is pretty strong. It is included in Erotian's list, is quoted by Cælius Aurelianus,[190] and by Ruffus Ephesius,[191] and is

incidentally noticed by Galen in two places of his Glossary.[192] That it is further quoted by Athenæus, as stated by Gruner and Ackerman, would appear to me to be a mistake.[193] It is admitted to be genuine by Le Clerc, Schulze, Haller, Triller, Sprengel, Zuinger, Petersen, and others. It is rejected, however, by Lemos, Mercuriali, Duret, Reinsius, Gruner, and Ackerman. M. Littré does not venture to assign it a place among the genuine treatises, and yet he evidently inclines to the opinion that later critics had rejected it on very doubtful grounds, and leaves the question undecided. The following summary of its contents will show that it is not destitute of valuable matter.

The author of it commences with announcing this important physiological principle, which microscopical observations on the development of the chick have amply confirmed: "It appears to me that in the body there is no beginning, but that all parts are alike beginning and end; for in a described circle no beginning is to be found." He goes on to remark that, in consequence of this, diseases affect the whole body; that when seated in the dry parts of it they are more permanent, but when in the fluid, more changeable: that one part of the body imparts disease to the other parts, namely, the stomach to the head, and the head to the stomach; and that if the very smallest part of the body suffer, it will impart its suffering to the whole frame. He afterwards enters into a lengthened anatomical description of the parts of the body which, although quoted by Galen,[194] and not unfavorably noticed by Gruner,[195] cannot now command much interest. He then describes seven defluxions from the head, namely, to the nose; to the ears; to the eyes; to the chest—producing empyema and phthisis; to the spine—producing another species of phthisis (*tabes dorsalis*?); to the fleshy parts—inducing dropsy; and to the joints—occasioning ischias and kedmata (*morbus coxarius*?) All this seems very hypothetical, and does not appear to savor of the strict process of induction which we remark in the genuine treatises of Hippocrates. When the disease is seated in the head, he directs numerous and deep incisions to be made in the scalp, down to the bone. He notices pleurisy, and its termination in empyema; the latter, he further remarks, may originate in ruptures (*sprains*?), and in this case, on succussion, an undulatory sound may be heard. He also states decidedly that empyema forms in phthisical persons, and that, in their case, too, a sound like that of water in a bladder may be heard on succussion. The symptoms accompanying empyema are given very graphically. He also describes the *tabes dorsalis*. He afterwards gives the treatment of pleurisy and pneumonia, in which it is remarkable that no mention is made of venesection, notwithstanding that, in the work "On Regimen in Acute Diseases," Hippocrates recommends bleeding *ad deliquium* in these diseases; and Galen accounts for his silence respecting venesection in his treatment of fevers on the supposition that he did not notice it, because he took it for granted, as a general rule, that the operation was performed.[196] This consideration, as much as any other, inclines me to doubt the authenticity of this treatise. Ischiatic disease he directs to be treated by cupping-instruments and heating medicines, administered internally. Anasarca, in a young person, he treats by scarifications. In the brief notice of injuries of the head here introduced, much the same views are advocated as in the work on that

subject, of which a translation is given in this volume. The treatment of callous ulcers, as here laid down, is deserving of great attention; “remove the indurated parts by a septic medicine, and then produce reunion of the parts.” Every practical surgeon must recognize this as a very sound and important rule of practice.

The treatment of suicidal mania appears singular:—“Give the patient a draught made from the root of mandrake, in a smaller dose than will induce mania.” He also, in like manner, recommends mandragora in convulsions, applied by means of fires lighted around the patient’s bed. Pains of the head he directs to be treated by opening the veins of the temples, or by applying the cautery to them. He then insists, in strong terms, that, under certain circumstances, purgatives will bind the bowels, and astringents loosen them. And he further makes the important remark that, although the general rule of treatment be “contraria contrariis curantur,” the opposite rule also holds good in some cases, namely, “similia similibus curantur.” It thus appears that the principles of *Allopathy* and *Homœopathy* are recognized by the author of this treatise. In confirmation of the latter principle, he remarks that the same substance which occasions strangury will also sometimes cure it, and so also with cough. And further, he acutely remarks, that warm water, which, when drunk, generally excites vomiting, will also sometimes put a stop to it by removing its cause. He estimates successful and unsuccessful practice according to the rule whether the treatment was rightly planned or not; for he argues what is done in ignorance cannot be said to be correctly done, even if the results are favorable. The work concludes with a short passage on the diseases of women, all of which are said to be connected with the uterus. We find here the first mention that is anywhere made of the globus hystericus; indeed, I do not remember to have met with the term in any of the ancient medical works, with the exception of the Hippocratic treatises. He recommends fetid things to be applied to the nose, and aromatic and soothing things to the genital organs. The process of fumigating the uterus is fully described; and likewise suppositories and pessaries are mentioned. In the treatment of uterine hemorrhage the rules here laid down are most important. All heating things, diuretics, and purgatives are to be avoided; the foot of the patient’s bed is to be raised, and astringent pessaries are to be introduced. My own opinion of the work may now be given in a few words. It undoubtedly contains much valuable matter which would be no discredit to Hippocrates, nor to any of the greatest medical authorities, whether of ancient or modern times. I desiderate in it, however, a proper unity of design, and think I see too much of a speculative disposition to suit with the character of the Coan sage. That it is to be referred to the Cnidian school, as suggested by Gruner, seems doubtful; for, as we are informed by Hippocrates himself, the Cnidian physicians only gave the most obvious symptoms, while their practice was very inert, consisting entirely of drastic purgatives, whey, and milk, whereas in this work the diagnostic symptoms are more profoundly stated then they are in most of the Hippocratic treatises, and the practice, in many instances, is very bold and decided. The knife, the actual cautery, the use of strong purgatives and narcotics, are freely recommended in various diseases. Altogether, then, although I would hesitate to

ascribe the present work to Hippocrates himself, I must admit myself inclined rather to refer it to the Coan than the Cnidian school. I see no proper data, however, for forming a decided opinion on this head, more especially as we are but very imperfectly acquainted with the tenets of the Cnidian school.[197]

XXV. Περὶ τέχνης—*On Art*.

This treatise is sustained as genuine by Erotian, and even by one of the older commentators, Heraclides of Tarentum, but it is nowhere noticed by Galen, and Suidas would appear to refer it to Hippocrates, the son of Gnosidicus.[198] Mercuriali, Gruner, Haller, Ackerman, Kühn, and most of the modern authorities hold it decidedly to be spurious. Foës and Zuinger, however, do not object to its authenticity; and Littré, although he excludes it from his list of the genuine works of Hippocrates admits that it is very ancient, and formed a portion of the Collection from the commencement. To me it appears that it is written in too subtle and abstract a style to admit the supposition of its being the work of a practical physician like Hippocrates. Although it contains a good deal of original thought, there is not much in it which would prove interesting to the medical reader of the present day. It is an elaborate defense of the art of medicine against the attacks of those who maintain that it is no art at all, or one of an uncertain nature. According to the author's definition, the aim of the physician should be to remove the pains of the sick, to blunt the intensity of diseases, and not to interfere with those that are mastered by disease, as knowing that medicine can be of no avail in such a case. In conclusion, I shall merely remark that the evidence, both internal and external, is against the supposition of its being genuine, but still there appears no good reason for doubting that it emanated from the school of Cos.

XXVI. Περὶ διαιτης—*On Regimen*.

The evidence in favor of this large and interesting work, unfortunately, is by no means strong. It is passed by unnoticed by Erotian, and Galen expresses himself, in general, regarding the work in very equivocal terms, mentioning that some had referred it to Euryphon, some to Phaon, others to Philistion, and others, again, to Aristo.[199] In other places, however, he expresses himself less unfavorably as to the authenticity of the last two books. Haller, Gruner, Ackerman, Kühn, and, in fact, nearly all the modern authorities, reject it.[200] M. Littré, although he agrees with them, remarks justly that the work is one of great value, and exhibits many evident traces of conformity with the writings which are truly Hippocratic.

The nature of the work is as follows: The first book is altogether made up of abstract principles, which savor very much of the dogmata of Heraclitus. Thus, the author of it holds that there are in men, and in all other animals, two principles, different in power but consentaneous in use, namely, fire and water; that these together are sufficient for all others, and for themselves; that the one contains the principle of

motion, and the other of nutrition; that these give rise to the separate existence of seeds and animals, of all varieties, shapes, and characters; that, in reality, none of those things which exist either perish or are created, but they are altered by being mixed together and separated from one another, but that men suppose that the one passes from Hades to light, and the other again from light to Hades. In a word, the contents of the first book savor more of philosophy than of practical medicine. For example, it is said, "The trainers of the athletæ instruct their pupils in this manner—to break the law according to law, to commit injustice according to justice; to deceive, to steal, to rob, to commit violence, in the most elegant and disgraceful manner: he who cannot do these things is bad, he who can do them is good; which is a proof of the folly of the many who, when they behold these things decide that the one of these is good and the others bad. Many wonder, but few are judges. Men going to the market proceed thus: they deceive one another in buying and selling, he who deceives most is admired. They execute these things—they drink and become mad, they run, they wrestle, they fight, they steal, they cheat; the one is preferred to all the others. Hypocrites and deceivers! Before the spectators they say one thing. and think another.[201] The same persons creep out, and they creep in not the same persons; to one man they say one thing, and do another; the same person not always the same—sometimes he has one mind, and sometimes another. In this manner all the arts have communion with human nature." All this is too fanciful and recondite for the physician of whom Celsus says "primus ex omnibus memoria dignis ab studio sapientiæ disciplinam hanc separavit." It is clearly the production of a philosopher and not of a practical physician, such as we know Hippocrates to have been. The latter part of this book, however, is of a more practical nature, and treats of many things relating to regimen and dietetics, such as the arrangement of meals, of exercises, etc.

The second book is a regular work on Dietetics, and exhibits this branch of medicine in a more advanced state than might have been expected, considering the time it was written. After some preliminary observations on climate, which bear a great resemblance to those contained in the treatise "On Airs," etc., the author treats, in a very scientific and methodical manner, of the various animal and vegetable substances which are used as articles of food. It concludes with a discussion on certain matters connected with regimen, such as exercises, baths, sleep, and so forth. Foës remarks that a great portion of the opinions advanced by Celsus on the head of Dietetics is borrowed from this book.

The third book treats again of various subjects connected with Dietetics, such as exercises, the arrangement of meals, the administration of emetics, the use of venery, and the like. It is full of important matter, but looks like a distinct treatise from the two preceding books, for one cannot conceive that the author of one work would have twice resumed the consideration of the same subject. Le Clerc, with considerable appearance of reason, ascribes the book to Herodicus, the master of Hippocrates in the gymnastic art.[202]

Altogether, the work is one of the highest importance in medical literature, whether we ascribe it to Hippocrates or not. On this point the evidence, both external and internal, we have seen to be very inconclusive. The most probable conclusion that can be drawn regarding it is, that the work is a compilation of important documents from a variety of sources, but who the compiler was, whether Hippocrates or one of his successors cannot be determined.[203]

XXVII. Περὶ ἐνυπνίον—*On Dreams*.

This little work is generally admitted to be a continuation of the preceding one, and consequently stands upon much the same grounds as regards its authorship.[204] As Le Clerc and Gruner have well remarked, it is written with much acumen, and evinces great freedom of spirit, and exemption from popular errors and superstitions. It commences in the following strain:

"He who forms a correct judgment of those signs which occur in sleep, will find that they have a great efficacy in all respects; for the mind is awake when it ministers to the body, being distributed over many parts; it is not then master of itself, but imparts a certain portion of its influence to every part of the body, namely, to the senses, to the hearing, seeing, touch, walking, acting, and to the whole management of the body, and therefore its cogitations are not then in its own power. But when the body is at rest, the soul, being in a state of movement, steals over the organs of the body, manages its own abode, and itself performs all the actions of the body; for the body, being asleep, does not perceive, but the soul, being awake, beholds what is visible, hears what is audible, walks, touches, is grieved, reflects, and, in a word, whatever the offices of the soul or body are, all these the soul performs in sleep.[205] Whoever, then, knows how to judge of these correctly, will find it a great part of wisdom. But with regard to such dreams as are divine, and prognosticate something, either good or evil, to cities, or to a particular people, there are persons who have the art of judging of them accurately, without falling into mistakes. But such affections of the body as the soul prognosticates, namely, such as are connected with repletion and evacuation, from the excess of customary things or the change of unusual things, on these also persons pronounce judgment, and sometimes they succeed, and sometimes they err, and understand neither how this happens, that is to say, how it comes that sometimes they are right, and sometimes they fall into mistakes; but warning people to be upon their guard lest some mischief befall them, they do not instruct them how to guard themselves, but direct them to pray to the gods; and to offer up prayers is no doubt becoming and good, but while praying to the gods a man ought also to use his own exertions. With regard to these, then, the matter stands thus: Such dreams as represent at night a man's actions through the day, and exhibit them in the manner in which they occur, namely, as performed and justly deliberated, these are good to a man, and prognosticate health, inasmuch as the soul perseveres in its diurnal cogitations, and is not weighed down by any repletion, evacuation, or any other external accident. But

when the dreams are the very opposite to the actions of the day, and when there is a conflict between them—when this happens, I say, it indicates a disorder in the body; when the contrast is great, the evil is great, and when the one is small the other is small also." For the cure of this state, as being connected with repletion, he recommends evacuation by vomiting, active exercise, and a restricted diet. The author of the treatise proceeds to state the signification of dreams which relate to the sun, moon, and stars, of which the last are said to be connected with the external parts of the body, the sun with the middle, and the moon with the cavities. This is the nearest approach to alchemy which I have met with in the works of any of the ancient physicians. But I must not proceed much further with my extracts from this work, which there is no reason to suppose a genuine production of Hippocrates, and the substance of which would not much interest the general reader nowadays, when the interpretation of dreams has been entirely abandoned by the profession. The work concludes as follows:

"He who observes these rules as laid down by us will be healthy through life.... The regimen, also, as far as it was possible for a man to find it out with the assistance of the gods, has been expounded by me." This looks like the conclusion of a large work, and gives probability to the supposition that this treatise originally formed a part of the work "On Diet," as stated above.[206]

It would appear that this work, although little regarded now, was highly esteemed two hundred years ago, for we find that the celebrated Julius Cæsar Scaliger wrote an elaborate commentary on it.[207] On the "Oneirocritica," see further Vander Linden, "Manuductio ad Mediciam," who refers to this treatise of Hippocrates, and also to the works of Scaliger, Ferrer, and Cardanus on the same subject. The only other ancient writers on this subject which have come down to us are Artemidorus, Achmet, Astrampsychus, and Nicephorus.[208] The work of Artemidorus is an elaborate production on the interpretation of all sorts of dreams; and to the sober judgment of the present generation it cannot but be regarded as a memorable instance of the misapplication of human intellect and industry. The whole subject of the "Oneirocritica," however, may well deserve the serious consideration of the most learned philosopher as affording a most striking and lamentable proof how prone men, even of cultivated minds, are to view things exactly in the light in which they fancy them to exist. This truth is most strikingly illustrated by the work of Artemidorus, who first gives the theory, as it were, of dreams, and in the last book relates particular instances in confirmation of the principles previously laid down by him. No one, assuredly, can rise from the perusal of such a work without being strongly impressed with the great truth embodied in our author's first aphorism, "Experience is fallacious, and decision is difficult." The "Oneirocritica" of Achmet is the work of an Arabian, and is interesting as containing all the superstitious notions of the Orientals, that is to say, of the Persians, Egyptians, and Indians, on this subject. Allusion is also made to the dreams recorded in the Jewish Scripture. The author sets out with declaring that, from the interpretation of dreams one may acquire a certain foreknowledge of all the

casualties of life, namely, of life or death, of poverty or riches, of disease or health, of joy or sorrow, of victory over one's enemies or defeat, and this with far greater accuracy than from astronomy (astrology?), for that astronomers differed much in opinion among themselves, whereas about the interpretation of dreams there could be no doubt!!

The following list of writers on the "Oneirocritica" previous to Artemidorus will show the attention which has been paid to this subject in very early times: Artemon Milesius, Antiphon, Apollodorus Tellmissensis, Apollonius Atalensis, Aristander Telmissensis, Aristarchus, Alexander Myndius, Cratippus, Demetrius Phalereus, Dionysius Rhodius, Epicharmus, Geminus Tyrius, Hermippus, Nicostratus Ephesius, Phœbus Antiochenus, Philochorus, Panyasis Halicarnessensis, Serapion, Strabo. Mighty names once on a day! Now they are but "the dream of a shadow!"[209]

XXVIII. Περὶ παθῶν—*On Affections*.

This treatise being passed over in silence by Erotian, and rejected as unworthy of Hippocrates by Galen, although he acknowledges that it contains many fine things,[210] has been generally regarded as spurious by modern critics, as for example, Foës, Haller, Gruner, Ackerman, Littré, Greenhill, and others. The work is carefully written, but seemingly without a plan, or any well-defined object. It touches, in general terms, on most of the diseases to which the human body is subject, and concludes with some general observations on regimen. All diseases are said to be derived from phlegm or bile. This seems very unlike the etiology of diseases, as laid down in the true Hippocratic treatises. Pleurisy is to be treated by purgatives and soothing applications, but without any mention of bleeding. The termination of the disease in empyema is described. The symptoms of pneumonia are also given in brief but striking terms. The sputa, at first, are said to consist of phlegm, and are thick and pure, but on the sixth and seventh day they become somewhat bilious and sublivid. This disease is also said to terminate in empyema. Some of the general observations contained in this work are deserving of attention. Of all the diseases the acute are the most painful and the most fatal, and they require the greatest care and the most accurate treatment. No additional mischief should, at all events, be inflicted by the physician, but he must do the patient as much good as lies in his power; and if the physician treats the case properly, and the patient sinks under the weight of the disease, it will not be the physician's fault; but if, while the physician does not treat nor understand the disease properly, the patient fall a victim to the disease, the physician will then be to blame. In treating ileus, when a clyster fails to relieve the bowels, they are to be inflated by means of a bladder attached to a pipe, and then the pipe is to be removed, and a clyster immediately injected, in which case, if the bowels admit the clyster, they will be opened, and the patient will recover, but if otherwise, he will die, especially on the seventh day. The treatise further contains some very interesting remarks on the causes and varieties of dropsy. When the water is not otherwise removed, an incision is to be made either at

the navel, or behind at the loins. It deserves to be mentioned that, in this treatise, there are frequent references to a work of the author's "On Medicines." Whether it was the same as the treatise bearing that title which we possess cannot be determined. In the course of the work, the use of the cautery is freely recommended for the cure of diseases.

From the account which we have given of this treatise, and the paucity of evidence in favor of its genuineness, it will readily be understood that we have no hesitation in deciding that it is not one of the genuine productions of Hippocrates.

XXIX. Περὶ τῶν ἐντὸς παθῶν—*On Internal Affections*.

This treatise has but little ancient authority in support of it. Erotian has omitted it in his list of the works of Hippocrates; Palladius does not mention it; and Galen notices it in a confused manner under a variety of titles.[211] Foës, Schulze, and others, have referred it to the Cnidian school; and if this point could be made out satisfactorily, it would give the treatise a remarkable degree of interest, as furnishing us with a key to the opinions of one of the oldest sects in medicine. That the reader may be enabled to form his own opinion in this matter, we will now give a brief outline of its contents.

The work commences with a short description of hæmoptysis, which is said to originate either in ulceration or rupture of an artery of the lungs, the ordinary causes of which are held to be severe exercise, falls, blows, violent vomiting, or fevers. The symptoms are pretty well described, and a mild system of treatment recommended. Inflammation of the lungs is said to be produced principally by drinking wine, and an immoderate indulgence in eating mullets and eels. The treatment at first is like what we have described the Cnidian system to have been, consisting of milk, emetics, and purges; but if these do not answer, the actual cautery is to be applied to the breast. Erysipelas of the lungs is described in much the same terms as at "De Morbis," i., 13; ii., 53.[212] A correct description is given of empyema as connected with tubercle of the side, for which draughts are recommended, with broth made from poppies, etc. When matter forms, it is to be let out either by the knife or the cautery.[213] Three species of phthisis are described, the first being derived from phlegm, the second from violent labor, and the third being the tabes dorsalis. The treatment in all these affections appears to be very empirical, and unlike the usual therapeutics of Hippocrates. Four diseases of the kidneys are described, of which the first is calculus, and the second abscess, in which case the writer recommends an incision to be made, in order to furnish an outlet to the pus. Now, it is deserving of remark, that, of all the ancient authorities which have come down to us, Ruffus Ephesius would appear to be the only other author who makes mention of this practice.[214] The author of the treatise states, that if the matter of the abscess find vent by the intestinum rectum the patient may recover. The disease altogether, he adds, is troublesome, and in many cases ends in renal tabes. He most probably here alludes to what is now called Bright's disease.

From disease of the kidneys is said to arise an affection of the venæ cavæ, which runs from the head near the jugulars, along the spine to the malleolus externus. He says it originates in bile and phlegm which collect in the veins. Varices, I suppose, are here meant to be described. If not cured by purging with hellebore and scammony, the actual cautery is to be applied at the shoulders, below the scapulæ, at the hip-joint, at the middle of the thigh, above the knee, and at the ankle. Now it is deserving of notice, that this disease is not mentioned by subsequent authors on medicine, so that we are warranted in concluding that the treatise was not looked upon by them as being a production of the Great Hippocrates: for if it had been so regarded, we are sure that Galen, Aretæus, Celsus, and all the worthies of the Arabian school, would not have overlooked this description. And, moreover, the description of the disease from first to last is vague and prolix, being the very reverse of that graphic style of delineation which we find in the genuine works of Hippocrates: and yet the work contains other matters of a different stamp. For example, treating of dropsy, the author says it is sometimes connected with tubercles of the lungs, which get filled with water and burst into the chest. In proof of this, he appeals to observations on cattle, sheep, and swine, which are said to be very subject to these tubercles (phymata); and he argues that men are still more liable to them. And in many cases, he adds, empyema originates in tubercles. In that case, when the collection protrudes externally, he directs that an opening should be made in it; but if not, he directs the patient to be shaken by the shoulders, when the sound of the fluid within will be heard. When the side in which the greater collection is situated has been ascertained, he recommends us to cut down to the third rib from the last, and then make a perforation with a trocar[215] (τρυπάνῳ τρυγλητηρίῳ), so as to give vent to a small portion of the fluid; the opening is then to be filled with a tent, and the remainder evacuated after twelve days. Four species of icterus are described: these would appear to be febrile affections. Five varieties of typhus are next noticed in rather vague terms; there can be little doubt that they were all cases of remittent fever. Several varieties of a disease which is called morbus crassus are described with much prolixity, and so vaguely as not convey to us a distinct idea of the disease. He says of two of the varieties, that they last for six years. Unless these were varieties of elephantiasis (and we have no evidence of its existence so early), I am at a loss to comprehend what disease is alluded to. The treatise concludes with an account of three species of tetanus.

From the analysis now given of its contents, it will be readily seen that this work abounds in interesting matter, but that, at the same time, it is clearly of a different stamp from what we find in the genuine works of Hippocrates, nay, that in all probability it does not belong to the Coan school. In conclusion, I have, then, to state that I think the presumption of its being a production of the Cnidian school is very strong.

XXX. Περὶ νοὐσων—*On Diseases*.

A work with this title is cited by Erotian, Cælius Aurelianus,[216] and by Galen,[217] but so confusedly that we must come to the conclusion regarding these Books, that the ancient authority in support of their genuineness is by no means satisfactory. Galen evidently inclines to the opinion of Dioscorides the Commentator, that the Second Book is the work of the younger Hippocrates, this is to say, of a grandson of our author. Almost all the modern authorities, as, for example, Foës, Haller, Ackerman, Gruner, and Littré, concur in rejecting the whole four as spurious. The Fourth Book in particular is separated by M. Littré from the other three, as being a portion of the work "On the Diseases of Women," rather than of the work "On Diseases." We shall be better enabled to speak decidedly on this and the other questions regarding the authenticity of these books, when we have examined the nature of their contents.

After a very striking exordium, in which it is stated that the first object of him who turns his attention to the healing art should be to consider the causes of disease, and the natural tendencies of every one of them, that is to say, of their dispositions to death, or to loss of parts, the author proceeds to deliver his doctrine as to the causes of them, which he assumes to be either internal, namely, bile and phlegm; or external, such as labor, wounds and excess in heat, cold, dryness, and humidity. The following accidents are said to be mortal: a wound of the brain, of the spinal marrow, of the liver, of the diaphragm, of the bladder, of a large blood-vessel, or of the heart. He ranks the following as fatal diseases: phthisis, dropsy, and, when they attack a pregnant woman, pneumonia, causus, pleurisy, phrenitis, and erysipelas of the womb. The issue of the following is set down as doubtful in ordinary circumstances: pneumonia, causus, phrenitis, pleuritis, quinsy, enlargement of the uvula, hepatitis, splenitis, nephritis, dysentery, menorrhagia. The following are not deadly: chronic defluxions on the joints (κέδματα), melancholy, gout, ischiatic disease, tenesmus, quartan and tertian fevers, strangury, ophthalmy, leprosy, lichen, arthritis; yet even from these patients often become maimed in particular members, such as in the limbs from arthritis, or in the eyes from ophthalmy. Diseases also have a tendency to pass into one another, as, for example, pleurisy into causus, phrenitis into pneumonia, tenesmus into dysentery, and lientery; and pleurisy and pneumonia into empyema. He makes the following curious observations on the awkward mistakes which a physician may commit in the practice of his profession: not to know when there is matter in an abscess or tubercle; not to ascertain the existence of fractures or dislocations; having probed the head in case of injury thereof, not to ascertain that there is a fracture of the skull; not to be able to introduce an instrument into the bladder, nor to be able to ascertain whether there is a stone in it or not; in the case of empyema, not to ascertain the existence of matter by succussion; and in using the knife or cautery, to apply either of them to too great or too small an extent. The treatise also contains many other general observations, which are very ingeniously stated, as, for example, the following enumeration of the untoward accidents which may occur to a medical practitioner: Having administered an emetic for the purpose of evacuating bile or phlegm upwards, to induce rupture of a vessel by the act of vomiting, although the patient had previously been sensible of no pain in the

region; having given an emetic to a woman with child, to induce abortion in consequence; in curing empyema, when looseness of the bowels is superinduced, and cuts off the patient; in applying an ointment for a disease of the eyes, when acute pains supervene, which end either in rupture of the eye or amaurosis, the physician in such a case gets the blame for having applied the ointment; and when a physician gives anything to a woman in labor on account of pains in the bowels, and the woman gets worse or dies, the physician incurs censure. And in diseases and injuries, when there is a necessary succession of bad symptoms, the physician gets the blame, as men do not perceive that the aggravation of the symptoms is a necessary consequence of the nature of the disease. And if a physician visits a patient in fever, or who has met with an injury, and if the patient gets worse after the first medicine that is administered, the physician is blamed; whereas he does not get the same amount of credit if the patient improves, as the amendment is attributed to the nature of the case. This book contains what I believe is the most circumstantial detail of the phenomena of empyema that is to be met with in any ancient work on medicine. The author ascribes the disease principally to three causes: to the termination of pneumonia, to a defluxion from the head, and to the consequences of a ruptured vessel. Whoever is acquainted with the modern literature of the subject, or possesses a practical knowledge of the disease, will not fail, from the accompanying description of the last of these, to recognize a case of cavity of the lungs produced by the ulceration of tubercles. True empyema, however, as the result of chronic inflammation, is also described in distinct terms. The never-failing test by succussion is constantly adverted to in these cases. Distinct mention is also made of the *râle*, by which the existence of matter in the lungs is ascertained. Allusion is probably made here to the well-known gurgling sound produced by matter in a cavity. There is a good deal of other important matters in this book, but these my necessary limits oblige me to pass over unnoticed. I shall merely allude to the distinct mention which is made of *ruptures*, by which was meant a severe sprain or other injury ending in suppuration, or protracted pains in the part. Fever is said to be formed in this manner: when bile or phlegm is heated, the whole of the body is heated, and they are heated either by internal things, such as food or drink, or by external, such as labor, wounds, excess of heat or cold; also from the sight or hearing, but rarely from these. In the treatment of pneumonia, venesection in the arm is recommended. Altogether this book contains much valuable matter, but mixed up with hypothesis in a way not usually met with in the genuine works of Hippocrates.

The second book, at the very commencement, betrays a strong disposition to diagnosis. Eight diseases at the head are described, but in such terms that we fail to recognize the distinguishing features of each. Besides these, a little way further on the author describes several other diseases of the head, including hydrocephalus, the symptoms of which are given with great precision, namely, acute pain about the bregma and temples, alternate rigor and fever, impairment of the sight, double vision, vertigo, etc. He recommends errhines, purgatives, and even trepanning of the skull. Even of this disease several varieties are described in very striking terms; so that for

once at least we are tempted to question the correctness of the judgment which Hippocrates pronounced against the rival school of Cnidos, for cultivating diagnosis to an undue extent.

Several varieties of quinsy are likewise described, including various diseases of the parts about the fauces, and among them the disease named *hypoglottis*, by which appears to be meant an abscess below the tongue, attended with swelling of that organ. Five varieties of polypus nasi are next described, and suitable plans of treatment recommended, namely, with the ligature, the knife, and the cautery. Pleurisy and pneumonia are described, and their termination in empyema, the symptoms of which are circumstantially described again; and, moreover, three varieties of it are noticed. Here, again, we find mention made of the diagnostic method, by succussion, and a recommendation of the operation of *paracentesis thoracis*, to evacuate the fluid. Next are described several varieties of phthisis, including the *tabes dorsalis*, of which a curious description is given. An interesting account is also given of *spermatorrhœa*. The treatment consists in abstinence from immoderate drinking, venery, and excessive exercises, except walking, *for a year*, avoiding cold and the sun, and taking the tepid bath. The description of the varieties of pulmonic disease is most interesting, although some of them are not sufficiently well defined. Hydrothorax is also described, and paracentesis recommended in the treatment of it. After describing lethargy, which was clearly a species of remittent fever, he gives descriptions of certain diseases, under the names of *morbus resiccatorius* (ἀυαντή), *Febris mortifera*, *Lividus morbus*, *morbus ructus ciens*, and *morbus pituitosus*. No one can fail to recognize in these descriptions the spirit of the Cnidian school of medicine, and one very different from that of Hippocrates. Indeed we have positive authority for referring this work to the Cnidian school, for Galen assigns the description of the *morbus lividus* to the Cnidian physician Euryphon.[218] The author describes a singular species of melancholy, which, he says, is sometimes epidemic in spring; he calls it *cura, morbus gravis*. It appears to have been a variety of the lycanthropia. See Paulus Ægineta, III., 16. The book concludes with a description of two species of *melæna*, and of *sphacelotes*, the latter being a variety of the other. Now what strikes one in going over this book is, that it cannot be a portion of the same work as the First Book, for we cannot conceive it probable that an author would have treated twice of the very same subjects in one work. Moreover, as we have stated, there are evidently many things in it which are not at all in accordance with the principles of the Coan school.

In the third book very much the same ground is again gone over as in the two preceding books. In the first place, diseases of the head are described under the names of *tumor cerebri*, *plenitudo cerebri dolorem inferens*, *sydere icti*, *sphacelismus*, *lethargus* (then intervenes a brief account of *Febris ardens*, quite out of place), of *dolor capitis*, and *phrenitis*. Afterwards comes a description of *cynanche*, and *paracynanche*, next of *icterus*, and afterwards of *tetanus*, for the cure of which the author recommends the cold affusion. (On the merits and demerits of this practice, see

the English edition of Paulus Ægineta, III., 20.) For ileus, as in a preceding book, among other modes of treatment, it is directed to inflate the bowels by means of a pipe and bladder, and then to evacuate their contents with a clyster. Afterward, pneumonia and pleurisy are most circumstantially described, and the treatment of them laid down with a degree of prolixity very unlike the usual manner of Hippocrates. Thus, to promote the expectoration in pleurisy, he recommends the flos æris, asafœtida, trefoil, pepper, etc.[219] I am not aware that any other ancient authority recommends these medicines for the cure of this disease. The symptoms and diagnosis of empyema as the consequence of pleurisy, are given in much the same terms as in the preceding book. Succussion is particularly alluded to. For empyema, burning and incision are recommended. In performing paracentesis, he forbids all the matter to be evacuated at once. Altogether, a perusal of this book leads me to the positive inference that it is not the production of the same author as the two preceding books; for what could induce the author to go over the same ground three different times in one work?

The fourth book is manifestly the production of a different author from the others, indeed, as appears evident from the conclusion of the work, it is continuous with the treatise "On the Nature of Women." It commences with an elaborate discussion on the four humors, blood, phlegm, water, and bile, from which all diseases are said to derive their origin. The whole book is tinged with the exposition of this doctrine; indeed all the contents of it are for the most part hypothetical, and very unlike the matter contained in the genuine compositions of Hippocrates. From first to last there is no well-defined description of disease in it. The observations on lumbrici and calculus are the portions of it which command the greatest interest.

I shall now briefly recapitulate the conclusions which I am prepared to draw from a careful examination of the contents of this work. 1. As the same diseases, for example, pleurisy, pneumonia, and empyema, are all circumstantially treated of in each of the first three books, it is impossible to suppose them all portions of the same work, or even the productions of the same author. 2. In the fourth a different hypothesis is advanced from that which is laid down in the first, and from this circumstance, joined to many other considerations already enumerated, there can be no doubt that it is the production of an entirely different author. 3. Although all parts of these books contain abundance of valuable materials, many of the principles and rules of practice which are developed in them are not akin to those of Hippocrates, but rather savor of the Cnidian school, which trusted too much to a fanciful diagnosis, instead of cultivating prognosis as the basis of its system, like the school of Hippocrates and his followers. 4. The internal evidence in the present instance against their genuineness, more than counterbalances the small amount of ancient authority which there is in support of these books.

XXXI. Περὶ ἑπταμήνου—*On the Seven Months' Birth*.

XXXII. Περὶ ὀκταμήνου—*On the Eight Months' Birth*.

Although the genuineness of these two works is admitted by Galen[220] and by Foës,[221] they are not looked upon as the productions of Hippocrates by almost any other of the authorities, whether ancient or modern, and in particular, Palladius, Ackerman, Gruner, Littré, and Greenhill reject them. Yet all admit them to be of very high antiquity, so that, in this respect, they are not destitute of considerable interest. The contents of them are altogether of a philosophical nature, and such as we might expect the school of Democritus to produce. The author of them holds that fœtuses born at the seventh month survive, but not those of the eighth. It is clear that he was imbued with the Pythagorean notions regarding the mystical power of the number seven.[222] Altogether, the style and matter of these treatises do not appear to me to accord well with the spirit which prevails in the true Hippocratic works, but at the same time it must be admitted that the preponderance of authority for or against their authenticity is not decided.[223]

XXXIII. Ἐπιδημών, β', δ', ε', ς', ζ'—*The 2d, 4th, 5th, 6th, and 7th Books of the Epidemics*.

With the exception of Erotian, who admits the whole of the seven books of Epidemics into his list of the works of Hippocrates, I am not aware that any of the authorities, ancient or modern, recognize them as genuine. Galen says that the seventh is allowed by all to be spurious; that the fifth is the work of Hippocrates, the son of Draco, that is to say, of a grandson of the great Hippocrates; and that the second, fourth, and sixth were held by some to be the productions of a son of Hippocrates, and by some they were looked upon as having been written, indeed, by Hippocrates himself, but merely as notes or commentaries. Galen himself inclines to the opinion that these four books are the production of Thessalus, the son of Hippocrates.[224]

From what has been stated respecting these books, it will be clearly seen that, although there is no reason whatever to suppose they were published by Hippocrates, it is, at the same time, highly probable that he had something to do with the composition of them, and that, at all events, they emanated from the school upon which his name has cast so much splendor. I think myself, therefore, called upon to give a condensed view of their contents; and in doing so, I shall not scruple to avail myself of the very important annotations made on them by M. Littré, in his recent edition of this portion of the Hippocratic treatises.

With regard to these books, in general, he observes that they are naturally divided into two groups, the one containing the second, fourth, and sixth books, the other the fifth and seventh. The correctness of this division is quite evident from a comparison of the contents of the different books, and, to a certain extent, it is recognized by Galen.[225]

As to the locality of these observations, M. Littré shows that the spot of their greatest activity is Thessaly and Thrace, although mention of Athens, and of certain cities of the Peloponnesus occasionally occurs. He traces with much minuteness the connection of these books with the other works in the Hippocratic Collection. For example, he shows the connection between those in the first group, with the "Aphorisms," in particular, but also with the treatises, "On Airs," etc., "The Mochlicus," "The Surgery," etc., and of those in the other group, with the work "On Wounds of the Head" in particular. I will now offer a few remarks on the contents of each of these books.

M. Littré, in his argument prefixed to the second book, treats of various matters contained in it, the most interesting of which is his elaborate disquisition on the nature of the carbuncles (ἄνθρακες) described in his book, during the course of which he brings into review various collateral passages from the works of subsequent authors, and discusses the question at considerable length whether or not they apply to smallpox. I am free to admit that it would have been to my advantage if I had seen this part of the writings of M. Littré before piling my commentary on Paulus Ægineta, B. IV., 25. I must be permitted to say, however, that I see no reason for changing my opinions with regard to the anthrax of the Greek writers on medicine. I certainly cannot agree with M. Theod. Kauser, in setting down the ancient descriptions of the anthrax and plague (λοιμὸς) as applying to the smallpox. Having diligently studied the minute descriptions which the ancient medical authors give of the different varieties of cutaneous disease, I am confident that if the smallpox had actually existed in their days, they would not have passed over the disease with a vague and casual notice, but would have given us such a sketch of its appearances that no one could have failed to recognize its features. The carbuncles, then, which are incidentally mentioned by Hippocrates at the beginning of this book, I am disposed to look upon as one of those anomalous phases of disease which are every now and then making their appearance, and I cannot persuade myself that they had anything to do with smallpox.

Among the important matters contained in this book may be noticed the remarks on deposits, an interesting subject often alluded to in the Hippocratic treatises, § 7. At § 22 a case is obscurely noticed, which M. Littré concludes, but upon very slight grounds, to have been a case of purulent infection. At § 24 spontaneous luxation of the cervical vertebræ is described, as M. Littré, in his argument, remarks, with admirable judgment. It is also alluded to at "Aphoris," iii., 26, and "De Articulis," tom. iv., p. 179, ed. Littré. This affection, which came afterwards to be overlooked, has been redescribed of late years. In the third section there is given an interesting account of causus, the remittent fever of hot climates, so admirably described afterward by Aretæus. The fourth section is occupied with a description of the veins of the body, which is certainly confused, and yet we find in it the distinction between the nature of the arteries and veins clearly pointed out. It is curious, moreover, that Galen, in one place, stands up for this part as being genuine and accurate.[226] See also b.v. § 46. The

last two sections treat professedly of physiognomy, but contain other detached and unconnected observations on medical subjects. Altogether, the impression which a careful perusal of this book conveys to one is, that it is a compilation of the most incongruous matters, strung together without any plan; but, at the same time, one cannot fail to detect in it traces of no contemptible talent for observation and description.

The fourth book, of the whole number, is the one which is written with the least unity of design. Yet, as M. Littré remarks, it is interesting as containing the history of an epidemical causus, complicated with jaundice and ophthalmia, which would appear to have been very similar to the febrile epidemic which prevailed in Scotland a few years ago. With this opinion I entirely acquiesce, after having had a good deal of experience in the treatment of that epidemic. It was decidedly of the remittent type, was frequently accompanied with jaundice, and the patients were very subject to relapses and affections of the eyes.[227] For Hippocrates's description of it see tom. v., p. 169, ed. Littré. M. Littré also makes the important remark that, of late years, proper attention has not been paid to the state of the urine at the epoch of a crisis in fevers. He mentions that M. Martin Solon holds that, at the resolution of diseases, the urine is apt to become albuminous; but that, in a true crisis, the precipitate is generally composed of urate of ammonia. M. Zimmerman found the urinary deposit composed of the urate of ammonia, with the triple phosphates and the crystals of uric acid. Certain observations on this critical deposit occur in this book of the Epidemics, but they are met with more frequently and more distinctly expressed in the genuine books, I mean the first and third. It appears to me most remarkable that the important observations made by Hippocrates on the state of the urine in febrile diseases should have been lost sight of in an age when the chemical characters of the urine have been so much studied; for I am fully satisfied, from my own practical acquaintance with fevers, that in most cases the febrile crisis is marked by a copious sediment in the urine. An interesting case of empyema, which was treated by the cautery, is related at § 4. A case is related at § 19 of a singular affection of the mouth in two children, attended with necrosis and exfoliation of the bones. At § 39 there is a case of metastasis of purulent matter from the hand to the lungs. At § 11 a case is related of a child who sustained an injury in the head from another child, was trepanned, and died on the twenty-fourth day. We shall see in the work "On Injuries of the Head" that the ancients were very free in the application of the trepan to the skull. Cases of nyctalopia are alluded to at § 52, and at § 58 a case is related of mania supervening on the cure of hemorrhoids. But, upon the whole, the most interesting part of this book is that which contains the narratives of febrile cases, and the remarks on relapses, § 28.

Though the fifth and seventh books of the Epidemics are pronounced by Galen to be unworthy of the Great Hippocrates, they contain detached observations of much interest, insomuch that Haller was almost disposed to admit the genuineness of the fifth. Lemos and Mercuriali, on the other hand, hold them to be wholly removed from

all connection with the genuine remains of Hippocrates. It is remarkable, however, that the fifth is referred to by Celsus,[228] Quintilian,[229] and Plutarch.[230] This, in fact, is the book which contains the memorable passage in which the author admits, that in a case of injury of the head he mistook a fracture for a suture of the skull,[231] and for this candid admission Hippocrates is highly lauded by the authors we have just quoted. The Hippocratic treatises also contain many other instances in which the author admits having committed mistakes. How much might the medical art not have advanced before this time, if the example thus set of recording for the benefit of posterity, the mistakes which one commits had been more generally followed?[232] The first paragraph contains the case of a woman who had fever and took medicine which did her no good; a hard swelling, accompanied with severe pains, seized her below the navel, which were removed by strongly rubbing in oil with the hands, after which she had a copious discharge of blood downwards, and recovered. M. Littré, from a comparison of this passage with Epidem. ii., 6, 26; iv., 45, 56, draws the conclusion, that reference is here made to the practice of compressing the bowels with the hands in cases of ileus, for which Praxagoras, the master or Herophilus, is censured by Cælius Aurelianus.[233] At § 9 there is the case of a man affected with prurigo, and a condition of the skin resembling leprosy, which nobody could remove. He then went to the hot baths in the island of Melos, and was cured of his cutaneous affection, but soon after became dropsical and died. In § 10 there is related a case of cholera, treated with hellebore, which produced great evacuations upwards and downwards, and the patient recovered. This mode of practice is animadverted upon by Cælius Aurelianus. (Morb. Acut. iii., 20.) § 12th contains an instructive history of headache in a woman, which nothing relieved but free menstruation, and afterwards conception. At § 15, there is a very interesting case of necrosis or caries at the hip-joint, for the relief of which a large incision was made down to the bone and the cautery applied; on the eleventh day tetanus supervened, and proved fatal on the eighth day afterwards, although treated by embrocations, fomentations, and strong purgatives. The author remarks in conclusion, that the patient would have lived longer, if the purgative medicine had not been administered. At § 16 there is a case of injury of the head, where the surgeon at first sawed the bone down to the diploe, a practice alluded to in the treatise “On Injuries of the Head,” § 21. In this case erysipelas came on, and yet the patient recovered. It is to be regretted that the text here is in a corrupt state. At § 18 there is a case of pregnancy in which the administration of a strong purgative was followed by fatal results. At § 20 there is related a case of hemorrhoids, seemingly *mali moris*, which proved fatal in consequence of an operation having been performed upon them. § 24th contains the history of a case of hæmoptysis, which ended in phthisis. The author makes the shrewd remark that the patient was indisposed before the vomiting of blood commenced. I may here remark, how well this accords with the doctrine of Louis, that hæmoptysis is rather the consequence than the cause of tubercular disease. At § 38 there is another case of hæmoptysis in which the patient was choked by a large quantity of blood which he was bringing up; the spleen also, in this case, was affected, and there were bloody

discharges downwards. This book contains a great variety of serious cases connected with accidents. At § 50 is a fatal case of concussion of the brain. At § 74 there is a fatal case of tetanus supervening upon a slight injury of one of the fingers and in the following section there is a case of tetanus arising from a strain of the thumb and proving fatal. In the next section there is a case of fatal tetanus from the injudicious healing of a sore on the leg.

Though Galen refuses to sustain the sixth book as genuine, he has written an elaborate commentary upon it, and mentions at the commencement that commentaries had been written upon it before his time by Zeuxis of Tarentum, the Erythræan Heraclides, and before them by Bacchius and Glaucis. It is a large work, being divided into eight different sections, which have little or no connection with one another. Upon the whole, as M. Littré remarks, the most interesting portion of it is the part in which are described the phenomena attending an epidemic cough, or influenza, which reigned in Perinthus. See § vii. It broke out in winter about the solstice, and was preceded by great changes of the winds. There was a great tendency to relapses, and it was further complicated with pulmonic affections, nyctalopia, angina, paralysis, etc. It was observed, that any member which was much exposed to fatigue was the part most liable to be attacked. All these complications occurred in the relapse, and never in the original attack. Women were less liable to be affected than men, the reason of which is supposed to have been, that they do not expose themselves so much to the air as men do. In women, too, all the attacks were mild; but in the men some were mild and others fatal. When a febrile rigor supervened, the attack speedily was mortal. The usual remedies were tried, namely, purging, venesection, bleeding by the renal vein, and emetics; but none of them did any good. M. Littré remarks, that in the course of his reading he has never met with an example of an epidemic exactly resembling the one here described. It is, therefore, an interesting picture of a disease not otherwise known. The sixth section begins with the announcement of the physiological doctrine so frequently quoted with approbation, namely, that "the fleshy parts attract both from the bowels and from without, and that the whole body inspires and expires." This doctrine is fully expanded and illustrated in an interesting volume by Abraham Kaau.[234] The fifth section opens with another philosophical tenet, which Sydenham often quotes with approbation, namely, that "Nature is the physician of diseases." "Nature," the writer adds, "although untaught and uninstructed, does what is proper." Galen's Commentary on this passage contains much interesting matter, and is a fine specimen of the medical philosophy of the ancients.[235]

The seventh book, as we have already remarked, is closely allied to the fifth. Galen pronounces it to be universally condemned as being spurious, and of more recent origin than the others; but Littré, although of course he

does not stand up for its genuineness, justly contends that it is replete with valuable matter. Grimm holds, from the nature of its contents, that it must have derived its origin from the Cnidian school, whereas the fifth sprung from the Coan. I must say, however, that I cannot see any good grounds for this opinion. According to M. Littré, it is a *recueil* of particular facts superior to anything of the kind left to us by antiquity, and such that its equal can scarcely be found in modern times. The cases being for the most part of an isolated nature and not susceptible of any arrangement, it is not possible within my narrow limits to give any general idea of the contents of this book. I shall be content, therefore, with a very few extracts as a specimen of it. It opens with two very interesting cases of fever, accompanied with sweats, which were treated mildly by purgatives and clysters, and terminated favorably. It strikes me as singular in reading these cases, that the characters of the urine are not distinctly given, as in the cases related in the first and third Epid. All that is said on this score is, that "the urine was like that of chronic diseases." The tenth is a case of ardent fever proving fatal by intestinal hemorrhage. Some of the fatal cases of dropsy following fever are very instructive, as §§ 20, 21. Two cases of empyema (so they are marked by M. Littré) would appear to have been phthisis with cavities in the lungs. In both, mention is made of *râles*. See §§ 26, 27, and also 93, 107. In the 29th and six following sections there are reports of cases of severe wounds. Apparently they must have occurred in the time of war. The 36th, 37th, and 38th, are cases of tetanus supervening upon very slight wounds. A good many cases of phthisis are reported, as at §§ 49, 50, 51; in the last of those the pectoral *râles* are particularly noticed. In the 48th the disease is ascribed to the woman having been injured by succussion in order to procure the expulsion of the afterbirth. (On this case see the interesting remarks of M. Littré, tom. v., p. 359.) At § 52 are the cases of two children who died of disorder of the bowels, complicated with an affection of the head, as indicated by their constantly pressing on the part with the hand; and it is remarked, that after death there was a hollow in the seat of the bregma. Every experienced physician must have met with such cases. M. Littré refers in illustration of the disease here treated of to an analysis of a work by M. Elsæsser, in the "Archives Générales de Médecine," March, 1845, p. 346; on *ramollissement* of the occiput. The cases of phrenitis, here related, are evidently febrile affections, as at §§ 79, 80. At § 102 a case is related in which serious symptoms supervened on the

eating of a raw mushroom. The patient being treated by emetics and the hot bath, recovered. At § 121 is related the case of a person who had convulsive laughter, connected, as was supposed, with a wound of the diaphragm.

And now, having concluded my review of these Books of Epidemics, I will venture to affirm, without fear of contradiction, that when we look to the importance and rarity of the matters contained in them, the work, even at the present day, is perfectly unrivalled. That the books are the composition of different hands must be admitted, but altogether the contents of them bear the imprint of the mind and spirit of Hippocrates, and evince a talent for the cultivation of medicine which has never been surpassed. What a noble people the Greeks must have been in the days of Themistocles and Pericles!

XXXIV. Περὶ χυμῶν—*On the Humors*.

It must be admitted that there are few treatises in the Hippocratic Collection which unite such a concurrence of high authorities, both ancient and modern, in their favor as this work, and yet there seems good reason for joining the later critics in refusing its claims to be received as genuine. In favor of it may be quoted Erotian, Palladius, and Galen, among the ancient, and Foës, Zuinger, and Haller, among the modern authorities. Against it are ranged several of the older authorities, namely, Zeuxis, Heraclides, and Glaucias, some of whom refer it to a younger Hippocrates, some to Thessalus, others to Polybus, and others again to Democritus.[236] Accordingly, the highest modern authorities, as Mercuriali, Gruner, Ackerman, Kühn, and Littré, refuse to receive it into the list of genuine works; and the last of these seems to make it out pretty clearly that the treatise is composed of detached observations extracted from the other Hippocratic works. After repeated perusals of it, what strikes myself is, that it bears a close resemblance to the treatise “On the Surgery,” that is to say, that it is a recapitulation of the conclusions arrived at in certain of the other works of Hippocrates. Perhaps, then, it must be admitted that there is some inconsistency in allowing the one a place among the genuine works of Hippocrates, and refusing the similar claims of the other. That the work in question contains a most interesting summary of what were regarded, in ancient times, as great medical truths, cannot be doubted. From the condensed form in which the subject matters of it are presented, it will

readily be apprehended that they do not well admit of being given in the form of an abstract, and that any specimens of its contents will afford but a very imperfect idea of its value as a whole. I would remark, at the outset, that the title of the work, "On the Humors," appears not very applicable, since very few of the paragraphs relate to the humors; in fact, as already hinted, the treatise may be said to be a *recueil* of various observations gathered out of other works. I also feel at a loss to account for M. Littré's disposition to rank it as the eighth book of the Epidemics, as it bears no resemblance either in form or matter to that work; the one consisting of isolated observations and of particular facts, and the other of general principles; and the style of the one being comparatively full, whereas the other is remarkably succinct, so as to be nearly unintelligible in many places. Take the following as a specimen of it: "The earth is to trees what the stomach is to animals; it nourishes, heats, and cools; cools when emptied, heats when filled, as the earth when manured is hot in winter, so is it with the stomach." This important observation, that the earth, in connection with the vegetable productions, is analogous to the stomach in animals, is repeated by Aristotle and other of the ancient philosophers.[237] The author makes the important remark, (§ 14,) that we ought to study the condition of the body previous to the season in which the disease broke out; in confirmation of which M. Littré, in his arguments, gives some very interesting observations by M. Forster.[238] In the paragraph on deposits, the author remarks, that in fevers attended with a feeling of lassitude, the deposits generally take place to the joints and jaws. It is afterwards stated—and if confirmed by experience, as I think I have observed it to be in many cases, it is an important remark—that "when the feet are hot, the depositions point downwards, but when cold, upwards." § 7. In § 12 diseases are thus classified: "with regard to the modes of diseases, some are congenital, as may be learned upon inquiry; some are connected with the nature of the locality, (for many are affected, and therefore many are acquainted with them); some with the condition of the body and the diet, the constitution of the disease, and the seasons. The localities which are ill situated in respect to the seasons engender diseases similar to the season; in like manner, irregularities as to heat and cold in the same day when it has such effects, produce autumnal diseases in the locality, and in the other seasons likewise. The diseases which are engendered by fetid and marshy waters are calculus and splenic diseases, and such are influenced by good or

bad winds." Altogether, as will be readily seen, it is a work of great ability, and will amply repay a diligent perusal. Galen esteemed it very much, and did not hesitate to declare that, not only Plato, Aristotle, and Theophrastus, but also several of the most distinguished medical authors had copied freely from it.[239]

XXXV. Περὶ χρήσιος ὑγρῶν—*On the Use of Liquids*.

This would seem to be the work which appears in Erotian's list under the title of "On Waters" (περὶ ὑδατῶν); and, contrary to what is stated by Foës and Gruner, it is quoted by Galen in two places;[240] and it is further referred to by Athenæus, under the same title as that given to it by Erotian.[241] Foës pronounces it to be a mutilated work, and one which is wanting in many of the MSS. of the Hippocratic treatises; and all the modern critics, from Lemos and Mercuriali down to Littré and Greenhill, regard it as spurious. Gruner speaks of it as being a work of little importance, and Ackerman as being a mere compilation from the Aphorisms.[242] Gruner further remarks, that the title does not suit well with its contents, and this is in so far correct, for undoubtedly the title given to it by Erotian is more suitable, as it treats almost exclusively of the medicinal properties of waters; and this it certainly does in a fuller and more interesting manner than they are treated of in any other ancient, and, I may almost venture to add, any modern work with which I am acquainted. I look upon its contents, then, as being extremely valuable, even as the work has come down to us, but it is to be regretted that the text is in a very unsatisfactory state. Water the author of the treatise recommends as a fomentation to the eyes, when applied with a sponge; and further, as a general or local fomentation, for producing relaxation of any part when contracted. When poured over the head, and other parts, it is said to induce sleep, is useful in convulsions, and relieves pains of the eyes and ears. Cold water inflames ulcers, except such as have a tendency to hemorrhage, and also fractures, luxations, etc. In applying water to the body, the author recommends the feelings of the patient to be consulted, unless he be in a state of paralysis or of stupor, or be suffering from exposure to great cold, or be in great pain. In these cases, he adds, the patient may be insensible, and instances have occurred of persons having their feet congealed by cold, which have dropped off upon the affusion of hot water. The immoderate use of hot water induces relaxation

of the fleshy parts (muscles?), weakness of the nerves, torpor of the understanding, hemorrhage, and deliquum animi, so as even to prove fatal; and much cold water will occasion spasms, tetanus, lividity, and febrile rigors. The parts of the body which are usually covered endure the cold water worst, and are most refreshed by hot. Cold water disagrees with the brain and its processes, the bones, the teeth, and the nerves; and hence, it is added, convulsions, distentions, and febrile rigors, which are induced by cold, are relieved by hot water. Hot water occasions delight and determination (to the skin?); cold, on the other hand, pain and determination inwardly: wherefore the loins, the breast, the back, and the hypochondriac region, are injured by cold applications, but delight in warm. Cold water, thrown on the extremities, relieves lipothymia, the reason of which he states, but the text is so corrupt that I dare not undertake to translate the passage. Ulcers, excoriated parts of the body, and burns, bear cold ill. The extremities, the bladder, and the organs of generation, delight in warm water. Salt water is proper to itchy parts, and to parts affected with pungent humors, but disagrees with burns, and abraded surfaces. Vinegar is said to have much the same properties as salt water in the cure of these complaints. Warm water, in which salt has been melted, is beneficial in lichen, leprosy, alphos, and other complaints of a like nature. The lees of vinegar (*caustic potass*?) also answer in these cases. The astringency of cold water is increased by having beet leaves, ivy, bramble, sumach, sage, etc. boiled in it. Red pustules, like lentils, are benefited by cold things, but eruptions arising from cold, and resembling millet, are improved by hot. There are certain cases in which both hot and cold are applicable, such as gouty affections, and most sprains: in these, cold applications deaden the pain, and warm soothe it. Indurations and ankyloses of a joint are to be removed by pouring warm water out of a vessel upon it. Rheums of the eyes are relieved by rubbing them with some fatty substance, to obtund the acrimony of the tears. In pains, suppurations, pungent tears, and deep ulcers of the eyes, hot water is most expedient; when the eyes are merely red, and free of pain, cold is to be preferred. Cold does not agree with complaints of the rectum and uterus, nor with cases of bloody urine. Cold raises pain when it is applied to ulcers, hardens the skin, renders it painful, suppresses suppuration, renders parts livid and black, is injurious in febrile rigors, spasms, and tetanus. But he adds, sometimes in a robust young man, in the middle of summer, when laboring under tetanus not connected with a

wound, the affusion of cold water brings back the heat. (See Aphor. v., 21, and PAULUS ÆGINETA, B. III., 20). Hot water does the same. It promotes ulceration in all cases, softens the skin, attenuates it, is anodyne, and soothes rigors, spasms, and tetanus, and removes heaviness of the head. It is most particularly applicable in fractures, when the bone is laid bare, and especially in injuries of the head. Hot water agrees with all ulcerations, whether innate or produced by artificial means, in herpes exedens, in blackened parts, and in diseases of the ears, anus, and womb. But cold water is inimical in all these cases, except when hemorrhage is apprehended.

The above is a brief summary of the matters contained in this little treatise. That they are highly important, and evince an extraordinary talent for apprehending the true bearing of practical points in medicine, will hardly be denied by any person who is a competent judge. Many of the rules and observations contained in it are, no doubt, the same as those found in the Aphorisms (see Section v.), but there is also no lack of valuable matter in it, which is not to be found elsewhere. Though I am disposed, then, to agree with the authorities who exclude it from the list of genuine works, I do not hesitate to declare it as my decided opinion, that it is not unworthy of the reputation of the great Hippocrates, and that, if not written by him, it must be the production of some person who thoroughly apprehended his high principles and discriminating views. How much, then, is it to be regretted, that this treatise should have come down to us in so mutilated a state that the meaning, in many places, can only be guessed at with considerable hesitation!

XXXVI. Περὶ γονῆς—*On Semen*.

XXXVII. Περὶ φύσιος παιδίου—*On the Nature of the Infant*.

That these two treatises originally constituted one work, has been remarked by Foës, Gruner, Ackerman, Littré, and others. Indeed, this will be made sufficiently obvious, upon comparing the conclusion of the one with the beginning of the other. Galen, in one place,[243] quotes the former of these as if he held it to be a genuine work of Hippocrates, but elsewhere he mentions that it had been referred to Polybus.[244] Erotian mentions,

among the works of Hippocrates, a treatise bearing the title of the latter, under which he probably comprehended both treatises. It is also noticed as a Hippocratic treatise by Palladius,[245] and by Macrobius.[246] Both are rejected by Haller, Gruner, Ackerman, Kühn, Littré, and Greenhill. Indeed the story of the female musician, whom the author gravely admits that he taught the way how to get rid of a conception,[247] is so alien to the morals of Hippocrates, as declared in "The Oath," that it is impossible for a moment to suppose him guilty of such an act of flagitiousness. Moreover the treatise so abounds in little subtleties and conceits, especially in reference to the Pythagorean doctrine of numbers, that no competent judge will hesitate for a moment in pronouncing it not to be the production of the Great Hippocrates.[248] Without doubt, however, these treatises are of great antiquity, and are valuable as containing the hypotheses with regard to the origin of the fœtus which prevailed in the schools down to the days of Harvey; that is to say, that the embryo is formed from the male semen, into which the uterine vessels enter, and form the cotyledones (*or* placenta). It contains, moreover, an hypothesis adopted by Aristotle in several of his physiological works regarding the semen, namely, that it is collected from all parts of the body; and hence, if any part be mutilated in the parent, it is so likewise in the fœtus.[249] The author moreover holds, that the fœtus breathes, and is nourished by the umbilicus,[250] which may be looked upon as an anticipation of the modern doctrine, that the placenta performs the function both of a lung and of an intestine. It contains a statement regarding the incubation of the egg, which has been often repeated in modern times, but which, from personal observation, I can affirm not to be true; namely, that the hen chips the shell to let out the chick.[251] Presentations in delivery are divided into those by the head, the feet, and crossways. I would mention, in conclusion, that these works abound in repetitions, and are written in a diffuse style, very unlike that of Hippocrates. Altogether, then, I can have no hesitation in pronouncing both treatises to be spurious. From what has been stated of them above, it must be obvious, however, that to the student of ancient anatomy and physiology they are very interesting, and will repay a careful perusal. Although, probably, later productions than the age of Hippocrates, there can be no doubt that they are anterior to the memorable epoch of Herophilus and Erasistratus.

XXXVIII. Περὶ γυναικείων—*On the Diseases of Women*.

We have already stated in our critical remarks on the fourth book, "On Diseases," that it and the present treatise are evidently the productions of the same author. Although Erotian and Galen[252] make reference to it as if acknowledging it to be the production of Hippocrates, its claim is rejected by Foës, Schulze, Gruner, and Ackerman, and all the modern authorities of any note. Its connection with the treatises "De Genitura" and "De Natura Pueri," is pointed out by Foës and Gruner; and Littré does not hesitate to refer to the same author the whole of the following treatises, "De Genitum," "De Natura Pueri," "De Morbis," iv., "De Morbis Mulierum," "De Morbis Virginum," "De Sterilibus." Although not the composition of Hippocrates, all these treatises are, without doubt, of high antiquity, and were anterior to the age of Aristotle.

The work now under consideration contains much valuable matter, and deserves a careful perusal. I feel rather at a loss what selections to make from it, as a specimen of its contents, but shall be brief on the present occasion, more especially as I have no difficulty in establishing the point, that the treatise in question is not one of the genuine works of Hippocrates.

The observations contained in the first part of it, on menstruation and the causes of sterility, are ingenious. For the cure of sterility, fumigation of the uterus is recommended, and a minute description is given of the mode of performing this process, by means of a tube introduced into the os uteri, and connected with a vessel which emits aromatic fumes. When sterility is connected with the shutting up of the os uteri, the author gives directions for expanding it by means of a wooden or leaden pipe. We need scarcely remark, that this practice has been revived of late years. A minute description is given of a malformation of the vagina, in which the passage is nearly obliterated by a membrane. Allusion is probably made here to a preternatural rigidity of the hymen. The author directs the membrane to be fairly torn, and the part dressed with wine and myrrh. In transverse and footling presentations of the child it will be best, he says, to bring it down by the head. Both cases are said to be dangerous, so that either the mother or child is lost, and sometimes both. Treating of retention of the placenta, the author remarks, that if it is not cast off it becomes putrid, and thus comes away on the sixth or seventh day, or later. To promote its expulsion, he recommends southernwood, dittany, the flowers of the white violet, and

asafœtida. The process of abortion, and the unpleasant circumstances connected with retention of the placenta in this case, are given with much accuracy. Hydrops uteri is described at considerable length. For an account of it, see PAULUS ÆGINETA, Vol I., p. 573, Syd. Soc. edition, and the modern authorities there referred to. For ulcers of the womb, he recommends applications consisting of many stimulating ingredients, such as the flos argenti, etc. The subject of difficult delivery is resumed; when the arm or leg of a living child is protruding, it is directed to be pushed back, and the child turned to the head; and if the fœtus be dead, either the same thing may be done, or the projecting part may be cut off, and the head opened with a sharp knife, and the bones thereof extracted, and the body brought along. The chest also may be opened, if there be any difficulty in extracting the body. The author expresses himself strongly in regard to the danger of abortions. All abortions, he says, are attended with more danger than deliveries at the full time. Artificial abortion never takes place without violence, whether produced by medicine, a draught, or food, or a suppository, or any other means.

The second book commences with a description of fluor albus, an affection to which the old are stated to be more subject than the young. It arises from suppression of the menses, from parturition, or a fever. Among other means which he speaks of for the cure of it, he mentions the application of cupping-instruments to the mammæ. Astringents from the vegetable kingdom are to be administered, such as sumach boiled in vinegar, mulberries, or the like. A full account of the red fluor, *or* uterine hemorrhage, is also given. It is said to be connected principally with parturition. The treatment which is recommended can scarcely be improved upon, even after the lapse of two thousand years: a sponge is to be wetted and applied to the pudenda; soft garments are to be moistened with cold water, and laid on the belly; and *the foot of the bed is to be raised*. When the hemorrhage is connected with putridity many women thus perish, indeed few recover. A long description is given of hysterical convulsions which is said principally to attack antiquated maids and widows. It is remarked that hysterical complaints bring on cough, and other pectoral complaints. A very striking and accurate description is given of procidentia uteri. Inflation of the womb is also described. On it see PAULUS ÆGINETA, Vol. I., p. 632, Syd. Soc. edition. There is also a curious description of the mole. The clitoris is described under the name of columna.[253]

From the extracts now given, it will be seen that these Books contain a great variety of most important matter. Indeed, there are few treatises in the Collection more deserving of an attentive perusal. They furnish the most indubitable proofs that the obstetrical art had been cultivated with most extraordinary ability at an early period. Beyond all doubts the complaints of women, and the accidents attending parturition, must at that time have come under the jurisdiction of the male practitioner. But, considering the wandering life which Hippocrates led, and that during the best part of it he must have been what is now called a consulting physician, it is not at all likely that he could have acquired that acquaintance with the minutiæ of obstetrical practice which this work displays. It is not, then, at all probable that he can be the author of it.

XXXIX. Περὶ ἀφόρων—*On Sterile Women*.

This treatise is closely connected with the preceding one, both in matter and style. It relates to a subject which, as we have shown, is also treated of in the other work, I mean sterility, the most common cause of which is held to be the state of the os uteri, when it is oblique to the passages of the vagina, constricted from cicatrices, or otherwise diseased. Distinct directions are given for opening the mouth of the womb, after which a cleansing application, composed of cantharides and myrrh, is to be made to it. The mole, and procidentia uteri, are described in nearly the same terms as in the preceding treatise. Though it bears a great resemblance, then, to the work "On the Diseases of Women," it is not likely, as suggested by Albertus Fabricius,[254] that it is an appendix to it, for why should an author treat twice of the same subject in the same work?

XL. Περὶ παρθενίων—*On the Complaints of Young Women.*

Foës looks upon this little tract as being the prelude to the greater work "On the Diseases of Women." It is destitute of all claims to be held as genuine, and accordingly no critic, ancient or modern, stands up for it. Gruner is inclined to ascribe it to the author of the treatise "On the Sacred Disease," but I see no grounds for this opinion, except it be that, in the two treatises, there is a certain similarity of views with regard to the nature of the hysterical convulsion. This, however, is not a sufficient reason for

deciding that they both must have come from the same source, for all the ancient authorities, from Hippocrates to Actuarius, held pretty much the same ideas regarding the nature of "Uterine suffocation." See PAULUS ÆGINETA, III., 71. The author of this little fragment gives very naïve advice to virgins who are subject to hysterics; instead of making costly oblations of garments and the like to Diana, as recommended by the prophets, he gravely advises them ὡς ταχίστα συνοικῆσαι ἀνδρασι.

XLI. Περὶ ἐπικυήσιος—*On Superfœtation.*

This treatise, I believe, is not mentioned by any one of the ancient authorities, and it is almost universally rejected by the modern.

I need scarcely remark that it relates to a very curious subject, and that great doubts are now entertained whether or not superfœtation in women ever actually takes place. I can state, however, that two trustworthy persons, the one a surgeon and the other a *sage femme*, informed me, some years ago, that they once attended together a case in which a woman was first delivered of a fœtus about four months old, and, about thirty-six hours afterwards, of a fully grown child. The ancient *savants* all believed in the occurrence of superfœtation. See in particular Aristotle (Hist. Anim. vii., 5); and Pliny, (H. N., vii., 11.)

The following are a few of the most interesting observations which I have remarked in perusing this treatise. When the secundines are evacuated before the child, they cause difficult parturition, and the case is dangerous unless the head present. Presentations of the hand and foot are directed to be replaced. When the placenta is retained after the expulsion of the child, the child is to be laid upon wool, or upon two bladders, filled with water, either of which is to be pricked, so that the water may run off gradually, and thus draw down the placenta. When there is a copious discharge of blood before labor, there is a risk that the child may be dead, or at least not viable. When women with child long for coals, the appearance of these things is to be seen on the child's head. (For the opinions of the ancients on the effect of imagination on the fœtus in utero, see the commentary on B. I., § 1, of PAULUS ÆGINETA, Syd. Soc. edition.) Some ridiculous things are contained in this work, such as the following; when a man wishes to beget a male child let his left testicle be tied, and when a female the right.[255] The

composition of suppositories for cleansing the uterus is described at considerable length towards the end of the treatise. Altogether, the work is by no means devoid of interest, but, as I have already said, it is certainly not the composition of Hippocrates. Littré, on the authority of the passage quoted from Aristotle on this head, refers the treatise to Leophanes. From the account which we have given of its contents, it will be remarked that the title and contents of it do not well accord together. This remark, however, applies to other of the Hippocratic treatises besides the one we are now treating of.

XLII. Περὶ γυναικείης—*On the Female Nature*.

As Foës remarks, this work is mostly made up of excerpts from the treatise "De Muliebribus." I need not, therefore, occupy time in discussing its claims to be regarded as genuine, nor in giving an outline of its contents.

XLIII. Περὶ καρδίης—*On the Heart*.

Galen, in one place, appears to cite a passage in this treatise, but without naming it.[256] It is not found in Erotian's list, and all the modern authorities, including even Foës, who is more disposed than most of the others to deal leniently with the claims of the treatises which bear the name of Hippocrates, concur in refusing to admit it as genuine. Still, however, there can be no question as to its being a work of very high antiquity. It is to be regretted, then, that the text is in a very unsatisfactory state. It contains, upon the whole, a wonderfully accurate description of all the parts about the heart—of its substance, which is said to be a strong muscle; of its pericardium, which is described as being a smooth tunic, containing a little fluid resembling urine; of its ventricles (γαστέρες); of its auricles (ὄυατα); of the origin of the veins from it; of its sigmoid valves; of its office, to be, as it were, the fountain head, from which all parts of the body are irrigated, and the seat of the understanding, which is said to be in the left ventricle. The understanding, it is added, is not nourished by the blood, but by a pure and luminous (φωτοειδὴς) superfluity from it. Altogether, this little treatise bespeaks much practical acquaintance with human anatomy, and, considering the age in which it was written, must be the production of a very superior mind. It contains an account of an experiment which has been

much animadverted upon, both by ancient and modern authorities. The writer says, if a colored fluid be given to an animal, such as a sow, to drink, and if its throat be cut while it is in the act of swallowing, it will be found that part of the fluid has passed down by the gullet to the lungs. See in particular Aulus Gellius (Noctes Atticæ, xvii., 11); Macrobius (Saturnal. vii., 15); and Plutarch (Sympos. vii., 1.) Aulus Gellius says decidedly that Plato had adopted this opinion from Hippocrates. Aulus Gellius and Macrobius also quote Plutarch as having stated, in his 'Symposiacon,' that Hippocrates is the author of this opinion; but the text of Plutarch (l.c.) is in an unsatisfactory state. See Schulze (Hist. Med. i., iii., vi., 12.)

XLIV. Περὶ τροφῆς—*On Aliment*.

It must be admitted that this treatise has very high authorities in favor of its authenticity, such as Erotian, Galen,[257] Aulus Gellius,[258] Palladius,[259] Stephanus;[260] and, in modern times, Mercuriali, Foës, Haller, and Le Clerc.[261] It is rejected by Casper Hoffman,[262] Gruner, Ackerman, Kühn, Littré, and Greenhill, though, by the last two, not in decided terms. Considering the respectability of the external evidence in its favor, I should certainly not have hesitated in admitting it as genuine, had not a careful examination of its contents led me to form the unbiassed decision that it must be the production of some metaphysician, rather than of a medical practitioner, such as we know Hippocrates to have been. The physiological dogmata with which it abounds are announced in so antithetical, not to say paradoxical, a manner, that I can conceive nothing more foreign to the style and character of the true writings of Hippocrates. I shall give a few specimens:—"The species of aliment is one and many; all these (kinds of aliment?) are one nature and not one. Purging is upwards and downwards, and neither upwards nor downwards. Purging in aliment is excellent, purging in aliment is bad. Aliment not aliment, unless it conveys nourishment; it is aliment in name but not in deed; aliment in deed and no longer in name only. Sweet and not sweet; sweet potentially, as water, sweet to the taste, as honey. Things not animals are animated; animals are animated, the parts of animals are animated. It (the embryo) is and is not." Now, I must say, that all this appears to me to savour more of the taste of Democritus than of Hippocrates himself. It may be said, indeed, that the very circumstance of Galen's having admitted the work as genuine, and

having composed an elaborate commentary on it, is a most presumptive proof of its authenticity; for where shall we find so excellent a judge of the doctrines of Hippocrates as his great commentator? But then it must be taken into account that Galen himself had a great *penchant* towards metaphysical subtleties, and this would lead him to believe that what was in accordance with his own tastes must have been in accordance with those of his great professional hero. But, notwithstanding the doubts which hang over the question of its authorship, it may be confidently affirmed regarding this treatise that, illustrated as it is by Galen's commentary (even although it has come down to us in a mutilated state), few works in the Collection are more suggestive than the present one. I shall merely give a few more specimens of it:—"The root of the veins is the liver, and the root of the arteries is the heart; and from them blood and spirits are carried to all parts, and heat passes to the same." This passage is frequently quoted and commented upon by ancient authors; as by Galen,[263] and Aretæus.[264] We have seen it stated in the preceding treatise that the heart is the place from which both veins and arteries originate. This seems a presumptive proof that these two treatises must have had a distinct authorship. "The aliment reaches to the hairs, the nails, and the outer surfaces from within; and aliment from without passes from the most external to the most internal parts, there is one conflux and one conspiration (ξύρροια μία, ξύμπνοια μία). All parts sympathize throughout the whole frame, but in so far every part has its own peculiar action." This passage, also, is very celebrated and frequently quoted.[265] I need scarcely remark that it embraces a grand and most important view of the animal economy. "Milk is food to some with whom it agrees, and to others not. To some wine is food, and to others not; and so with flesh and many other kinds of aliment. We must look to situation and habit. Humidity is the vehicle of food. The natures (instincts?) of all things are untaught. Persons who perspire freely are weak, more healthy, and have easier recoveries than others. Those who perspire ill are stronger than others before they become indisposed, but being indisposed have more difficult recoveries. These remarks apply to the whole and to the parts."

From these specimens it will be readily seen that the work abounds in curious matters, but of a very different stamp from those which the true Hippocratic treatises contain. Contrary, then, to my general rule, I certainly

feel disposed in the present instance to reject, upon internal evidence, a treatise which has the most unexceptionable external evidence in its favor.

XLV. Περὶ σαρκῶν, ἢ ἀρχῶν—*On Fleshes, or Principles*.

This treatise does not appear in Erotian's list of the Hippocratic works, and it is rejected by all the modern authorities, from Mercuriali downwards. Galen is inconsistent in his notice of it.[266] Some of the philosophical dogmata which it contains are curious, such as the following specimen: "It appears to me that what we call heat is immortal, and that it knows all, sees, hears, and perceives all things that are and will be.[267] When things, then, were thrown into confusion the greater part of this passed off to the highest circle, and this it is which the ancients called ether." The following extract is held by Gruner, but probably without any good reason, to evince a degree of anatomical knowledge in advance of the age of Hippocrates: "There are two hollow veins from the heart, the one called the artery, and the other the vena cava. The artery has more heat than the vein." The other veins are also described with considerable accuracy. It is stated that the fœtus in utero sucks in fluid (liquor amnii?) by its lips, and in proof of this the author remarks that the child voids fæces soon after delivery, which, it is argued, must be derived from food. The opinion thus stated has been often maintained in modern times, but does not appear to be well founded. The author mentions correctly that persons in attempting to commit suicide open the trachea, in which case, he adds, the patient lives, but loses his voice until the opening be closed. Conringius and Haller, with considerable plausibility, but yet without any direct proof, attribute this treatise to Democritus.

XLVI. Περὶ ἑβδομάδων—*On Hebdomads*.

This treatise exists now only in the Latin translation, which M. Littré has discovered in the Royal (*National*, it is now called!) Library in Paris, and will be published in his edition of the works of Hippocrates. M. Littré gives an elaborate and most interesting disquisition on it, and seems to make out clearly that it is the production of the same author as the treatise "On Fleshes," which we last noticed. It is cited by Philo Judæus,[268] and several other writers of antiquity. Galen, however, held it not to be the

production of Hippocrates. A considerable extract from it is contained in the tract “On Critical Days,” and the eighth section of the Aphorisms, which has always been looked upon as spurious, is said by M. Littré to be mostly taken from this treatise.

XLVII. Περὶ ἀδένων—*On the Glands*.

Erotian makes no mention of this treatise, and Galen pronounces it to be the work of the recent Hippocratists.[269] M. Littré remarks, and with great truth, that it is difficult to find out the grounds upon which the ancient critics have rejected this work. Certain it is that it contains a goodly store of interesting matters, none of which, as far as I can discover, are inconsistent with the true doctrines of Hippocrates. In it a pretty correct description is given of the glands, including those of the mesentery. The brain itself is said to be of glandular nature, and also the kidneys. An ingenious account is also given of the origin of scrofula, which is said to be produced by the lodgment of humors in the glands of the neck, which get into a state of slow inflammation. Glands, the author says, are seated mostly in parts of the body which most abound in humidities, such as the armpits and groins, and hence such parts produce hairs. In the case of the mesentery, however, no hairs are produced, because the humidities here are excessive, and choke up, as it were, the seeds of the hairs; in like manner as seeds sown in marshy grounds perish. A very ingenious account is given of the origin of phthisis, which is said to spring from tubercles in the lungs and matter (pus), which corrodes the lungs when “the patients do not readily recover.” A curious description is next given of the tabes dorsalis, “in which disease the patient does not wish to live.” How expressive this language is of the state of mind in the case of the unfortunates who are subject to spermatorrhœa! The treatise concludes with some striking remarks on the sympathy between the mammæ and uterus, and on the influence which both exercise on the development of the female character. Altogether the contents of this treatise are most valuable, and may suggest important views to the medical practitioner and physiologist, even at the present day. We need have no hesitation in pronouncing, with regard to it, that it reflects infinite credit on the school from which it emanated, and that it is not unworthy of Hippocrates, although we have reason to believe that he was not actually the author of it.

XLVIII. Περὶ φλεβῶν—*On the Veins*.

This is merely an excerpt from the treatise “On the Nature of the Bones.”

XLIX. Περὶ ἰητροῦ—*On the Physician*.

I may mention in this place, generally, that the treatises which follow have no ancient authority in support of them, and that, with very few exceptions, they are also rejected by all the modern critics. Their contents, moreover, are not of much practical importance, and therefore I shall be very brief in my analysis of them.

The treatise in question is held to be genuine by no one critic, as far as I know, with the exception of Foës, who appears, in part, to sanction its claims. The object of the author is announced to be in order to instruct the physician how to conduct matters connected with the iatrium, that is to say, with his establishment or surgery. Mercuriali, I may mention, is unjustly severe in his animadversions on the exordium. (See Conringius, Introd. p. 120.) The physician should have a healthy look himself, for the writer says, people fancy that a person who does not keep himself in good health is not qualified to take charge of the health of others. He should be of a prudent disposition and a gentleman in morals.[270] Minute directions are given respecting the site and other circumstances connected with the iatrium: clean and soft towels are to be at hand, linen is to be used for the eyes, and sponges for the sores. In supplying bandages, attention is to be paid to utility rather than to display. The surgeon should pay great attention to all matters connected with this operation: for it is attended with much disgrace when any manual operation does not succeed. Minute directions are given about the performance of venesection at the arm, and mention is made of several untoward accidents connected with it, such as the blowing up of the vein, whereby the flow of blood is stopped; and suppuration following as a consequence of the operation. In order to acquire dexterity in the treatment of accidents, the author recommends the young physician to attach himself to some foreign army; and from this Gruner infers, that the work cannot belong to Hippocrates, as domestic wars were but too common in his time; and there could have been no necessity for the surgeon’s seeking foreign service in order to gain experience. It does not occur to me, however, that

there is much force in this argument; for intervals of peace were just as common during the long life of Hippocrates, as during the interval between his death and the time when the Collection was made. But, in fact, there is no necessity to seek recondite reasons for rejecting a treatise which has no proper authority in support of it.

L. Περὶ εὐσχημοσύνης—*On Decorum*.

This work, like the last, has not the slightest claim to be looked upon as genuine. Moreover, it has come down to us in a very unsatisfactory state as regards the text, so that the meaning is often very dark and uncertain; and I must confess that, as a general rule, I have little inclination to spend much time in searching out a meaning, in obscure writings, when, after it is discovered, it is not likely to repay the exertions made in discovering it. I am always disposed to remember the advice which Galen repeatedly gives to the student of medicine, "to concern himself more about things than about words."[271] The object of the author seems to be to give general directions with regard to decorum in the physician's communication with the sick. It is evidently the production of some sophist, according to Bernard, of some one belonging to the Stoical sect. I shall be brief in my abstract of it. A philosophical physician is equal to a god. In the practice of medicine all the virtues relating to wisdom are exercised; namely, contempt of money, decency, modesty, simplicity in dress, character, judgment, quietness, accessibility, purity of life, sententious maxims, knowledge of the purifications which are proper and necessary in life, abstinence from lucre, freedom from superstition, divine excellence. The physician should keep himself aloof, and not hold much converse with the common people, unless when necessary. The surgeon should be well provided with all the means required in the practice of his profession, such as dressings, medicines, instruments, and so forth, as any deficiency in these might produce serious results. Minute directions are given for the regulation of the physician's address in entering the chamber of the sick, and his conduct while there.

LI. Παραγγέλιαι—*Precepts*.

This little tract stands altogether in much the same circumstances as the preceding one, that is to say, it is wholly destitute of all good authority in its

favor, and the nature of its contents is what might rather be expected from a sophist than a practical physician. The text, moreover, is in a most unsatisfactory state. I shall dismiss it then with a very brief notice. It opens with an advice to the physician not to trust to speculation but to rational experience. He ought to learn remedies from all quarters, even from the vulgar, and not be avaricious in his dealings with the sick, more especially if strangers and needy. The author alludes, as Schulze thinks, to the practice then followed by the physicians of migrating from one city to another, and of making a public declaration of their pretensions at their first entry into any place. These physicians were called *periodeutæ*. The author of this tract advises the physician, in such a case, not to make any vainglorious or inflated profession of his abilities. He also enjoins the medical practitioner to look to the health of those who are free from disease, as well as those who was indisposed.

LII. Περὶ ἀνατομῆς—*On Dissection*.

This small fragment of ancient anatomical science has no claim to be regarded as the work of Hippocrates. Neither Erotian nor Galen, nor any other ancient critic, holds it as such, and the modern authorities are unanimous in rejecting it. That it may have been the composition of Democritus, as suggested by Gruner, seems not unlikely. It abounds in harsh and obsolete terms, which have never been satisfactorily explained. Some parts of the anatomical description are difficult to determine, as for example, “the large bronchia which extend from the heart to the liver;” “the vena scalena, which extends from the liver to the kidneys.” The latter passage, however, may be supposed to refer to the emulgent vein.

LIII. Περὶ ὀδοντοφυίης—*On Dentition*.

This little tract is destitute of any competent evidence of its authenticity. Some of the observations contained in it bespeak a familiar acquaintance with the diseases of infancy. Thus it is said, that when the bowels are loose at the term of dentition, if the digestion be good, the children thrive, and are not subject to convulsions. When children at the breast vomit up their food, the bowels are constipated. When there is fever accompanying dentition, children are seldom attacked with convulsions. But when there is heavy sleep along with dentition, there is danger of convulsions. All the children

that are seized with convulsions at the time of dentition do not die. Children that take food during dentition bear vomiting best. Ulcers on the tonsils are attended with danger.

LIV. Περὶ ἐγκατοτὸμης ἁμβρύου—*On Excision of the Fœtus*.

No one stands up for the genuineness of this treatise,[272] which, however, is not wanting in interesting matter relative to the extraction of the fœtus in cross-presentations. For an abstract of the practice there recommended, see PAULUS ÆGINETA, Vol. II., p. 389, Syd. Soc. edition. A circumstantial description is also given of the process of *succussion*, the dangerous effects of which, in certain cases, are related in the Epidemics.

LV. Περὶ ὄψιος—*On Vision*.

This little fragment is admitted by all the authorities to be spurious. It contains a description of glaucoma, for which purging of the head and the application of the actual cautery are recommended, and also in certain cases venesection. In epidemic ophthalmy, purging both of the head and bowels is recommended.

LVI. Περὶ ὀστέων φύσιος—*On the Nature of the Bones*.

M. Littré has very ingeniously shown that this work is a compilation made up of fragments of other works, and thus he has announced his intention of excluding it altogether from the Hippocratic Collection. Certain it is, beyond all dispute, that the treatise is not the production of Hippocrates himself. The following are a few of the most notable things which I have observed in it. “It appears to me that what we call heat is immortal, and that it understands, sees, hears, and perceives all things that are and will be.” The heat, it is further said, is the origin of all movement in animals. This will be recognized as the original of the doctrine of the *Calidum innatum*, which figures in the works of our earlier physiologists in modern times. See the works of Harvey and the other physiologists of the seventeenth century; also what is said on this subject in the next section. The aorta and vena cava are correctly described, the one as an artery, the other as a vein; and their origin from the ventricles of the heart is noticed. The author states (p. 440, ed. Kühn), that he had known cases of attempted

suicide in which the windpipe had been opened, and yet death did not ensue; only while the opening remained the person lost the power of speaking. See No. XLV.

LVII. Περὶ κρισίων—*On the Crises*.

This tract has no ancient authority whatever in support of it, and Foës, Gruner, and Littré concur in holding it to be a compilation from other Hippocratic treatises, more especially the Aphorisms and Prognostics. This, indeed, must be obvious to every person who reads it with any attention.

LVIII. Περὶ κρισίμων—*On Critical Days*.

This treatise stands in the same predicament as the preceding one, that is to say, it has no ancient authority in support of it; indeed Galen declares against it when he says that Hippocrates had not given any work on the Critical Days. (Tom. iii., p. 440; ed. Basil.) It is manifestly a compilation from the other treatises, more especially from those "On Internal Diseases" and "On Diseases." Still it appears to me to be an interesting and well-written compilation. For example, it would be difficult to point out in any other work, ancient or modern, a better description of pneumonia than is given towards the conclusion of it. Tetanus also is accurately described. To be sure, Gruner infers, from the circumstance that three varieties of this disease are described, that the work in question must have emanated from the Cnidian school. But Aretæus, and, indeed, all the ancient authorities that treat of tetanus, describe three varieties of this disease; and therefore this is no good reason for excluding it from the Coan school.

LIX. Περὶ φαρμάκων—*On Purgative Medicines*.

Though it must be admitted that this little fragment can boast of no competent authorities to establish its claim to be placed among the genuine works of Hippocrates, it bears undoubted marks of having been written by some person well acquainted with his principles, and having no ordinary acquaintance with professional matters. Thus the author states very correctly the effects of idiosyncrasy in modifying the operation both of purgatives and emetics, and advises the physician to make inquiry beforehand what effects such medicines, if formerly taken, had produced on

the patient; for, he adds, it would be a disgraceful casualty to occasion a man's death by the administration of a purgative medicine. He also interdicts the administration of purgatives during the heat of a fever, and during the very hot seasons of the year. These practical rules appear to me to be highly important, and yet how frequently do we see them disregarded! At the time we have mentioned, the author prudently remarks that it is safer to administer a clyster.

LX. Περὶ ἐλλεβορισμοῦ—*On the Administration of Hellebore*.

This little tract is usually published among the *Epistolæ*, and, as a matter of course, it has no evidence in support of its genuineness further than they have, which, as we shall presently see, is very slender. It contains, however, very acute and important observations on the administration of hellebore, to which it is well known that the Hippocratists were very partial. But these are mostly extracted from the Aphorisms, and need not be noticed in this place. The Book of Prognostics also is quoted, but seemingly by mistake.

LXI. Ἐπιστολαι—*The Epistles*.

No scholar can require to be informed that, since the memorable controversy in this country between the Honorable C. Boyle and the celebrated Dr. Bentley, respecting the authenticity of the Epistles which bear the name of Phalaris, the whole of the "Epistolæ Græcanicæ" have been generally condemned as spurious. Against this judgment I have no intention to protest; but I may be allowed to remark that many ancient works which are usually acknowledged as genuine have not so much external evidence in their favor as these Epistles possess. The Epistles ascribed to Plato, for example, are quoted as genuine by Cicero,[273] and by Diogenes Laertius.[274] Those of Hippocrates, too, are quoted and recognized by Erotian, Soranus, and other ancient authorities. Still, however, as I have stated, I have no intention to stand up against the general opinion of scholars from the Scaligers down to the present time, by which they have been condemned as supposititious; only I contend that, as it is admitted on all hands that they are very ancient,[275] that is to say, that they must have been composed within less than a hundred years after the death

of Hippocrates, it is utterly incredible that the Sophists who wrote them, whether for a fraudulent purpose that they might derive profit from them by passing them off for the productions of the great name they bear, or whether for the purpose of displaying their own skill in sustaining an assumed character, should have made them turn upon alleged occurrences in the life of Hippocrates which every person at that early period must have been able to judge whether they were fictitious or not. I see no reason, then, to doubt that the main facts to which these Epistles relate are real, although the Epistles themselves be supposititious.[276]

Having thus stated my opinion of these Epistles in general terms, I shall now dismiss them with a very brief notice.

They are differently arranged by modern authorities; I shall follow M. Littré in the few remarks which I have to offer upon them.

The first series of these Epistles relates to the services which Hippocrates is said to have rendered to the people of Athens during the time of the memorable plague. The spuriousness of these, it is generally held, is proved beyond all doubt by the silence of Thucydides with regard to any such professional services rendered by Hippocrates on the occasion; and no doubt if it were maintained that these took place at the outbreak of the disease in Greece, that is to say, at the commencement of the Peloponnesian war, the inference would be most legitimate. But if we be permitted to suppose that, as the plague is known to have lurked about in different parts of Greece for a considerable time, the services of Hippocrates did not take place until several years afterwards, there is nothing in the story which bears the slightest air of falsehood, even if we adhere to the common chronology respecting the birth of our author. Indeed, I repeat, if the Sophist who composed these letters had founded them on tales which everybody knew to be false, he could never have hoped to impose upon the learned men of the next generation, and make his forgeries pass for genuine.

The second series relates to Democritus, and these must be admitted to be the most interesting of the whole group. Now that Hippocrates visited Abdera, and that he was familiarly acquainted with Democritus, are facts

which the most sceptical critic will hardly venture to call in question.[277] But that the Epistles themselves were not written by the physician and philosopher whose name they bear, I readily admit to be probable. Most undoubtedly the letter of Hippocrates, in which he is made to describe his visit to Democritus, however full it may be of curious matters, is written in a style and manner very unlike the well-known characters of the true writings of Hippocrates.

Third. The short letter inscribed from Hippocrates to his son Thessalus, contains nothing from which its authenticity or the contrary could be legitimately inferred, only it is destitute of all ancient authority in its favor. In it the father recommends to the son the study of geometry and arithmetic, as a proper preparation to the study of medicine.

Fourth. This series, consisting of "The Oration at the Altar," "The Decree of the Athenians," and "The Oration of Thessalus, son of Hippocrates," although now generally regarded as spurious, possess more direct evidence in their favor than any of the others. In fact, they are decidedly recognized as genuine by Erotian. The documents in question have all reference to the services of Hippocrates and his disciples in the pestilence which pervaded Greece during the Peloponnesian war. These services are alluded to by many ancient authorities, as we have shown in the Commentary on PAULUS ÆGINETA, Book II., § 35. In conclusion, I repeat that, supported as the main facts referred to in these documents are by the highest testimony which antiquity can furnish, I cannot but regard the facts as true, although the documents themselves be given up as supposititious.

I will now briefly recapitulate the general results of the investigations on which I have been occupied in the present section:

1. That all the authorities, ancient and modern, who have investigated the question regarding the genuineness of the works which have come down to us under the name of Hippocrates, are agreed that a considerable portion of them are not the productions of the author himself.

2. That it is almost universally admitted that the following treatises are genuine, viz.:

The Prognostics.
On Airs, etc.
On Regimen in Acute Diseases.
Seven of the Books of Aphorisms.
Epidemics I. and III.
On the Articulations.
On Fractures.
On the Instruments of Reduction.
The Oath.

3. That the following treatises may be pretty confidently acknowledged as genuine, although the evidence in their favor is not so strong as it is with regard to the preceding list:—

On Ancient Medicine.
On the Surgery.
The Law.
On Ulcers.
On Fistulæ.
On Hemorrhoids.
On the Sacred Disease.

4. That as it certainly appears that the Book of Prognostics is composed, in a great measure, from the contents of the First "Prorrhetics" and the "Coacæ Prænotiones," there can be little or no doubt that these two treatises are more ancient than the time of Hippocrates.

5. That although the exact time at which the Collection, as it now stands, was made out has never been determined in a very satisfactory manner, an examination of the contents of the different treatises leads to the conclusion that most of them represent pretty faithfully the opinions held by the family of Hippocrates and his immediate successors in the Coan school of medicine.

6. That a few of them, and more especially the two important works "On Internal Affections," and "On Diseases," would appear to bear distinct traces of having emanated from the contemporary school of Cnidos.

7. That although the Epistles and certain public documents usually published at the end of the Collection may justly be suspected of being spurious, there is undoubted evidence that they are of very ancient date, and were composed, most probably, within less than a hundred years after the death of Hippocrates, so that there is every reason for believing that they relate to real events in the life of our author, and not to fictitious as some have supposed.

SECTION III.

ON THE PHYSICAL PHILOSOPHY OF THE ANCIENTS, AND MORE ESPECIALLY THEIR DOCTRINES WITH REGARD TO THE ELEMENTS.

As it is impossible to understand properly the medical theories which occur in the Hippocratic treatises without a competent acquaintance with the Physical Philosophy of the ancients, I have thought it necessary to devote an entire chapter to an exposition of the tenets held by the philosophers regarding the elements of things. I might have been able to dispense with this labor provided there had been any modern publication to which I could refer the reader for the necessary information on the subject in question; but, unfortunately, there is no work in the English language, as far as I am aware, in which the nature of the ancient doctrines is properly described. To give an example in point: Dr. Watson, the bishop of Llandaff, in his essay "On the Transmutability of Water into Earth," makes the following remarks on the ancient doctrine concerning the elements: "If but one particle of water can, by any means, be changed into a particle of earth, the whole doctrine of the Peripatetic sect concerning the elements of things will be utterly subverted: the diversities of bodies subsisting in the universe will no longer be attributed to the different combinations of earth, air, fire, and water, *as distinct, immutable principles, but to the different magnitudes, figures, and arrangements of particles of matter of the same kind*."[278]

Now it will at once be perceived by any person who is at all acquainted with modern science, that if the ancient dogmata be as here represented, they are altogether destitute of any solid foundation in truth and nature, and we may well wonder that such a baseless structure should have endured for so long a period. But before passing this severe judgment on the tenets of our great forefathers in philosophy, it will be well to investigate their doctrines more accurately than Dr. Watson appears to have done in this instance.

In pursuing the present investigation, I shall, in the first place, give literal translations of extracts from the works of the most celebrated sects of philosophers; namely, the Pythagoreans, Platonists, Peripatetics, Stoics, and Epicureans. It will, of course, be readily perceived, from what I have now stated, that I do not mean to confine my inquiry to the period of ancient

philosophy which preceded Hippocrates, but that I am to bring it down to a pretty late age. This course I find it indispensably necessary to follow, as I could not derive sufficient illustration of the subject were I to restrict myself to the works of the earlier philosophers, who either preceded our author or were his contemporaries. I shall first give the extracts by themselves, and then make some remarks in illustration of the doctrines which they expound. I think it proper to mention further, that I am answerable for the correctness of the translations in all cases, unless where it is otherwise stated.

THE PYTHAGOREANS.

"Fire being compressed produces air, and air water, and water earth: and from earth the same circuit of changes takes place till we come to fire."[279]

"In that part of the universe where Nature and Generation exert their powers, it is necessary that there should be these three things: In the first place, that thing which being tangible furnishes a body to everything which comes into existence. This is the universal recipient and substance of impression for things generated, bearing the same relation to things which are generated from them that water does to juice, and silence to sound, and darkness to light, and materials to the things fabricated from them. For water is void of taste and quality, bearing the same relation to sweet and bitter, and to sharp and salt. The air is unformed as to sound, or speech, or melody. And darkness is devoid of color and shape, and bears the same relation towards bright, and yellow, and white. But white bears reference also both to the statuary art and that which forms figures of wax. But matter admits of another comparison with the art of statuary. For all things exist in it *potentially* before they are made, but *actually* after they are made and have received their nature. In order, therefore, that there should be generation, it is necessary that there should be some one substance as a substratum. In the second place there are the *contraries*, in order that they may be changes and transmutations, the primary matter undergoing passion and affection, in order that the qualities (*or* powers, δυναμεις), being mutually passive, may not destroy, nor be destroyed, by one another. These (the contraries) are, heat and cold, moisture and dryness. In the third place are those substances in which these powers reside, namely, fire and water, air and earth. For these differ from the powers (qualities?) For the

substances are consumed in place by one another, but the powers are neither consumed nor formed, for they are the incorporeal reasons of these.[280] Of these four, heat and cold are causes, and active; but dryness and humidity are as the materials, and passive. In the first place there is matter, the universal recipient, for it is the common subject (*or* substratum) of all things, so that it is the first sensible body in potentiality, and the original of all things: next are the contraries, such as heat and cold, moisture and dryness; and in the third place there are fire, water, earth, and air: *these all change into one another*, but the contraries do not change."[281]

The primary matter is afterwards defined to be "the subject body, that which receives all the changes, the universal recipient, and that which potentially is the first to the touch."[282]

"The first principles of all created things are the substratum, matter, and the reason of shape; namely, form. The bodies are their offspring, namely, fire, air, earth, water."[283]

"Pythagoras taught that the original of all things is the monad, that from the monad sprung the duad, which is the subject matter to the efficient monad: that from the monad and infinite duad were formed the numbers: from the numbers the points; from them the lines, from these figures of superficies; from the superficies the solid figures; from these the solid bodies, of which are the elements, fire, water, earth, air:—*that from these, changed and converted into every shape*, is formed the world, which is animated, intelligent, of a spherical shape, comprehending in its middle the earth, which also is spherical and inhabited all round.[284]

"Pythagoras said, that none of the elements is pure, for that earth contains fire, and fire air, and water air, etc."[285]

"Nor those which elements we call abide,
Nor to this figure, nor to that are ty'd:
For this eternal world is said of old
But four prolific principles to hold,
Four different bodies: two to heaven ascend,
And other two down to the centre tend:
Fire first with wings expanded mounts on high,
Pure, void of weight, and dwells in upper sky:
Then air, because unclogged, in empty space
Flies after fire, and claims the second place;
But weighty water, as her nature guides,
Lies on the lap of earth; and mother Earth subsides.
All things are mixed of these, which all contain,
And into these are all resolved again:
Earth rarefies to dew; expanding more
The subtile dew in air begins to soar:
Spreads as she flies and weary of the name,
Extenuates still and changes into flame.
Thus having by degrees perfection won,
Restless they soon untwist the web they spun.
And fire begins to lose her radiant hue,
Mix'd with gross air, and air descends in dew:
And dew condensing does her form forego
And sinks a heavy lump of earth below,
Thus are their figures never at a stand,
But changed by Nature's innovating hand."[286]

THE PLATONISTS.

"Let us therefore say that the mother, *or* receptacle of every visible, nay of every sensible production, is neither earth, nor air, nor fire, nor water, nor any of the things which arise out of these, nor out of which these arise, but a certain invisible and formless being, the universal recipient, concerning which being, if we say that it is in a very dubious way intelligible, and something most hard to be apprehended, we shall not speak false."[287]

The primary matter "admits of everything, but partakes of no shape nor resemblance to anything which enters into it. It is the substance of impression[288] to everything in nature, being moved and altered by those things which enter into it (*the forms*?), and by their means it appears sometimes one thing and sometimes another."[289]

“In the first place, we see that which we call water, being compressed, become stones and earth. But being dissolved and expanded, it becomes breath and air. Air, by combustion, is converted into fire, which, being compressed and extinguished, assumes its original form. Fire and air meeting together, and being condensed, become cloud and vapor; and from the condensation of these, running water is formed. *And from water again, earth and stones are formed.*”[290]

Plato taught “that God, matter, and form, are the originals of all things:—that matter is increate and incorruptible, neither fire, nor water, nor any of the principles nor elements, but a substance capable of form and subject to fabrication: that when rude and deprived of every quality of configuration, God, the artificer, formed the universe from it. He taught, that matter is the original of all bodies, that it was stamped with the impression of forms, and hence were produced the elements, namely, fire, water, earth, and air.”[291]

“Earth contains water, and water, as some suppose, carries earth: air is formed from water, and from dense air fire is formed.”[292]

“There being four kinds of bodies, by the mutual changes of them the nature of the world is preserved. *For water is formed from earth*, and air from water, and ether from air: and then inversely, from ether, air; from air, water; and from water, earth, which is lowest in the scale.”[293]

“Those who have investigated matter, if they have formed any right conception of it, have agreed in considering it as the subject and receptacle of forms.”[294]

“Concerning the receptacle of bodies this may be said. In the first place, that there must be a certain substratum to bodies different from themselves, *is demonstrated by the transmutation of the elements into one another*. For that which is changed is not altogether consumed, or, if it is, a substance is changed into a non-entity. And neither has that which is born come into existence from nothing, but it has undergone a change from one form into another. For something remains which has received the new form and cast off the other. And this is shown by destruction, for it applies only to a compound body; and, if this be true, every such body is compounded of matter and form. Induction bears testimony to the truth of this, by showing, that whatever is dissolved was compounded; and analysis in the same

manner, as, for example, if a phial be resolved into gold, and gold into water; and water, in like manner, when it perishes, requires to be something analogous. But the elements must be either form, or primary matter, or a compound of form and matter. But they cannot be form, for without matter, how could they be possessed of bulk and magnitude? But they are not primary matter, for it is not consumed. It follows, then, that they must consist of form and the primary matter. But form regards quality and shape, but it (the primary matter) pertains to the subject which is indeterminate, (ἀόριστον *or* ἀόρατον) because it is not form."[295]

"Matter of itself is devoid of form, matter is the subject of all things."[296]

"The followers of Plato and Aristotle are of opinion, that there is a difference between the first principles and the elements. For, the elements are compounded, but the first principles are not compounded nor formed from any thing. What we call the elements are fire, air, earth, and water; but we call that a principle which has nothing from which it is formed, since otherwise it is not a principle, but that from which it is formed. But there is something antecedent to water and earth, from which they are formed; namely, the first matter which is devoid of shape and form; then there is form (which we call *entelocheia*) and privation."[297]

"Plato, wishing to prove that the elements have one common matter as a substratum to all, in his 'Timæus,' enters into a discussion regarding their transmutation into one another. But he being well acquainted with the art of demonstration, has treated properly of the change of the first bodies into one another. But Thales, Anaximenes, Anaximander, and Heraclitus, assuming each that there is some one element, endeavor to prove this from their changing into one another. Yet all these seem to me to have had an obscure idea (ὀνειράττειν) of some matter, which is a common substratum to all the elements, and seeing that it is single they supposed that there is but one element. But instead of saying that this is a common element from which the others, I mean air, fire, water, and earth, are formed, they passed it over altogether and endeavored to demonstrate the same thing of some one of the elements, all proceeding upon the same mode of demonstration, although they did not all make choice of the same element."[298]

"With regard to the old philosophers, called physical, it will be obvious to us when we read their writings on Nature, that they held the existence of a first matter which is increate and eternal, being the substratum to all created and perceptible things."[299]

"That the elements change into one another is admitted, even by the followers of Thales, it being so apparent. Hence it is inferred that the elements have one common matter for a substratum."[300]

Philo, the platonic Jew of Alexandria, in his treatise "On the Creation of the World," thus expresses his opinions regarding the original state of matter. "Whoever would wish to discover the cause why this universe was framed, would not be far from the truth, in my opinion, if he said with one of the ancients, that the Father and Maker of it is good, and for that reason he spared not to impart of his most excellent nature to a substance having nothing beautiful in itself, but possessing the capacity of becoming all things. Of itself it was devoid of form, quality, and life; and was full of contrariety, confusion, and dissonance."

"Moses, the chief of philosophers, and instructed in many of the most comprehensive secrets of Nature by oracles, was aware that it was most necessary that there should be in the universe an active cause and a passive subject. That the active is the most pure and perfect soul of the universe, more excellent than virtue, more excellent than knowledge, more excellent than even goodness and beauty. That the passive is of itself without life and motion, but being moved and figured, and enlivened by mind, it was changed into a most perfect work."[301]

His opinion regarding the elements may be collected from the following passages:—"Fire being extinguished is converted into thick air, and air being compressed subsides into water, and water being still more compressed is changed into earth, the densest of the elements."[302]

"Nothing that is pure can be comprehended by the senses."[303]

"The elements are inanimate matter, of itself devoid of motion, and subjected to the artificer, by whom it is transformed into all kinds of shapes and qualities."[304]

I shall venture to give under this head the opinions of one of the Arabian medical authors.

"It is to be kept in mind that the elements which are perceived by the senses, namely, fire, air, earth, and water, are by no means the pure elements, but such as are comprehended by the mind. These are not to be perceived by the senses. None of the others is pure, nor without some admixture."[305]

THE PERIPATETICS.

Aristotle defines the first matter as follows: "I call matter the first subject of everything, all things being formed from it existing in them not accidentally; and when anything is destroyed, it comes to this at last."[306]

In his Logical work he thus defines his ideas regarding the first substances, namely, mind and matter. "The first substances being the subjects of all other things, and as every other thing may be predicated by them and exists in them, are called the prime substances.[307] "We must distinguish the first bodies from matter, for we must suppose concerning them that they have a first principle and origin, namely, matter, which is inseparable from them, and is the subject of the contraries. For heat does not furnish the materials to cold, nor it to heat, but the subject to both. So that we have first the sensible body in potentiality, the first principle; then we have the contraries, I mean cold and heat; and thirdly, fire and water, and the like. These change into one another, and not as Empedocles and others say of them.[308]

"The *material* of all bodies, great and small, is the same. This is apparent; for when air is formed from water, the same matter, when it becomes another thing, acquires nothing new, only that which formerly existed in capacity now exists actually."[309]

The following extracts will show the opinions of his most celebrated commentators:

"Air and fire have one common character, namely, heat; therefore they readily change into one another. Air and water readily change into one another, for they have a common character, namely, moisture. In like manner, water and earth, for they have an alliance, namely, coldness."[310]

"The physical philosophers analyze any substance, as, for example, a man into head, hands, and feet; and these into bones, flesh, and nerves; and these into the four elements; and these again into matter and form."[311]

"Water is formed from air, and air from water, and fire from air, because they all have one common substratum, matter."[312]

The next two extracts will show the opinions entertained by Aristotle's successor in the Peripatetic school of philosophy.

"Of the simple substances, fire has peculiar powers. *For air, water, and earth, admit only of changes into one another*, but none of them can produce itself."[313]

"The nature of those substances called simple is mixed, and existing in one another."[314]

"The Peripatetics divided Nature into two things, the one of which is efficient, and the other that which furnishes it with the materials from which anything is made. Power exists in the one, and matter is the essence of the other."[315]

"The first principles are air, fire, water, and earth, for from them are formed all living things and the productions of the earth: they are therefore called elements; of these, air and fire have the power of moving and forming the others (I mean water and earth), of receiving or suffering. Besides these, Aristotle thought that there is a fifth element, from which the stars and the souls of individuals are made; but that all these had for a substratum a certain matter devoid of form and quality, from which all things are framed, a substance which has a capacity for all things, and admits of all changes, that when it perishes it is not reduced to nothing, but into its parts, which can be cut and divided infinitely, since there is nothing in Nature that is not divisible."[316]

THE STOICS.

"They are of opinion that the first principles of all things are two—the active and the passive: that the passive is matter, a being devoid of all qualities; the active, or efficient, is the reason (λόγος) residing in it, that is, God. That he, being eternal, fabricates all things from it all (all matter?).

That there is a difference between the first principles and the elements—that the former are increate and indestructible, whilst the elements are destructible by burning (ἐκπύρωσιν).—That the first principles are bodies devoid of form, whereas the elements are possessed of form. That God and Mind, Fate and Jupiter, are one and the same being under different appellations; that he formed the four elements, fire, air, water, earth."[317]

"Our Stoics say, that there are two principles in Nature from which all things are formed, namely, cause and matter. That matter lies inert, a being prepared for all things, but inactive, unless some one move it.—That cause, that is, reason, forms matter, and changes it at will. There must be something *by* which everything is made and *of* which it is made: the former is the cause, the latter the matter."[318]

"Some of our sect are of opinion that air, being changeable into fire and water, etc."[319]

"We are of opinion that earth is changeable. To this we may add that all things are formed from all things—air from water—water from air—fire from air—air from fire; *why, then, should not earth be formed from water, and water from earth?* Earth is formed from water—why then not water from earth?"[320]

"The Stoics divided Nature into two things, the one of which is the efficient, and the other that which furnishes itself as the materials from which anything is made."[321]

Suidas says, regarding the first principles: "The first principles of all things are two, the efficient and the passive. The passive, then, is a being devoid of qualities—earth, matter. The efficient is the reason residing in it, namely, God. The principles and elements are different, inasmuch as the former are increate and indestructible, while the elements are destructible by burning. Besides, the first principles are without body and form, but the elements have form."[322]

"Zeno, the son of Mnaseas, the Citiensian, taught that there are two principles, God and matter, the one efficient and the other passive; and that there are four elements."[323]

"The Stoics maintain that the first principles are two, God and matter; not that they consider God as an element, but as the active principle, whilst matter is the passive."[324]

"Always remember the saying of Heraclitus, *that the dissolution of earth is to become water, and the dissolution of water to become earth; and the dissolution of air to become fire, and conversely*."[325]

"Contemplate the courses of the stars as if carried about with them, and frequently revolve in your mind the mutual transmutations of the elements into one another."[326]

"Acquire the habit of contemplating the transmutation of all things into one another."[327]

"Fire, air, water, earth, were so formed by Nature as to furnish aliment by turns to one another."[328]

THE EPICUREANS.

"Therefore all those who teach things took their birth
From simple fire, or water, air, or earth,
Lie under palpable mistakes. And those
That teach from doubled elements they rose,
As air and fire, as earth and water joined,
Or all four, earth, air, water, fire combined:
Thus sung Empedocles.

* * * * *

If all things from four elements arose,
And are again by death dissolved to those:
What reason we should rather fondly deem
Them principles of things, than things from them?
For they alternately are changed and show
Each other's figure and their nature too."[329]

The following passage will show the opinions of Democritus, the contemporary and friend of Hippocrates, from whom Epicurus took his system of physics.[330] "He taught that the atoms are infinite in magnitude and number, that they revolve in all space, and that thus they formed *the compound bodies fire, water, air, earth*; for that even these are composed

from the atoms, which are impassive and unchangeable owing to their hardness."[331]

These extracts prove clearly that the great philosophers of antiquity stand acquitted of having held the erroneous opinions generally ascribed to them respecting the elements of things, and that nothing can be farther from the truth than the account of the Peripatetic doctrines given by Dr. Watson. Instead of maintaining, as he carelessly represents, that "earth, air, fire, and water are distinct, uncompounded, immutable principles;" they taught, on the contrary, as we have shown, that all the elements are modifications of one common substance called the primary matter, and consequently they held, like himself, that "the elements are different magnitudes, figures, and arrangements of particles of matter of the same kind." This primary matter they demonstrated to be devoid of all quality and form, but susceptible of all forms and qualities.[332] In the language of the Peripatetics, it is everything in capacity, but nothing in actuality. They held that there are two original principles, both increate and indestructible; the one matter, the universal passive principle[333]—the material *from* which all things are formed; and the other, the efficient cause *by* which all things are made:—that the one is possessed of universal privation, and the other of universal energy:—that it is the one which *impresses*, and the other which *receives* the forms of all things. They maintained that the original materials out of which all objects in the universe are composed being the same, bodies owe their characteristic qualities not to their substance, but to their form. The elements, then, according to the notions of the ancient philosophers, are the first matter arranged into certain distinguishing forms by the efficient cause. That form with which solidity is associated they call earth, under which they ranged all metals, stones, and the like, for all these they held to be allied to one another in nature, as well as in the form under which they are presented to our senses. The next arrangement of created substances is that which constitutes fluidity, and is called water, under which term they comprehended not only the native element, but every other modification of matter which assumes a similar form, namely, all juices of vegetables and fluids of animals.[334] Some of their earliest speculators in philosophy maintained that all the materials which compose the universe existed at one time in this form; and it is curious to reflect that modern geology has reproduced nearly the same doctrine. The third form of matter, as presented

to our sense of touch, is air, under which the ancient philosophers comprehended all matter in an aërial state, such as water converted into vapor, and what are now called gases. Whether or not they believed the atmosphere which surrounds this earth to be a homogeneous substance, in nowise affects the general principles of their philosophy; for it is the same thing, as far as regards their classification, whether they held that the atmosphere consists of one or of several distinct combinations of the primary matter with form. As they were well aware that several distinct modifications of matter are comprehended under each of the other elements, it can hardly be doubted that they inferred the like of air; and, indeed, it is quite apparent from the works of Galen that he knew very well that some kinds of air are favorable, and others unfavorable to respiration and combustion.[335] But those phenomena which we ascribe to oxygen gas, they, without doubt, would have attributed to the operations of some modification of the element fire. By fire, they meant matter in its extreme state of tenuity and refinement. Of this elementary principle, Plato[336] and Theophrastus[337] have enumerated many varieties, and have speculated regarding their nature with great precision and acuteness. The ancient philosophers believed that fire is universally diffused through the universe, being sometimes in a *sensible*, and sometimes in a *latent* state; or, as Aristotle expressed it, heat exists sometimes in capacity, and sometimes in energy.[338] They attributed the phenomena of lightning to an unequal distribution of this elemental fire.[339] This is the element with which they supposed life to be most intimately connected; and, indeed, some of them would appear to have considered fire as the very essence of the soul. “I am of opinion,” says the author of one of the Hippocratic treatises, “that what we call heat is immortal, and understands, sees, and hears all things that are or will be.”[340] This doctrine, which, to say the least of it, is not very judiciously expressed in this passage, is thus corrected by the great master of logic and philosophy: “Some,” says Aristotle, “improperly call fire or some such power the soul; but it would be better to say that the soul subsists in such a body, because heat is, of all bodies, the one most obedient to the operations of the soul; for to nourish and move are the operations of the soul, and these she performs by the instrumentality of this power (*or* quality?). To say that the soul is fire, is as if one were to call a saw or a wimble the artisan or his art, because his work is accomplished in co-

operation with these instruments. From this it appears why animals stand in need of heat."[341] And in like manner he says, in another of his works: "Some are of opinion that the nature of fire is plainly the cause of nourishment and of growth; for it appears to be the only body or element which nourishes and increases itself. Wherefore one might suppose that it is this that operates both in plants and in animals. Yet it is but the co-cause (συνάιτιον); for *it* is not, properly speaking, the cause, but rather the soul. For the increase of fire is indeterminate in so far as it is supplied with fuel. But of natural substances there is a certain limit and reason (λόγος) of magnitude and increase. This belongs to the soul rather than to fire, to the reason rather than to the matter."[342]

From these observations, coupled with the information supplied in the preceding extracts, it will be perceived that, although there be, at first sight, a great discrepancy among physical doctrines of the ancient philosophers, they differed, in fact, much less than they would appear to do, only that some of them expressed themselves more scientifically than others in handling the subject of the elements. Thus, although Thales seems to hold *water*, and Anaximander *air*, and Heraclitus *fire*, to be original principles, we have every reason to believe that, as Galen says (l. c.), even they had an idea that these are not simple substances, but merely modifications of one unformed principle, the first matter, from which they conceived that all bodies in the universe are constructed. Contrary, then, to what is very generally supposed, it would appear that there was at bottom no very great difference of opinion between the philosophers of the Ionic school and those of the other sects, namely, the Pythagoreans, Platonists, Peripatetics, Stoics, and Epicureans; and further, that, from the earliest dawn of philosophy, down to the time when it fell into neglect and came to be misunderstood, the physical doctrines of the philosophers underwent but little variation.

From the elements, then, constructed in the manner now explained, out of the primary matter, the ancient philosophers taught that all the secondary bodies in the universe are formed, and as they maintained the transmutability of the elements into one another, so, in like manner, they did not hesitate to proclaim it as a great general truth "that all things are convertible into all things."[343] The possibility, then, of such permutations will not, I presume, be questioned by any one who has formed correct ideas

of the powers of the Great First Cause, and the capacities of the first subject, Matter, and that such permutations do actually take place in the course of Nature may be inferred from many phenomena of daily occurrence in the vegetable and animal world. It cannot have escaped the most careless observation what changes the great pabulum, water, undergoes in the process of vegetation—how it is converted into various woods, and barks, and leaves, and flowers, all of which are resolvable, by the process of decay, into air, or reducible into earth. It is also well known that, although a more unfrequent occurrence, all the solid parts of a tree may undergo a mutation into rock, that is to say, may become petrified. But it is in the higher classes of animals that these changes of simple matter admit of the greatest variety. Let us contemplate for a moment some of the most remarkable mutations which any article of food (as, for example, flour-bread), which has been presented to the stomach, is destined to undergo in the animal frame. We know that the vital powers of the stomach will convert the starch, of which it principally consists, into a fluid state, that is to say, into what is called first chyme, and afterwards, when it has undergone some further change, is denominated chyle by the physiologists. Having been thus changed, it passes, by a process about the nature of which physiologists are still strangely divided in opinion, into certain vessels; and then, in some manner still less understood, it is converted into a fluid *sui generis*, called blood, abounding in globules of a singular construction, all fabricated, no doubt, from the food, but, by some occult process, which has hitherto defied the skillful manipulation of the chemist, and the accurate observation of the microscopist, to explain in any satisfactory manner.[344] And so complete is the transformation that scarcely one particle of the original food can be detected in the new product by all the vaunted tests of modern science. But blood is soon after converted into many other fluid and solid substances—into bones, cartilages, muscles, and vessels, and into bile, mucus, and other recrementitious matters, all differing greatly from one another, both in their appearances and in their properties.[345] And when all the component parts of the animal frame are constructed, and each seems to have acquired a determinate structure, should the vital actions by which they are formed become deranged, we may see the fair fabric undergo the most wonderful mutations, so that arteries are converted into bones, and bones into flesh and jelly.[346] So many and so extraordinary are the changes which a simple alimentary substance may undergo in the animal frame! And

if we admit, with the ancient philosophers, that every such substance is resolvable into one or more of the elements, and that all the elements are but different modifications of one common matter, how wonderful a thing must Form be, since it imparts such varied appearances and qualities to one common substratum?

In detailing these opinions of the ancient philosophers, it is not my present business to determine whether they be true or not; my task is fulfilled, if I have given a distinct and faithful exposition of them, so that their real import and meaning may be readily comprehended by the medical reader. I may be allowed to remark, however, that, strange although that Protean being, the primary matter, may appear to be to such men of science as are not disposed to recognize the existence of any substance which cannot be subjected to their senses, and who refuse to admit the legitimacy of every process of analysis, but what is conducted in the laboratory of the chemist, opinions similar to those of the ancient philosophers have been held by some of the most profound thinkers and distinguished experimentalists of modern times. Thus Lord Bacon, the reputed father of the inductive philosophy, appears to admit all the tenets of the ancients regarding the first matter, which, like them, he considers to have been embodied in the Homeric fable of Proteus.[347] He says, in reference to it, "that under the person of Proteus is signified *Matter*, the most ancient of all things, next to the Deity; that the herd of Proteus was nothing else than the ordinary species of animals, plants, and metals, into which matter appears to diffuse, and, as it were, to consume itself; so that, after it has formed and finished those several species, (its task being, in a manner, complete,) it appears to sleep and be at rest, nor to labor at, attempt, or prepare any species farther."[348] That learned and accomplished scholar, Mr. Harris, in his work on "Philosophical Arrangements," writes thus on the subject we are now treating of: "Here, then, we have an idea (such as it is) of that singular being, the Primary Matter, a Being which those philosophers who are immerged in sensible subjects know not well how to admit, though they cannot well do without it; a Being which flies the perception of every sense,

and which is at best, even to the intellect, but a negative object, no otherwise comprehensible than either by analogy or abstraction.

"We gain a glimpse of it by abstraction, when we say that the first matter is not the lineaments and complexion which make the beautiful face; nor yet the flesh and blood which make these lineaments and that complexion; nor yet the liquid and solid aliments, which make that flesh and blood; nor yet the simple bodies of earth and water, which make those various aliments; but something which, being below all these, and supporting them all, is yet different from them all, and essential to their existence.

"We obtain a sight of it by analogy when we say that, as is the brass to the statue, the marble to the pillar, the timber to the ship, or any one secondary matter to any secondary form; so is the First and Original Matter to all forms in general."[349]

Nay, the illustrious Sir Isaac Newton would seem, in the following extract, to countenance the profound speculations of the ancient philosophers with respect to the elements, and the transmutations of these substances into one another. He says, "Are not gross bodies and light (*or* ether) convertible into one another?—and may not bodies receive much of their activity from the particles of light which enter into their composition? The changing of bodies into light and of light into bodies is very agreeable to the course of Nature, which seems delighted with permutations. Water, which is a very fluid tasteless salt, she changes by heat into vapor, a sort of air; and by cold into ice, which is a hard, pellucid, brittle, fusible stone, and this stone returns into water by heat, and vapor returns into water by cold. Earth, by heat, becomes fire, and by cold returns into earth."[350]

I may further mention that all the late researches of chemical philosophers have tended to confirm the tenets of the ancients regarding the Elements. Thus in that very singular performance "The Elements of Physiophilosophy," by Dr. Lorenz Oken, the productions of the mineral kingdom are classified, very much in accordance with the ancient arrangement, into four classes, namely, into Earth-earths, Water-earths, Air-earths, and Fire-earths.[351] It is also well known that chemical experiment has lately established that several animal and vegetable substances, such as albumen, fibrin, and casein, which were formerly looked upon as distinct

substances, are all but modifications of one substance, which is now regarded as the original of all the tissues; and further, that protein, in every respect identical with that which forms the basis of the three aforesaid animal principles, may be obtained from similar elements in the vegetable kingdom.[352] And if every step which we advance in the knowledge of the intimate structure of things leads us to contract the number of substances formerly held to be simple, I would not wonder if it should yet turn out that oxygen, carbon, hydrogen, and nitrogen are, like what the ancients held the elements to be—all nothing else but different modifications of one ever-changing matter. But I will not indulge further in such speculations, especially as I have reason to apprehend that I may be thought to be wandering from my own proper sphere in thus prosecuting researches which may be supposed to have but a distant bearing on the subject now in hand. I must, however, be allowed again to repeat my declaration that it is impossible to comprehend the theories contained in the Hippocratic treatises without a proper acquaintance with the Physical Philosophy of the ancients, and that these principles have been misapprehended and misrepresented most unaccountably by modern writers, so as to occasion corresponding mistakes with regard to ancient medicine. I trust, then, that my present labors will not be ineffectual in preventing such mistakes in future; though, at the same time, knowing, as I well do, the practical bent of British science at the present day, I cannot but be apprehensive that a certain portion of my readers will lend a deaf ear to speculative opinions, of which they cannot recognize the importance, and will be disposed to discard the doctrines of the ancient philosophers, before they have rightly comprehended their import:

> "Nec mea dona tibi studio comporta fideli
> Intellecta prius quam sint, contempta relinquas."[353]

I am sensible, too, that I may have just reason to suspect that I still retain a too partial fondness for the fascinating studies in which I indulged at one period, beyond what, perhaps, was prudent in a physician, and that it would have been better for me if I had taken a lesson from the mythical hero of the "Odyssey," and had resisted the enchanting voice of the ancient Siren when she sought to allure me from the active duties of a professional

life, with the confident assurance that I should leave her “much delighted, and with an increase of knowledge.”[354]

Before concluding, I will briefly recapitulate the results to which our present inquiry has conducted us:—

1st. That many of the medical theories which occur in the Hippocratic treatises are founded on the physical philosophy of the ancients, and more particularly on their doctrines, with regard to the elements of things.

2d. That all the great sects of the ancient philosophers held that the four elements, namely, fire, air, earth, and water, are transmutable into one another, being all of a homogeneous nature, and based on one common substratum, namely, the primary matter.

3d. That, by reasoning from observation and analogy, the ancient philosophers arrived at the conclusion that this primary matter is a substance devoid of all qualities and forms, but susceptible of all forms and qualities.

4th. That although certain of the philosophers, the contemporaries and predecessors of Hippocrates, appear to hold that some one of the elements, such as fire and water, was the original of all things, even these had an idea, although not expressed by them in a definite manner, of a first matter, which serves as a basis to all the elements.

5th. That these doctrines of the ancient philosophers, whether well founded or not, are countenanced by many eminent names in modern literature and philosophy.

6th. That the opinion generally entertained regarding the doctrines of the ancient philosophers on this subject is altogether erroneous.

THE WORKS OF HIPPOCRATES.

ON ANCIENT MEDICINE.

THE ARGUMENT.

Although, as stated in the second section of the Preliminary Discourse, the evidence in support of this treatise be unfortunately not such as clearly to establish its genuineness, all who read it with attention must admit that it is replete with important matters, and that if not the production of Hippocrates, it is not unworthy of his high reputation. Notwithstanding, then, that I am by no means so well convinced as M. Littré is, that the work is genuine, I have not hesitated to follow his example in placing it at the head of the list, as the nature of its contents is such as to form an excellent introduction to the study of the Hippocratic medicine.

It contains, as M. Littré remarks, a polemic, a method, and a system. The polemic is directed against those of his predecessors who had corrupted medicine by introducing hypotheses into it as the causes of disease, such as heat, cold, moisture, and dryness. These it will be seen that he combats with great force of argument and clearness of illustration. The philosophical dogmas to which he is supposed to refer in this place are those of the section of Pythagoreans, called the Eleatic, who would appear to have held nearly the same opinions as Pythagoras himself with regard to the elements. [355] But, in fact, as I trust I have clearly made out in the third section of the Preliminary Discourse, all the ancient philosophers held substantially the same opinion regarding the elements, although they did not all express themselves in the same terms. It is of little consequence, then, to attempt to find out what particular class of philosophers our author directs his attack against, it being sufficient to say that he decidedly condemns the practice of founding the rules of medical practice on hypothesis.[356] I may here remark, that the censure thus bestowed on hypothetical systems applies to modern times as well as to ancient, to those who proclaim theories by which, like Broussais, they account for all diseases upon figments which they call inflammations, and those who, like Cullen, attribute most diseases to spasms. We may rest assured, from the sensible observations which Hippocrates makes on this subject in the present work, that the causes of all

diseases are realities, provided we could find them out, and that they are not vague abstractions, as the authors of these hypotheses suppose.

His method of cultivating medicine is founded on an attentive examination of all the circumstances connected with real life, and his system consists in studying the condition of the humors in the body, their origin, their coction, and their disappearance.

The most prominent feature, however, in the contents of this little treatise is the practical view which is here given of the origin of medicine, namely, from the necessities and weaknesses of the human race. The author clearly makes it out that Medicine is, as it were, a corollary to Dietetics. Nothing of the kind can well be imagined more ingenious and original than his observations and reasonings on this head in the introductory sections to this treatise. See in particular § 5.

The remarks in refutation of the hypothesis of cold, heat, moist, and dry, are very interesting. (§ 13.)

The reflections on the origin of fevers and inflammations are very just and original, but would appear not to have been properly appreciated by his successors; for among all the ancient authors who have treated of fevers, there is, perhaps, no one but himself who has stated in decided terms that there is something more in a fever than a mere increase of the innate (*or* animal) heat. See the Commentary on PAULUS ÆGINETA, B. II., 1.

The remarks on the effects of the cold bath at § 16 are much to the purpose, and deserve attention.

The observations on rheums *or* defluxions (§ 19) are also very striking, and even at the present day, after the many vicissitudes of medical theory which we have gone through, it would be difficult to deny that the opinions here advanced are well founded. At all events they must be allowed to be highly interesting, as containing the first germ of a theory which long flourished in the schools of medicine.

At § 20 the author seems to hold that philosophy is not so necessary to medicine as medicine is to philosophy. Schulze, with a considerable show of reason, argues that Celsus had this passage in view when he pronounced, concerning Hippocrates, that he was the first person who separated medicine from philosophy. (Hist. Med. I., 3, i., 26.) Schulze contends that

what Celsus meant was, that Hippocrates discarded *à priori* arguments in medicine, and drew all his inferences from actual observation. This would appear to me the most plausible interpretation which has ever been given to this celebrated passage in the preface of Celsus. Philosophy, then, it would appear, freed medicine from the delusions of superstition, by substituting the errors of hypothesis in their place, and the important office which he who was called the Father of Medicine conferred upon the art was by discarding both superstition and hypothesis, and substituting the results of actual observation in the room of both.

From § 22 to the end of the work the author gives important observations on the modifications which diseases undergo in connection with the peculiar organization of the part in which they are situated. It may well be doubted whether the remarks and reflections herein contained have ever obtained all the attention which they merit.

The style of this piece is certainly elegant and beautiful; and it is proper to mention that the text is remarkably improved in M. Littré's edition. In all the previous editions it was more corrupt than that of almost any other of the Hippocratic treatises.

The following remarks of M. Littré on the present work appear to me so just, and are so elegantly expressed, that I cannot deny myself the pleasure of introducing them here in the original:

"En résumé, le livre de *l'Ancienne Médecine* donne une idée des problèmes agités du temps d'Hippocrate, et de la manière donts ils étaient débattus. Il s'agissait, dans la plus grande généralité de la pathologie de déterminer la cause des maladies ou, en d'autres termes, de poser les bases d'un système de médecine. Certains médecins disaient que cette cause, étant une, résidait dans une propriété unique du corps, propriété qu'ils spécifiaient. Hippocrate répétait qu'en fait, cela était en contradiction avec l'expérience, qu'en principe une hypothèse était suspecte et stérile, et qu'il n'y avait de sureté que dans l'études des faits et dans la tradition de la science qui y ramene. Ainsi, quatre cents ans avant J. C., on essayait de rattacher toute la médecine à une seule propriété hypothétique, comme on l'a essayé de nos jours; mais cette propriété était ou le chaud, ou le froid, ou l'humide, ou le sec. Quatre cents ans avant J. C., un esprit sévère et éclairé combattait de telles opinions au nom de l'expérience, montrait que les

causes des maladies ne pouvant pas se ramener à une seule, le champ de la pathologie générale était bien plus vaste qu'on ne croyait; et formulait ce que l'observation lui avait permis de conclure; mais sa conclusion n'embrasse guère que la trouble dans le mélange des humeurs, que leur coction et leurs crises. Depuis lors, la méthode de ceux qu'Hippocrate avait combattus, et la méthode d'Hippocrate, l'hypothèse et l'observation se sont perpétuées, ainsi que le témoigne l'histoire de la médecine, mais ce ne sont plus ni l'ancienne hypothèse, ni l'ancienne observation.

"Il est certainement instructif d'étudier, dans le cours du temps, les problèmes tels qu'ils ont été posés, et les discussions qu'ils ont soulevées. On le voit, la science antique a de grandes ressemblances avec la science moderne; dès l'époque que nous sommes forcés de regarder comme l'aurore de la médecine, dès les premiers monuments que nous possédons, les questions fondamentales sont débattues, et les limites de l'esprit humain sont touchées. Mais en dedans de ces limites, la science trouve, dans une immensité inépuisable de combinaisons, les matériaux qui la font grandir; et il est impossible de ne pas reconnaître que, sur un sol et avec les aliments que lui fournissent les choses et l'expérience, elle se développe en vertu d'un principe interne de vie, qui reside dans l'enchaînement nécessaire de son développement successif."[357]

ON ANCIENT MEDICINE.

1. Whoever having undertaken to speak or write on Medicine, have first laid down for themselves some hypothesis to their argument, such as hot, or cold, or moist, or dry, or whatever else they choose (thus reducing their subject within a narrow compass, and supposing only one or two original causes of diseases or of death among mankind), are all clearly mistaken in much that they say; and this is the more reprehensible as relating to an art which all men avail themselves of on the most important occasions, and the good operators and practitioners in which they hold in especial honor. For there are practitioners, some bad and some far otherwise, which, if there had been no such thing as Medicine, and if nothing had been investigated or found out in it, would not have been the case, but all would have been equally unskilled and ignorant of it, and everything concerning the sick would have been directed by chance. But now it is not so; for, as in all the other arts, those who practise them differ much from one another in

dexterity and knowledge, so is it in like manner with Medicine. Wherefore I have not thought that it stood in need of an empty hypothesis, like those subjects which are occult and dubious, in attempting to handle which it is necessary to use some hypothesis; as, for example, with regard to things above us and things below the earth;[358] if any one should treat of these and undertake to declare how they are constituted, the reader or hearer could not find out, whether what is delivered be true or false; for there is nothing which can be referred to in order to discover the truth.

2. But all these requisites belong of old to Medicine, and an origin and way have been found out, by which many and elegant discoveries have been made, during a length of time, and others will yet be found out, if a person possessed of the proper ability, and knowing those discoveries which have been made, should proceed from them to prosecute his investigations. But whoever, rejecting and despising all these, attempts to pursue another course and form of inquiry, and says he has discovered anything, is deceived himself and deceives others, for the thing is impossible. And for what reason it is impossible, I will now endeavor to explain, by stating and showing what the art really is. From this it will be manifest that discoveries cannot possibly be made in any other way. And most especially, it appears to me, that whoever treats of this art should treat of things which are familiar to the common people. For of nothing else will such a one have to inquire or treat, but of the diseases under which the common people have labored, which diseases and the causes of their origin and departure, their increase and decline, illiterate persons cannot easily find out themselves, but still it is easy for them to understand these things when discovered and expounded by others. For it is nothing more than that every one is put in mind of what had occurred to himself. But whoever does not reach the capacity of the illiterate vulgar and fails to make them listen to him, misses his mark. Wherefore, then, there is no necessity for any hypothesis.

3. For the art of Medicine would not have been invented at first, nor would it have been made a subject of investigation (for there would have been no need of it), if when men are indisposed, the same food and other articles of regimen which they eat and drink when in good health were proper for them, and if no others were preferable to these. But now necessity itself made medicine to be sought out and discovered by men, since the same things when administered to the sick, which agreed with

them when in good health, neither did nor do agree with them. But to go still further back, I hold that the diet and food which people in health now use would not have been discovered, provided it had suited with man to eat and drink in like manner as the ox, the horse, and all other animals, except man, do of the productions of the earth, such as fruits, weeds, and grass; for from such things these animals grow, live free of disease, and require no other kind of food. And, at first, I am of opinion that man used the same sort of food, and that the present articles of diet had been discovered and invented only after a long lapse of time. For when they suffered much and severely from this strong and brutish diet, swallowing things which were raw, unmixed, and possessing great strength, they became exposed to strong pains and diseases, and to early deaths. It is likely, indeed, that from habit they would suffer less from these things then than we would now, but still they would suffer severely even then; and it is likely that the greater number, and those who had weaker constitutions, would all perish; whereas the stronger would hold out for a longer time, as even nowadays some, in consequence of using strong articles of food, get off with little trouble, but others with much pain and suffering. From this necessity it appears to me that they would search out the food befitting their nature, and thus discover that which we now use: and that from wheat, by macerating it, stripping it of its hull, grinding it all down, sifting, toasting, and baking it, they formed bread;[359] and from barley they formed cake (maza),[360] performing many operations in regard to it; they boiled, they roasted, they mixed, they diluted those things which are strong and of intense qualities with weaker things, fashioning them to the nature and powers of man, and considering that the stronger things Nature would not be able to manage if administered, and that from such things pains, diseases, and death would arise, but such as Nature could manage, that from them food, growth, and health, would arise. To such a discovery and investigation what more suitable name could one give than that of Medicine? since it was discovered for the health of man, for his nourishment and safety, as a substitute for that kind of diet by which pains, diseases, and deaths were occasioned.

4. And if this is not held to be an art, I do not object. For it is not suitable to call any one an artist of that which no one is ignorant of, but which all know from usage and necessity. But still the discovery is a great one, and requiring much art and investigation. Wherefore those who devote themselves to gymnastics and training, are always making some new

discovery, by pursuing the same line of inquiry, where, by eating and drinking certain things, they are improved and grow stronger than they were.[361]

5. Let us inquire then regarding what is admitted to be Medicine; namely, that which was invented for the sake of the sick, which possesses a name and practitioners, whether it also seeks to accomplish the same objects, and whence it derived its origin. To me, then, it appears, as I said at the commencement, that nobody would have sought for medicine at all, provided the same kinds of diet had suited with men in sickness as in good health. Wherefore, even yet, such races of men as make no use of medicine, namely, barbarians, and even certain of the Greeks, live in the same way when sick as when in health; that it to say, they take what suits their appetite, and neither abstain from, nor restrict themselves in anything for which they have a desire. But those who have cultivated and invented medicine, having the same object in view as those of whom I formerly spoke, in the first place, I suppose, diminished the quantity of the articles of food which they used, and this alone would be sufficient for certain of the sick, and be manifestly beneficial to them, although not to all, for there would be some so affected as not to be able to manage even small quantities of their usual food, and as such persons would seem to require something weaker, they invented soups, by mixing a few strong things with much water, and thus abstracting that which was strong in them by dilution and boiling. But such as could not manage even soups, laid them aside, and had recourse to drinks, and so regulated them as to mixture and quantity, that they were administered neither stronger nor weaker than what was required.

6. But this ought to be well known, that soups do not agree with certain persons in their diseases, but, on the contrary, when administered both the fevers and the pains are exacerbated, and it becomes obvious that what was given has proved food and increase to the disease, but a wasting and weakness to the body. But whatever persons so affected partook of solid food, or cake, or bread, even in small quantity, would be ten times and more decidedly injured than those who had taken soups, for no other reason than from the strength of the food in reference to the affection: and to whomsoever it is proper to take soups and not eat solid food, such a one will be much more injured if he eat much than if he eat little, but even little food will be injurious to him. But all the causes of the sufferance refer

themselves to this rule, that the strongest things most especially and decidedly hurt man, whether in health or in disease.

7. What other object, then, had he in view who is called a physician, and is admitted to be a practitioner of the art, who found out the regimen and diet befitting the sick, than he who originally found out and prepared for all mankind that kind of food which we all now use, in place of the former savage and brutish mode of living? To me it appears that the mode is the same, and the discovery of a similar nature. The one sought to abstract those things which the constitution of man cannot digest, because of their wildness and intemperature, and the other those things which are beyond the powers of the affection in which any one may happen to be laid up. Now, how does the one differ from the other, except that the latter admits of greater variety, and requires more application, whereas the former was the commencement of the process?

8. And if one would compare the diet of sick persons with that of persons in health, he will find it not more injurious than that of healthy persons in comparison with that of wild beasts and of other animals. For, suppose a man laboring under one of those diseases which are neither serious and unsupportable, nor yet altogether mild, but such as that, upon making any mistake in diet, it will become apparent, as if he should eat bread and flesh, or any other of those articles which prove beneficial to healthy persons, and that, too, not in great quantity, but much less than he could have taken when in good health; and that another man in good health, having a constitution neither very feeble, nor yet strong, eats of those things which are wholesome and strengthening to an ox or a horse, such as vetches, barley, and the like, and that, too, not in great quantity, but much less than he could take; the healthy person who did so would be subjected to no less disturbance and danger than the sick person who took bread or cake unseasonably. All these things are proofs that Medicine is to be prosecuted and discovered by the same method as the other.

9. And if it were simply, as is laid down, that such things as are stronger prove injurious, but such as are weaker prove beneficial and nourishing, both to sick and healthy persons, it were an easy matter, for then the safest rule would be to circumscribe the diet to the lowest point. But then it is no less mistake, nor one that injures a man less, provided a deficient diet, or one consisting of weaker things than what are proper, be administered. For,

in the constitution of man, abstinence may enervate, weaken, and kill. And there are many other ills, different from those of repletion, but no less dreadful, arising from deficiency of food; wherefore the practice in those cases is more varied, and requires greater accuracy. For one must aim at attaining a certain measure, and yet this measure admits neither weight nor calculation of any kind, by which it may be accurately determined, unless it be the sensation of the body; wherefore it is a task to learn this accurately, so as not to commit small blunders either on the one side or the other, and in fact I would give great praise to the physician whose mistakes are small, for perfect accuracy is seldom to be seen, since many physicians seem to me to be in the same plight as bad pilots, who, if they commit mistakes while conducting the ship in a calm do not expose themselves, but when a storm and violent hurricane overtake them, they then, from their ignorance and mistakes, are discovered to be what they are, by all men, namely, in losing their ship. And thus bad and commonplace physicians, when they treat men who have no serious illness, in which case one may commit great mistakes without producing any formidable mischief, (and such complaints occur much more frequently to men than dangerous ones); under these circumstances, when they commit mistakes, they do not expose themselves to ordinary men; but when they fall in with a great, a strong, and a dangerous disease, then their mistakes and want of skill are made apparent to all. Their punishment is not far off, but is swift in overtaking both the one and the other.[362]

10. And that no less mischief happens to a man from unseasonable depletion than from repletion, may be clearly seen upon reverting to the consideration of persons in health. For, to some, with whom it agrees to take only one meal in the day, and they have arranged it so accordingly; whilst others, for the same reason, also take dinner, and this they do because they find it good for them, and not like those persons who, for pleasure or from any casual circumstance, adopt the one or the other custom: and to the bulk of mankind it is of little consequence which of these rules they observe, that is to say, whether they make it a practice to take one or two meals. But there are certain persons who cannot readily change their diet with impunity; and if they make any alteration in it for one day, or even for a part of a day, are greatly injured thereby. Such persons, provided they take dinner when it is not their wont, immediately become heavy and inactive, both in body and mind, and are weighed down with yawning, slumbering,

and thirst; and if they take supper in addition, they are seized with flatulence, tormina, and diarrhœa, and to many this has been the commencement of a serious disease, when they have merely taken twice in a day the same food which they have been in the custom of taking once. And thus, also, if one who has been accustomed to dine, and this rule agrees with him, should not dine at the accustomed hour, he will straightway feel great loss of strength, trembling, and want of spirits, the eyes of such a person will become more pallid, his urine thick and hot, his mouth bitter; his bowels will seem, as it were, to hang loose; he will suffer from vertigo, lowness of spirit, and inactivity,—such are the effects; and if he should attempt to take at supper the same food which he was wont to partake of at dinner, it will appear insipid, and he will not be able to take it off; and these things, passing downwards with tormina and rumbling, burn up his bowels; he experiences insomnolency or troubled and disturbed dreams; and to many of them these symptoms are the commencement of some disease.

11. But let us inquire what are the causes of these things which happened to them. To him, then, who was accustomed to take only one meal in the day, they happened because he did not wait the proper time, until his bowels had completely derived benefit from and had digested the articles taken at the preceding meal, and until his belly had become soft, and got into a state of rest, but he gave it a new supply while in a state of heat and fermentation, for such bellies digest much more slowly, and require more rest and ease. And as to him who had been accustomed to dinner, since, as soon as the body required food, and when the former meal was consumed, and he wanted refreshment, no new supply was furnished to it, he wastes and is consumed from want of food. For all the symptoms which I describe as befalling to this man I refer to want of food. And I also say that all men who, when in a state of health, remain for two or three days without food, experience the same unpleasant symptoms as those which I described in the case of him who had omitted to take dinner.

12. Wherefore, I say, that such constitutions as suffer quickly and strongly from errors in diet, are weaker than others that do not; and that a weak person is in a state very nearly approaching to one in disease; but a person in disease is the weaker, and it is, therefore, more likely that he should suffer if he encounters anything that is unseasonable. It is difficult, seeing that there is no such accuracy in the Art, to hit always upon what is

most expedient, and yet many cases occur in medicine which would require this accuracy, as we shall explain. But on that account, I say, we ought not to reject the ancient Art, as if it were not, and had not been properly founded, because it did not attain accuracy in all things, but rather, since it is capable of reaching to the greatest exactitude by reasoning, to receive it and admire its discoveries, made from a state of great ignorance, and as having been well and properly made, and not from chance.

13. But I wish the discourse to revert to the new method of those who prosecute their inquiries in the Art by hypothesis. For if hot, or cold, or moist, or dry, be that which proves injurious to man, and if the person who would treat him properly must apply cold to the hot, hot to the cold, moist to the dry, and dry to the moist—let me be presented with a man, not indeed one of a strong constitution, but one of the weaker, and let him eat wheat, such as it is supplied from the thrashing-floor, raw and unprepared, with raw meat, and let him drink water. By using such a diet I know that he will suffer much and severely, for he will experience pains, his body will become weak, and his bowels deranged, and he will not subsist long. What remedy, then, is to be provided for one so situated? Hot? or cold? or moist? or dry? For it is clear that it must be one or other of these. For, according to this principle, if it is one of these which is injuring the patient, it is to be removed by its contrary. But the surest and most obvious remedy is to change the diet which the person used, and instead of wheat to give bread, and instead of raw flesh, boiled, and to drink wine in addition to these: for by making these changes it is impossible but that he must get better, unless completely disorganized by time and diet. What, then, shall we say? whether that, as he suffered from cold, these hot things being applied were of use to him, or the contrary? I should think this question must prove a puzzler to whomsoever it is put. For whether did he who prepared bread out of wheat remove the hot, the cold, the moist, or the dry principle in it?—for the bread is consigned both to fire and to water, and is wrought with many things, each of which has its peculiar property and nature, some of which it loses, and with others it is diluted and mixed.

14. And this I know, moreover, that to the human body it makes a great difference whether the bread be fine or coarse;[363] of wheat with or without the hull, whether mixed with much or little water, strongly wrought or scarcely at all, baked or raw—and a multitude of similar differences; and

so, in like manner, with the cake (maza); the powers of each, too, are great, and the one nowise like the other. Whoever pays no attention to these things, or, paying attention, does not comprehend them, how can he understand the diseases which befall a man? For, by every one of these things, a man is affected and changed this way or that, and the whole of his life is subjected to them, whether in health, convalescence, or disease. Nothing else, then, can be more important or more necessary to know than these things. So that the first inventors, pursuing their investigations properly, and by a suitable train of reasoning, according to the nature of man, made their discoveries, and thought the Art worthy of being ascribed to a god, as is the established belief. For they did not suppose that the dry or the moist, the hot or the cold, or any of these, are either injurious to man, or that man stands in need of them; but whatever in each was strong, and more than a match for a man's constitution, whatever he could not manage, that they held to be hurtful, and sought to remove. Now, of the sweet, the strongest is that which is intensely sweet; of the bitter, that which is intensely bitter; of the acid, that which is intensely acid; and of all things that which is extreme, for these things they saw both existing in man, and proving injurious to him. For there is in man the bitter and the salt, the sweet and the acid, the sour and the insipid,[364] and a multitude of other things having all sorts of powers both as regards quantity and strength. These, when all mixed and mingled up with one another, are not apparent, neither do they hurt a man; but when any of them is separate, and stands by itself, then it becomes perceptible, and hurts a man. And thus, of articles of food, those which are unsuitable and hurtful to man when administered, every one is either bitter, or intensely so, or saltish or acid, or something else intense and strong, and therefore we are disordered by them in like manner as we are by the secretions in the body. But all those things of which a man eats and drinks are devoid of any such intense and well-marked quality, such as bread, cake, and many other things of a similar nature which man is accustomed to use for food, with the exception of condiments and confectionaries, which are made to gratify the palate and for luxury. And from those things, when received into the body abundantly, there is no disorder nor dissolution of the powers belonging to the body; but strength, growth, and nourishment result from them, and this for no other reason than because they are well mixed, have nothing in them of an

immoderate character, nor anything strong, but the whole forms one simple and not strong substance.

15. I cannot think in what manner they who advance this doctrine, and transfer the Art from the cause I have described to hypothesis, will cure men according to the principle which they have laid down. For, as far as I know, neither the hot nor the cold, nor the dry, nor the moist, has ever been found unmixed with any other quality; but I suppose they use the same articles of meat and drink as all we other men do. But to this substance they give the attribute of being hot, to that cold, to that dry, and to that moist. Since it would be absurd to advise the patient to take something hot, for he would straightway ask what it is? so that he must either play the fool, or have recourse to some one of the well-known substances: and if this hot thing happen to be sour, and that hot thing insipid, and this hot thing has the power of raising a disturbance in the body (and there are many other kinds of heat, possessing many opposite powers), he will be obliged to administer some one of them, either the hot and the sour, or the hot and the insipid, or that which, at the same time, is cold and sour (for there is such a substance), or the cold and the insipid. For, as I think, the very opposite effects will result from either of these, not only in man, but also in a bladder, a vessel of wood, and in many other things possessed of far less sensibility than man; for it is not the heat which is possessed of great efficacy, but the sour and the insipid, and other qualities as described by me, both in man and out of man, and that whether eaten or drunk, rubbed in externally, and otherwise applied.

16. But I think that of all the qualities heat and cold exercise the least operation in the body, for these reasons: as long time as hot and cold are mixed up with one another they do not give trouble, for the cold is attempered and rendered more moderate by the hot, and the hot by the cold; but when the one is wholly separate from the other, then it gives pain; and at that season when cold is applied it creates some pain to a man, but quickly, for that very reason, heat spontaneously arises in him without requiring any aid or preparation. And these things operate thus both upon men in health and in disease. For example, if a person in health wishes to cool his body during winter, and bathes either in cold water or in any other way, the more he does this, unless his body be fairly congealed, when he resumes his clothes and comes into a place of shelter, his body becomes

more heated than before. And thus, too, if a person wish to be warmed thoroughly either by means of a hot bath or strong fire, and straightway having the same clothing on, takes up his abode again in the place he was in when he became congealed, he will appear much colder, and more disposed to chills than before. And if a person fan himself on account of a suffocating heat, and having procured refrigeration for himself in this manner, cease doing so, the heat and suffocation will be ten times greater in his case than in that of a person who does nothing of the kind. And, to give a more striking example, persons travelling in the snow, or otherwise in rigorous weather, and contracting great cold in their feet, their hands, or their head, what do they not suffer from inflammation and tingling when they put on warm clothing and get into a hot place? In some instances, blisters arise as if from burning with fire, and they do not suffer from any of those unpleasant symptoms until they become heated. So readily does either of these pass into the other; and I could mention many other examples. And with regard to the sick, is it not in those who experience a rigor that the most acute fever is apt to break out? And yet not so strongly neither, but that it ceases in a short time, and, for the most part, without having occasioned much mischief; and while it remains, it is hot, and passing over the whole body, ends for the most part in the feet, where the chills and cold were most intense and lasted longest: and, when sweat supervenes, and the fever passes off, the patient is much colder than if he had not taken the fever at all. Why then should that which so quickly passes into the opposite extreme, and loses its own powers spontaneously, be reckoned a mighty and serious affair? And what necessity is there for any great remedy for it?

17. One might here say—but persons in ardent fevers, pneumonia, and other formidable diseases, do not quickly get rid of the heat, nor experience these rapid alterations of heat and cold. And I reckon this very circumstance the strongest proof that it is not from heat simply that men get into the febrile state, neither is it the sole cause of the mischief, but that this species of heat is bitter, and that acid, and the other saltish, and many other varieties; and again there is cold combined with other qualities. These are what proves injurious: heat, it is true, is present also, possessed of strength as being that which conducts, is exacerbated and increased along with the other, but has no power greater than what is peculiar to itself.

18. With regard to these symptoms, in the first place those are most obvious of which we have all often had experience. Thus, then, in such of us as have a coryza and defluction from the nostrils, this discharge is much more acrid than that which formerly was formed in and ran from them daily; and it occasions swelling of the nose, and it inflames, being of a hot and extremely ardent nature, as you may know, if you apply your hand to the place; and, if the disease remains long, the part becomes ulcerated although destitute of flesh and hard; and the heat in the nose ceases, not when the defluxion takes place and the inflammation is present, but when the running becomes thicker and less acrid, and more mixed with the former secretion, then it is that the heat ceases. But in all those cases in which this decidedly proceeds from cold alone, without the concourse of any other quality, there is a change from cold to hot, and from hot to cold, and these quickly supervene, and require no coction. But all the others being connected, as I have said, with acrimony and intemperance of humors, pass off in this way by being mixed and concocted.

19. But such defluxions as are determined to the eyes being possessed of strong and varied acrimonies, ulcerate the eyelids, and in some cases corrode the cheeks and parts below the eyes upon which the flow, and even occasion rupture and erosion of the tunic which surrounds the eyeball. But pain, heat, and extreme burning prevail until the defluxions are concocted and become thicker, and concretions form about the eyes, and the coction takes place from the fluids being mixed up, diluted, and digested together. And in defluxions upon the throat, from which are formed hoarseness, cynanche, erysipelas, and pneumonia, all these have at first saltish, watery, and acrid discharges, and with these the diseases gain strength. But when the discharges become thicker, more concocted, and are freed from all acrimony, then, indeed, the fevers pass away, and the other symptoms which annoyed the patient; for we must account those things the cause of each complaint, which, being present in a certain fashion, the complaint exists, but it ceases when they change to another combination. But those which originate from pure heat or cold, and do not participate in any other quality, will then cease when they undergo a change from cold to hot, and from hot to cold; and they change in the manner I have described before. Wherefore, all the other complaints to which man is subject arise from powers (qualities?). Thus, when there is an overflow of the bitter principle, which we call yellow bile, what anxiety, burning heat, and loss of strength

prevail! but if relieved from it, either by being purged spontaneously, or by means of a medicine seasonably administered, the patient is decidedly relieved of the pains and heat; but while these things float on the stomach, unconcocted and undigested, no contrivance could make the pains and fever cease; and when there are acidities of an acrid and æruginous character, what varieties of frenzy, gnawing pains in the bowels and chest, and inquietude, prevail! and these do not cease until the acidities be purged away, or are calmed down and mixed with other fluids. The coction, change, attenuation, and thickening into the form of humors, take place through many and various forms; therefore the crises and calculations of time are of great importance in such matters; but to all such changes hot and cold are but little exposed, for these are neither liable to putrefaction nor thickening. What then shall we say of the change? that it is a combination (crasis) of these humors having different powers toward one another. But the hot does not lose its heat when mixed with any other thing except the cold; nor again, the cold, except when mixed with the hot. But all other things connected with man become the more mild and better in proportion as they are mixed with the more things besides. But a man is in the best possible state when they are concocted and at rest, exhibiting no one peculiar quality; but I think I have said enough in explanation of them.

20. Certain sophists and physicians say that it is not possible for any one to know medicine who does not know what man is [and how he was made and how constructed], and that whoever would cure men properly, must learn this in the first place. But this saying rather appertains to philosophy, as Empedocles and certain others have described what man in his origin is, and how he first was made and constructed.[365] But I think whatever such has been said or written by sophist or physician concerning nature has less connection with the art of medicine than with the art of painting. And I think that one cannot know anything certain respecting nature from any other quarter than from medicine; and that this knowledge is to be attained when one comprehends the whole subject of medicine properly, but not until then; and I say that this history shows what man is, by what causes he was made, and other things accurately. Wherefore it appears to me necessary to every physician to be skilled in nature, and strive to know, if he would wish to perform his duties, what man is in relation to the articles of food and drink, and to his other occupations, and what are the effects of each of them to every one. And it is not enough to know simply that cheese

is a bad article of food, as disagreeing with whoever eats of it to satiety, but what sort of disturbance it creates, and wherefore, and with what principle in man it disagrees; for there are many other articles of food and drink naturally bad which affect man in a different manner. Thus, to illustrate my meaning by an example, undiluted wine drunk in large quantity renders a man feeble; and everybody seeing this knows that such is the power of wine, and the cause thereof; and we know, moreover, on what parts of a man's body it principally exerts its action; and I wish the same certainty to appear in other cases. For cheese (since we used it as an example) does not prove equally injurious to all men, for there are some who can take it to satiety without being hurt by it in the least, but, on the contrary, it is wonderful what strength it imparts to those it agrees with; but there are some who do not bear it well, their constitutions are different, and they differ in this respect, that what in their body is incompatible with cheese, is roused and put in commotion by such a thing; and those in whose bodies such a humor happens to prevail in greater quantity and intensity, are likely to suffer the more from it. But if the thing had been pernicious to the whole nature of man, it would have hurt all. Whoever knows these things will not suffer from it.

21. During convalescence from diseases, and also in protracted diseases, many disorders occur, some spontaneously, and some from certain things accidentally administered. I know that the common herd of physicians, like the vulgar, if there happen to have been any innovation made about that day, such as the bath being used, a walk taken, or any unusual food eaten, all which were better done than otherwise, attribute notwithstanding the cause of these disorders, to some of these things, being ignorant of the true cause but proscribing what may have been very proper. Now this ought not to be so; but one should know the effects of a bath or a walk unseasonably applied; for thus there will never be any mischief from these things, nor from any other thing, nor from repletion, nor from such and such an article of food. Whoever does not know what effect these things produce upon a man, cannot know the consequences which result from them, nor how to apply them.

22. And it appears to me that one ought also to know what diseases arise in man from the powers, and what from the structures. What do I mean by this? By powers, I mean intense and strong juices; and by structures,

whatever conformations there are in man. For some are hollow, and from broad contracted into narrow; some expanded, some hard and round, some broad and suspended,[366] some stretched, some long, some dense, some rare and succulent,[367] some spongy and of loose texture.[368] Now, then, which of these figures is the best calculated to suck to itself and attract humidity from another body? Whether what is hollow and expanded, or what is solid and round, or what is hollow, and from broad, gradually turning narrow? I think such as from hollow and broad are contracted into narrow: this may be ascertained otherwise from obvious facts: thus, if you gape wide with the mouth you cannot draw in any liquid; but by protruding, contracting, and compressing the lips, and still more by using a tube, you can readily draw in whatever you wish. And thus, too, the instruments which are used for cupping are broad below and gradually become narrow, and are so constructed in order to suck and draw in from the fleshy parts. The nature and construction of the parts within a man are of a like nature; the bladder, the head, the uterus in woman; these parts clearly attract, and are always filled with a juice which is foreign to them. Those parts which are hollow and expanded are most likely to receive any humidity flowing into them, but cannot attract it in like manner. Those parts which are solid and round could not attract a humidity, nor receive it when it flows to them, for it would glide past, and find no place of rest on them. But spongy and rare parts, such as the spleen, the lungs, and the breasts, drink up especially the juices around them, and become hardened and enlarged by the accession of juices. Such things happen to these organs especially. For it is not with the spleen as with the stomach, in which there is a liquid, which it contains and evacuates every day; but when it (the spleen) drinks up and receives a fluid into itself, the hollow and lax parts of it are filled, even the small interstices; and, instead of being rare and soft, it becomes hard and dense, and it can neither digest nor discharge its contents: these things it suffers, owing to the nature of its structure. Those things which engender flatulence or tormina in the body, naturally do so in the hollow and broad parts of the body, such as the stomach and chest, where they produce rumbling noises; for when they do not fill the parts so as to be stationary, but have changes of place and movements, there must necessarily be noise and apparent movements from them. But such parts as are fleshy and soft, in these there occur torpor and obstructions, such as happen in apoplexy. But when it (the flatus?) encounters a broad and resisting structure, and rushes against such a

part, and this happens when it is by nature not strong so as to be able to withstand it without suffering injury; nor soft and rare, so as to receive or yield to it, but tender, juicy, full of blood, and dense, like the liver, owing to its density and broadness, it resists and does not yield. But flatus, when it obtains admission, increases and becomes stronger, and rushes toward any resisting object; but owing to its tenderness, and the quantity of blood which it (the liver) contains, it cannot be without uneasiness; and for these reasons the most acute and frequent pains occur in the region of it, along with suppurations and chronic tumors (phymata). These symptoms also occur in the site of the diaphragm, but much less frequently; for the diaphragm is a broad, expanded, and resisting substance, of a nervous (tendinous?) and strong nature, and therefore less susceptible of pain; and yet pains and chronic abscesses do occur about it.

23. There are both within and without the body many other kinds of structure, which differ much from one another as to sufferings both in health and disease; such as whether the head be small or large; the neck slender or thick, long or short; the belly long or round; the chest and ribs broad or narrow; and many others besides, all which you ought to be acquainted with, and their differences; so that knowing the causes of each, you may make the more accurate observations.

24. And, as has been formerly stated, one ought to be acquainted with the powers of juices, and what action each of them has upon man, and their alliances towards one another. What I say is this: if a sweet juice change to another kind, net from any admixture, but because it has undergone a mutation within itself; what does it first become?—bitter? salt? austere? or acid? I think acid. And hence, an acid juice is the most improper of all things that can be administered in cases in which a sweet juice is the most proper. Thus, if one should succeed in his investigations of external things, he would be the better able always to select the best; for that is best which is farthest removed from that which is unwholesome.

ON AIRS, WATERS, AND PLACES.

THE ARGUMENT.

Dr. Coray, in his excellent edition of this treatise, divides it into six chapters, as follows: first, the Introduction (from § 1–3) comprehends some general observations on the importance of cultivating a knowledge of the effects which the different seasons, the winds, the various kinds of water, the situation of cities, the nature of soils and the modes of life, exercise upon the health, and the necessity of a physician's making himself well acquainted with all these matters, if he would wish to practise his profession successfully. The author insists, with particular earnestness, on the utility of studying the constitution of the year and the nature of the seasons, and refutes the opinions of those persons, in his days, who held that a knowledge of all these things belongs to meteorology rather than to medicine. The second chapter (§ 3–7) treats of climate, and the diseases prevalent in localities characterized by their exposure to particular winds. Those winds being peculiar to Greece, their names occasion some trouble in order to understand them correctly, and we shall give below a summary of what the modern Greek Coray says in illustration of them. This part of the present treatise appears to have been highly elaborated, and contains much important information. The third chapter (§ 7–10) treats of the various kinds of water, and their effects in different states of the human constitution. The remarks contained here are of an eminently practical nature, and evidently must have been the results of patient observation and experiment, so that, even at the present day, it would be difficult to detect our author in a single error of judgment. In this place he has occasion to deliver his opinions on the formation of urinary calculi, which he does at considerable length; and I may be permitted to remark, whatever may be thought of his etiology of the disease, it will be admitted that his theory is plausible, and the best that could well have been framed in the state of knowledge which then prevailed on that subject. Indeed, even at the present day, it must be allowed that this is a dark subject; we have acquired, it is true, many new and curious facts connected with the minute structure of these concretions, but it can hardly be affirmed that we have been able to evolve from them any general principles, or certain rules of practice. In the fourth chapter (§ 10–12), the

nature of the seasons is treated of, and their influence on the health circumstantially stated. Some of the observations contained in this part of the work are remarkable for their acuteness and originality, such as the following, that, in estimating the effects of a season on the health, we ought to take into account the seasons which preceded it. This is well expressed by Celsus, as follows: “neque solum interest quales dies sint sed etiam quales præcesserint.” (Præfat.) See also Hippocrates (de Humoribus, § 8); and Coray (ad h. 1. § cix.) It will be seen in our annotations that a considerable number of the Aphorisms are abstracted from this part of the present treatise. In the fifth chapter (§ 12–17), the effects of climate and the institutions of society on the inhabitants of Asia are treated of at considerable length. Our author, in this place, evinces a great acquaintance with human life, and a most philosophical spirit in contemplating the subject which he is handling. Indeed few works in any language display so much accurate observation and originality of thought. The varieties of disposition, and of intellectual and moral development among mankind, are set down as being derived, in a great measure, from differences of climate and modes of government. Thus the Asiatics are of an effeminate and slavish disposition, because they live in a soft climate, on a rich soil, where they are little exposed to hardships or labor, and under a despotic form of government, which arrests the development of their mental energies.[369] This part also contains some interesting observations on the Macrocephali and the inhabitants of Phasis. In the sixth and last chapter (§ 17 to the end), the peculiar traits of the European character, as connected with climate and institutions, are described in a very interesting manner. Here the observations on the Amazons, Sauromatæ, and Scythians are well deserving of an attentive perusal, and more particularly the description of the disease induced by continual riding on horseback, the probable nature of which we shall consider presently. Here, too, are given our author’s remarks on diseases supposed to be divine, which, as we have stated in the Preliminary section on his life, evince a wonderful exemption from the superstitious belief of his age, and indicate an extraordinary depth of thought.

This is a general outline of the contents of this treatise, which is one of the most celebrated in the whole Collection. From what we have stated, it will at once be seen that it relates to a subject of commanding interest, and deserves to be carefully studied, as containing the oldest exposition which we possess of the opinions entertained by an original and enlightened mind

on many important questions connected with Public Hygiene and Political Economy, two sciences which, of late years, have commanded a large amount of professional attention. Whether or not modern experience may confirm our author's judgment in every particular case, it surely can neither be unprofitable nor uninteresting to ascertain what his opinions on these subjects actually were. Let us be thankful, then, that the destroying hand of time has spared us so valuable a relic of antiquity; and, instead of undervaluing our ancient instructor because he shows himself ignorant of many truths which we are now familiar with, let us be grateful to him for the amount of information which he has supplied to us, and for setting us an example which it must be both safe and profitable for us to follow. Surely great praise is due to the man who first mooted so many important questions, and stated their bearings in distinct terms, although he did not always succeed in solving them.[370]

I may take the present opportunity of mentioning that M. Littré, with some appearance of truth, blames Hippocrates for having rather overrated the influence of climate and institutions, in producing military valor, which, as he justly remarks, has been proved by modern examples to be most intimately connected with discipline, and a knowledge of the arts of war. But if Hippocrates was wrong on this point, it was because he did not avail himself properly of the lights of his own age; for he might have learned from his contemporary, Socrates, the very doctrine which M. Littré here inculcates. "The question being put to him," says Xenophon, "whether valor was a thing that could be taught, or was natural? I am of opinion, he said, that as one body is born with greater powers than another for enduring labor, so is one soul produced by nature stronger than another for enduring dangers. For I see persons brought up under the same institutions and habits differing much from one another in courage. But I think that every nature may be improved in valour by learning and discipline. For it is obvious that the Scythians and Thracians would not dare to contend with the Lacedemonians with bucklers and spears; and it is clear that, the Lacedemonians would not be willing to contend with the Thracians with small targets and javelins, or with the Scythians with bows and arrows." (Memorab. iii., 9.) The same doctrine is taught with remarkable subtlety of argument and originality of thought in the "Protagoras" of Plato, (see § 97). If, then, Hippocrates was wrong on this head, (which, however, may be doubted), it is clear that he is not to be screened by the alleged ignorance of

his age, and that he might have put himself right by attending to the instructions of a contemporary with whom he, in all probability, was familiar, and who undoubtedly was the greatest master of human nature that ever existed.

As there are certain matters connected with this treatise which will require a more lengthened discussion than can well suit with foot notes, I think it advisable to treat of them in this place:—

1. With regard to the seasons of the year, as indicated try the risings and settings of the stars. the following observations, taken in a great measure from Clifton's Preface will supply, in as brief a space as possible, all the information that will be required; "As the reader will find frequent mention of seasons, equinoxes, solstices, risings and settings of the sun and stars (particularly Arcturus, the Dog-star, and the Pleiades), it may not be amiss to premise, in the first place, that a year was divided by the ancients into four parts, every one of these was distinguished astronomically.

"Thus, for instance, the winter began at the setting of the Pleiades, and continued to the vernal equinox.

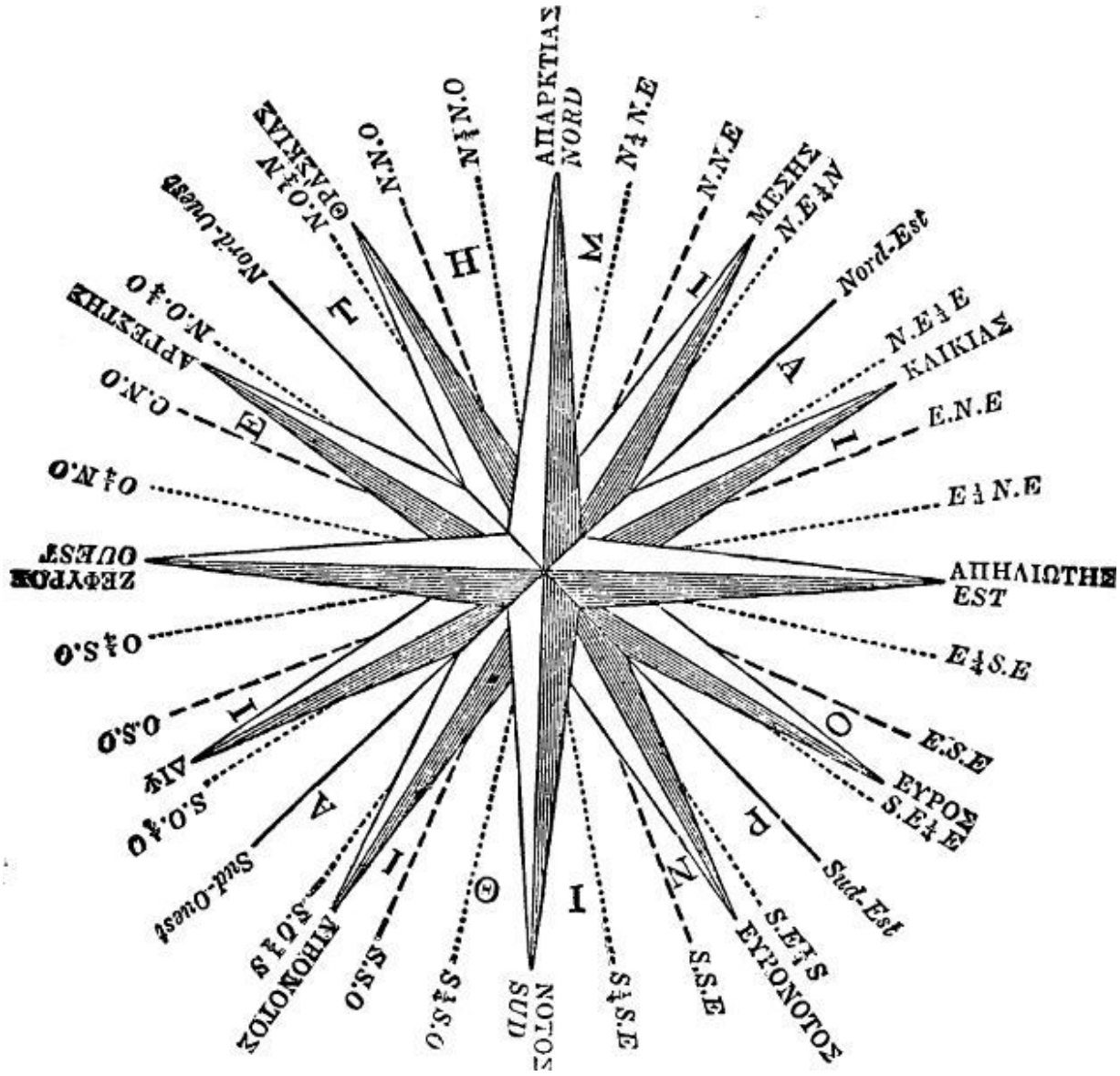
"The spring began at the vernal equinox, and ended at the rising of the Pleiades.

"The summer began at the rising of the Pleiades, and ended at the rising of Arcturus.

"The autumn began at the rising of Arcturus, and ended at the setting of the Pleiades.

"The rising and setting of the stars is always to be understood of what astronomers call the heliacal rising or setting, i. e. when a star rises or sets with the sun.

"The rising and setting of the sun in summer or winter (an expression which often occurs in this treatise), implies those points of the compass the sun rises and sets at."[371]



II. On the winds, of which frequent mention is made by our author, Coray has treated with a degree of prolixity and earnestness for which it is difficult to recognize the necessity. The figure given above, if properly studied and understood, will supply the professional reader with all the information he will require on this head.

III. One of the most singular diseases noticed in this work is the effeminacy with which the Scythians are said to have been attacked in consequence of spending the greater part of their time on horseback. (See § 22.) As the subject has attracted a good deal of attention lately, I will give a summary of the information which has been collected respecting it. See

Coray, etc., t. ii., p. 331; Littré, t. ii., p. 5, 6; and Avert., xxxix., p. 47; t. iv., p. 9.

In the first place, then, it can scarcely admit of doubt that the disease is the same as that which Herodotus describes in the following passage: "Venus inflicted upon the Scythians, who pillaged her temple at Ascalon, and on their descendants, *the feminine disease*; at least it is to this cause that they attribute their disease; and travellers that go to the land of Scythia see how these persons are affected whom the Scythians called *accursed* (ἐναρεες)."[372]

All the opinions which have been entertained respecting this affection are referred by M. Littré to the three following categories:

I. A vice, namely (A), Pederasty, which, he says is the most ancient opinion we have respecting it, as indicated by Longinus[373] (on the Sublime, 25), and defended by his commentators, Toll and Pearce, and by Casaubon and Coster.[374] (B), Onanism, the opinion to which Sprengel inclines in his work on Hippocrates.

2. A bodily disease, to wit: (A), Hemorrhoids, as maintained by Paul Thomas de Girac,[375] by Valkenäer, by Bayer,[376] and by the Compilers of the 'Universal History.'[377] (B), A true menstruation, as appears to be maintained by Lefevre and Dacier,[378] and by others. (C), Blenorrhagia, as Guy Patin[379] and others suppose. (D), A true impotence, as held by Mercuriali and others.

3. A mental disease, as maintained by Sauvages,[380] Heyne,[381] Coray, [382] and others.

M. Rosenbaum is at great pains to make out that the affection in question was pederasty, and that the *accursed* (ἐνάρεες) of Herodotus were the same as the *pathici* of the Romans. I must say, that in my opinion Rosenbaum makes out a strong case in support of this opinion. In particular it will be remarked, that Herodotus says, the descendants of these Scythians were also afflicted with this complaint. Now Celsus Aurelianus says expressly, that the affection of the pathici was hereditary.[383] Taking everything into account, I must say that my own opinion has always been that the disease in question must have been some variety of *spermatorrhœa*.

I need scarcely remark that this affection induces a state, both of body and mind, analogous to that of the pathici, as described by ancient authors.

Before leaving this subject, however, I should mention that M. Littré, in the fourth volume of his Hippocrates (p. xi.), brings into view a thesis by M. Graff, the object of which is to prove that the disease of the Scythians was a true sort of impotence; and in illustration of it, he cites a passage from the memoirs of M. Larrey, containing a description of a species of impotence, attended with wasting of the testicle, which attacked the French army in Egypt. But, as far as I can see, this disease described by Larrey had nothing to do with riding on horseback, and I cannot see any relation between it and the diseases described by Herodotus and Hippocrates.

IV. Of all the legendary tales of antiquity, there is probably no one which was so long and so generally credited by the best informed historians, critics, geographers, poets, and philosophers, as the story of the Amazons. They are noticed historically by Homer (Iliad, iii., 186; vi., 152); Apollonius Rhodius (ii., 196); Pindar (Olymp. xiii., 84); Herodotus (ix., 27); Lysias (Epitaph. 3); Plato (Menex.); Isocrates (Panyg.); Ctesias (Persic.); Plutarch (Theseus); Strabo (Geogr. ix.); Pausanias (iv., 31, 6; vii., 2, 4); Arrian (Exped. Alexand.); Quintus Curtius (vi., 4). Now it is singular that in all this list of authorities, which, it will be remarked, comprehends the *élite* of ancient scholars, no one, with the exception of Strabo, ventures to express the slightest doubt respecting the actual existence of the Amazons. Some of them, indeed, admit that the race had become extinct in their time; but they all seem satisfied that the Amazons had truly existed in a bygone age, and consequently they acknowledge them as real historical personages. See, in particular, Arrian, who, although compelled by his respect for truth to acknowledge that they did not exist in the days of Alexander the Great, still does not hesitate to declare that it appeared incredible that this race of women, celebrated as they were by the most eminent authors, should never have existed at all. Yet, notwithstanding the mass of evidence in support of their actual existence, I suppose few scholars nowadays will hesitate to agree with Heyne (Apollodor. ii., 5, 9), and with Grote (Hist. of Greece, i., 2), in setting down the whole story as mere myth. But, considering how generally it had been believed, we need not wonder that Hippocrates in this treatise should appear to entertain no doubt of their actual existence. The reader will remark that he makes the locality of the

Amazons to be in Europe, among the Sarmatians, on the north side of the Euxine. It is generally taken for granted, however, in the ancient myths, that their place of residence was on the banks of the Thermodon, in Cappadocia, and they are described as having afterwards crossed to the opposite side of the Euxine, when expelled from this locality. But, in fact, they are remarkable so much for nothing as their ubiquity, being sometimes located in Asia, sometimes in Africa, and at other times in Athens. I may remark, before concluding, that Mr. Payne Knight (Symbolical Language, etc., Classical Journal, 23), and Creuzer (Symbolik. etc.), give a symbolical interpretation to the story of the Amazons; but this mode of explaining the myths of antiquity is altogether fanciful and unsatisfactory. It seems safer and more judicious to deal with them as Mr. Grote has done,[384] that is to say, to receive them as tales in which the ancients believed, without having any rational foundation for their faith. That there may have been a certain basis of truth in the story of the Amazons need not be denied; but in this, as in all the ancient myths, it is a hopeless task to attempt to separate truth from fiction.

ON AIRS, WATERS, AND PLACES.

1. Whoever wishes to investigate medicine properly, should proceed thus: in the first place to consider the seasons of the year, and what effects each of them produces (for they are not at all alike, but differ much from themselves in regard to their changes).[385] Then the winds, the hot and the cold, especially such as are common to all countries, and then such as are peculiar to each locality. We must also consider the qualities of the waters, for as they differ from one another in taste and weight, so also do they differ much in their qualities. In the same manner, when one comes into a city to which he is a stranger, he ought to consider its situation, how it lies as to the winds and the rising of the sun; for its influence is not the same whether it lies to the north or the south, to the rising or to the setting sun. These things one ought to consider most attentively, and concerning the waters which the inhabitants use, whether they be marshy and soft, or hard, and running from elevated and rocky situations, and then if saltish and unfit for cooking; and the ground, whether it be naked and deficient in water, or wooded and well watered, and whether it lies in a hollow, confined situation, or is elevated and cold; and the mode in which the inhabitants live, and what are their

pursuits, whether they are fond of drinking and eating to excess, and given to indolence, or are fond of exercise and labor, and not given to excess in eating and drinking.[386]

2. From these things he must proceed to investigate everything else. For if one knows all these things well, or at least the greater part of them, he cannot miss knowing, when he comes into a strange city, either the diseases peculiar to the place, or the particular nature of common diseases, so that he will not be in doubt as to the treatment of the diseases, or commit mistakes, as is likely to be the case provided one had not previously considered these matters. And in particular, as the season and the year advances, he can tell what epidemic diseases will attack the city, either in summer or in winter, and what each individual will be in danger of experiencing from the change of regimen. For knowing the changes of the seasons, the risings and settings of the stars, how each of them takes place, he will be able to know beforehand what sort of a year is going to ensue. Having made these investigations, and knowing beforehand the seasons, such a one must be acquainted with each particular, and must succeed in the preservation of health, and be by no means unsuccessful in the practice of his art. And if it shall be thought that these things belong rather to meteorology,[387] it will be admitted, on second thoughts, that astronomy contributes not a little, but a very great deal, indeed, to medicine. For with the seasons the digestive organs of men undergo a change.

3. But how each of the afore-mentioned things should be investigated and explained, I will now declare in a clear manner. A city that is exposed to hot winds (these are between the wintry rising, and the wintry setting of the sun), and to which these are peculiar, but which is sheltered from the north winds; in such a city the waters will be plenteous and saltish, and as they run from an elevated source, they are necessarily hot in summer, and cold in winter;[388] the heads of the inhabitants are of a humid and pituitous constitution, and their bellies subject to frequent disorders, owing to the phlegm running down from the head; the forms of their bodies, for the most part, are rather flabby; they do not eat nor drink much; drinking wine in particular, and more especially if carried to intoxication, is oppressive to them; and the following diseases are peculiar to the district: in the first place, the women are sickly and subject to excessive menstruation; then many are unfruitful from disease, and not from nature, and they have

frequent miscarriages; infants are subject to attacks of convulsions and asthma, which they consider to be connected with infancy,[389] and hold to be a sacred disease (epilepsy). The men are subject to attacks of dysentery, diarrhœa, hepialus,[390] chronic fevers in winter, of epinyctis,[391] frequently, and of hemorrhoids about the anus. Pleurisies, peripneumonies, ardent fevers, and whatever diseases are reckoned acute, do not often occur, for such diseases are not apt to prevail where the bowels are loose. Ophthalmies occur of a humid character, but not of a serious nature, and of short duration, unless they attack epidemically from the change of the seasons. And when they pass their fiftieth year, defluxions supervening from the brain, render them paralytic when exposed suddenly to strokes of the sun,[392] or to cold. These diseases are endemic to them, and, moreover, if any epidemic disease connected with the change of the seasons, prevail, they are also liable to it.

4. But the following is the condition of cities which have the opposite exposure, namely, to cold winds, between the summer settings and the summer risings of the sun, and to which these winds are peculiar, and which are sheltered from the south and the hot breezes. In the first place the waters are, for the most part, hard and cold. The men must necessarily be well braced and slender, and they must have the discharges downwards of the alimentary canal hard, and of difficult evacuation, while those upwards are more fluid, and rather bilious than pituitous. Their heads are sound and hard, and they are liable to burstings (of vessels?) for the most part. The diseases which prevail epidemically with them, are pleurisies, and those which are called acute diseases. This must be the case when the bowels are bound; and from any causes, many become affected with suppurations in the lungs, the cause of which is the tension of the body, and hardness of the bowels; for their dryness and the coldness of the water dispose them to ruptures (of vessels?). Such constitutions must be given to excess of eating, but not of drinking; for it is not possible to be gourmands and drunkards at the same time. Ophthalmies, too, at length supervene; these being of a hard and violent nature, and soon ending in rupture of the eyes; persons under thirty years of age are liable to severe bleedings at the nose in summer; attacks of epilepsy are rare but severe. Such people are likely to be rather long-lived; their ulcers are not attended with serous discharges, nor of a malignant character; in disposition they are rather ferocious than gentle.

The diseases I have mentioned are peculiar to the men, and besides they are liable to any common complaint which may be prevailing from the changes of the seasons. But the women, in the first place, are of a hard constitution, from the waters being hard, indigestible, and cold; and their menstrual discharges are not regular, but in small quantity, and painful. Then they have difficult parturition, but are not very subject to abortions. And when they do bring forth children, they are unable to nurse them; for the hardness and indigestible nature of the water puts away their milk. Phthisis frequently supervenes after childbirth, for the efforts of it frequently bring on ruptures and strains.[393] Children while still little are subject to dropsies in the testicle, which disappear as they grow older; in such a town they are late in attaining manhood. It is, as I have now stated, with regard to hot and cold winds and cities thus exposed.

5. Cities that are exposed to winds between the summer and the winter risings of the sun, and those the opposite to them, have the following characters:—Those which lie to the rising of the sun are all likely to be more healthy than such as are turned to the North, or those exposed to the hot winds, even if there should not be a furlong between them.[394] In the first place, both the heat and cold are more moderate. Then such waters as flow to the rising sun, must necessarily be clear, fragrant, soft, and delightful to drink, in such a city. For the sun in rising and shining upon them purifies them, by dispelling the vapors which generally prevail in the morning. The persons of the inhabitants are, for the most part, well colored and blooming, unless some disease counteract. The inhabitants have clear voices, and in temper and intellect are superior to those, which are exposed to the north, and all the productions of the country in like manner are better. A city so situated resembles the spring as to moderation between heat and cold, and the diseases are few in number, and of a feeble kind, and bear a resemblance to the diseases which prevail in regions exposed to hot winds. The women there are very prolific, and have easy deliveries. Thus it is with regard to them.

6. But such cities as lie to the west, and which are sheltered from winds blowing from the east, and which the hot winds and the cold winds of the north scarcely touch, must necessarily be in a very unhealthy situation: in the first place the waters are not clear, the cause of which is, because the mist prevails commonly in the morning, and it is mixed up with the water

and destroys its clearness, for the sun does not shine upon the water until he be considerably raised above the horizon. And in summer, cold breezes from the east blow and dews fall; and in the latter part of the day the setting sun particularly scorches the inhabitants, and therefore they are pale and enfeebled, and are partly subject to all the aforesaid diseases, but no one is peculiar to them. Their voices are rough and hoarse owing to the state of the air, which in such a situation is generally impure and unwholesome, for they have not the northern winds to purify it; and these winds they have are of a very humid character, such being the nature of the evening breezes. Such a situation of a city bears a great resemblance to autumn as regards the changes of the day, inasmuch as the difference between morning and evening is great. So it is with regard to the winds that are conducive to health, or the contrary.

7. And I wish to give an account of the other kinds of waters, namely, of such as are wholesome and such as are unwholesome, and what bad and what good effects may be derived from water; for water contributes much towards health.[395] Such waters then as are marshy, stagnant, and belong to lakes, are necessarily hot in summer, thick, and have a strong smell, since they have no current; but being constantly supplied by rain-water, and the sun heating them, they necessarily want their proper color, are unwholesome and form bile; in winter, they become congealed, cold, and muddy with the snow and ice, so that they are most apt to engender phlegm, and bring on hoarseness; those who drink them have large and obstructed spleens, their bellies are hard, emaciated, and hot; and their shoulders, collar-bones, and faces are emaciated; for their flesh is melted down and taken up by the spleen, and hence they are slender; such persons then are voracious and thirsty; their bellies are very dry both above and below, so that they require the strongest medicines.[396] This disease is habitual to them both in summer and in winter, and in addition they are very subject to dropsies of a most fatal character; and in summer dysenteries. diarrhœas, and protracted quartan fevers frequently seize them, and these diseases when prolonged dispose such constitutions to dropsies, and thus prove fatal. These are the diseases which attack them in summer; but in winter younger persons are liable to pneumonia, and maniacal affections; and older persons to ardent fevers, from hardness of the belly. Women are subject to œdema and leucophlegmasiæ;[397] when pregand then during nursing they become

wasted and sickly, and the lochial discharge after parturition does not proceed properly with the women. The children are particularly subject to hernia, and adults to varices and ulcers on their legs, so that persons with such constitutions cannot be long-lived, but before the usual period they fall into a state of premature old age. And further, the women appear to be with child, and when the time of parturition arrives, the fulness of the belly disappears, and this happens from dropsy of the uterus.[398] Such waters then I reckon bad for every purpose. The next to them in badness are those which have their fountains in rocks, so that they must necessarily be hard, or come from a soil which produces thermal waters, such as those having iron, copper, silver, gold, sulphur, alum, bitumen, or nitre (soda) in them: for all these are formed by the force of heat.[399] Good waters cannot proceed from such a soil, but those that are hard and of a heating nature, difficult to pass by urine, and of difficult evacuation by the bowels. The best are those which flow from elevated grounds, and hills of earth; these are sweet, clear, and can bear a little wine; they are hot in summer and cold in winter, for such necessarily must be the waters from deep wells. But those are most to be commended which run to the rising of the sun, and especially to the summer sun; for such are necessarily more clear, fragrant, and light. But all such as are saltish, crude, and hard, are not good for drink. But there are certain constitutions and diseases with which such waters agree when drunk, as I will explain presently. Their characters are as follows: the best are such as have their fountains to the east; the next, those between the summer risings and settings of the sun, and especially those to the risings; and third, those between the summer and winter settings; but the worst are those to the south, and the parts between the winter rising and setting, and those to the south are very bad, but those to the north are better. They are to be used as follows: whoever is in good health and strength need not mind, but may always drink whatever is at hand. But whoever wishes to drink the most suitable for any disease, may accomplish his purpose by attending to the following directions: To persons whose bellies are hard and easily burnt up, the sweetest, the lightest, and the most limpid waters will be proper; but those persons whose bellies are soft, loose, and pituitous, should choose the hardest, those kinds that are most crude, and the saltest, for thus will they be most readily dried up; for such waters as are adapted for boiling, and are of a very solvent nature, naturally loosen readily and melt down the bowels; but such as are intractable, hard, and by no means proper for boiling, these

rather bind and dry up the bowels. People have deceived themselves with regard to salt waters, from inexperience, for they think these waters purgative, whereas they are the very reverse; for such waters are crude, and ill adapted for boiling, so that the belly is more likely to be bound up than loosened by them.[400] And thus it is with regard to the waters of springs.

8. I will now tell how it is with respect to rain-water, and water from snow. Rain waters, then, are the lightest, the sweetest, the thinnest, and the clearest; for originally the sun raises and attracts the thinnest and lightest part of the water, as is obvious from the nature of salts; for the saltish part is left behind owing to its thickness and weight, and forms salts; but the sun attracts the thinnest part, owing to its lightness, and he abstracts this not only from the lakes, but also from the sea, and from all things which contain humidity, and there is humidity in everything; and from man himself the sun draws off the thinnest and lightest part of the juices. As a strong proof of this, when a man walks in the sun, or sits down having a garment on, whatever parts of the body the sun shines upon do not sweat, for the sun carries off whatever sweat makes its appearance; but those parts which are covered by the garment, or anything else, sweat, for the particles of sweat are drawn and forced out by the sun, and are preserved by the cover so as not to be dissipated by the sun; but when the person comes into the shade the whole body equally perspires, because the sun no longer shines upon it.[401] Wherefore, of all kinds of water, these spoil the soonest; and rain water has a bad smell, because its particles are collected and mixed together from most objects, so as to spoil the soonest. And in addition to this, when attracted and raised up, being carried about and mixed with the air, whatever part of it is turbid and darkish is separated and removed from the other, and becomes cloud and mist, but the most attenuated and lightest part is left, and becomes sweet, being heated and concocted by the sun, for all other things when concocted become sweet. While dissipated then and not in a state of consistence it is carried aloft. But when collected and condensed by contrary winds, it falls down wherever it happens to be most condensed. For this is likely to happen when the clouds being carried along and moving with a wind which does not allow them to rest, suddenly encounters another wind and other clouds from the opposite direction: there it is first condensed, and what is behind is carried up to the spot, and thus it thickens, blackens, and is conglomerated, and by its weight it falls down

and becomes rain. Such, to all appearance, are the best of waters, but they require to be boiled and strained;[402] for otherwise they have a bad smell, and occasion hoarseness and thickness of the voice to those who drink them.[403] Those from snow and ice are all bad, for when once congealed, they never again recover their former nature; for whatever is clear, light, and sweet in them, is separated and disappears; but the most turbid and weightiest part is left behind.[404] You may ascertain this in the following manner: If in winter you will pour water by measure into a vessel and expose it to the open air until it is all frozen, and then on the following day bring it into a warm situation where the ice will thaw, if you will measure the water again when dissolved you will find it much less in quantity. This is a proof that the lightest and thinnest part is dissipated and dried up by the congelation, and not the heaviest and thickest, for that is impossible:[405] wherefore I hold that waters from snow and ice, and those allied to them, are the worst of any for all purposes whatever. Such are the characters of rain-water, and those from ice and snow.

9.[406] Men become affected with the stone, and are seized with diseases of the kidneys, strangury, sciatica, and become ruptured, when they drink all sorts of waters, and those from great rivers into which other rivulets run, or from a lake into which many streams of all sorts flow, and such as are brought from a considerable distance. For it is impossible that such waters can resemble one another, but one kind is sweet, another saltish and aluminous, and some flow from thermal springs; and these being all mixed up together disagree, and the strongest part always prevails; but the same kind is not always the strongest, but sometimes one and sometimes another, according to the winds, for the north wind imparts strength to this water, and the south to that, and so also with regard to the others. There must be deposits of mud and sand in the vessels from such waters, and the aforesaid diseases must be engendered by them when drunk, but why not to all I will now explain. When the bowels are loose and in a healthy state,[407] and when the bladder is not hot, nor the neck of the bladder very contracted, all such persons pass water freely, and no concretion forms in the bladder; but those in whom the belly is hot, the bladder must be in the same condition; and when preternaturally heated, its neck becomes inflamed; and when these things happen, the bladder does not expel the urine, but raises its heat excessively. And the thinnest part of it is secreted, and the purest part is

passed off in the form of urine, but the thickest and most turbid part is condensed and concreted, at first in small quantity, but afterwards in greater; for being rolled about in the urine, whatever is of a thick consistence it assimilates to itself, and thus it increases and becomes indurated. And when such persons make water, the stone forced down by the urine falls into the neck of the bladder and stops the urine, and occasions intense pain; so that calculous children rub their privy parts and tear at them, as supposing that the obstruction to the urine is situated there. As a proof that it is as I say, persons affected with calculus have very limpid urine, because the thickest and foulest part remains and is concreted.[408] Thus it generally is in cases of calculus. It forms also in children from milk, when it is not wholesome, but very hot and bilious, for it heats the bowels and bladder, so that the urine being also heated undergoes the same change. And I hold that it is better to give children only the most diluted wine, for such will least burn up and dry the veins. Calculi do not form so readily in women, for in them the urethra is short and wide, so that in them the urine is easily expelled; neither do they rub the pudendum with their hands, nor handle the passage like males;[409] for the urethra in women opens direct into the pudendum, which is not the case with men, neither in them is the urethra so wide, and they drink more than children do.[410] Thus, or nearly so, is it with reward to them.

10. And respecting the seasons, one may judge whether the year will prove sickly or healthy from the following observations:[411]—If the appearances connected with the rising and setting stars be as they should be; if there be rains in autumn; if the winter be mild, neither very tepid nor unseasonably cold, and if in spring the rains be seasonable, and so also in summer, the year is likely to prove healthy. But if the winter be dry and northerly, and the spring showery and southerly, the summer will necessarily be of a febrile character, and give rise to ophthalmies and dysenteries.[412] For when suffocating heat sets in all of a sudden, while the earth is moistened by the vernal showers, and by the south wind, the heat is necessarily doubled from the earth, which is thus soaked by rain and heated by a burning sun, while, at the same time, men’s bellies are not in an orderly state, nor the brain properly dried; for it is impossible, after such a spring, but that the body and its flesh must be loaded with humors, so that very acute fevers will attack all, but especially those of a phlegmatic

constitution. Dysenteries are also likely to occur to women and those of a very humid temperament. And if at the rising of the Dog-star rain and wintry storms supervene, and if the etesian winds blow, there is reason to hope that these diseases will cease, and that the autumn will be healthy; but if not, it is likely to be a fatal season to children and women, but least of all to old men; and that convalescents will pass into quartans, and from quartans into dropsies; but if the winter be southerly, showery and mild, but the spring northerly, dry, and of a wintry character, in the first place women who happen to be with child, and whose accouchement should take place in spring, are apt to miscarry; and such as bring forth, have feeble and sickly children, so that they either die presently or are tender, feeble, and sickly, if they live. Such is the case with the women. The others are subject to dysenteries[413] and dry ophthalmies, and some have catarrhs beginning in the head and descending to the lungs. Men of a phlegmatic temperament are likely to have dysenteries; and women, also, from the humidity of their nature, the phlegm descending downwards from the brain; those who are bilious, too, have dry ophthalmies from the heat and dryness of their flesh; the aged, too, have catarrhs from their flabbiness and melting of the veins, so that some of them die suddenly and some become paralytic on the right side or the left.[414] For when, the winter being southerly and the body hot, the blood and veins are not properly constringed; a spring that is northerly, dry, and cold, having come on, the brain when it should have been expanded and purged, by the coryza and hoarseness is then constringed and contracted, so that the summer and the heat occurring suddenly, and a change supervening, these diseases fall out. And such cities as lie well to the sun and winds, and use good waters, feel these changes less, but such as use marshy and pooly waters, and lie well both as regards the winds and the sun, these all feel it more. And if the summer be dry, those diseases soon cease, but if rainy, they are protracted; and there is danger of any sore that there is becoming phagedenic from any cause; and lienteries and dropsies supervene at the conclusion of diseases; for the bowels are not readily dried up. And if the summer be rainy and southerly, and next the autumn, the winter must, of necessity, be sickly, and ardent fevers are likely to attack those that are phlegmatic, and more elderly than forty years, and pleurisies and peripneumonies[415] those that are bilious. But if the summer is parched and northerly, but the autumn rainy and southerly, headache and sphacelus of the brain[416] are likely to occur; and in addition hoarseness, coryza,

coughs, and in some cases, consumption.[417] But if the season is northerly and without water, there being no rain, neither after the Dog-star nor Arcturus; this state agrees best with those who are naturally phlegmatic, with those who are of a humid temperament, and with women: but it is most inimical to the bilious; for they become much parched up, and ophthalmies of a dry nature supervene, fevers both acute and chronic, and in some cases melancholy;[418] for the most humid and watery part of the bile being consumed, the thickest and most acrid portion is left, and of the blood likewise, whence these diseases come upon them. But all these are beneficial to the phlegmatic, for they are thereby dried up, and reach winter not oppressed with humors, but with them dried up.

11. Whoever studies and observes these things may be able to foresee most of the effects which will result from the changes of the seasons: and one ought to be particularly guarded during the greatest changes of the seasons, and neither willingly give medicines, nor apply the cautery to the belly, nor make incisions there until ten or more days be past. Now, the greatest and most dangerous are the two solstices, and especially the summer, and also the two equinoxes, but especially the autumnal.[419] One ought also to be guarded about the rising of the stars, especially of the Dog-star, then of Arcturus, and then the setting of the Pleiades; for diseases are especially apt to prove critical in those days, and some prove fatal, some pass off, and all others change to another form and another constitution. So it is with regard to them.

12. I wish to show, respecting Asia and Europe, how, in all respects, they differ from one another, and concerning the figure of the inhabitants, for they are different, and do not at all resemble one another. To treat of all would be a long story, but I will tell you how I think it is with regard to the greatest and most marked differences. I say, then, that Asia differs very much from Europe as to the nature of all things, both with regard to the productions of the earth and the inhabitants, for everything is produced much more beautiful and large in Asia; the country is milder, and the dispositions of the inhabitants also are more gentle and affectionate.[420] The cause of this is the temperature of the seasons, because it lies in the middle of the risings of the sun[421] towards the east, and removed from the cold (and heat),[422] for nothing tends to growth and mildness so much as

when the climate has no predominant quality, but a general equality of temperature prevails. It is not everywhere the same with regard to Asia, but such parts of the country as lie intermediate between the heat and the cold, are the best supplied with fruits and trees, and have the most genial climate, and enjoy the purest waters, both celestial and terrestrial. For neither are they much burnt up by the heat, nor dried up by the drought and want of rain, nor do they suffer from the cold; since they are well watered from abundant showers and snow, and the fruits of the season,[423] as might be supposed, grow in abundance, both such as are raised from seed that has been sown, and such plants as the earth produces of its own accord, the fruits of which the inhabitants make use of, training them from their wild state and transplanting them to a suitable soil; the cattle also which are reared there are vigorous, particularly prolific, and bring up young of the fairest description; the inhabitants too, are well fed, most beautiful in shape, of large stature, and differ little from one another either as to figure or size; and the country itself, both as regards its constitution and mildness of the seasons, may be said to bear a close resemblance to the spring. Manly courage, endurance of suffering, laborious enterprise, and high spirit, could not be produced in such a state of things either among the native inhabitants or those of a different country, for there pleasure necessarily reigns. For this reason, also, the forms of wild beasts there are much varied.[424] Thus it is, as I think, with the Egyptians and Libyans.

13. But concerning those on the right hand of the summer risings of the sun as far as the Palus Mæotis[425] (for this is the boundary of Europe and Asia), it is with them as follows: the inhabitants there differ far more from one another than those I have treated of above, owing to the differences of the seasons and the nature of the soil. But with regard to the country itself, matters are the same there as among all other men; for where the seasons undergo the greatest and most rapid changes, there the country is the wildest and most unequal; and you will find the greatest variety of mountains, forests, plains, and meadows; but where the seasons do not change much there the country is the most even; and, if one will consider it, so is it also with regard to the inhabitants; for the nature of some is like to a country covered with trees and well watered; of some, to a thin soil deficient in water; of others, to fenny and marshy places; and of some again, to a plain of bare and parched land.[426] For the seasons which

modify their natural frame of body are varied, and the greater the varieties of them the greater also will be the differences of their shapes.

14. I will pass over the smaller differences among the nations, but will now treat of such as are great either from nature, or custom; and, first, concerning the Macrocephali.[427] There is no other race of men which have heads in the least resembling theirs. At first, usage was the principal cause of the length of their head, but now nature cooperates with usage. They think those the most noble who have the longest heads. It is thus with regard to the usage: immediately after the child is born, and while its head is still tender, they fashion it with their hands, and constrain it to assume a lengthened shape by applying bandages and other suitable contrivances whereby the spherical form of the head is destroyed, and it is made to increase in length. Thus, at first, usage operated, so that this constitution was the result of force: but, in the course of time, it was formed naturally; so that usage had nothing to do with it; for the semen comes from all parts of the body, sound from the sound parts, and unhealthy from the unhealthy parts. If, then, children with bald heads are born to parents with bald heads; and children with blue eyes to parents who have blue eyes; and if the children of parents having distorted eyes squint also for the most part; and if the same may be said of other forms of the body, what is to prevent it from happening that a child with a long head should be produced by a parent having a long head?[428] But now these things do not happen as they did formerly, for the custom no longer prevails owing to their intercourse with other men. Thus it appears to me to be with regard to them.

15. As to the inhabitants of Phasis,[429] their country is fenny, warm, humid, and wooded; copious and severe rains occur there at all seasons; and the life of the inhabitants is spent among the fens; for their dwellings are constructed of wood and reeds, and are erected amidst the waters; they seldom practise walking either to the city or the market, but sail about, up and down, in canoes constructed out of single trees, for there are many canals there.[430] They drink the hot and stagnant waters, both when rendered putrid by the sun, and when swollen with rains. The Phasis itself is the most stagnant of all rivers, and runs the smoothest;[431] all the fruits which spring there are unwholesome, of feeble and imperfect growth, owing to the redundance of water, and on this account they do not ripen, for much vapor from the waters overspreads the country. For these reasons the

Phasians have shapes different from those of all other men; for they are large in stature, and of a very gross habit of body, so that not a joint nor vein is visible; in color they are sallow, as if affected with jaundice. Of all men they have the roughest voices, from their breathing an atmosphere which is not clear, but misty and humid; they are naturally rather languid in supporting bodily fatigue. The seasons undergo but little change either as to heat or cold; their winds for the most part are southerly, with the exception of one peculiar to the country, which sometimes blows strong, is violent and hot, and is called by them the wind *cenchron*. The north wind scarcely reaches them, and when it does blow it is weak and gentle. Thus it is with regard to the different nature and shape of the inhabitants of Asia and Europe.

16. And with regard to the pusillanimity and cowardice of the inhabitants, the principal reason why the Asiatics are more unwarlike and of more gentle disposition than the Europeans is, the nature of the seasons, which do not undergo any great changes either to heat or cold, or the like; for there is neither excitement of the understanding nor any strong change of the body by which the temper might be ruffled, and they be roused to inconsiderate emotion and passion, rather than living as they do always in the same state. It is changes of all kinds which arouse the understanding of mankind, and do not allow them to get into a torpid condition. For these reasons, it appears to me, the Asiatic race is feeble, and further, owing to their laws; for monarchy prevails in the greater part of Asia, and where men are not their own masters nor independent, but are the slaves of others, it is not a matter of consideration with them how they may acquire military discipline, but how they may seem not to be warlike, for the dangers are not equally shared, since they must serve as soldiers, perhaps endure fatigue, and die for their masters, far from their children, their wives, and other friends; and whatever noble and manly actions they may perform lead only to the aggrandizement of their masters, whilst the fruits which they reap are dangers and death; and, in addition to all this, the lands of such persons must be laid waste by the enemy and want of culture.[432] Thus, then, if any one be naturally warlike and courageous, his disposition will be changed by the institutions. As a strong proof of all this, such Greeks or barbarians in Asia as are not under a despotic form of government, but are independent, and enjoy the fruits of their own labors, are of all others the most warlike; for these encounter dangers on their own account, bear the prizes of their

own valor, and in like manner endure the punishment of their own cowardice. And you will find the Asiatics differing from one another, for some are better and others more dastardly; of these differences, as I stated before, the changes of the seasons are the cause. Thus it is with Asia.

17. In Europe there is a Scythian race, called Sauromatæ, which inhabits the confines of the Palus Mæotis, and is different from all other races.[433] Their women mount on horseback, use the bow, and throw the javelin from their horses, and fight with their enemies as long as they are virgins; and they do not lay aside their virginity until they kill three of their enemies, nor have any connection with men until they perform the sacrifices according to law. Whoever takes to herself a husband, gives up riding on horseback unless the necessity of a general expedition obliges her. They have no right breast; for while still of a tender age their mothers heat strongly a copper instrument constructed for this very purpose, and apply it to the right breast, which is burnt up, and its development being arrested, all the strength and fullness are determined to the right shoulder and arm.

18. As the other Scythians have a peculiarity of shape, and do not resemble any other, the same observation applies to the Egyptians, only that the latter are oppressed by heat and the former by cold.[434] What is called the Scythian desert is a prairie, abounding in meadows, high-lying, and well watered; for the rivers which carry off the water from the plains are large. There live those Scythians which are called Nomades, because they have no houses, but live in wagons. The smallest of these wagons have four wheels, but some have six; they are covered in with felt, and they are constructed in the manner of houses, some having but a single apartment, and some three; they are proof against rain, snow, and winds. The wagons are drawn by yokes of oxen, some of two and others of three, and all without horns, for they have no horns, owing to the cold.[435] In these wagons the women live, but the men are carried about on horses, and the sheep, oxen, and horses accompany them; and they remain on any spot as long as there is provender for their cattle, and when that fails they migrate to some other place. They eat boiled meat, and drink the milk of mares, and also eat *hippace*, which is cheese prepared from the milk of the mare. Such is their mode of life and their customs.[436]

19. In respect of the seasons and figure of body, the Scythian race, like the Egyptian, have a uniformity of resemblance, different from all other nations; they are by no means prolific, and the wild beasts which are indigenous there are small in size and few in number, for the country lies under the Northern Bears, and the Rhiphæan mountains, whence the north wind blows; the sun comes very near to them only when in the summer solstice, and warms them but for a short period, and not strongly; and the winds blowing from the hot regions of the earth do not reach them, or but seldom, and with little force; but the winds from the north always blow, congealed, as they are, by the snow, the ice, and much water, for these never leave the mountains, which are thereby rendered uninhabitable. A thick fog covers the plains during the day, and amidst it they live, so that winter may be said to be always present with them; or, if they have summer, it is only for a few days, and the heat is not very strong. Their plains are high-lying and naked, not crowned with mountains, but extending upwards under the Northern Bears.[437] The wild beasts there are not large, but such as can be sheltered under-ground; for the cold of winter and the barrenness of the country prevent their growth, and because they have no covert nor shelter. [438] The changes of the seasons, too, are not great nor violent, for, in fact, they change gradually; and therefore their figures resemble one another, as they all equally use the same food, and the same clothing summer and winter, respiring a humid and dense atmosphere, and drinking water from snow and ice; neither do they make any laborious exertions, for neither body nor mind is capable of enduring fatigue when the changes of the seasons are not great.[439] For these reasons their shapes are gross and fleshy, with ill-marked joints, of a humid temperament, and deficient in tone: the internal cavities, and especially those of the intestines, are full of humors; for the belly cannot possibly be dry in such a country, with such a constitution and in such a climate; but owing to their fat, and the absence of hairs from their bodies, their shapes resemble one another, the males being all alike, and so also with the women: for the seasons being of an uniform temperature, no corruption or deterioration takes place in the concretion of the semen, unless from some violent cause, or from disease.[440]

20. I will give you a strong proof of the humidity (laxity?) of their constitutions.[441] You will find the greater part of the Scythians, and all the Nomades, with marks of the cautery on their shoulders, arms, wrists,

breasts, hip-joints, and loins, and that for no other reason but the humidity and flabbiness of their constitution, for they can neither strain with their bows, nor launch the javelin from their shoulder owing to their humidity and atony: but when they are burnt, much of the humidity in their joints is dried up, and they become better braced, better fed, and their joints get into a more suitable condition.[442] They are flabby and squat at first, because, as in Egypt, they are not swathed(?);[443] and then they pay no attention to horsemanship, so that they may be adepts at it; and because of their sedentary mode of life; for the males, when they cannot be carried about on horseback, sit the most of their time in the wagon, and rarely practise walking, because of their frequent migrations and shiftings of situation; and as to the women, it is amazing how flabby and sluggish they are. The Scythian race are tawny from the cold, and not from the intense heat of the sun, for the whiteness of the skin is parched by the cold, and becomes tawny.

21. It is impossible that persons of such a constitution could be prolific, for, with the man, the sexual desires are not strong, owing to the laxity of his constitution, the softness and coldness of his belly, from all which causes it is little likely that a man should be given to venery; and besides, from being jaded by exercise on horseback, the men become weak in their desires. On the part of the men these are the causes; but on that of the women, they are embonpoint and humidity; for the womb cannot take in the semen, nor is the menstrual discharge such as it should be, but scanty and at too long intervals; and the mouth of the womb is shut up by fat and does not admit the semen; and, moreover, they themselves are indolent and fat, and their bellies cold and soft.[444] From these causes the Scythian race is not prolific. Their female servants furnish a strong proof of this; for they no sooner have connection with a man than they prove with child, owing to their active course of life and the slenderness of body.

22. And, in addition to these, there are many eunuchs among the Scythians, who perform female work, and speak like women. Such persons are called effeminates.[445] The inhabitants of the country attribute the cause of their impotence to a god, and venerate and worship such persons, every one dreading that the like might befall himself; but to me it appears that such affections are just as much divine as all others are, and that no one disease is either more divine or more human than another, but that all are

alike divine, for that each has its own nature, and that no one arises without a natural cause.[446] But I will explain how I think that the affection takes its rise. From continued exercise on horseback they are seized with chronic defluxions in their joints (*kedmata*[447]) owing to their legs always hanging down below their horses; they afterwards become lame and stiff at the hip-joint, such of them, at least, as are severely attacked with it. They treat themselves in this way: when the disease is commencing, they open the vein behind either ear, and when the blood flows, sleep, from feebleness, seizes them, and afterwards they awaken, some in good health and others not. To me it appears that the semen is altered by this treatment, for there are veins behind the ears which, if cut, induce impotence; now, these veins would appear to me to be cut.[448] Such persons afterwards, when they go in to women and cannot have connection with them, at first do not think much about it, but remain quiet; but when, after making the attempt two, three, or more times, they succeed no better, fancying they have committed some offence against the god whom they blame for the affection, they put on female attire, reproach themselves for effeminacy, play the part of women, and perform the same work as women do. This the rich among the Scythians endure, not the basest, but the most noble and powerful, owing to their riding on horseback; for the poor are less affected, as they do not ride on horses. And yet, if this disease had been more divine than the others, it ought not to have befallen the most noble and the richest of the Scythians alone, but all alike, or rather those who have little, as not being able to pay honors to the gods, if, indeed, they delight in being thus rewarded by men, and grant favors in return; for it is likely that the rich sacrifice more to the gods, and dedicate more votive offerings, inasmuch as they have wealth, and worship the gods; whereas the poor, from want, do less in this way, and, moreover, upbraid the gods for not giving them wealth, so that those who have few possessions were more likely to bear the punishments of these offences than the rich. But, as I formerly said, these affections are divine just as much as others, for each springs from a natural cause, and this disease arises among the Scythians from such a cause as I have stated. But it attacks other men in like manner, for whenever men ride much and very frequently on horseback, then many are affected with rheums in the joints, sciatica, and gout, and they are inept at venery. But these complaints befall the Scythian, and they are the most impotent of men for the aforesaid causes, and because they always wear breeches, and spend the most of their

time on horseback,[449] so as not to touch their privy parts with the hand, and from the cold and fatigue they forget the sexual desire, and do not make the attempt until after they have lost their virility.[450] Thus it is with the race of the Scythians.

23. The other races in Europe differ from one another, both as to stature and shape, owing to the changes of the seasons, which are very great and frequent, and because the heat is strong, the winters severe, and there are frequent rains, and again protracted droughts, and winds, from which many and diversified changes are induced. These changes are likely to have an effect upon generation in the coagulation of the semen, as this process cannot be the same in summer as in winter, nor in rainy as in dry weather; wherefore, I think, that the figures of Europeans differ more than those of Asiatics; and they differ very much from one another as to stature in the same city; for vitiations of the semen occur in its coagulation more frequently during frequent changes of the seasons, than where they are alike and equable. And the same may be said of their dispositions, for the wild, and unsociable, and the passionate occur in such a constitution; for frequent excitement of the mind induces wildness, and extinguishes sociableness and mildness of disposition, and therefore I think the inhabitants of Europe more courageous than those of Asia; for a climate which is always the same induces indolence, but a changeable climate, laborious exertions both of body and mind; and from rest and indolence cowardice is engendered, and from laborious exertions and pains, courage. On this account the inhabitants of Europe are more warlike than the Asiatics, and also owing to their institutions, because they are not governed by kings like the latter, for where men are governed by kings there they must be very cowardly, as I have stated before; for their souls are enslaved, and they will not willingly, or readily undergo dangers in order to promote the power of another; but those that are free undertake dangers on their own account, and not for the sake of others; they court hazard and go out to meet it, for they themselves bear off the rewards of victory, and thus their institutions contribute not a little to their courage.[451]

Such is the general character of Europe and Asia.[452]

24. And there are in Europe other tribes, differing from one another in stature, shape, and courage: the differences are those I formerly mentioned,

and will now explain more clearly. Such as inhabit a country which is mountainous, rugged, elevated, and well watered, and where the changes of the seasons are very great, are likely to have great variety of shapes among them, and to be naturally of an enterprising and warlike disposition;[453] and such persons are apt to have no little of the savage and ferocious in their nature; but such as dwell in places which are low-lying, abounding in meadows and ill ventilated, and who have a larger proportion of hot than of cold winds, and who make use of warm waters—these are not likely to be of large stature nor well proportioned, but are of a broad make, fleshy, and have black hair; and they are rather of a dark than of a light complexion, and are less likely to be phlegmatic than bilious; courage and laborious enterprise are not naturally in them, but may be engendered in them by means of their institutions. And if there be rivers in the country which carry off the stagnant and rain water from it, these may be wholesome and clear; but if there be no rivers, but the inhabitants drink the waters of fountains, and such as are stagnant and marshy, they must necessarily have prominent bellies and enlarged spleens. But such as inhabit a high country, and one that is level, windy, and well-watered, will be large of stature, and like to one another; but their minds will be rather unmanly and gentle. Those who live on thin, ill-watered, and bare soils, and not well attempered in the changes of the seasons, in such a country they are likely to be in their persons rather hard and well braced, rather of a blond than a dark complexion, and in disposition and passions haughty and self-willed. For, where the changes of the seasons are most frequent, and where they differ most from one another, there you will find their forms, dispositions, and nature the most varied. These are the strongest of the natural causes of difference, and next the country in which one lives, and the waters; for, in general, you will find the forms and dispositions of mankind to correspond with the nature of the country; for where the land is fertile, soft, and well-watered, and supplied with waters from very elevated situations, so as to be hot in summer and cold in winter, and where the seasons are fine, there the men are fleshy, have ill-formed joints,[454] and are of a humid temperament; they are not disposed to endure labor, and, for the most part, are base in spirit; indolence and sluggishness are visible in them, and to the arts they are dull, and not clever nor acute. When the country is bare, not fenced, and rugged, blasted by the winter and scorched by the sun, there you may see the men hardy, slender, with well-shaped joints,[454] well-braced, and

shaggy; sharp industry and vigilance accompany such a constitution; in morals and passions they are haughty and opinionative, inclining rather to the fierce than to the mild; and you will find them acute and ingenious as regards the arts, and excelling in military affairs; and likewise all the other productions of the earth corresponding to the earth itself.[455] Thus it is with regard to the most opposite natures and shapes; drawing conclusions from them, you may judge of the rest without any risk of error.

ON THE PROGNOSTICS.

THE ARGUMENT.

Of the genuineness of this work I have treated in the Preliminary Discourse, and have also briefly touched upon its relation to two other important treatises in the Hippocratic collection, the “Prorrhetics” and the “Coacæ Prænotiones.” The latter subject I am now to resume, and in doing so I mean to avail myself of the talented dissertation of Dr. Ermerins, to which also I have already made allusion. Indeed I am persuaded that I cannot do a more acceptable service to my profession in Britain than by laying before them a brief exposition of the important views brought forward in this “Dissertatio Inauguralis.”[456]

After some preliminary observations on the ancient Temples of Health, which are mainly derived from Sprengel’s “History of Medicine”[457] he passes on to consider the opinion started[*? typo for stated, but started also in googlebooks] by this author and others before his time, that the first book of the “Prorrhetics” and the “Coacæ Prænotiones” are the results of isolated observations made upon the sick in the Asclepion of Cos. The probability of this opinion being well founded he shows to be very great; and he next endeavors to solve the question whether the first book of the “Prorrhetics” be derived from the “Coacæ Prænotiones,” or whether the latter be the more modern work of the two. He comes to the conclusion that the “Prorrhetics” is the more ancient work, for the following reasons: 1st. Because in it the names of the patients are frequently given, which is rarely the case in the “Coacæ Prænotiones.” 2d. Because queries and doubts are oftener found in this book than in the other, when one takes into account the number of presages. 3d. Because the number of observations which this book contains is much smaller than those which the “Coacæ” embrace. 4th. This is confirmed by the circumstance that the enunciations of the prognoses are far less extended in the “Prorrhetics,” whence it is clearly proved that they are not derived from so great a field of observations as those we meet with in the other work. He then gives a most lucid view of the parallelism which subsists between the “Prorrhetica” and the

"Coacæ," and, as the results of his observations upon them, he draws the following most important conclusions:

1. "By a most fortunate occurrence certain monuments of the medical art, as cultivated by the Asclepiadæ, are preserved to us in the first "Prorrhetics" and the "Prænotiones Coacæ" which books appear to be fragments and excerpts from the histories of diseases and cures which were formerly found on the votive tablets of the Coan temple.

2. This sacerdotal medicine was at first a certain medical divination, which, as it was the offspring of pure observation, so the system of prognostics of the Coans was altogether aloof from the theories and systems of the philosophers, and is therefore to be reckoned most worthy of our attention, both from the great love of observation which we admire in it, and from the exquisite and beautiful sense of the simple truth which it evinces.

3. We must keep in view the origin of these presages from individual observations gradually collected, in order that we may have a knowledge of this system of prognostic semeiology. Hence we comprehend how we meet with so many doubtful propositions, and so many uncertain and vague remarks, and that imperfect etiology which confounded causes with their effects, and again, the latter with the former.

4. The readers must particularly keep before their eyes this origin, and the antiquity of those writings, if they would pass a correct judgment on the merits of the Asclepiadæ towards the art of medicine. Whatever in their works we have the pleasure of possessing, all attest the infancy of the art; many things are imperfect, and not unfrequently do we see them, while in the pursuit of truth, groping, as it were, and proceeding with uncertain steps, like men wandering about in darkness; but yet the method which they applied, and to which they would seem to have betaken themselves of their own accord, was so excellent, that nothing could surpass it. It was the same method which Hippocrates himself always adopted, and which, in fine, Lord Bacon, many ages afterwards, commended as the only instrument by which truth in medicine can be found out.

5. As this method is founded on true induction, so are its dicta to be held the more worthy of admiration, the more they possess a universal signification. To give an example; what assiduous observation, and what

abundance of rational experience, must have been required for enunciating the following admirable truth, and, as it were, law of nature: “Those things which bring alleviation with bad signs, and do not remit with good, are troublesome and difficult.”

6. Many passages bear reference to the condition of the vital powers, which they took into account at all times, both in making presages and in exercising the art. For, although they had not our theories of the vital force, they perceived its effects very well by observation; and for this very reason, that they did not search for the art in theories, but in observation alone, we owe so many excellent things to them, since they did not adapt their observation to theories, but related a trustworthy and faithful history of the operations of nature.

7. They sought after many things from a comparison of health with disease, in which also they rightly calculated the manners and customs of men. Thus they call that, in the first place, the best mode of reclining, which is adopted by the patient when in good health, and hence they estimate the other modes as being less good, or altogether unfavorable. Nor did they only compare health with disease, but they compared also the symptoms of diseases with one another, and interpreted the one from the other. Thus they first depict and pronounce a favorable opinion on the best kind of excretions, and then they described the other abnormal kinds, and pass an unfavorable judgment on them.

8. They particularly relate the operations of a *natura medicatrix*, which, in a region such as Greece is, and in athletic, strong bodies, on which they appear to have practised the art, and for the most part in acute diseases, and the few chronic ones derived from them which they have left described, might especially be looked for. Hence that doctrine of crises most deserving of attention, the rudiments, indeed, of which we only have here preserved, but a just notion of which we may easily draw from these fragments.

9. The Asclepiadæ would appear to have accommodated and directed their art to this natural Therapia. Hence the advice that convulsions arising from a great hemorrhage, forcibly stopped, should be cured by the abstraction of blood. It is to be regretted that but a few monuments of their practice remain; but these embrace admirable imitations of nature, and the most prudent caution in administering remedies.

10. Neither did they neglect surgery, but deliver many excellent remarks on things pertaining to wounds, ulcers, and fractures.

11. Although it cannot be made out for certain that everything which is preserved in these writings existed before Hippocrates, there can be no doubt that many of them are more ancient than he. And although we may attribute some things rather to Hippocrates himself, it is nevertheless certain that the method of deducing the art from observation and comparison had existed before him. Some may, perhaps, object that these books are to be attributed to the youth of Hippocrates, and that the others, more elaborate and perfect, had proceeded from the same person in his old age; but this supposition we may refute by a single argument, namely, that it would be absurd to ascribe so many observations about so many diseases to one man.

12. From the whole Coan system of cultivating medicine, the best hopes might justly have been expected; and from what follows it will be seen that the result did not disappoint this expectation."

These deductions, I must say, appear to be most legitimately drawn; and having thus satisfactorily made out that the "Coacæ Prænotiones" are founded on the "Prorrhetics," Dr. Ermerins proceeds to make an interesting comparison between the former and the book of "Prognostics." Here again we can only find room for the general conclusions.

1. "We have compared together two monuments of antiquity embracing entirely the same doctrine, so that we may hold it as put out of all doubt that they must have derived their origin from the same school, only the one yields to the other in antiquity, as its more expanded mode of expression shows.

2. The more recent work is attributed to Hippocrates by all the critics and interpreters; the most ancient authors have made mention of it, and all the characteristic marks by which the genuine works of Hippocrates are distinguished from the spurious, without doubt, are found in it; for whether you look to the brevity and gravity of the language, or the paucity of the reasonings, the correctness of the observations, or the dialect in which they are expressed, or, in fine, its agreement with the whole Hippocratic doctrine,—all these attest that "the divine old man" is the author of this work.

3. From a comparison of the “Coacæ Prænotiones” with the “Prognostics,” it is as clear as the light of day that Hippocrates composed this work from them, in such a manner that he circumscribed many of the symptoms, limited the enunciations, and amplified them all by his own experience in the medical Art. Hence the Prognostics may not inaptly be called the Commentary of Hippocrates on the “Coacæ Prænotiones.”

4. With regard to the exquisite and artificial order, in which we see many things proposed in his book, we agree entirely with Sprengel, who thinks that they have proceeded from a more recent describer. This is confirmed by our comparison of both works.

5. This work exhibits the fundamental principles and originals of the Hippocratic doctrine, and although we hardly know anything as to the manlier in which Hippocrates composed his writings, and of the form which he gave them, it does not seem at all out of the way to hold this book to be the oldest of all the works which “the Father of Medicine” has left to us.

6. Inasmuch as this work is entitled the Book of Prognostics, so it turns on the *prescience* πρόνοια, that is to say, the foreknowledge of the physician, which Hippocrates recommends to physicians for three reasons: first, for the confidence of mankind, which it will conciliate to the physician; then because it will free the practitioner from all blame, if he has announced beforehand the fatal result of diseases; and further, as being a very great instrument in effecting the cure.

7. Like the Coan priests, Hippocrates drew his Prognostics from a comparison of disease with health. This he held to be of so great importance, that he first delivers physiological semeiotics, and then adds pathological.

8. In calculating and judging of signs he neglected neither age nor sex, and, in the first place, directed his mind to the power of habit on the human body.

9. Nor did Hippocrates stop here, but directed care to be had of the attack of epidemics, and the condition of the season.

10. The Prognostics of Hippocrates are not of one time or place, but extend through every age, and through the whole world; inasmuch as the prognostic signs have been proved to be true in Libya, in Delos, and in

Scythia, and it should be well known that every year, and at every season of the year, bad symptoms bode ill, and good symptoms good.

11. But he who would wish to know properly beforehand those who will recover from a disease, and those who will die, and those in whom the disease will persevere for many days, and those in whom it will last for a few, should be able to comprehend and estimate the doctrine of all the signs, and weigh in his mind and compare together their strength. The Hippocratic foreknowledge rests not only on the observation of the signs, but also on the understanding of them.

12. The Book of Prognostics exhibits observations of acute diseases, and of chronic arising from them, in which Hippocrates has diligently noted the times and modes of the crises.

13. Such is the authority of critical days and signs, that in those fevers which cease without the symptoms of resolution, and not upon critical days, a relapse is to be expected.

14. The series of critical days which Hippocrates delivers, proceeds solely upon the observation of nature. Yet neither can any of them be exactly numbered by entire days, since neither the year nor the months are usually numbered by entire days."

Dr. Ermerins, in the remaining part of his Essay, shows, in a very lucid manner, that the rules of Prognosis laid down in this treatise by Hippocrates, are manifestly those by which he is regulated in his other works, and more especially in the Epidemics and Aphorisms. We must not, however, occupy room with any further exposition of the contents of this important treatise, which does equal credit to the author himself, and to the medical system of education pursued in the learned university from which it emanated.

I will now give some remarks and reflections of my own on the treatise under consideration.

In this work, then, Hippocrates appears to have had for his object, to give such a general description of the phenomena of disease as would apply

to all the disorders of the animal frame. With this intention he brings into review the state of the countenance, the position of the patient in bed, the movements of the hands, the respiration, the sweats, the state of the hypochondria, dropsies which are the consequences of acute diseases, the sleep, the urine, the alvine dejections, the vomitings, and the sputa. In doing this, his uniform practice is to contrast the healthy with the morbid appearances. Although M. Littré regards it as a treatise on special Pathology, it appears to me to be decidedly a general work on Semeiology. Certain it is that all the best commentators, such as Erotian and Stephanus, [458] decidedly regard it as a semeiological work. The class of ancient writings with which it admits of being most closely compared, are the works on the prognostics of the weather. On this subject Greek literature contains several works of a very philosophical nature, such as the Phænomena of Aratus, and several of the minor tracts of Theophrastus. Now as the object of these authors was to connect the most striking phenomena in the sky, the earth, and the sea, with the changes in the weather, of which they are the precursors, so the intention of the medical writer of Prognostics was to point out the alterations in the animal frame, which certain preternatural symptoms usually indicate. And as the utility of an acquaintance with prognostics of the weather to the husbandman and sailor is sufficiently obvious, the benefit to be derived from a knowledge of medical prognostics by the physician is equally so. Our author, it will be seen in the Preface to this work, enumerates three objects to be attained by cultivating an acquaintance with prognostics; first, to attract the confidence of one's patients; second, to free the physician from blame by enabling him to announce beforehand the issue of the disorder about which he is consulted; and, third, to give him a decided advantage in conducting the treatment by preparing him for remarkable changes in the diseases before they occur. And, in like manner, I may be allowed to remark, the master of a ship who shows himself prepared for all changes of the weather, will naturally attract the confidence of those intrusted to his charge; and whatever may be the result, he will be freed from blame if his ship should be damaged in a storm which he had previously predicted; and surely his knowledge of impending commotions in the sea and sky, will be of advantage to him by enabling him to make preparations for them.

Looking then to the importance of general Prognostics, I have often wondered why this branch of Semeiology is no longer cultivated by the

profession. Did not the ancient physicians follow the best possible plan when they first described the general phenomena of diseased action, and then applied them to particular cases? Surely they did right in first taking a comprehensive view of the whole subject of disease before attempting to examine the different parts of it in detail. This, in fact, constitutes the great superiority of the ancient *savans* over the modern, that the former possessed a much greater talent for apprehending general truths than the latter, who confine their attention to particular facts, and too much neglect the observation of general appearances. I trust no one will be offended if I venture to pronounce regarding the present condition of our professional literature, that (to borrow an illustration from the Logic of Kant) it is altogether Cyclopic,—that is to say, it wants the eye of Philosophy, for, although we have learned to examine particular objects with greater accuracy than our forefathers did, the sphere of our mental vision, so to speak, is more confined than theirs, and cannot embrace the same enlarged views of general subjects. Surely then we might gain a useful lesson by endeavoring to combine their more comprehensive views with our own more accurate and minute observation.

Some people may be inclined to think that we have greatly detracted from the credit which Hippocrates has long enjoyed as being the undoubted author of this work, by showing that in composing it he was so much indebted to the labors of his predecessors. But I have long been impressed with the conviction that in compositions even of the highest order, there is much less originality than is generally supposed, and that true genius frequently is displayed more in its own felicitous way of dealing with materials formerly prepared and collected for its use than in searching out new matter to work upon,[459] and hence it will be found upon examination that many of the most distinguished efforts of human intellect have consisted in the successful performance of tasks which had been frequently attempted by previous laborers in the same line. Many artists, before the time of Phidias, had acquired reputation by their attempts at making the statue of Jupiter;[460] but this did not deter him from undertaking the same task: and we may well believe that he would avail himself of every practical lesson which he could draw from the success or failure of his predecessors, in perfecting that matchless performance which completely cast all others into the background. The sad misfortunes of Œdipus had been often

represented on the Athenian stage before Sophocles made them the subject of those inimitable dramas, which still enjoy an unrivalled reputation, nor will it be often considered how much assistance he may have derived from the labors of those who had gone before him. It is well known that of all the literary performances of Aristotle, there is no one which gained him so enduring a reputation as his Categories, and yet it is admitted that his division of the subject into the ten Predicaments, was taken from the Pythagorean philosopher Archytas;[461] in short, the great merit of Aristotle on this as on many other occasions, consisted in defining and arranging a subject on which much had been previously effected by the labors of his predecessors. And, to give one example more, long before the time of Galen, the temperaments, and the facts in physiology and pathology bearing upon Hygiene, had been frequently and successfully investigated, but he, by recasting all these subject-matters into his *Ars Medica*, composed a work which posterity regarded as his master-performance, and every word and tittle of which, for a succession ages, were commented upon and admired in the Schools of Medicine. And of all our Author's admired performances, there is perhaps no one which has exerted so great an influence upon the literature of the profession as the present work, for all the Greek, Roman, and Arabian writers on medicine, subsequent to him, make use of his terms, and copy his descriptions of morbid phenomena.

THE BOOK OF PROGNOSTICS.

1. It appears to me a most excellent thing for the physician to cultivate Prognosis; for by foreseeing and foretelling, in the presence of the sick, the present, the past, and the future, and explaining the omissions which patients have been guilty of,[462] he will be the more readily believed to be acquainted with the circumstances of the sick; so that men will have confidence to intrust themselves to such a physician. And he will manage the cure best who has foreseen what is to happen from the present state of matters. For it is impossible to make all the sick well; this, indeed, would have been better than to be able to foretell what is going to happen; but since men die, some even before calling the physician, from the violence of the disease, and some die immediately after calling him, having lived, perhaps, only one day or a little longer, and before the physician could bring his art to counteract the disease; it therefore becomes necessary to know the

nature of such affections, how far they are above the powers of the constitution; and, moreover, if there be anything divine in the diseases,[463] and to learn a foreknowledge of this also. Thus a man will be the more esteemed to be a good physician, for he will be the better able to treat those aright who can be saved, from having long anticipated everything; and by seeing and announcing beforehand those who will live and those who will die, he will thus escape censure.[464]

2. He should observe thus in acute diseases: first, the countenance of the patient, if it be like those of persons in health, and more so, if like itself, for this is the best of all; whereas the most opposite to it is the worst, such as the following; *a sharp nose, hollow eyes, collapsed temples*; *the ears cold, contracted, and their lobes turned out*: *the skin about the forehead being rough, distended, and parched*; *the color of the whole face being green, black, livid, or lead-colored*.[465] If the countenance be such at the commencement of the disease, and if this cannot be accounted for from the other symptoms, inquiry must be made whether the patient has long wanted sleep; whether his bowels have been very loose; and whether he has suffered from want of food; and if any of these causes be confessed to, the danger is to be reckoned so far less; and it becomes obvious, in the course of a day and a night, whether or not the appearance of the countenance proceeded from these causes.[466] But if none of these be said to exist, and if the symptoms do not subside in the aforesaid time, it is to be known for certain that death is at hand. And, also, if the disease be in a more advanced stage either on the third or fourth day, and the countenance be such, the same inquiries as formerly directed are to be made, and the other symptoms are to be noted, those in the whole countenance, those on the body, and those in the eyes; for if they shun the light, or weep involuntarily, or squint, or if the one be less than the other, or if the white of them be red, livid, or has black veins in it; if there be a gum upon the eyes, if they are restless, protruding, or are become very hollow; and if the countenance be squalid and dark, or the color of the whole face be changed—all these are to be reckoned bad and fatal symptoms. The physician should also observe the appearance of the eyes from below the eyelids in sleep; for when a portion of the white appears, owing to the eyelids not being closed together, and when this is not connected with diarrhœa or purgation from medicine, or when the patient does not sleep thus from habit, it is to be reckoned an

unfavorable and very deadly symptom; but if the eyelid be contracted, livid, or pale, or also the lip, or nose, along with some of the other symptoms, one may know for certain that death is close at hand. It is a mortal symptom, also, when the lips are relaxed, pendent, cold, and blanched.

3.[467] It is well when the patient is found by his physician reclining upon either his right or his left side, having his hands, neck, and legs slightly bent, and the whole body lying in a relaxed state, for thus the most of persons in health recline, and these are the best of postures which most resemble those of healthy persons. But to lie upon one's back, with the hands, neck, and the legs extended, is far less favorable. And if the patient incline forward, and sink down to the foot of the bed, it is a still more dangerous symptom; but if he be found with his feet naked and not sufficiently warm, and the hands, neck, and legs tossed about in a disorderly manner and naked, it is bad, for it indicates aberration of intellect. It is a deadly symptom, also, when the patient sleeps constantly with his mouth open, having his legs strongly bent and plaited together, while he lies upon his back; and to lie upon one's belly, when not habitual to the patient to sleep thus while in good health, indicates delirium, or pain in the abdominal regions. And for the patient to wish to sit erect at the acme of a disease is a bad symptom in all acute diseases, but particularly so in pneumonia.[468] To grind the teeth in fevers, when such has not been the custom of the patient from childhood, indicates madness and death, both which dangers are to be announced beforehand as likely to happen; and if a person in delirium do this it is a very deadly symptom. And if the patient had an ulcer previously, or if one has occurred in the course of the disease, it is to be observed; for if the man be about to die the sore will become livid and dry, or yellow and dry before death.[469]

4. Respecting the movement of the hands I have these observations to make: When in acute fevers, pneumonia, phrenitis, or headache, the hands are waved before the face, hunting through empty space, as if gathering bits of straw, picking the nap from the coverlet, or tearing chaff from the wall—all such symptoms are bad and deadly.[470]

5. Respiration, when frequent, indicates pain or inflammation in the parts above the diaphragm: a large respiration performed at a great interval announces delirium; but a cold respiration at nose or mouth is a very fatal

symptom. Free respiration is to be looked upon as contributing much to the safety of the patient in all acute diseases, such as fevers, and those complaints which come to a crisis in forty days.[471]

6. Those sweats are the best in all acute diseases which occur on the critical days, and completely carry off the fever. Those are favorable, too, which taking place over the whole body, show that the man is bearing the disease better. But those that do not produce this effect are not beneficial. The worst are cold sweats, confined to the head, face, and neck; these in an acute fever prognosticate death, or in a milder one, a prolongation of the disease; and sweats which occur over the whole body, with the characters of those confined to the neck, are in like manner bad. Sweats attended with a miliary eruption, and taking place about the neck, are bad; sweats in the form of drops and of vapour are good. One ought to know the entire character of sweats, for some are connected with prostration of strength in the body, and some with intensity of the inflammation.[472]

7.[473] That state of the hypochondrium is best when it is free from pain, soft, and of equal size on the right side and the left. But if inflamed, or painful, or distended; or when the right and left sides are of disproportionate sizes;—all these appearances are to be dreaded. And if there be also pulsation in the hypochondrium, it indicates perturbation or delirium; and the physician should examine the eyes of such persons; for if their pupils be in rapid motion, such persons may be expected to go mad. A swelling in the hypochondrium, that is hard and painful, is very bad, provided it occupy the whole hypochondrium; but if it be on either side, it is less dangerous when on the left. Such swellings at the commencement of the disease prognosticate speedy death; but if the fever has passed twenty days, and the swelling has not subsided, it turns to a suppuration.[474] A discharge of blood from the nose occurs to such in the first period, and proves very useful; but inquiry should be made if they have headache or indistinct vision; for if there be such, the disease will be determined thither. The discharge of blood is rather to be expected in those who are younger than thirty-five years. Such swellings as are soft, free from pain, and yield to the finger, occasion more protracted crises, and are less dangerous than the others. But if the fever continue beyond sixty days, without any subsidence of the swelling, it indicates that empyema is about to take place; and a swelling in any other part of the cavity will terminate in like manner. Such,

then, as are painful, hard, and large, indicate danger of speedy death; but such as are soft, free of pain, and yield when pressed with the finger, are more chronic than these. Swellings in the belly less frequently form abscesses than those in the hypochondrium; and seldomest of all, those below the navel are converted into suppuration; but you may rather expect a hemorrhage from the upper parts. But the suppuration of all protracted swellings about these parts is to be anticipated. The collections of matter there are to be thus judged of: such as are determined outwards are the best when they are small, when they protrude very much, and swell to a point; such as are large and broad, and which do not swell out to a sharp point, are the worst. Of such as break internally, the best are those which have no external communication, but are covered and indolent; and when the whole place is free from discoloration. That pus is best which is white, homogeneous, smooth, and not at all fetid; the contrary to this is the worst.

8.[475] All dropsies arising from acute diseases are bad; for they do not remove the fever, and are very painful and fatal. The most of them commence from the flanks and loins, but some from the liver; in those which derive their origin from the flanks and loins the feet swell, protracted diarrhœas supervene, which neither remove the pains in the flanks and loins, nor soften the belly;[476] but in dropsies which are connected with the liver there is a tickling cough, with scarcely any perceptible expectoration, and the feet swell; there are no evacuations from the bowels, unless such as are hard and forced; and there are swellings about the belly, sometimes on the one side and sometimes on the other, and these increase and diminish by turns.[477]

9. It is a bad symptom when the head, hands, and feet are cold, while the belly and sides are hot; but it is a very good symptom when the whole body is equally hot.[478] The patient ought to be able to turn round easily, and to be agile when raised up; but if he appear heavy in the rest of his body as well as in his hands and feet, it is more dangerous; and if, in addition to the weight, his nails and fingers become livid, immediate death may be anticipated; and if the hands and feet be black it is less dangerous than if they be livid, but the other symptoms must be attended to; for if he appear to bear the illness well, and if certain of the salutary symptoms appear along with these there may be hope that the disease will turn to a deposition, so that the man may recover; but the blackened parts of the body will drop off.

When the testicles and members are retracted upwards, they indicate strong pains and danger of death.[479]

10. With regard to sleep—as is usual with us in health, the patient should wake during the day and sleep during the night. If this rule be anywise altered it is so far worse: but there will be little harm provided he sleep in the morning for the third part of the day; such sleep as takes place after this time is more unfavorable; but the worst of all is to get no sleep either night or day; for it follows from this symptom that the insomnolency is connected with sorrow and pains, or that he is about to become delirious.[480]

11. The excrement is best which is soft and consistent, is passed at the hour which was customary to the patient when in health, in quantity proportionate to the ingesta; for when the passages are such, the lower belly is in a healthy state.[481] But if the discharges be fluid, it is favorable that they are not accompanied with a noise, nor are frequent, nor in great quantity; for the man being oppressed by frequently getting up, must be deprived of sleep; and if the evacuations be both frequent and large, there is danger of his falling into deliquium animi.[482] But in proportion to the ingesta he should have evacuations twice or thrice in the day, once at night and more copiously in the morning, as is customary with a person in health. The fæces should become thicker when the disease is tending to a crisis; they ought to be yellowish and not very fetid. It is favorable that round worms be passed with the discharges when the disease is tending to a crisis.[483] The belly, too, through the whole disease, should be soft and moderately distended; but excrements that are very watery, or white, or green, or very red, or frothy, are all bad. It is also bad when the discharge is small, and viscid, and white, and greenish, and smooth; but still more deadly appearances are the black, or fatty, or livid, or verdigris-green, or fetid. Such as are of varied characters indicate greater duration of the complaint, but are no less dangerous; such as those which resemble scrapings,[484] those which are bilious, those resembling leeks, and the black; these being sometimes passed together, and sometimes singly.[485] It is best when wind passes without noise, but it is better that flatulence should pass even thus than that it should be retained; and when it does pass thus, it indicates either that the man is in pain or in delirium, unless he gives

vent to the wind spontaneously.[486] Pains in the hypochondria, and swellings, if recent, and not accompanied with inflammation, are relieved by borborygmi supervening in the hypochondrium, more especially if it pass off with fæces, urine, and wind; but even although not, it will do good by passing along, and it also does good by descending to the lower part of the belly.[487]

12. The urine is best when the sediment is white, smooth, and consistent during the whole time, until the disease come to a crisis, for it indicates freedom from danger, and an illness of short duration; but if deficient, and if it be sometimes passed clear, and sometimes with a white and smooth sediment, the disease will be more protracted, and not so void of danger. But if the urine be reddish, and the sediment consistent and smooth, the affection, in this case, will be more protracted than the former, but still not fatal.[488] But farinaceous sediments in the urine are bad, and still worse are the leafy;[489] the white and thin are very bad, but the furfuraceous are still worse than these. Clouds carried about in the urine are good when white, but bad if black. When the urine is yellow and thin, it indicates that the disease is unconcocted; and if it (the disease) should be protracted, there may be danger lest the patient should not hold out until the urine be concocted.[490] But the most deadly of all kinds of urine are the fetid, watery, black, and thick; in adult men and women the black is of all kinds of urine the worst, but in children, the watery.[491] In those who pass thin and crude urine for a length of time, if they have otherwise symptoms of convalescence, an abscess may be expected to form in the parts below the diaphragm.[492] And fatty substances floating on the surface are to be dreaded, for they are indications of melting. And one should consider respecting the kinds of urine, which have clouds, whether they tend upwards or downwards, and the colors which they have and such as fall downwards, with the colors as described, are to be reckoned good and commended; but such as are carried upwards, with the colors as described, are to be held as bad, and are to be distrusted.[493] But you must not allow yourself to be deceived if such urine be passed while the bladder is diseased; for then it is a symptom of the state, not of the general system, but of a particular viscus.[494]

13. That vomiting is of most service which consists of phlegm and bile mixed together, and neither very thick nor in great quantity; but those vomitings which are more unmixed are worse. But if that which is vomited be of the color of leeks or livid, or black, whatever of these colors it be, it is to be reckoned bad; but if the same man vomit all these colors, it is to be reckoned a very fatal symptom. But of all the vomitings, the livid indicates the most imminent danger of death, provided it be of a fetid smell. But all the smells which are somewhat putrid and fetid, are bad in all vomitings. [495]

14. The expectoration in all pains about the lungs and sides, should be quickly and easily brought up, and a certain degree of yellowness should appear strongly mixed up with the sputum. But if brought up long after the commencement of the pain, and of a yellow or ruddy color, or if it occasions much cough, or be not strongly mixed, it is worse; for that which is intensely yellow is dangerous, but the white, and viscid, and round, do no good. But that which is very green and frothy is bad; but if so intense as to appear black, it is still more dangerous than these; it is bad if nothing is expectorated, and the lungs discharge nothing, but are gorged with matters which boil (as it were) in the air-passages. It is bad when coryza and sneezing either precede or follow affections of the lungs, but in all other affections, even the most deadly, sneezing is a salutary symptom.[496] A yellow spittle mixed up with not much blood in cases of pneumonia, is salutary and very beneficial if spit up at the commencement of the disease, but if on the seventh day, or still later, it is less favorable. And all sputa are bad which do not remove the pain. But the worst is the black, as has been described. Of all others the sputa which remove the pain are the best.[497]

15. When the pains in these regions do not cease, either with the discharge of the sputa, nor with alvine evacuations, nor from venesection, purging with medicine, nor a suitable regimen, it is to be held that they will terminate in suppurations.[498] Of empyemata such as are spit up while the sputum is still bilious, are very fatal, whether the bilious portion be expectorated separate, or along with the other; but more especially if the empyema begin to advance after this sputum on the seventh day of the disease. It is to be expected that a person with such an expectoration shall die on the fourteenth day, unless something favorable supervene. The following are favorable symptoms: to support the disease easily, to have

free respiration, to be free from pain, to have the sputa readily brought up, the whole body to appear equally warm and soft, to have no thirst, the urine, and fæces, sleep, and sweats to be all favorable, as described before; when all these symptoms concur, the patient certainly will not die; but if some of these be present and some not, he will not survive longer than the fourteenth day. The bad symptoms are the opposite of these, namely, to bear the disease with difficulty, respiration large and dense, the pain not ceasing, the sputum scarcely coughed up, strong thirst, to have the body unequally affected by the febrile heat, the belly and sides intensely hot, the forehead, hands, and feet cold; the urine, and excrements, the sleep, and sweats, all bad, agreeably to the characters described above; if such a combination of symptoms accompany and either on the ninth or eleventh. Thus then one may conclude regarding this expectoration, that it is very deadly, and that the patient will not survive until the fourteenth day. It is by balancing the concomitant symptoms whether good or bad, that one is to form a prognosis; for thus it will most probably prove to be a true one. Most other suppurations burst, some on the twentieth, some on the thirtieth, some on the fortieth, and some as late as the sixtieth day.[499]

16. One should estimate when the commencement of the suppuration will take place, by calculating from the day on which the patient was first seized with fever, or if he had a rigor, and if he says, that there is a weight in the place where he had pain formerly, for these symptoms occur in the commencement of suppurations. One then may expect the rupture of the abscesses to take place from these times according to the periods formerly stated. But if the empyema be only on either side, one should turn him and inquire if he has pain on the other side; and if the one side be hotter than the other, and when laid upon the sound side, one should inquire if he has the feeling of a weight hanging from above, for if so, the empyema will be upon the opposite side to that on which the weight was felt.[500]

17. Empyema may be recognized in all cases by the following symptoms: In the first place, the fever does not go off, but is slight during the day, and increases at night, and copious sweats supervene, there is a desire to cough, and the patients expectorate nothing worth mentioning, the eyes become hollow, the cheeks have red spots on them, the nails of the hands are bent, the fingers are hot especially their extremities, there are swellings in the feet, they have no desire of food, and small blisters

(phlyctænæ) occur over the body. These symptoms attend chronic empyemata, and may be much trusted to; and such as are of short standing are indicated by the same, provided they be accompanied by those signs which occur at the commencement, and if at the same time the patient has some difficulty of breathing. Whether they will break earlier or later may be determined by these symptoms; if there be pain at the commencement, and if the dyspnœa, cough, and ptyalism be severe, the rupture may be expected in the course of twenty days or still earlier; but if the pain be more mild, and all the other symptoms in proportion, you may expect from these the rupture to be later; but pain, dyspnœa, and ptyalism, must take place before the rupture of the abscess. Those patients recover most readily whom the fever leaves the same day that the abscess bursts,—when they recover their appetite speedily, and are freed from the thirst,—when the alvine discharges are small and consistent, the matter white, smooth, uniform in color, and free of phlegm, and if brought up without pain or strong coughing. Those die whom the fever does not leave, or when appearing to leave them it returns with an exacerbation; when they have thirst, but no desire of food, and there are watery discharges from the bowels; when the expectoration is green or livid, or pituitous and frothy; if all these occur they die, but if certain of these symptoms supervene, and others not, some patients die and some recover, after a long interval. But from all the symptoms taken together one should form a judgment, and so in all other cases.

18. When abscesses form about the ears, after peripneumonic affections, or depositions of matter take place in the inferior extremities and end in fistula, such persons recover. The following observations are to be made upon them: if the fever persist, and the pain do not cease, if the expectoration be not normal, and if the alvine discharges be neither bilious, nor free and unmixed; and if the urine be neither copious nor have its proper sediment, but if, on the other hand, all the other salutary symptoms be present, in such cases abscesses may be expected to take place. They form in the inferior parts when there is a collection of phlegm about the hypochondria; and in the upper when the hypochondria continue soft and free of pain, and when dyspnœa having been present for a certain time, ceases without any obvious cause.[501] All deposits which take place in the legs after severe and dangerous attacks of pneumonia, are salutary, but the best are those which occur at the time when the sputa undergo a change; for if the swelling and pain take place while the sputa are changing from yellow

and becoming of a purulent character, and are expectorated freely, under these circumstances the man will recover most favorably and the abscess becoming free of pain, will soon cease; but if the expectoration is not free, and the urine does not appear to have the proper sediment, there is danger lest the limb should be maimed, or that the case otherwise should give trouble. But if the abscesses disappear and go back, while expectoration does not take place, and fever prevails, it is a bad symptom; for there is danger that the man may get into a state of delirium and die. Of persons having empyema after peripneumonic affections, those that are advanced in life run the greatest risk of dying; but in the other kinds of empyema younger persons rather die.[502] In cases of empyema treated by the cautery or incision, when the matter is pure, white, and not fetid, the patient recovers; but if of a bloody and dirty character, he dies.[503]

19. Pains accompanied with fever which occur about the loins and lower parts, if they attack the diaphragm, and leave the parts below, are very fatal. Wherefore one ought to pay attention to the other symptoms, since if any unfavorable one supervene, the case is hopeless; but if while the disease is determined to the diaphragm, the other symptoms are not bad, there is great reason to expect that it will end in empyema.[504] When the bladder is hard and painful, it is an extremely bad and mortal symptom, more especially in cases attended with continued fever; for the pains proceeding from the bladder alone are enough to kill the patient; and at such a time the bowels are not moved, or the discharges are hard and forced. But urine of a purulent character, and having a white and smooth sediment, relieves the patient. But if no amendment takes place in the characters of the urine, nor the bladder become soft, and the fever is of the continual type, it may be expected that the patient will die in the first stages of the complaint. This form attacks children more especially, from their seventh to their fifteenth year.[505]

20. Fevers come to a crisis on the same days as to number on which men recover and die. For the mildest class of fevers, and those originating with the most favorable symptoms, cease on the fourth day or earlier; and the most malignant, and those setting in with the most dangerous symptoms, prove fatal on the fourth day or earlier. The first class of them as to violence ends thus: the second is protracted to the seventh day, the third to the eleventh, the fourth to the fourteenth, the fifth to the seventeenth, and

the sixth to the twentieth. Thus these periods from the most acute disease ascend by fours up to twenty. But none of these can be truly calculated by whole days, for neither the year nor the months can be numbered by entire days. After these in the same manner, according to the same progression, the first period is of thirty-four days, the second of forty days, and the third of sixty days. In the commencement of these it is very difficult to determine those which will come to a crisis after a long interval; for these beginnings are very similar, but one should pay attention from the first day, and observe further at every additional tetrad, and then one cannot miss seeing how the disease will terminate. The constitution of quartans is agreeable to the same order. Those which will come to a crisis in the shortest space of time, are the easiest to be judged of; for the differences of them are greatest from the commencement, thus those who are going to recover breathe freely, and do not suffer pain, they sleep during the night, and have the other salutary symptoms, whereas those that are to die have difficult respiration, are delirious, troubled with insomnolency, and have other bad symptoms. Matters being thus, one may conjecture, according to the time, and each additional period of the diseases, as they proceed to a crisis. And in women, after parturition, the crises proceed agreeably to the same ratio.[506]

21. Strong and continued headaches with fever, if any of the deadly symptoms be joined to them, are very fatal. But if without such symptoms the pain be prolonged beyond twenty days, a discharge of blood from the nose or some abscess in the inferior parts may be anticipated; but while the pain is recent, we may expect in like manner a discharge of blood from the nose, or a suppuration, especially if the pain be seated above the temples and forehead; but the hemorrhage is rather to be looked for in persons younger than thirty years, and the suppuration in more elderly persons.[507]

22. Acute pain of the ear, with continual and strong fever, is to be dreaded; for there is danger that the man may become delirious and die. Since, then, this is a hazardous spot, one ought to pay particular attention to all these symptoms from the commencement. Younger persons die of this disease on the seventh day, or still earlier, but old persons much later; for the fevers and delirium less frequently supervene upon them, and on that account the ears previously come to a suppuration, but at these periods of life, relapses of the disease coming on generally prove fatal. Younger persons die before the ear suppurates; only if white matter run from the ear,

there may be hope that a younger person will recover, provided any other favorable symptom be combined.[508]

23. Ulceration of the throat with fever, is a serious affection, and if any other of the symptoms formerly described as being bad, be present, the physician ought to announce that his patient is in danger.[509] Those quinsies are most dangerous, and most quickly prove fatal, which make no appearance in the fauces, nor in the neck, but occasion very great pain and difficulty of breathing; these induce suffocation on the first day, or on the second, the third, or the fourth.[510] Such as, in like manner, are attended with pain, are swelled up, and have redness (erythema) in the throat, are indeed very fatal, but more protracted than the former, provided the redness be great.[511] Those cases in which both the throat and the neck are red, are more protracted, and certain persons recover from them, especially if the neck and breast be affected with erythema, and the erysipelas be not determined inwardly.[512] If neither the erysipelas disappear on the critical day, nor any abscess form outwardly, nor any pus be spit up, and if the patient fancy himself well, and be free from pain, death, or a relapse of the erythema is to be apprehended. It is much less hazardous when the swelling and redness are determined outwardly; but if determined to the lungs, they superinduce delirium, and frequently some of these cases terminate in empyema.[513] It is very dangerous to cut off or scarify enlarged uvulæ while they are red and large, for inflammations and hemorrhages supervene; but one should try to reduce such swellings by some other means at this season. When the whole of it is converted into an abscess, which is called Uva, or when the extremity of the variety called Columella is larger and round, but the upper part thinner, at this time it will be safe to operate. But it will be better to open the bowels gently before proceeding to the operation, if time will permit, and the patient be not in danger of being suffocated.[514]

24. When the fevers cease without any symptoms of resolution occurring, and not on the critical days, in such cases a relapse may be anticipated.[515] When any of the fevers is protracted, although the man exhibits symptoms of recovery, and there is no longer pain from any inflammation, nor from any other visible cause, in such a case a deposit, with swelling and pain, may be expected in some one of the joints, and not

improbably in those below. Such deposits occur more readily and in less time to persons under thirty years of age; and one should immediately suspect the formation of such a deposit, if the fever be protracted beyond twenty days; but to aged persons these less seldom happen, and not until the fever be much longer protracted. Such a deposit may be expected, when the fever is of a continual type, and that it will pass into a quartan, if it become intermittent, and its paroxysms come on in an irregular manner, and if in this form it approach autumn. As deposits form most readily in persons below thirty years of age, so quartans most commonly occur to persons beyond that age. It is proper to know that deposits occur most readily in winter, that then they are most protracted, but are less given to return.[516] Whoever, in a fever that is not of a fatal character, says that he has pain in his head, and that something dark appears to be before his eyes, and that he has pain at the stomach, will be seized with vomiting of bile; but if rigor also attack him, and the inferior parts of the hypochondrium are cold, vomiting is still nearer at hand; and if he eat or drink anything at such a season, it will be quickly vomited. In these cases, when the pain commences on the first day, they are particularly oppressed on the fourth and the fifth; and they are relieved on the seventh, but the greater part of them begin to have pain on the third day, and are most especially tossed on the fifth, but are relieved on the ninth or eleventh; but in those who begin to have pains on the fifth day, and other matters proceed properly with them, the disease comes to a crisis on the fourteenth day. But when in such a fever persons affected with headache, instead of having a dark appearance before their eyes, have dimness of vision, or flashes of light appear before their eyes, and instead of pain at the pit of the stomach, they have in their hypochondrium a fulness stretching either to the right or left side, without either pain or inflammation, a hemorrhage from the nose is to be expected in such a case, rather than a vomiting. But it is in young persons particularly that the hemorrhage is to be expected, for in persons beyond the age of thirty-five, vomitings are rather to be anticipated. Convulsions occur to children if acute fever be present, and the belly be constipated, if they cannot sleep, are agitated, and moan, and change color, and become green, livid, or ruddy. These complaints occur most readily to children which are very young up to their seventh year; older children and adults are not equally liable to be seized with convulsions in fevers, unless some of the strongest and worst symptoms precede, such as those which occur in frenzy.

One must judge of children as of others, which will die and which recover, from the whole of the symptoms, as they have been specially described.[517] These things I say respecting acute diseases, and the affections which spring from them.

25. He who would know correctly beforehand those that will recover, and those that will die, and in what cases the disease will be protracted for many days, and in what cases for a shorter time, must be able to form a judgment from having made himself acquainted with all the symptoms, and estimating their powers in comparison with one another, as has been described, with regard to the others, and the urine and sputa, as when the patient coughs up pus and bile together. One ought also to consider promptly the influx of epidemical diseases and the constitution of the season.[518] One should likewise be well acquainted with the particular signs and the other symptoms, and not be ignorant how that, in every year, and at every season, bad symptoms prognosticate ill, and favorable symptoms good, since the aforesaid symptoms appear to have held true in Libya, in Delos, and in Scythia;[519] from which it may be known that, in the same regions, there is no difficulty in attaining a knowledge of many more things than these; if having learned them, one knows also how to judge and reason correctly of them. But you should not complain because the name of any disease may happen not to be described here, for you may know all such as come to a crisis in the afore-mentioned times, by the same symptoms.[520]

APPENDIX
TO
THE BOOK OF PROGNOSTICS.

As announced in the Preliminary Discourse (Sect. II., 18), I shall now proceed to give an abstract of the principal matters contained in the SECOND BOOK OF PRORRHETICS, which appear to me to be highly interesting, and as they relate to the subjects treated of in the Prognostics, they may be more suitably introduced here than in any other place.

The author commences the treatise with expressing his disapproval of certain modes of making prognostics which he had seen practiced. He says he had heard of many and famous predictions having been made by physicians, such as he himself did not pretend that he could make. Such, for example, as for a physician to call in upon a patient who was looked upon as being in a desperate condition by another physician, and predict that he would not die, but would lose his sight. Or to predict with regard to another patient supposed to be in a bad way, that he will recover, but will become lame of a hand. And of a third who, to all appearance, cannot recover, to predict that he will get well, but that his toes will blacken and putrefy. Similar predictions are related under this class. Another mode of prediction is to prophecy to buyers and traders, to one death, to another madness, and to the rest diseases, and that from what is now occurring, or has occurred before, and all the predictions to turn out true. Another kind of predictions relates to Athletæ, and those who practice gymnastic and laborious exercises for the cure of diseases, where the practitioner pretends to so much exactness, that if the patient is guilty of any act of omission or commission in regard to food, drink, or venery, the physician will detect it. He himself makes no pretensions to any such skill in divination, but announces it as his object to describe the symptoms by which it may be known whether a man will die or live, and whether his disease will be of short or of long duration. With regard to the predictions of abscesses, lameness, death, or madness, the author holds that they can only be made after the morbid conditions leading to them have fairly set in. He strongly disapproves of all ostentatious modes of making predictions, and gives it as his advice that in all such cases the greatest prudence and reserve should be observed, since if a man become an adept in this art of prognostications, he

will gain great credit with his patient, whereas if he fall into mistakes, he will incur odium, and will be looked upon as being deranged.

With regard to the prognostics made by those who practice gymnastics, he recommends them not to be made in a charlatan manner, but with suitable caution, and directs minute attention to be paid to the circumstances of the patient, which one has superior advantages in observing under this system. He says, for example, that a physician who feels a patient's belly and pulse, pays attention to the breathing at the nostrils, and listens to the speech, and sound of the respiration, will be less likely to be deceived in forming a prognostic on his patients than he who neglects these things. He expresses himself, however, as being incredulous as to the possibility of detecting any little transgressions of orders which a patient may commit, although greater departures from instructions may be suspected. After some general observations in respect to diet, and other matters relating to it, he proceeds to a more circumstantial description of the symptoms upon which a prognosis is to be founded. And first, with regard to the alvine dejections, those of persons who live a laborious life, and use food and drink sparingly, are small and hard, and are passed every day, every third day, or every fourth day, but if they pass the last period there is danger of the man's being seized with fever or diarrhœa. When the stools are so liquid that they do not assume a shape, they are all of a worse character in these cases. The dejections of persons who lead an active life are less copious than those of the indolent, provided they use the same amount of food. Liquid dejections taking place on the seventh day, and quickly coming to a crisis, are beneficial, if they occur all at once, and are not repeated. But if accompanied with fever, or if the diarrhœa is prolonged, all such dejections are bad, whether bilious, pituitous, or of indigested matters, and require a particular regimen and mode of treatment.

With regard to the urine, it should be in proportion to the drink that is taken, and somewhat thicker than the fluid that is drunk. If it be more copious than natural, this indicates either that the patient has disobeyed orders as to the amount of his drink, or that his body is in a state of atrophy. If the urine is passed in deficient quantity, with a noise, it indicates either that the man stands in need of purging, or that the bladder is diseased. A small quantity of blood passed without fever and pain does not indicate anything bad, but proves a solution to a state of lassitude. But if in large

quantity, with the addition of any of these symptoms, it is to be dreaded. But if the urine be passed with pain, and if pus be passed along with the urine in a fever, the physician should announce that the patient will thus be relieved of his complaints.[521] Thick urine having a thin sediment indicates some pain and swelling about the joints. All the other sediments which occur in the urine of persons who practice exercises are connected with disease about the bladder; this will be clearly shown by the obstinate pains with which they are accompanied. The author, although he states that he had been conversant with the teachers of prognostics from urine, and their children and disciples, seems to express himself doubtful as to the possibility of acquiring a great degree of accuracy in regard to these matters.

Respecting dropsy, consumption, gout, and epilepsy, he states generally that if they are hereditary they are difficult to remove. A favorable prognosis is to be formed in dropsy when the patient's viscera are sound, when his strength is firm, the digestion and respiration natural, when he is free of pain, the temperature of the body moderate, and when there is no wasting of the extremities. It is favorable when there is no cough, thirst, nor dryness of the tongue, when the bowels are easily moved by medicine, and when, at other times, the dejections are consistent. Dropsy, supervening, along with fever, upon a great discharge of blood, is of a most intractable nature, and the physician should intimate the danger to some other person beforehand. When great swellings suddenly subside and rise again, there is more hope in such a case than in dropsies connected with a discharge of blood. He concludes his observations on dropsies with the remark, that they are apt to deceive the patients, so that they desert their physicians and thus perish.

With regard to consumptive patients, he says, he has the same observations to make with regard to the sputa and cough as he had written with regard to empyema.[522] If the patient is to recover, the sputa should be white, equable, of one color, without phlegm; the defluxion from the head should be determined to the nose; there should be no fever, nor anorexia, nor thirst; the alvine discharges firm, proportionate to the ingesta, and the patient should not get thin. The best form of the chest is when it is quadrangular and hairy, and when the cartilage is small, and covered with flesh. Young persons, who become affected with empyema from

determination (metastasis?), or fistula, or from any other similar cause, or from the retrocession of an abscess, do not recover unless many of the favorable symptoms combine in the case. They die, most commonly, in autumn, which proves peculiarly fatal in protracted diseases. Of all others, virgins, and women suffering from amenorrhœa, seldomest recover; and in their cases there is no hope unless menstruation be restored. All sexes, he seems to say (but the meaning appears to me rather ambiguous), have a better chance of recovery, when there is a discharge of blood, especially in those cases in which there are pains in the back and chest, connected with black bile; and if, after the evacuation, there be a remission of the pain; if the cough and fever do not set in; and if the thirst be tolerable. He seems to state (but the text is in an unsatisfactory condition), that relapses take place unless there be deposits in the place, the best of which are those which contain most blood; and that in those cases in which there are pains in the chest, if the patients get emaciated, and cough, and a dyspnœa supervenes, without fever or empyema, they should be asked whether, when they cough, and have difficulty of breathing, the sputa be compact, and attended with little smell.

With regard to persons affected with the gout, those who are aged, have tofi in their joints, who have led a hard life, and whose bowels are constipated, are beyond the power of medicine to cure. But, the best natural remedy for them is an attack of dysentery, or other determination to the bowels. Persons, under opposite circumstances, may be cured by a skilful physician.

The prognosis in epilepsy is unfavorable when the disease is congenital, and when it endures to manhood, and when it occurs to a grown person, and without any obvious cause. When connected with the head it is particularly to be apprehended, but least so when it seems to be derived from the hands or feet. The cure may be attempted in young persons, but not in old.

In the case of children, he mentions various complaints, such as distortion of the eyes, tubercles about the neck, pain in the bowels, omental hernia, etc., which, upon inquiry, will be found to be the consequences of an attack of epilepsy.

The judgment to be formed in the case of ulcers is to be founded on the age of the patient, the situation of the sore, and its appearance.

Strumous tubercles, which end in suppuration, occur most frequently in young persons. Adults are subject to bad favi, internal cancers, and herpetic sores, after epinyetis, until they pass sixty. Old persons are subject to cancers, both deep-seated and superficial, which never leave them. They are particularly intractable when seated in the armpits, the loins, and the thighs.

Of affections of the joints, the most dangerous are those seated in the thumb and great toe. When there is a chronic sore on the side of the tongue the surgeon should examine whether it be not occasioned by the sharp edge of a tooth.[523]

The most dangerous wounds are those which implicate the large veins (blood-vessels), in the neck and groin; then those of the brain and liver; next, those of the bowels and bladder. These cases are all dangerous, but not uniformly fatal, as some suppose. Much depends upon constitution, as to liability to fever and inflammation after a wound. Sometimes, also, the wounds of smaller vessels prove fatal by inducing hemorrhage, fever, or delirium. In all recent wounds, however, the physician should endeavor to afford assistance.

Of spreading ulcers, the most fatal are such mortifications as are very deep, black, and dry; and those are bad and dangerous which are accompanied with a black ichorous discharge. Those which are white and mucous are less dangerous, but are more subject to relapse, and become inveterate. Herpes is the least dangerous of the spreading sores, but is most difficult to remove about deep-seated cancers.[524] An ephemeral fever, with very white and thick pus, is beneficial in such a case; also, sphacelus of a nerve, of a bone, or of both, in deep-seated and black mortifications. For a free discharge of pus takes place and carries off the mortification.

The prognostics in wounds of the head are given in nearly the same terms as laid down in the treatise on that subject, and therefore I need not enter minutely into an exposition of what is stated regarding them here. Those in the upper part of the head, more especially if they implicate a suture, are said to be particularly dangerous. The author directs the surgeon to inquire whether, at the time of the accident, the patient fell down or became comatose, as in this case greater danger is to be apprehended.

Large wounds of the joints, if they involve the connecting nerves, necessarily leave the limb maimed. Several other observations connected

with these injuries are added, of which one of the most important is the direction to practice flexion and extension of the limb, frequently, with the view, no doubt, of preventing rigidity of the joint.

Large excisions in the arm becoming inflamed end in suppurations, which require to be evacuated by the knife or cautery. Injuries of the spinal marrow, whether from disease or accident, are attended with loss of motion and sensibility, retention of the alvine and urinary discharges; but, after a time, involuntary evacuations take place, which are soon followed by death. When the throat is frequently filled with blood, and there is no headache or cough, nor any other morbid symptoms, the physician should examine whether there be not an ulcer or a leech in the part.

With regard to the eyes, the prognostics are given with so much prolixity of detail that I must be content with a brief abstract of them. Much attention is paid to the characters of the discharge from the eyes in diseases of them, namely, of the glutinous matter and tears; thus, if the gum be white and soft, the tears mixed with it not very hot, and the swelling light and loose, under these circumstances the eyelids are glued up during the night, so that the eye is free of pain, and thus the disease is without danger, and of short duration. The other appearances of the eye, and the discharges, are also minutely given. When the discharge is green or livid, the tears copious and hot, a burning heat in the head, and pains darting through the head to the eye, there must necessarily be ulceration in the eye; and there is much reason to apprehend that it will burst. If, when one can get a sight of the eye, it should be found burst, and the pupil projecting above the rupture, it is bad and difficult to restore; and, if there be sloughing, the eye will be wholly useless. According to the form and depth of the ulcers must be the subsequent cicatrices. These are minutely described according to their different varieties. Mention is also made of the prognostics from the eyes in fevers, as described by the author in another work. It is most likely that allusion is here made to the first book of “Prorrhetics.” In conclusion, the surgeon is directed to pay great attention to the state of the urine in diseases of the eyes.

Dysenteries, when they set in with fever, alvine discharges of a mixed character, or with inflammation of the liver, or of the hypochondrium, or of the stomach, such as are painful, with retention of the food and thirst, all these are bad; and the more of these symptoms there are, the greater the

danger; and the fewer, the more hope is there of recovery. Children from five to ten years of age are the most apt to die of this complaint; the other ages less so. Such dysenteries as are of a beneficial nature, and are attended with blood and scrapings of the bowels, cease on the seventh, or fourteenth, or twentieth, or thirtieth day, or within that period. In such cases even a pregnant woman may recover and not suffer abortion.

All cases of lientery are said to be of a bad character when they are continued and protracted, both day and night, and when the dejections are either very crude, or black, soft, and fetid; for they occasion thirst and determine the fluids otherwise than to the bladder, give rise to ulcerations (aphthæ?) in the mouth, redness and ephelis[525] of all colors, and at the same time the belly is in a state of ferment, and has a foul, wrinkled appearance externally. This disease is most to be dreaded by old persons; it is formidable to men of middle age, but less so in the other ages. The indications of cure, it is acutely stated, are to determine the fluids to the urine, to relieve the body from its atrophy, and change the color of the skin.

All the other varieties of diarrhœa without fever are of short duration and mild; for they will all cease when washed out, or of their own accord. The discharge may be predicted as about to cease when, upon touching the belly, there is no movement, and flatulence passes with the discharge. Eversion of the gut takes place in the case of middle-aged persons having piles, of children affected with the stone, and in protracted and intense discharges from the bowels, and of old persons having mucous concretions (scybalæ?).

Women may be judged of whether they are in a fit state for conception or not by attending to the following circumstances:—In the first place to their shapes. Women of smaller stature more readily conceive than taller persons; the thin than the fat; the white than the ruddy; the dark than the pale; those who have prominent veins than the contrary. In oldish women it is bad to have much flesh, but a good thing to have swelled and large breasts. In addition, inquiry should be made whether or not the menstruation be regular as to time and quantity. And it should be ascertained whether the uterus be healthy, of a dry temperament, and soft; neither in a state of retraction nor prolapsus; and its mouth neither turned aside, nor too close, nor too open. When any of these obstructions come in the way, it is impossible that conception can take place.

Such women as cannot conceive, but appear green, without fever, and the viscera are not in fault; these will say that the head is pained, and that the menstrual discharge is vitiated and irregular. But such of these as have the proper color, are of a fat habit of body, the veins are inconspicuous, they have no pains, and the menses either never appear at all, or are scanty and intense, and this is one of the most difficult states of sterility to remove. In other cases the health is not to blame, but the fault lies in the position of the womb. The other contingencies in this place are attended with pains, discoloration, and wasting.

Ulceration in the womb from parturition, an abscess of a chronic nature, or from any other cause, is necessarily accompanied with fevers, buboes, and pains in the place; and if the lochial discharge be also suppressed, all these evils are more intense and inveterate, along with pains of the hypochondrium and head. And when the ulcer heals, the part necessarily is smoother and harder, and the woman is less adapted for conception. If, however, the ulceration be in the right side only, the woman may conceive of a female child, or if in the left, of a male. When a woman cannot conceive, and fever comes on with a slight cough, inquiry should be made whether she has any ulcer about the uterus, or any other of the complaints I have described; for if she has no complaint in that region to account for her loss of flesh and sterility, it may be expected that she will have vomiting of blood, and the catamenia will necessarily be suppressed. But if the fever be carried off by the evacuation of blood, and if the catamenia appear, she will then prove with child. But if looseness of the bowels having a bad character take place before there is an evacuation of blood, there is danger lest the woman perish before a vomiting of blood can take place.

In cases of false conception, in which women are deceived by the non-appearance of the menses, and by the increase of the belly and movement in it, they will be found to have had headache and pains about the neck and hypochondria, and there is no milk in the breasts except a little of a watery character. But when the swelling of the womb passes away they will conceive, unless there be any other impediment. For this affection is beneficial in so far as it produces a change in the uterus, so that afterwards the woman may prove with child. Women with child have not these pains unless the headache be habitual to them, and in addition they have milk in their breasts. Women affected with chronic discharges are to be asked

whether they have pains in the head and loins, and in the lower part of the belly, and whether their teeth be set on edge, and if they have dimness of sight, and noises in their ears. Such women as vomit bile for several days while in a fasting state, though they are not with child nor have fever, are to be asked whether they have vomited up round lumbrici, and if they say not, they should be warned that this will happen to them. This affection happens principally to married women, then to virgins, and less seldom to other people.

Pains without fever are not deadly, but mostly prove protracted, and have many changes and relapses. Several varieties of headache are described, and the prognosis in each laid down. The natural cure of them is a coryza, a discharge of mucus from the nose, or sneezing. Pains spreading from the head to the neck and back, are relieved by abscesses, expectoration of pus, hemorrhoids, exanthemata on the body, or pityriasis on the head.

Heaviness and pruritus in the head, either in a part or through the whole of it, if, on inquiry, they extend to the tip of the tongue, indicate a confirmed disease, and one difficult to remove. They are best removed by the occurrence of an abscess. But those cases which are accompanied with vertigo are difficult to cure, and are apt to pass into mania. Other diseases in the head, of a very strong and protracted character, occur to both men and women, but especially to young persons, and virgins at the season of manhood, and especially at the catamenial period. Women, however, are less subject to pruritus and melancholic affections than the men, unless the menses have disappeared.

Both men and women who have long had a bad color, but not in the form of jaundice, are subject to headaches, eat stones and earth, and have piles. Those who have green colors, without decided jaundice, are affected in like manner, only instead of eating stones and earth, they are more subject to pains in the hypochondriac region. Persons who are pale for a length of time, and have the face tumid, will be found to have headache, or pains about the viscera, or some disease in the anus; and in most cases, not one, but many, or all these evils make their appearance.

Nyctalopia is most apt to attack young persons, either males or females, and to pass off spontaneously on the fortieth day or in seven months, and in some cases it endures for a whole year. Its duration may be estimated from

the strength of the disease and the age of the patient. They are relieved by deposits which determine downwards, but these rarely occur in youth. Married women and virgins that have the menstrual discharge regular are not subject to the complaint. Persons having protracted defluxions of tears who are attacked with nyctalopia, are to be questioned whether they had any previous complaint in the head.

Such persons as have frequent pains in the vertex and temples, without fever or loss of color, unless they have some other obvious deposit in the face, or speak in a rough tone, or have pain in the teeth, may be expected to have a hemorrhage from the nose. Those who have bleeding at the nose, although they may appear to be otherwise in good health, will be found to have enlarged spleen, or pain in the head, or flashes of light before their eyes. Most of these patients have both headache and affection of the spleen.

The gums are diseased and the mouth fetid in persons who have enlarged spleens. But persons who, although they have enlarged spleens, are exempt from hemorrhages and fœtor of the mouth have malignant ulcers on the legs and black cicatrices. But if they have any obvious deposit in the countenance, or if their speech be rough, or if they have toothache, a hemorrhage from the nose may be expected. Those who have great swellings below the eyes will be found to have enlarged spleens. And if there come on swellings in the feet, and if they appear to be dropsical, the belly and loins must be attended to.

Distortions of the countenance, if not sympathetic with some other part of the body, quickly pass off either spontaneously or by remedial means. The others are of an apoplectic nature. In other cases, when the diseased part wastes from want of motion, there can be no relief afforded. But when wasting does not take place there may be recovery. With regard to the time when this may occur, it is to be prognosticated by attending to the severity of the disease, to its duration, to the age of the patient, and to the season, it being known that of all cases the inveterate, and such as are the consequences of repeated attacks, are the worst, and the most difficult to remove, and those in aged persons. Autumn and winter are more unfavorable seasons for such complaints than spring and summer.

Pains in the shoulder, which, passing down the arms, occasion torpor and pains, do not usually terminate in deposits, but the patients get better by

vomiting black bile. But when the pains remain in the shoulders, or extend to the back, the patients are relieved by vomiting pus or black bile. They are to be judged of thus:—If their breathing be free, and if they be slender, it is rather to be expected that they will vomit black bile. But if they have more difficulty of breathing, and if there is any unusual color on the countenance, whether reddish or black, it is to be expected that they will rather spit blood. It should also be attended to whether there be swellings on the feet. This disease attacks men most violently from forty to sixty years of age. At this period of life ischiatic diseases are most troublesome.

Ischiatic diseases are to be thus judged of:—In the case of old persons, when the torpor and coldness of the loins and legs are very strong, and when they lose the power of erections, and the bowels are not moved, or with difficulty, and the fæces are passed with much mucus, the disease will be very protracted, and it should be announced beforehand that the disease will not last shorter time than a year from its commencement; and amendment is to be looked for in spring and summer. Ischiatic diseases are no less painful in young men, but are of shorter duration, for they pass off in forty days; and neither is the torpor great, nor is there coldness of the legs and loins. In those cases in which the disease is seated in the loins and leg, but the patient does not suffer so much as to be confined to bed, examine whether any concretions have taken place in the hip-joint, and make inquiry whether the pain extends to the groin; for if both these symptoms be present, the disease will be of long duration. And the physician should also inquire whether there be torpor in the thigh, and if it extend to the ham; and if he says so, he is to be again asked if it spreads along the leg to the ankle of the foot. Those who confess to the most of these symptoms are to be told that the limb will be sometimes hot and sometimes cold; but those persons in whom the pain leaves the loins, and is turned downwards, are to be encouraged; but when the disease does not leave the hip and loins, such persons are to be warned that it is to be dreaded. In those cases in which there are pains and swellings about the joints, and they do not pass off, after the manner of gout, you will find the bowels enlarged, and a white sediment in the urine; and, if you inquire, the patient will admit that the temples are often pained, and he will say that he has nightly sweats. If the urine have not this sediment, nor do the sweats take place, there is danger either that the joints will become lame, or that the tumor called meliceris will form in it. This disease forms in those persons who in their youth had epistaxis, and

in whom it had ceased afterwards. They are to be interrogated whether they had discharges of blood in their youth, and if they have pruritus in the breast and back. And the same thing happens to those who have severe pains in the bowels, without disorder of them, or who have hemorrhoids. This is the origin of these complaints. But if the patients have a bad color, they are to be interrogated whether their head be pained, for they will say that it is. In those cases in which the bowels are pained on the right side, the pains are stronger, and especially when the pain terminates in the hypochondrium at the liver. Such pains are immediately relieved if borborygmi take place in the belly. But when the pain ceases, they pass thick and green urine. The disease is not deadly, but very protracted. But when the disease is already of long standing, the patients have dimness of sight in consequence of it. But they are to be interrogated whether, when young, they had a flow of blood, and regarding the dimness of vision, the greenness of the urinary discharge, and regarding the borborygmi, if they took place and gave relief; for they will confess to all these symptoms.

Lichen, leprosy, and leucè, when they occur in young children and infants, or when they appear at first small, and gradually increase in the course of a long time—in these cases the eruption is not to be regarded as a deposit, but as a disease; but when they set in rank and suddenly, this case is a deposit. Leucè also arises from the most fatal diseases, such as the disease called phthisis;[526] but leprosy and lichen are connected with black bile. These complaints are the more easily cured the more recent they are, and the younger the patients, and the more soft and fleshy the parts of the body in which they occur.

ON REGIMEN IN ACUTE DISEASES.

THE ARGUMENT.

In this treatise two very important questions are discussed: first, a nosological question, regarding the proper distinction of diseases from one another; and secondly, a therapeutical, respecting the rules by which the regimen in acute diseases ought to be regulated. The former of these is of a polemical nature, being an attack directed against the physicians of the Cnidian school of medicine, who distinguished diseases from one another in an arbitrary manner, from incidental varieties in their constitution, and without proper attention to their true constitution and identity. As will be seen in the annotations, the Cnidians pretended to recognize several varieties of disease connected with bile,—several fanciful divisions of diseases of the bladder, and so forth; to which mode of distinguishing diseases there would obviously be no end, since of incidental varieties in any case there can be no limit. The other question discussed in this treatise relates to what may justly be pronounced to be one of the most important points connected with the practice of medicine, namely, the proper regimen in acute diseases; that is to say, in idiopathic fevers and febrile diseases, comprising most of those diseases now classed under the head of *Zymotic*, and which constitute by far the highest item in our bills of mortality at the present day. Our author distinguishes them by the names of pleurisy, pneumonia, phrenitis, lethargy, causus, and their cognate diseases, including fever of the continual type. Now it is to be borne in mind, that the phrenitis, [527] lethargy, and causus of Hippocrates, were all epidemic fevers, so that, with the exception of pleurisy and pneumonia, all the diseases here treated of are fevers of the country in which Hippocrates resided. One, then, cannot well imagine a question which from the commencement of the medical Art must have been felt of higher importance than this,—how so numerous and formidable a class of diseases ought to be treated. In the attempt to solve it, every imaginable mode of treatment, as might have been expected beforehand, was tried, and its effects determined by experience. Herodicus, the master of Hippocrates in gymnastics, applied his panacea in the treatment of febrile diseases, and, as we are informed, with the most disastrous results. “Herodicus,” says the author of the sixth Book of

Epidemics, “killed persons in fever by promenading, much wrestling, and fomentations.” (§ iii., 18.) It may *now* appear wonderful that so extraordinary a mode of practice should have ever been attempted in this case; but while men of all ranks continue to resort for the cure of all sorts of diseases to any individual who has got a single hobby with which he constantly works to his own profit, whether it be *gymnastics*, or *shampooing*, or the *wet sheet*, we may expect to hear that such rash experiments have been repeated. Truly mankind pay as dearly for their tame submission to the insane practices of professional chiefs, as the Greeks are represented by the poet to have suffered from the follies of their princes:

“Quicquid delirant Reges, plectuntur Achivi.”[528]

And surely it is much to be desired that men would learn a lesson from the Past, and not allow every new page in the history of society and of the profession to furnish a repetition of the oft-told tale of supine credulity on the one side, and of audacious folly on the other. From what has been stated, it will readily be understood that it was soon settled that active exercise is inadmissible in febrile diseases.[529] It would next come to be determined, what rule was to be followed with regard to the administration of food in fevers. On this point, as will be seen below in our annotations, the most diametrically opposite plans of treatment were essayed. One authority administered the most highly nutritious articles of food, namely, fleshes, to his patients, while, on the other hand, some wasted them by enforcing a total abstinence for several days. Experience, we may be well assured, was not long in deciding against both the starving and the glutting system: the palled appetite would soon refuse to accept of solids, and the parched tongue would speedily crave some allowance of liquids. Even before the days of Hippocrates, there is every reason to suppose that these extreme modes of treatment had been abandoned; but still he complains that in his time many important points in the treatment of acute diseases were wholly undetermined, such as the following: whether plain drink, that is to say water, was to be administered;—or, water seasoned by the admixture of something farinaceous, such as the decoction of barley;—whether the same should be given so thick as to constitute a nutritious gruel, or strained so as to form merely a drink;—whether wine should be given in small quantity, or more copiously;—whether any of these things should be given from the

commencement of the disease, or not until after an interval of certain days. Hippocrates informs us that the most discordant opinions prevailed upon these points, and his professed object, in this treatise, is to reduce the rules of practice to certain fixed principles. How our author performs this task, the reader is left to judge for himself; it may be interesting, however, to know, that Galen with all his devoted admiration of Hippocrates, is not disposed to admit that his solution of the question at issue is quite lucid and satisfactory. This opinion Galen pronounces on two separate occasions; in his commentary on this treatise, and in his great Work "On the Tenets of Hippocrates and Plato." As I look upon his observations contained in the latter Work to be of great importance toward understanding the bearing of this treatise, I shall not scruple to introduce a translation of the greater part of them in this place.

The ninth book of the Work we have mentioned opens with an elaborate disquisition on the logical principles which ought to guide us in deciding with regard to identity and difference, both in Philosophy and Medicine: on the former of these subjects he quotes freely from Plato, and on the other from Hippocrates. Coming, then, to the question in hand, he says:—"And thus Hippocrates proceeded in the work 'On the Regimen of Acute Diseases,' finding fault with the Cnidian physicians, as being ignorant of the differences of diseases with regard to genus and species; and he himself points out the definitions according to which that which appears to be one, being divided becomes many, not only in the case of diseases, but also in that of all other things; in which we find that many of the most celebrated physicians fall into mistakes, even with regard to the remedies. For some, coming to the particular use of them, have established a most immethodical method of instruction; whilst others, stating a very general precept, lay down a rule which at first sight appears very methodical, but in truth is very bad, and hence they disagree among themselves; some, as for example those treating of the remedy for a certain affection, such as pleurisy, declaring it to be venesection, others purging, some fomentations by means of sponges, and others of bags, or something of the like kind. And they differ, in the same manner, with regard to the use and disuse of the bath, of oxymel, of hydromel, and of water, of wine, and of ptisan, either giving of the strained juice only, or of the barley portion only; and some, with regard to food, giving discordant decisions as to the differences of the sick, and the indications which a pleuritic affection requires. And that he, as being the

first discoverer, has handled these subjects in rather a confused manner, I have shown in my Commentary on the treatise which has been improperly entitled, ‘Against the Cnidian Sentences,’ and ‘On the Ptisan.’ But in order that those who are desirous of learning, may have a clear exposition of this question in a brief form, I shall not scruple to give here a summary of it. In the commencement of pleuritic attacks, when the side is just beginning to be pained, inasmuch as the nature of the disease is not yet obvious, he directs fomentations, otherwise called heating applications, to be tried, and he explains the materials of which they consist. And then, if the complaint is not removed, it is to be ascertained whether the patient took food recently, and whether the bowels have been moved, and he gives instructions what should be done in these cases. But if the disease does not yield to these means, he gives definitions of those cases which require venesection and purging, and those in which one should use hydromel for drink, or oxymel, or water until the crisis, without giving any food; and those in which the juice of ptisan is to be used, or the barley along with it, and when food is to be administered. In like manner, with regard to the administration of wine, it is determined in what cases it is to be given, and in what not, and when, and of what quality. And in like manner respecting baths, and other matters of the like kind. And as a twofold mistake is committed with regard to the divisions (of diseases), some doing it in a deficient manner, and others carrying this process to excess, Hippocrates, finding fault with both, expresses himself thus, in the beginning of the book: ‘Some of them, indeed, were not ignorant of the many varieties of each complaint, and their manifold division, but when they wish to tell clearly the members (species?) of each disease, they do not write correctly; for the species would be almost innumerable if every symptom experienced by the patients were held to constitute a disease, and receive a different name.’ And again, respecting the remedies, as being deficient, he writes thus: ‘And not only do I not give them credit on this account, but also because those they use are few in number.’ Afterwards, assuming what is of great importance to the question, he does not give a clear solution of it, and therefore the whole bearing of the question is misunderstood by many physicians. I have, therefore, given an exposition of the whole subject, in my first Commentary ‘On the Regimen of Acute Diseases;’ and it is necessary to show the import of it briefly. The question is given by Hippocrates in the following terms: ‘But it appears to me that those things

are more especially deserving of being consigned to writing, which are undetermined by physicians, notwithstanding that they are of vital importance, and either do much good or much harm. By undetermined, I mean such as those: wherefore certain physicians, during their whole lives, are constantly administering untrained ptisans, and fancy they thus accomplish the cure properly, whereas others take great pains that the patient may not swallow a particle of the barley (thinking it would do much harm), but strain the juice through a cloth before giving it: others, again, will neither give thick ptisan nor the juice, some until the seventh day of the disease, and some until after the crisis. Physicians are not in the practice of mooting such questions, nor perhaps, if mooted, would a solution of them be readily found, although the whole Art is thereby exposed to much censure from the vulgar, who fancy that really there is no such science as Medicine, since, in acute diseases, practitioners differ so much among themselves, that those things which one administers, as thinking it the best that can be given, another holds to be bad.' And a little afterwards: 'I say, then, that this question is a most excellent one, and allied to very many others, and some of the most vital importance in the Art: for, that it can contribute much to the recovery of the sick, and to the preservation of health in the case of those who use it well, and that it promotes the strength of those who take gymnastic exercises, and is useful to whatever one may wish to apply it.' The inquiry regarding the differences of opinion among practitioners, he says, is of the greatest consequence, not only to the sick, for the recovery of health, but also to those in health, for the preservation of it, and to those who practise it for the recovery and preservation of deportment. And he afterwards adds, 'to whatever one may wish;' as indicating that the solution of this inquiry is applicable not only to medicine but to all the other arts to which one may choose to apply it. For it is wonderful that physicians practising an art, in which the remedies applied may be determined by experience whether they are beneficial or hurtful, should yet make the most conflicting statements respecting those things which are beneficial and those which are prejudicial. For, in philosophy, it is not to be wondered at that there should be no end to most disputes, since these things cannot be clearly determined by experience; and therefore some hold that the world is uncreated, some that it was created, some that there is nothing beyond its boundary, some that there is, and some declaring what that which is contained is, and some pronouncing it to be a vacuum,

having no substance in it, and some holding that worlds in inconceivable numbers, and infinite, exist. For such discrepancy of opinion cannot be set at rest by any clear appeal to the senses. But it is not so with respect to the benefit or injury derived from remedies administered to the body, since the differences among physicians, in this case, may be decided by experience, as to which of them are beneficial and which injurious. Wherefore the solution of this question is not very clearly stated by Hippocrates, and on that account it has excited the observation of almost all the commentators on this book. It is this: some of the sick require abstinence from food, until the disease come to a crisis, and some require food, and of these some require the unstrained ptisan, and some the strained, as also some require still more substantial food, and, moreover, some require oxmyel, or hydromel, and some water, or wine. Wherefore to those physicians who have cultivated the Art upon experience alone, that only appears beneficial which perchance has seemed useful in most cases. Neither do they venture to try the opposite mode of regimen, for fear of failure. He alone, then, who knows the constitution of the sick, and the nature of the disease, and the powers of the remedy which is administered, and the time in which it ought to be used, will be able rationally to devise the remedy to be applied, and confirm his expectation of it by experience."

Galen gives other remarks, not devoid of interest, on the same subject, but these want of room obliges me to pass by. I may mention, however, that after giving, in the form of extract, the passage on wine (§ 12), he makes the remark, that if the question be put whether wine should be given to persons in fever, the proper answer to it would be, that it is to be given in some certain cases, and in others not. (See tom. v., p. 773, ed. Kühn.) Thus far Galen.

Before quitting this subject, I would beg leave to make a few remarks on some points of medical practice which are here treated of, and which appear to me to be either overlooked, or not satisfactorily determined at the present day; and also upon some modern innovations on the practice of the ancients. As far as I have observed, it is quite a common practice now to administer food, such as farinaceous gruels, or animal broths, without much reserve, after evacuation of the system either by purging or bleeding. Now it will be seen that Hippocrates forbids food to be administered at such a season, as the body, being weakened by the depletion, is unable to digest it

properly, and consequently what is given as a support to the frame proves a load to it. To the reason here assigned for this practice, might be added that the vascular system, having been emptied, greedily absorbs the food before it is properly digested. I am not sure that this physiological principle is stated in any of the works of Hippocrates, but it is frequently to be met with in the works of Galen, and in those of the toxicologists, from Nicander to Actuarius. See PAULUS ÆGINETA, Book V., 2, Syd. Soc. edit.

I would beg leave to call the attention of my professional readers to the guarded and judicious manner in which pleurisy is treated by our author, beginning with hot fomentations to the side, and gradually advancing to the more active means, namely, purging and venesection. It will be remarked that Hippocrates holds depletion to be the only legitimate mode of removing the pain of the side, and that his commentator, in illustration of his meaning, pointedly condemns the use of narcotics in this case. Now this is a most important consideration, as bearing on a mode of practice which has obtained much favor of late years; I allude, of course, to the treatment by a combination of mercurials and opium. The experience of some thirty years would seem to decide in its favor, but how often have certain methods of treatment in other cases obtained the sanction of professional favor for a much longer period, and yet in the end been abandoned as positively prejudicial? In my younger days I knew old practitioners, of the highest reputation, who administered these medicines in scrofula,—in cancer,—in every case! One cannot think of the changes in professional opinions on the mercurial treatment of syphilis, since the days of John Hunter, without the most painful feeling of distrust in all modes of treatment where one cannot recognize some reasonable bond of connection between the remedy applied and the effects produced, or where long experience and analogy are in favor of them, and where the judgment runs no risk of being imposed upon by fallacious appearances and collateral circumstances. In a word, who does not feel disposed, in the practice of medicine, constantly to recur to the great truth proclaimed by our author in his first Aphorism? “Experience is fallacious, and judgment is difficult.”

I am almost afraid further to put the question to the profession of the present day, whether or not the administration of antimonials in pleuro-pneumonia be an improvement on the ancient practice, or the reverse? Shall we say, then, that experience has decided that this substance (antimony),

which, when applied to the cuticle, or to its prolongation, the epithelium of the stomach and bowels, occasions pain, heat, and vascular congestion, produces the very opposite effects on the lungs, when absorbed into the blood and conveyed to them? I dare not venture to answer these questions myself, but suggest them as deserving to be reconsidered, with serious impartiality, by the profession. I trust, however, it will not be supposed that I incline to stand up for ancient modes of practice, because they are old, or to condemn modern methods because they are new; I merely state the reflections which the comparison of ancient and modern usages, on this important subject, has suggested to me.

Our author, it will be seen, attaches much importance to the administration of the ptisan, or decoction of barley, in pleuro-pneumonia. Our modern Hippocrates, I mean, of course, Sydenham, was equally partial to this practice,[530] which is still very much followed on the continent.

It will be remarked, that Hippocrates says nothing of counter-irritants to the skin, in the treatment of pleurisy, all his external applications being of the soothing kind. The stimulant treatment, however, is not altogether modern, having been recommended in certain cases by the Arabians. (See PAULUS ÆGINETA, Vol. I., p. 501.) Celsus also approves of sinapisms to the side. (iv., 6.)

The use of the bath and of the *douche*, or affusion of hot water in febrile diseases, is an important question, which well deserves to be reconsidered by the profession. (See the annotations on § 18.)

The reader will no doubt have been struck with the remark of Galen, in the extract given above, that our author's plan in the present work is deficient in method, because he himself was the discoverer of the subject-matters to which it relates. Galen then seems to have been of opinion that it was too much to expect from any individual, that he should produce a work which would be remarkable at the same time for the originality of its materials, and for the methodical arrangement of them. In confirmation of Galen's judgment in this case, I would direct attention to the difference that there is between this treatise and the "Prognostics;" for all must admit that the matters of which the latter work is composed are admirably methodized, and we have shown above that they were derived in a great measure from the previous labors of the Asclepiadæ.

Those who composed what are called "The Cnidian Sentences"[531] have described accurately what symptoms the sick experience in every disease, and how certain of them terminate; and in so far a man, even who is not a physician, might describe them correctly, provided he put the proper inquiries to the sick themselves what their complaints are. But those symptoms which the physician ought to know beforehand without being informed of them by the patient, are, for the most part, omitted, some in one case and some in others, and certain symptoms of vital importance for a conjectural judgment.[532] But when, in addition to the diagnosis, they describe how each complaint should be treated, in these cases I entertain a still greater difference of opinion with them respecting the rules they have laid down; and not only do I not agree with them on this account, but also because the remedies they use are few in number; for, with the exception of acute diseases, the only medicines which they give are drastic purgatives, with whey, and milk at certain times. If, indeed, these remedies had been good and suitable to the complaints in which they are recommended, they would have been still more deserving of recommendation, if, while few in number, they were sufficient; but this is by no means the case. Those, indeed, who have remodeled these "Sentences" have treated of the remedies applicable in each complaint more in a medical fashion. But neither have the ancients written anything worth mentioning respecting regimen, although this be a great omission. Some of them, indeed, were not ignorant of the many varieties of each complaint, and their manifold divisions, but when they wish to tell clearly the numbers (species?) of each disease they do not write correctly;[533] for their species would be almost innumerable if every symptom experienced by the patients were held to constitute a disease, and receive a different name.[534]

2. For my part, I approve of paying attention to everything relating to the art, and that those things which can be done well or properly should all be done properly; such as can be quickly done should be done quickly; such as can be neatly done should be done neatly; such operations as can be performed without pain should be done with the least possible pain; and that all other things of the like kind should be done better than they could be managed by the attendants. But I would more especially commend the physician who, in acute diseases, by which the bulk of mankind are cut off,

conducts the treatment better than others. Acute diseases are those which the ancients named pleurisy, pneumonia, phrenitis, lethargy, causus, and the other diseases allied to these, including the continual fevers. For, unless when some general form of pestilential disease is epidemic, and diseases are sporadic and [not] of a similar character, there are more deaths from these diseases than from all the others taken together.[535] The vulgar, indeed, do not recognize the difference between such physicians and their common attendants, and are rather disposed to commend and censure extraordinary remedies. This, then, is a great proof that the common people are most incompetent, of themselves, to form a judgment how such diseases should be treated: since persons who are not physicians pass for physicians owing most especially to these diseases, for it is an easy matter to learn the names of those things which are applicable to persons laboring under such complaints. For, if one names the juice of ptisan, and such and such a wine, and hydromel, the vulgar fancy that he prescribes exactly the same things as the physicians do, both the good and the bad, but in these matters there is a great difference between them.

3. But it appears to me that those things are more especially deserving of being consigned to writing which are undetermined by physicians, notwithstanding that they are of vital importance, and either do much good or much harm. By undetermined I mean such as these, wherefore certain physicians, during their whole lives, are constantly administering unstrained ptisans, and fancy they thus accomplish the cure properly, whereas others take great pains that the patient should not swallow a particle of the barley (thinking it would do much harm), but strain the juice through a cloth before giving it; others, again, will neither give thick ptisan nor the juice, some until the seventh day of the disease, and some until after the crisis.[536] Physicians are not in the practice of mooting such questions; nor, perhaps, if mooted, would a solution of them be found; although the whole art is thereby exposed to much censure from the vulgar, who fancy that there really is no such science as medicine, since, in acute diseases, practitioners differ so much among themselves, that those things which one administers as thinking it the best that can be given, another holds to be bad; and, in this respect, they might say that the art of medicine resembles augury, since augurs hold that the same bird (omen) if seen on the left hand is good, but if on the right bad: and in divination by the inspection of entrails you will find

similar differences; but certain diviners hold the very opposite of these opinions.[537] I say, then, that this question is a most excellent one, and allied to very many others, some of the most vital importance in the Art, for that it can contribute much to the recovery of the sick, and to the preservation of health in the case of those who are well; and that it promotes the strength of those who use gymnastic exercises, and is useful to whatever one may wish to apply it.

4. Ptisan, then, appears to me to be justly preferred before all the other preparations from grain in these diseases, and I commend those who made this choice,[538] for the mucilage of it is smooth, consistent, pleasant, lubricant, moderately diluent, quenches thirst if this be required, and has no astringency; gives no trouble nor swells up in the bowels, for in the boiling it swells up as much as it naturally can. Those, then, who make use of ptisan in such diseases, should never for a day allow their vessels to be empty of it, if I may say so, but should use it and not intermit, unless it be necessary to stop for a time, in order to administer medicine or a clyster. And to those who are accustomed to take two meals in the day it is to be given twice, and to those accustomed to live upon a single meal it is to be given once at first, and then, if the case permit, it is to be increased and given twice to them, if they appear to stand in need of it. At first it will be proper not to give a large quantity nor very thick, but in proportion to the quantity of food which one has been accustomed to take, and so as that the veins may not be much emptied. And, with regard to the augmentation of the dose, if the disease be of a drier nature than one had supposed,[539] one must not give more of it, but should give before the draught of ptisan, either hydromel or wine, in as great quantity as may be proper; and what is proper in each case will be afterward stated by us. But if the mouth and the passages from the lungs be in a proper state as to moisture, the quantity of the draught is to be increased, as a general rule, for an early and abundant state of moisture indicates an early crisis, but a late and deficient moisture indicates a slower crisis.[540] And these things are as I have stated for the most part; but many other things are omitted which are important to the prognosis, as will be explained afterwards. And the more that the patient is troubled with purging, in so much greater quantity is it to be given until the crisis, and moreover until two days beyond the crisis, in such cases as it appears to take place on the fifth, seventh, or ninth day, so as to have respect both for

the odd and even day; after this the draught is to be given early in the day, and the other food in place is to be given in the evening. These things are proper, for the most part, to be given to those who, from the first, have used ptisan containing its whole substance; for the pains in pleuritic affections immediately cease of their own accord whenever the patients begin to expectorate anything worth mentioning, and the purgings become much better, and empyema much more seldom takes place, than if the patients used a different regimen, and the crises are more simple, occur earlier, and the cases are less subject to relapses.

5. Ptisans are to be made of the very best barley, and are to be well boiled, more especially if you do not intend to use them strained. For, besides the other virtues of ptisan, its lubricant quality prevents the barley that is swallowed from proving injurious, for it does not stick nor remain in the region of the breast; for that which is well boiled is very lubricant, excellent for quenching thirst, of very easy digestion, and very weak, all which qualities are wanted. If, then, one do not pay proper attention to the mode of administering the ptisan, much harm may be done; for when the food is shut up in the bowels, unless one procure some evacuation speedily, before administering the draught, the pain, if present, will be exasperated; and, if not present, it will be immediately created, and the respiration will become more frequent, which does mischief, for it dries the lungs, fatigues the hypochondria, the hypogastrium, and diaphragm. And moreover if, while the pain of the side persists, and does not yield to warm fomentations, and the sputa are not brought up, but are viscid and unconcocted, unless one get the pain resolved, either by loosening the bowels; or opening a vein, whichever of these may be proper;—if to persons so circumstanced ptisan be administered, their speedy death will be the result.[541] For these reasons, and for others of a similar kind still more, those who use unstrained ptisan die on the seventh day, or still earlier, some being seized with delirium, and others dying suffocated with orthopnœa and râles.[542] Such persons the ancients thought *struck*, for this reason more especially, that when dead the affected side was livid, like that of a person who had been struck. The cause of this is that they die before the pain is resolved, being seized with difficulty of respiration, and by large and rapid breathing, as has been already explained, the spittle becoming thick, acid, and unconcocted, cannot be brought up, but, being retained in the bronchi of the lungs, produces

râles; and, when it has come to this, death, for the most part, is inevitable; for the sputa being retained prevent the breath from being drawn in, and force it speedily out, and thus the two conspire together to aggravate the mischief; for the sputa being retained renders the respiration frequent, while the respiration being frequent thickens the sputa, and prevents them from being evacuated. These symptoms supervene, not only if ptisan be administered unseasonably, but still more if any other food or drink worse than ptisan be given.

6. For the most part, then, the results are the same, whether the patient have used the unstrained ptisan or have used the juice alone; or even only drink; and sometimes it is necessary to proceed quite differently. In general, one should do thus: if fever commences shortly after taking food, and before the bowels have been evacuated, whether with or without pain, the physician ought to withhold the draught until he thinks that the food has descended to the lower part of the belly; and if any pain be present, the patient should use oxymel, hot if it is winter, and cold if it is summer; and, if there be much thirst, he should take hydromel and water.[543] Then, if any pain be present, or any dangerous symptoms make their appearance, it will be proper to give the draught neither in large quantity nor thick, but after the seventh day, if the patient be strong. But if the earlier-taken food has not descended, in the case of a person who has recently swallowed food, and if he be strong and in the vigor of life, a clyster should be given, or if he be weaker, a suppository is to be administered, unless the bowels open properly of themselves. The time for administering the draught is to be particularly observed at the commencement and during the whole illness; when, then, the feet are cold, one should refrain from giving the ptisan, and more especially abstain from drink; but when the heat has descended to the feet, one may then give it; and one should look upon this season as of great consequence in all diseases, and not least in acute diseases, especially those of a febrile character, and those of a very dangerous nature. One may first use the juice, and then the ptisan, attending accurately to the rules formerly laid down.

7. When pain seizes the side, either at the commencement or at a later stage, it will not be improper to try to dissolve the pain by hot applications. [544] Of hot applications the most powerful is hot water in a bottle, or bladder, or in a brazen vessel, or in an earthen one; but one must first apply

something soft to the side, to prevent pain. A soft large sponge, squeezed out of hot water and applied, forms a good application; but it should be covered up above, for thus the heat will remain the longer, and at the same time the vapor will be prevented from being carried up to the patient's breath, unless when this is thought of use, for sometimes it is the case. And further, barley or tares may be infused and boiled in diluted vinegar, stronger than that it could be drunk, and may then be sewed into bladders and applied; and one may use bran in like manner. Salts or toasted millet in woolen bags are excellent for forming a dry fomentation, for the millet is light and soothing. A soft fomentation like this soothes pains, even such as shoot to the clavicle. Venesection, however, does not alleviate the pain unless when it extends to the clavicle. But if the pain be not dissolved by the fomentations, one ought not to foment for a length of time, for this dries the lungs and promotes suppuration; but if the pain point to the clavicle, or if there be a heaviness in the arm, or about the breast, or above the diaphragm, one should open the inner vein at the elbow, and not hesitate to abstract a large quantity, until it become much redder, or instead of being pure red, it turns livid,[545] for both these states occur. But if the pain be below the diaphragm, and do not point to the clavicle, we must open the belly either with black hellebore[546] or peplium,[547] mixing the black hellebore with carrot or seseli,[548] or cumin, or anise, or any other of the fragrant herbs; and with the peplium the juice of sulphium[549] (asafœtida), for these substances, when mixed up together, are of a similar nature.[550] The black hellebore acts more pleasantly and effectually than the peplium, while, on the other hand, the peplium expels wind much more effectually than the black hellebore, and both these stop the pain, and many other of the laxatives also stop it, but these two are the most efficacious that I am acquainted with. And the laxatives given in draughts are beneficial, when not very unpalatable owing to bitterness, or any other disagreeable taste, or from quantity, colour, or any apprehension. When the patient has drunk the medicine, one ought to give him to swallow but little less of the ptisan than what he had been accustomed to; but it is according to rule not to give any draughts while the medicine is under operation;[551] but when the purging is stopped then he should take a smaller draught than what he had been accustomed to, and afterwards go on increasing it progressively, until the pain cease, provided nothing else contra-indicate. This is my rule, also, if

one would use the juice of ptisan, (for I hold that it is better, on the whole, to begin with taking the decoction at once, rather than by first emptying the veins before doing so, or on the third, fourth, fifth, sixth, or seventh day, provided the disease has not previously come to a crisis in the course of this time), and similar preparations to those formerly described are to be made in those cases.

8. Such are the opinions which I entertain respecting the administering of the ptisan; and, as regards drinks, whichsoever of those about to be described may be administered, the same directions are generally applicable. And here I know that physicians are in the practice of doing the very reverse of what is proper, for they all wish, at the commencement of diseases, to starve their patients for two, three, or more days, and then to administer the ptisans and drinks; and perhaps it appears to them reasonable that, as a great change has taken place in the body, it should be counteracted by another great change. Now, indeed, to produce a change is no small matter, but the change must be effected well and cautiously, and after the change the administration of food must be conducted still more so. Those persons, then, would be most injured if the change is not properly managed, who used unstrained ptisans; they also would suffer who made use of the juice alone; and so also they would suffer who took merely drink, but these least of all.

9. One may derive information from the regimen of persons in good health what things are proper; for if it appear that there is a great difference whether the diet be so and so, in other respects, but more especially in the changes, how can it be otherwise in diseases, and more especially in the most acute? But it is well ascertained that even a faulty diet of food and drink steadily persevered in, is safer in the main as regards health than if one suddenly change it to another. Wherefore, in the case of persons who take two meals in the day, or of those who take a single meal, sudden changes induce suffering and weakness; and thus persons who have not been accustomed to dine, if they shall take dinner, immediately become weak, have heaviness over their whole body, and become feeble and languid, and if, in addition, they take supper, they will have acid eructations, and some will have diarrhœa whose bowels were previously dry, and not having been accustomed to be twice swelled out with food and to digest it twice a day, have been loaded beyond their wont. It is beneficial,

in such cases, to counterbalance this change, for one should sleep after dinner, as if passing the night, and guard against cold in winter and heat in summer; or, if the person cannot sleep, he may stroll about slowly, but without making stops, for a good while, take no supper, or, at all events, eat little, and only things that are not unwholesome, and still more avoid drink, and especially water. Such a person will suffer still more if he take three full meals in the day, and more still if he take more meals; and yet there are many persons who readily bear to take three full meals in the day, provided they are so accustomed. And, moreover, those who have been in the habit of eating twice a day, if they omit dinner, become feeble and powerless, averse to all work, and have heartburn; their bowels seem, as it were, to hang loose, their urine is hot and green, and the excrement is parched; in some the mouth is bitter, the eyes are hollow, the temples throb, and the extremities are cold, and the most of those who have thus missed their dinner cannot eat supper; or, if they do sup, they load their stomach, and pass a much worse night than if they had previously taken dinner. Since, then, an unwonted change of diet for half a day produces such effects upon persons in health, it appears not to be a good thing either to add or take from. If, then, he who was restricted to a single meal, contrary to usage, having his veins thus left empty during a whole day, when he supped according to custom felt heavy, it is probable that if, because he was uneasy and weak from the want of dinner, he took a larger supper than wont, he would be still more oppressed; or if, wanting food for a still greater interval, he suddenly took a meal after supper, he will feel still greater oppression. He, then, who, contrary to usage, has had his veins kept empty by want of food, will find it beneficial to counteract the bad effects during that day as follows: let him avoid cold, heat, and exertion, for he could bear all these ill; let him make his supper considerably less than usual, and not of dry food, but rather liquid; and let him take some drink, not of a watery character, nor in smaller quantity than is proportionate to the food, and on the next day he should take a small dinner, so that, by degrees, he may return to his former practice. Persons who are bilious in the stomach bear these changes worst, while those who are pituitous, upon the whole, bear the want of food best, so that they suffer the least from being restricted to one meal in the day, contrary to usage. This, then, is a sufficient proof that the greatest changes as to those things which regard our constitutions and habits are most especially concerned in the production of diseases, for it is

impossible to produce unseasonably a great emptying of the vessels by abstinence, or to administer food while diseases are at their acme, or when inflammation prevails; nor, on the whole, to make a great change either one way or another with impunity.[552]

10. One might mention many things akin to these respecting the stomach and bowels, to show how people readily bear such food as they are accustomed to, even if it is not naturally good, and drink in like manner, and how they bear unpleasantly such food as they are not accustomed to, even although not bad, and so in like manner with drink; and as to the effects of eating much flesh, contrary to usage, or garlic, or asafœtida, or the stem of the plant which produces it, or things of a similar kind possessed of strong properties, one would be less surprised if such things produce pains in the bowels, but rather when one learned what trouble, swelling, flatulence, and tormina the cake (maza) will raise in the belly when eaten by a person not accustomed to it; and how much weight and distention of the bowels bread will create to a person accustomed to live upon the maza; and what thirst and sudden fullness will be occasioned by eating hot bread, owing to its desiccant and indigestible properties; and what different effects are produced by fine and coarse bread when eaten contrary to usage, or by the cake when unusually dry, moist, or viscid; and what different effects polenta produces upon those who are accustomed and those who are unaccustomed to the use of it; or drinking of wine or drinking of water, when either custom is suddenly exchanged for the other; or when, contrary to usage, diluted wine or undiluted has been suddenly drunk, for the one will create water-brash in the upper part of the intestinal canal and flatulence in the lower, while the other will give rise to throbbing of the arteries, heaviness of the head, and thirst; and white and dark-colored wine, although both strong wines, if exchanged contrary to usage, will produce very different effects upon the body, so that one need the less wonder that a sweet and strong wine, if suddenly exchanged, should have by no means the same effect.

11. Let us here briefly advert to what may be said on the opposite side; namely, that a change of diet has occurred in these cases, without any change in their body, either as to strength, so as to require an increase of food, or as to weakness, so as to require a diminution. But the strength of the patient is to be taken into consideration, and the manner of the disease,

and of the constitution of the man, and the habitual regimen of the patient, not only as regards food but also drink. Yet one must much less resort to augmentation, since it is often beneficial to have recourse to abstraction, when the patient can bear it, until the disease having reached its acme and has become concocted. But in what cases this must be done will be afterwards described. One might write many other things akin to those which have been now said, but there is a better proof, for it is not akin to the matter on which my discourse has principally turned, but the subject-matter itself is a most seasonable proof. For some at the commencement of acute diseases have taken food on the same day, some on the next day; some have swallowed whatever has come in their way, and some have taken *cyceon*. [553] Now all these things are worse than if one had observed a different regimen; and yet these mistakes, committed at that time, do much less injury than if one were to abstain entirely from food for the first two or three days, and on the fourth or fifth day were to take such food; and it would be still worse, if one were to observe total abstinence for all these days, and on the following days were to take such a diet, before the disease is concocted;[554] for in this way death would be the consequence to most people, unless the disease were of a very mild nature. But the mistakes committed at first were not so irremediable as these, but could be much more easily repaired. This, therefore, I think a strong proof that such or such a draught need not be prescribed on the first days to those who will use the same draughts afterwards. At the bottom, therefore, they do not know, neither those using unstrained ptisans, that they are hurt by them, when they begin to swallow them, if they abstain entirely from food for two, three, or more days; nor do those using the juice know that they are injured in swallowing them, when they do not commence with the draught seasonably. But this they guard against, and know that it does much mischief, if, before the disease be concocted, the patient swallow unstrained ptisan, when accustomed to use strained. All these things are strong proofs that physicians do not conduct the regimen of patients properly, but that in those diseases in which total abstinence from food should not be enforced on patients that will be put on the use of ptisans, they do enforce total abstinence; that in those cases in which there should be no change made from total abstinence to ptisans, they do make the change; and that, for the most part, they change from abstinence to ptisans, exactly at the time when it is often beneficial to proceed from ptisans almost to total abstinence, if

the disease happen to be in the state of exacerbation.[555] And sometimes crude matters are attracted from the head, and bilious from the region near the chest, and the patients are attacked with insomnolency, so that the disease is not concocted; they become sorrowful, peevish, and delirious; there are flashes of light in their eyes, and noises in their ears; their extremities are cold, their urine unconcocted; the sputa thin, saltish, tinged with an intense colour and smell; sweats about the neck, and anxiety; respiration, interrupted in the expulsion of the air,[556] frequent and very large; expression of the eyelids dreadful; dangerous *deliquia*; tossing of the bedclothes from the breast; the hands trembling, and sometimes the lower lip agitated. These symptoms, appearing at the commencement, are indicative of strong delirium, and patients so affected generally die, or if they escape, it is with a deposit, hemorrhage from the nose, or the expectoration of thick matter, and not otherwise. Neither do I perceive that physicians are skilled in such things as these; how they ought to know such diseases as are connected with debility, and which are further weakened by abstinence from food, and those aggravated by some other irritation; those by pain, and from the acute nature of the disease, and what affections and various forms thereof our constitution and habit engender, although the knowledge or ignorance of such things brings safety or death to the patient. For it is a great mischief if to a patient debilitated by pain, and the acute nature of the disease, one administer drink, or more ptisan, or food, supposing that the debility proceeds from inanition. It is also disgraceful not to recognize a patient whose debility is connected with inanition, and to pinch him in his diet; this mistake, indeed, is attended with some danger, but much less than the other, and yet it is likely to expose one to much greater derision, for if another physician, or a private person, coming in and knowing what has happened, should give to eat or drink those things which the other had forbidden, the benefit thus done to the patient would be manifest. Such mistakes of practitioners are particularly ridiculed by mankind, for the physician or non-professional man thus coming in, seems as it were to resuscitate the dead. On this subject I will describe elsewhere the symptoms by which each of them may be recognized.

12. And the following observations are similar to those now made respecting the bowels. If the whole body rest long, contrary to usage, it does not immediately recover its strength; but if, after a protracted repose, it

proceed to labor, it will clearly expose its weakness. So it is with every one part of the body, for the feet will make a similar display, and any other of the joints, if, being unaccustomed to labor, they be suddenly brought into action, after a time. The teeth and the eyes will suffer in like manner, and also every other part whatever. A couch, also, that is either softer or harder than one has been accustomed to will create uneasiness, and sleeping in the open air, contrary to usage, hardens the body. But it is sufficient merely to state examples of all these cases. If a person having received a wound in the leg, neither very serious nor very trifling, and he being neither in a condition very favorable to its healing nor the contrary, at first betakes himself to bed, in order to promote the cure, and never raises his leg, it will thus be much less disposed to inflammation, and be much sooner well, than it would have been if he had strolled about during the process of healing; but if upon the fifth or sixth day, or even earlier, he should get up and attempt to walk, he will suffer much more then than if he had walked about from the commencement of the cure, and if he should suddenly make many laborious exertions, he will suffer much more than if, when the treatment was conducted otherwise, he had made the same exertions on the same days. In fine, all these things concur in proving that all great changes, either one way or another, are hurtful. Wherefore much mischief takes place in the bowels, if from a state of great inanition more food than is moderate be administered (and also in the rest of the body, if from a state of great rest it be hastily brought to greater exertion, it will be much more injured), or if from the use of much food it be changed to complete abstinence, and therefore the body in such cases requires protracted repose, and if, from a state of laborious exertion, the body suddenly falls into a state of ease and indolence, in these cases also the bowels would require continued repose from abundance of food, for otherwise it will induce pain and heaviness in the whole body.

13. The greater part of my discourse has related to changes, this way or that. For all purposes it is profitable to know these things, and more especially respecting the subject under consideration,—that in acute diseases, in which a change is made to ptisans from a state of inanition, it should be made as I direct; and then that ptisans should not be used until the disease be concocted, or some other symptom, whether of evacuation or of irritation, appear in the intestines, or in the hypochondria, such as will be described. Obstinate isomnolency impairs the digestion of the food and

drink, and in other respects changes and relaxes the body, and occasions a heated state, and heaviness of the head.[557]

14. One must determine by such marks as these, when sweet, strong, and dark wine, hydromel, water and oxymel, should be given in acute diseases.[558] Wherefore the sweet affects the head less than the strong, attacks the brain less, evacuates the bowels more than the other, but induces swelling of the spleen and liver; it does not agree with bilious persons, for it causes them to thirst; it creates flatulence in the upper part of the intestinal canal, but does not disagree with the lower part, as far as regards flatulence; and yet flatulence engendered by sweet wine is not of a transient nature, but rests for a long time in the hypochondria. And therefore it in general is less diuretic than wine which is strong and thin; but sweet wine is more expectorant than the other. But when it creates thirst, it is less expectorant in such cases than the other wine, but if it do not create thirst, it promotes expectoration better than the other. The good and bad effects of a white, strong wine, have been already frequently and fully stated in the disquisition on sweet wine; it is determined to the bladder more than the other, is diuretic and laxative, and should be very useful in such complaints; for if in other respects it be less suitable than the other, the clearing out of the bladder effected by it is beneficial to the patient, if properly administered. There are excellent examples of the beneficial and injurious effects of wine, all which were left undetermined by my predecessors. In these diseases you may use a yellow wine, and a dark austere wine for the following purposes: if there be no heaviness of the head, nor delirium, nor stoppage of the expectoration, nor retention of the urine, and if the alvine discharges be more loose and like scrapings than usual, in such cases a change from a white wine to such as I have mentioned, might be very proper. It deserves further to be known, that it will prove less injurious to all the parts above, and to the bladder, if it be of a more watery nature, but that the stronger it is, it will be the more beneficial to the bowels.

15. Hydromel, when drunk in any stage of acute disease, is less suitable to persons of a bilious temperament, and to those who have enlarged viscera, than to those of a different character; it increases thirst less than sweet wine; it softens the lungs, is moderately expectorant, and alleviates a cough; for it has some detergent quality in it, whence it lubricates the sputum.[559] Hydromel is also moderately diuretic, unless prevented by the

state of any of the viscera. And it also occasions bilious discharges downwards, sometimes of a proper character, and sometimes more intense and frothy than is suitable; but such rather occurs in persons who are bilious, and have enlarged viscera. Hydromel rather produces expectoration, and softening of the lungs, when given diluted with water.[560] But unmixed hydromel, rather than the diluted, produces frothy evacuations, such as are unseasonably and intensely bilious, and too hot; but such an evacuation occasions other great mischiefs, for it neither extinguishes the heat in the hypochondria, but rouses it, induces inquietude, and jactitation of the limbs, and ulcerates the intestines and anus. The remedies for all these will be described afterwards. By using hydromel without ptisans, instead of any other drink, you will generally succeed in the treatment of such diseases, and fail in few cases; but in what instances it is to be given, and in what it is not to be given, and wherefore it is not to be given,—all this has been explained already, for the most part. Hydromel is generally condemned, as if it weakened the powers of those who drink it, and on that account it is supposed to accelerate death; and this opinion arose from persons who starve themselves to death, some of whom use hydromel alone for drink, as fancying that it really has this effect. But this is by no means always the case. For hydromel, if drunk alone, is much stronger than water, if it do not disorder the bowels; but in some respects it is stronger, and in some weaker, than wine that is thin, weak, and devoid of *bouquet*. There is a great difference between unmixed wine and unmixed honey, as to their nutritive powers, for if a man will drink double the quantity of pure wine, to a certain quantity of honey which is swallowed, he will find himself much stronger from the honey, provided it do not disagree with his bowels, and that his alvine evacuations from it will be much more copious. But if he shall use ptisan for a draught, and drink afterward hydromel, he will feel full, flatulent, and uncomfortable in the viscera of the hypochondrium; but if the hydromel be taken before the draught, it will not have the same injurious effects as if taken after it, but will be rather beneficial. And boiled hydromel has a much more elegant appearance than the unboiled, being clear, thin, white, and transparent, but I am unable to mention any good quality which it possesses that the other wants. For it is not sweeter than the unboiled, provided the honey be fine, and it is weaker, and occasions less copious evacuations of the bowels, neither of which effects is required from the hydromel. But one should by all means use it boiled, provided the honey be

bad, impure, black, and not fragrant, for the boiling will remove the most of its bad qualities and appearances.

16. You will find the drink, called oxymel, often very useful in these complaints, for it promotes expectoration and freedom of breathing. The following are the proper occasions for administering it. When strongly acid it has no mean operation in rendering the expectoration more easy, for by bringing up the sputa, which occasion troublesome hawking, and rendering them more slippery, and, as it were, clearing the windpipe with a feather, it relieves the lungs and proves emollient to them; and when it succeeds in producing these effects it must do much good. But there are cases in which hydromel, strongly acid, does not promote expectoration, but renders it more viscid and thus does harm, and it is most apt to produce these bad effects in cases which are otherwise of a fatal character, when the patient is unable to cough or bring up the sputa. On this account, then, one ought to consider beforehand the strength of the patient, and if there be any hope, then one may give it, but if given at all in such cases it should be quite tepid, and in by no means large doses. But if slightly acrid it moistens the mouth and throat, promotes expectoration, and quenches thirst; agrees with the viscera seated in the hypochondrium, and obviates the bad effects of the honey; for the bilious quality of the honey is thereby corrected. It also promotes flatulent discharges from the bowels, and is diuretic, but it occasions watery discharges and those resembling scrapings, from the lower part of the intestine, which is sometimes a bad thing in acute diseases, more especially when the flatulence cannot be passed, but rolls backwards; and otherwise it diminishes the strength and makes the extremities cold, this is the only bad effect worth mentioning which I have known to arise from the oxymel. It may suit well to drink a little of this at night before the draught of ptisan, and when a considerable interval of time has passed after the draught there will be nothing to prevent its being taken. But to those who are restricted entirely to drinks without draughts of ptisan, it will therefore not be proper at all times to give it, more especially from the fretting and irritation of the intestine which it occasions, (and these bad effects it will be the more apt to produce provided there be no fæces in the intestines and the patient is laboring under inanition,) and then it will weaken the powers of the hydromel. But if it appears advantageous to use a great deal of this drink during the whole course of the disease, one should add to it merely as much vinegar as can just be perceived by the taste, for thus what is prejudicial in

it will do the least possible harm, and what is beneficial will do the more good. In a word, the acidity of vinegar agrees rather with those who are troubled with bitter bile, than with those patients whose bile is black; for the bitter principle is dissolved in it and turned to phlegm, by being suspended in it; whereas black bile is fermented, swells up, and is multiplied thereby: for vinegar is a melanogogue. Vinegar is more prejudicial to women than to men, for it creates pains in the uterus.

17. I have nothing further to add as to the effects of water when used as a drink in acute diseases; for it neither soothes the cough in pneumonia, nor promotes expectoration, but does less than the others in this respect, if used alone through the whole complaint. But if taken intermediate between oxymel and hydromel, in small quantity, it promotes expectoration from the change which it occasions in the qualities of these drinks, for it produces, as it were, a certain overflow. Otherwise it does not quench the thirst, for it creates bile in a bilious temperament, and is injurious to the hypochondrium; and it does the most harm, engenders most bile, and does the least good when the bowels are empty; and it increases the swelling of the spleen and liver when they are in an inflamed state; it produces a gurgling noise in the intestines and swims on the stomach; for it passes slowly downwards, as being of a coldish and indigestible nature, and neither proves laxative nor diuretic; and in this respect, too, it proves prejudicial, that it does not naturally form fæces in the intestines: and, if it be drunk while the feet are cold, its injurious effects will be greatly aggravated, in all those parts to which it may be determined. When you suspect in these diseases either strong heaviness of the head, or mental alienation, you must abstain entirely from wine, and in this case use water, or give weak, straw colored wine, entirely devoid of *bouquet*, after which a little water is to be given in addition; for thus the strength of the wine will less affect the head and the understanding: but in which cases water is mostly to be given for drink, when in large quantity, when in moderate, when cold, and when hot; all these things have either been discussed already or will be treated of at the proper time. In like manner, with respect to all the others, such as barley-water, the drinks made from green shoots, those from raisins, and the skins of grapes and wheat, and bastard saffron, and myrtles, pomegranates, and the others, when the proper time for using them is come, they will be treated of along with the disease in question, in like manner as the other compound medicines.[561]

18. The bath is useful in many diseases, in some of them when used steadily, and in others when not so. Sometimes it must be less used than it would be otherwise, from the want of accommodation; for in few families are all the conveniences prepared, and persons who can manage them as they ought to be. And if the patient be not bathed properly, he may be thereby hurt in no inconsiderable degree, for there is required a place to cover him that is free of smoke, abundance of water, materials for frequent baths, but not very large, unless this should be required. It is better that no friction should be applied, but if so, a hot soap (*smegma*)[562] must be used in greater abundance than is common, and an affusion of a considerable quantity of water is to made at the same time and afterwards repeated. There must also be a short passage to the basin, and it should be of easy ingress and egress. But the person who takes the bath should be orderly and reserved in his manner, should do nothing for himself, but others should pour the water upon him and rub him, and plenty of waters, of various temperatures, should be in readiness for the *douche*, and the affusions quickly made;[563] and sponges should be used instead of the comb (*strigil*), and the body should be anointed when not quite dry. But the head should be rubbed by the sponge until it is quite dry; the extremities should be protected from cold, as also the head and the rest of the body; and a man should not be washed immediately after he has taken a draught of ptisan or a drink; neither should he take ptisan as a drink immediately after the bath. Much will depend upon whether the patient, when in good health, was very fond of the bath, and in the custom of taking it: for such persons, especially, feel the want of it, and are benefited if they are bathed, and injured if they are not. In general it suits better with cases of pneumonia than in ardent fevers; for the bath soothes the pain in the side, chest, and back; concocts the sputa, promotes expectoration, improves the respiration, and allays lassitude; for it soothes the joints and outer skin, and is diuretic, removes heaviness of the head, and moistens the nose. Such are the benefits to be derived from the bath, if all the proper requisites be present; but if one or more of these be wanting, the bath, instead of doing good, may rather prove injurious; for every one of them may do harm if not prepared by the attendants in the proper manner. It is by no means a suitable thing in these diseases to persons whose bowels are too loose, or when they are unusually confined, and there has been no previous evacuation; neither must we bathe those who are debilitated, nor such as have nausea or vomiting, or bilious

eructations; nor such as have hemorrhage from the nose, unless it be less than required at that stage of the disease, (with those stages you are acquainted:) but if the discharge be less than proper, one should use the bath, whether in order to benefit the whole body or the head alone. If then the proper requisites be at hand, and the patient be well disposed to the bath, it may be administered once every day, or if the patient be fond of the bath there will be no harm, though he should take it twice in the day. The use of the bath is much more appropriate to those who take unstrained ptisan, than to those who take only the juice of it, although even in their case it may be proper; but least of all does it suit with those who use only plain drink, although, in their case too it may be suitable; but one must form a judgment from the rules laid down before, in which of these modes of regimen the bath will be beneficial, and in which not. Such as want some of the requisites for a proper bath, but have those symptoms which would be benefited by it, should be bathed; whereas those who want none of the proper requisites, but have certain symptoms which contra-indicate the bath, are not to be bathed.

APPENDIX TO THE WORK
ON
REGIMEN IN ACUTE DISEASES.

THE ARGUMENT.

No one can read this piece attentively without coming to the conclusion that it is not a natural continuation of the subject discussed in the preceding work, but that it is made up, in a considerable measure, of materials extracted from it. Expositions of subjects which are there given methodically are here presented in a disjointed form; and rules of practice there laid down with precision are here often delivered in a vague and indefinite shape. Still, however, it must be admitted, that the reverse is sometimes the case, and that what is presented imperfect in the former part of the work is here sometimes reproduced very much improved. It has been therefore a matter of much dispute among the critics whether this portion be the composition of Hippocrates, or whether it be altogether the work of a different hand. The most probable conjecture respecting it seems to be, that as Hippocrates in the preceding part several times announces his intention of giving a continuation of the subject, some one of his immediate disciples undertook the work which he had thus promised, and composed this treatise from fragments left by the author himself, and from materials collected from his other works. As stated by Galen in his Commentary, and as we have explained in our remarks on the "Aphorisms," in the second section of the Preliminary Discourse, it was a common practice, in ancient times, to add appendices to popular works. I can have no hesitation, then, in following the example of M. Littré, who recognizes it as an appendix to the preceding work. But I must say that I rather incline, with Galen, to think that there are many things in it which cannot have come from Hippocrates, than to hold with M. Littré that it is nearly or altogether his composition. But however that may be, it indisputably contains much interesting matter, for which we have every reason to believe that we are indebted to Hippocrates, either directly or at second hand. I shall now give a brief abstract of its contents.

He commences with some general observations on the nature and treatment of causus, the endemial fever of Greece. What is said on this head

is much to the purpose, but incomplete. Then there is given a general rule for bleeding in diseases which certainly is well deserving of attention at the present day, when professional opinions on this point of medical practice are very much unsettled. Nowadays we have abandoned all general rules of practice, and profess to be guided solely by experience; but how variable and uncertain are its results in the present case! I myself—albeit but verging towards the decline of life—can well remember the time when a physician would have run the risk of being indicted for culpable homicide if he had ventured to bleed a patient in common fever; about twenty-five years ago venesection in fever, and in almost every disease, was the established order of the day; and now what shall I state as the general practice that has been sanctioned by the experience of the present generation? I can scarcely say, so variable has the practice in fever and in many other diseases become of late years. One thing is remarkable in the present work with regard to venesection in pneumonia and pleurisy, namely, that it is directed to be carried the length of inducing *deliquium animi*, contrary to the practice laid down in the preceding work, and to the rule which was followed by all the other ancient authorities. Another of the rules regarding bleeding here delivered is also deserving of attention, namely, that in inflammatory diseases it is improper to purge before bleeding, but that venesection should precede all other means of cure.

The section in which cynanche is treated of appears to me to be highly interesting and important. I think it may be a question whether the prognostic spirit of Hippocrates and his followers had not in a great measure anticipated all the results of modern diagnosis.

After this there follows some additional account of causus, which, although out of place, contains observations of considerable interest.

To the treatment of pleurisy and pneumonia we have already alluded, but the subject is so interesting that we cannot dismiss it with so brief a notice. In the ancient method of treating fevers and febrile affections three main objects would appear to have been kept in view: 1st, by depletions, to remove the morbid fluids from the general system, or to draw them off from a particular spot in which they had fixed; 2d, by diluents, to supply the waste of fluids occasioned by the preternatural heat of the body; and, 3d, to support the strength by a suitable supply of such nutriment as the system is then capable of receiving.

Now with regard to venesection, it will be seen in this and the preceding work that the practice is regulated by certain well-marked indications, namely, the seat of the pain, the condition of the patient, and the characters of the sputa. The purging is regulated by the state of matters below the chest, it being held as a general rule that clysters should be administered regularly every day during the first days of the fever. After purging comes the cooling drinks, such as oxymel. The administration of farinaceous food in a liquid state, that is to say, of unstrained ptisan, is to be regulated by the state of the sputa and urinary sediment, namely, when the sputa have put on a purulent appearance, and the sediment has become copious and reddish. Now this certainly seems to be a very intelligible and judicious rule for the administration of nutritious articles in febrile diseases. I need scarcely remark that at the present time there is scarcely a rule of practice in medicine which is worse defined than this respecting the administration of wine and other alimentary substances in febrile diseases. In proof of what is now stated, I would beg leave to refer the reader to what will be admitted to be one of the best authorities in modern literature on fever, I mean to Dr. Tweedie's elaborate article on this subject, in the "Cyclopædia of Medicine." It will be seen, at vol. ii., p. 208, that the rules for the administration of wine and other articles of food are by no means well defined. A cool skin and a soft pulse, when combined with debility, are the indications upon which most stress is laid; but the pulse, as long ago it was pronounced by Celsus to be, is "res fallacissima," and of this the excellent author seems to have been sensible; for the injunctions which he gives to regulate the administration of the wine and other articles, by the effects they produce, sufficiently show that he was sensible how deficient in precision our knowledge of the subject is at present. At the same time he makes it appear that he was well aware of one important fact in the treatment of febrile diseases, which, although distinctly recognized by Hippocrates, is still frequently overlooked by ordinary practitioners, namely, that in convalescence the stomach partakes of the general debility, and is unable to digest food in any great quantity at that time.[564] M. Littré further calls attention to another rule for the administration of wine, lately laid down by Dr. Stokes, of Dublin, which is certainly a most important one, provided it is confirmed by time and experience. It is founded on auscultation, and is to this effect; that when the impulse of the heart is abnormally weak, and when there is a diminution of the proportion between the two *bruits*, or when

there is a preponderance in the sound of the second *bruit*, wine may be freely administered. Now, as I have said, this rule, if sanctioned by ample experience, is undoubtedly a most excellent one; but I may be allowed to remark, that my own observations on the heart in fever have led me to the conclusion that, as I have stated respecting the pulse, its sounds are very fallacious; and I must say that the rule of Hippocrates appears more likely to prove a certain guide in this instance. For is it not a natural view of the subject, that wine and other articles of food should be withheld while the emunctories are not in a condition to cast off the recrementitous superfluities of the system; but that when the secretions are properly established, alimentary substances may be safely administered?[565]

There is another point connected with the regimen in acute diseases on which I have a remark or two to make—it is the administration of animal matters in a fluid state, such as beef-tea, or soups from fowls. These we see frequently administered in febrile cases by practitioners of the present day, but by the ancient authorities they would appear to have been entirely rejected. Which party is the safer guide in this case? For my own part, I have long thought that animal matters, when introduced into the system while in a febrile state, have a tendency to become putrid, and thereby to occasion an increase of the heat and general disorder.

After some defective observations on dysentery, our author treats of tetanus; but here Galen objects to the characters which he gives of the urine, and to his practice as regards the administration of wine. His views, however, are not very different from those which now prevail.

Having made some general remarks on the administration of hellebore, to which he was very partial, he proceeds to point out the bad effects resulting from any change in regimen. His views here are very similar to the observations contained in the preceding portion of the work, and in the treatise “On Ancient Medicine.”

The account of dry cholera is confused and vague. By it he would seem to mean flatulent colic, or *dry belly-ache*. See Opera, ed. Littré, tom. ii., p. 388.

The paragraph on dropsy is interesting, although the views taken of the subject are incomplete. Tympanitis is recognized as a variety of dropsy. Then follow some detached observations on persons whose bowels are

heated, and on the regulation of the diet, with some remarks on the different states which counter-indicate purging. At § 23 there are some practical observations on various conditions of the constitution, which it would no doubt be proper for the physician to make himself acquainted with. The contents of all the remaining paragraphs would seem to have nothing to do with the subject of this treatise.

From what is now stated the reader will readily perceive that this treatise abounds in interesting matters, which, even at the present day, may prove suggestive of important views in the theory and practice of medicine. And although the style, in the judgment of Galen, be very different from Hippocrates, and the mode of thought deficient in that precision for which he is so remarkable, the treatise is unquestionably a work of great ability, and contains what we have reason to regard as the results of his experience and meditations on many important subjects. I should have thought it quite unwarrantable, therefore, to have rejected this piece from a volume which professes to give all the genuine remains of our great author. And moreover, at the risk, perhaps, of being set down as an antique devotée, I do not hesitate to declare that in my opinion this and the preceding portion, taken together, contain more original information on the important subject to which they relate than is to be found in any medical work which has been written from the days of our author down to the present time.

I shall conclude the present Argument by giving from Cælius Aurelianus the criticisms of Soranus on the opinions of our author, as delivered in these two treatises. It is to be borne in mind that Soranus was the chief of the ancient sect of physicians called *Methodici*, which was very inimically disposed towards all the others, and more especially to Hippocrates. Though most of the strictures are evidently overstrained, it cannot fail to be interesting to the reader to have an opportunity of considering them, such as they are.

After giving an elaborate analysis of our author's views, Cælius Aurelianus proceeds as follows: "His Soranus respondens ait. In calefactionibus acres esse sales, ac necessario tumorem provocare, febremque accendere, poscam etiam constringere et stricturam passionis augere. Item milium frixum graveolens et nidorosum, atque capiti grave, maximè acutè fabricitantium esse perspicimus. Spongiis etiam erat melius quenquam in dimissione patientes partes vaporare, atque oleo calido

perfundere. Est præterea improprium, ac sine ratione, tunc uti phlebotomo quoties ad superiora dolor tetenderit; prohibere autem quoties ad inferiora descenderit. Oportet ergo sub hoc argumento neque difficultate tumorum partibus inferioribus impeditos phlebotomare: neque etiam podagricos si quidem inferiora tumere videantur, sed necessariò quoties dolor ad superiora tetenderit, phlebotomiam adhibendam videmus. Siquidem sæpe pejorante ventris fluore, hoc adjutorii genus prohibetur. Neque etiam (ut ait) oportet interiorem venam dividi. Siquidem et exteriori et media divisa corpora releventur. Quippe quum e contrario interiorem prohibeant, propter magnitudinem, ne tumor augeatur. Item sanguinis mutatio iners est detractionis moderationi, sicuti de adjutoriis scribentes demonstrabimus. Sese denique idem Hippocrates impugnat in consequentibus, dicens usque ad animi defectum faciendam detractionem, quod magis vehementer est nocens: siquidem est pericolosa defectio, et neque si sit temporaliter defectionis causa, sensu carens ægrotans, dolore relevatus, videbitur (quum resumptus fuerit) rursum non dolere, quum magis atque magis ejusdem passionis debilia corpora vehementius officiant. Item purgativa medicamina (quæ Græci καθαρτικὰ vocant) acrimoniæ causa, stomachum tumentem, atque hypezocota membranum acuunt in tumorem; et in periculum ventris effusionem provocantia, magnificam passionis ingerunt vehementiam. Nutrire etiam cibo post medicamen non oportebat. Pugnat enim purgationi faciundæ illatum cibi nutrimentum. Quippe quum medicamine corruptum, officii sui careat viribus. Mitto etiam quod ex initio acescere facile ptisanæ succus perspiciatur, confectus quippe ex ordei succo, qui sit digestione difficilis. Dehine ægrotantis corpus non valet tantum sustinere nutrimentum, quantum sanitatis tempore solitum videbatur. Item mulsum ex aceto (quod oxymeli appellavit) sine discretione accipimus. Est etiam immodica usque ad septimum diem cibi abstinentia, quam custodiendam ordinavit.[566] Quippe cum nullus vehementiam passionis sustinere valet, nisi nutrimento quamvis parvo toleratus: et neque in declinatione passionis aliquid humanius cibo largitur, sed in iisdem sorbilibus perseverandum existimat succis. At cum fuerint sputa segniora, tunc ut existimat, erit primo æger nutriendus, quomodo necessariò declinante passione occurrunt intolerato. In cæteris relinquendum temporibus absque nutrimento ægrotantem apertissimè indicavit, quum semper plurimum utilitatis adjutorium cibi, quam cætera possunt adjutoria, largiatur. Omne etiam corpus erit unctione coæquandum, et non ejus particula. Quippe cum totum cibo nutriatur, ipsa

quoque unctio non exerta, anxietatem ingerit ægrotanti, quæ latentem difficultatem, atque accessione veniente, corporis provocat incendium.”

APPENDIX TO THE WORK
ON
REGIMEN IN ACUTE DISEASES.

Ardent fever (causus)[567] takes place when the veins, being dried up in the summer season, attract acrid and bilious humors to themselves; and strong fever seizes the whole body, which experiences aches of the bones, and is in a state of lassitude and pain. It takes place most commonly from a long walk and protracted thirst, when the veins being dried up attract acrid and hot defluxions to themselves. The tongue becomes rough, dry, and very black; there are gnawing pains about the bowels; the alvine discharges are watery and yellow; there is intense thirst, insomnolency, and sometimes wandering of the mind. To a person in such a state give to drink water and as much boiled hydromel of a watery consistence as he will take; and if the mouth be bitter, it may be advantageous to administer an emetic and clyster; and if these things do not loosen the bowels, purge with the boiled milk of asses. Give nothing saltish nor acrid, for they will not be borne; and give no draughts of ptisan until the crisis be past. And the affection is resolved if there be an epistaxis, or if true critical sweats supervene with urine having white, thick, and smooth sediments, or if a deposit take place anywhere; but if it be resolved without these, there will be a relapse of the complaint, or pain in the hips and legs will ensue, with thick sputa, provided the patient be convalescent. Another species of ardent fever: belly loose, much thirst, tongue rough, dry, and saltish, retention of urine, insomnolency, extremities cold. In such a case, unless there be a flow of blood from the nose, or an abscess form about the neck, or pain in the limbs, or the patient expectorate thick sputa (these occur when the belly is constipated), or pain of the hips, or lividity of the genital organs, there is no crisis; tension of the testicle is also a critical symptom. Give attractive draughts.[568]

2. Bleed in the acute affections, if the disease appear strong, and the patients be in the vigor of life, and if they have strength.[569] If it be quinsy or any other of the pleuritic affections, purge with electuaries; but if the patient be weaker, or if you abstract more blood, you may administer a clyster every third day, until he be out of danger, and enjoin total abstinence if necessary.

3. Hypochondria inflamed not from retention of flatus, tension of the diaphragm, checked respiration, with dry orthopnœa, when no pus is formed, but when these complaints are connected with obstructed respiration; but more especially strong pains of the liver, heaviness of the spleen, and other phlegmasiæ and intense pains above the diaphragm, diseases connected with collections of humors,—all these diseases do not admit of resolution, if treated at first by medicine, but venesection holds the first place in conducting the treatment; then we may have recourse to a clyster, unless the disease be great and strong; but if so, purging also may be necessary; but bleeding and purging together require caution and moderation. Those who attempt to resolve inflammatory diseases at the commencement by the administration of purgative medicines, remove none of the morbific humors which produce the inflammation and tension: for the diseases while unconcocted could not yield, but they melt down those parts which are healthy and resist the disease; so when the body is debilitated the malady obtains the mastery; and when the disease has the upper hand of the body, it does not admit of a cure.[570]

4. When a person suddenly loses his speech, in connection with obstruction of the veins,—if this happen without warning or any other strong cause, one ought to open the internal vein of the right arm, and abstract blood more or less according to the habit and age of the patient. Such cases are mostly attended with the following symptoms: redness of the face, eyes fixed, hands distended, grinding of the teeth, palpitations, jaws fixed, coldness of the extremities, retention of airs in the veins.[571]

5. When pains precede, and there are influxes of black bile and of acrid humors, and when by their pungency the internal parts are pained, and the veins being pinched and dried become distended, and getting inflamed attract the humors running into the parts, whence the blood being vitiated, and the airs collected there not being able to find their natural passages, coldness comes on in consequence of this stasis, with vertigo, loss of speech, heaviness of the head, and convulsion, if the disease fix on the liver, the heart, or the great vein (vena cava?); whence they are seized with epilepsy or apoplexy, if the defluxions fall upon the containing parts,[572] and if they are dried up by airs which cannot make their escape; such persons having been first fomented are to be immediately bled at the commencement, while all the peccant vapors and humors are buoyant, for

then the cases more easily admit of a cure; and then supporting the strength and attending to the crisis, we may give emetics, unless the disease be alleviated; or if the bowels be not moved, we may administer a clyster and give the boiled milk of asses, to the amount of not less than twelve heminæ, or if the strength permit, to more than sixteen.

6. Quinsy takes place when a copious and viscid defluxion from the head, in the season of winter or spring, flows into the jugular veins, and when from their large size they attract a greater defluxion; and when owing to the defluxion being of a cold and viscid nature it becomes enfarcted, obstructing the passages of the respiration and of the blood, coagulates the surrounding blood, and renders it motionless and stationary, it being naturally cold and disposed to obstructions. Hence they are seized with convulsive suffocation, the tongue turning livid, assuming a rounded shape, and being bent owing to the veins which are seated below the tongue (for when an enlarged uvula, which is called *uva*, is cut, a large vein may be observed on each side). These veins, then, becoming filled, and their roots extending into the tongue, which is of a loose and spongy texture, it, owing to its dryness receiving forcibly the juice from the veins, changes from broad and becomes round, its natural color turns to livid, from a soft consistence it grows hard, instead of being flexible it becomes inflexible, so that the patient would soon be suffocated unless speedily relieved. Bleeding, then, in the arm, and opening the sublingual veins, and purging with the electuaries, and giving warm gargles, and shaving the head, we must apply to it and the neck a cerate, and wrap them round with wool, and foment with soft sponges squeezed out of hot water; give to drink water and hydromel, not cold; and administer the juice of ptisan when, having passed the crisis, the patient is out of danger. When, in the season of summer or autumn, there is a hot and nitrous defluxion from the head (it is rendered hot and acrid by the season), being of such a nature it corrodes and ulcerates, and fills with air, and orthopnœa attended with great dryness supervenes; the fauces, when examined, do not seem swollen; the tendons on the back part of the neck are contracted, and have the appearance as if it were tetanus; the voice is lost, the breathing is small, and inspiration becomes frequent and laborious. In such persons the trachea becomes ulcerated, and the lungs engorged, from the patient’s not being able to draw in the external air. In such cases, unless there be a spontaneous determination to the external parts of the neck, the symptoms become still

more dreadful, and the danger more imminent, partly owing to the season, and the hot and acrid humors which cause the disease.[573]

7. When fever seizes a person who has lately taken food, and whose bowels are loaded with fæces which have been long retained, whether it be attended with pain of the side or not, he ought to lie quiet until the food descend to the lower region of the bowels, and use oxymel for drink; but when the load descends to the loins, a clyster should be administered, or he should be purged by medicine; and when purged, he should take ptisan for food and hydromel for drink; then he may take the cerealia, and boiled fishes, and a watery wine in small quantity, at night, but during the day, a watery hydromel. When the flatus is offensive, either a suppository or clyster is to be administered; but otherwise the oxymel is to be discontinued, until the matters descend to the lower part of the bowels, and then they are to be evacuated by a clyster. But if the ardent fever (*causus*) supervene when the bowels are empty, should you still judge it proper to administer purgative medicine, it ought not be done during the first three days, nor earlier than the fourth. When you give the medicine, use the ptisan, observing the paroxysms of the fevers, so as not to give it when the fever is setting in, but when it is ceasing, or on the decline, and as far as possible from the commencement. When the feet are cold, give neither drink nor ptisan, nor anything else of the kind, but reckon it an important rule to refrain until they become warm, and then you may administer them with advantage. For the most part, coldness of the feet is a symptom of a paroxysm of the fever coming on; and if at such a season you apply those things, you will commit the greatest possible mistake, for you will augment the disease in no small degree. But when the fever ceases, the feet, on the contrary, become hotter than the rest of the body; for when the heat leaves the feet, it is kindled up in the breast, and sends its flame up to the head. And when all the heat rushes upwards, and is exhaled at the head, it is not to be wondered at that the feet become cold, being devoid of flesh, and tendinous; and besides, they contract cold, owing to their distance from the hotter parts of the body, an accumulation of heat having taken place in the chest: and again, in like manner, when the fever is resolved and dissipated, the heat descends to the feet, and, at the same time, the head and chest become cold. Wherefore one should attend to this; that when the feet are cold, the bowels are necessarily hot, and filled with nauseous matters; the hypochondrium distended: there is jactitation of the body, owing to the

internal disturbance; and aberration of the intellect, and pains; the patient is agitated, and wishes to vomit, and if he vomits bad matters he is pained; but when the heat descends to the feet, and the urine passes freely, he is every way lightened, even although he does not sweat; at this season, then, the ptisan ought to be given; it would be death to give it before.[574]

8. When the bowels are loose during the whole course of fevers, in this case we are most especially to warm the feet, and see that they are properly treated with cerates, and wrapped in shawls, so that they may not become colder than the rest of the body; but when they are hot, no fomentation must be made to them, but care is to be taken that they do not become cold; and very little drink is to be used, either cold water or hydromel. In those cases of fever where the bowels are loose, and the mind is disordered, the greater number of patients pick the wool from their blankets, scratch their noses, answer briefly when questions are put to them, but, when left to themselves, utter nothing that is rational. Such attacks appear to me to be connected with black bile. When in these cases there is a colliquative diarrhœa, I am of opinion that we ought to give the colder and thicker ptisans, and that the drinks ought to be binding, of a vinous nature, and rather astringent. In cases of fever attended from the first with vertigo, throbbing of the head, and thin urine, you may expect the fever to be exacerbated at the crisis; neither need it excite wonder, although there be delirium. When, at the commencement, the urine is cloudy or thick, it is proper to purge gently, provided this be otherwise proper; but when the urine at first is thin, do not purge such patients, but, if thought necessary, give a clyster: such patients should be thus treated; they should be kept in a quiet state, have unguents applied to them, and be covered up properly with clothes, and they should use for drink a watery hydromel, and the juice of ptisan as a draught in the evening; clear out the bowels at first with a clyster, but give no purgative medicines to them, for, if you move the bowels strongly, the urine is not concocted, but the fever remains long, without sweats and without a crisis. Do not give draughts when the time of the crisis is at hand, if there be agitation, but only when the fever abates and is alleviated. It is proper to be guarded at the crises of other fevers, and to withhold the draughts at that season. Fevers of this description are apt to be protracted, and to have determinations, if the inferior extremities be cold, about the ears and neck, or, if these parts are not cold, to have other changes; they have epistaxis, and disorder of the bowels. But in cases of fever attended with nausea, or

distention of the hypochondria, when the patients cannot lie reclined in the same position, and the extremities are cold, the greatest care and precaution are necessary; nothing should be given to them, except oxymel diluted with water; no draught should be administered, until the fever abate and the urine be concocted; the patient should be laid in a dark apartment, and recline upon the softest couch, and he should be kept as long as possible in the same position, so as not to toss about, for this is particularly beneficial to him. Apply to the hypochondrium linseed by inunctions, taking care that he do not catch cold when the application is made; let it be in a tepid state, and boiled in water and oil. One may judge from the urine what is to take place, for if the urine be thicker, and more yellowish, so much the better; but if it be thinner, and blacker, so much the worse;[575] but if it undergo changes, it indicates a prolongation of the disease, and the patient, in like manner, must experience a change to the worse and the better. Irregular fevers should be let alone until they become settled, and, when they do settle, they are to be treated by a suitable diet and medicine, attending to the constitution of the patient.

9. The aspects of the sick are various; wherefore the physician should pay attention, that he may not miss observing the exciting causes, as far as they can be ascertained by reasoning, nor such symptoms as should appear on an even or odd day, but he ought to be particularly guarded in observing the odd days, as it is in them, more especially, that changes take place in patients. He should mark, particularly, the first day on which the patient became ill, considering when and whence the disease commenced, for this is of primary importance to know. When you examine the patient, inquire into all particulars; first how the head is, and if there be no headache, nor heaviness in it; then examine if the hypochondria and sides be free of pain; for if the hypochondrium be painful, swelled, and unequal, with a sense of satiety, or if there be pain in the side, and, along with the pain, either cough, tormina, or belly-ache, if any of these symptoms be present in the hypochondrium, the bowels should be opened with clysters, and the patient should drink boiled hydromel in a hot state. The physician should ascertain whether the patient be apt to faint when he is raised up, and whether his breathing be free; and examine the discharges from the bowels, whether they be very black, or of a proper color, like those of persons in good health, and ascertain whether the fever has a paroxysm every third day, and look well to such persons on those days. And should the fourth day prove

like the third, the patient is in a dangerous state.[576] With regard to the symptoms, black stools prognosticate death; but if they resemble the discharges of a healthy person, and if such is their appearance every day, it is a favorable symptom; but when the bowels do not yield to a suppository, and when, though the respiration be natural, the patient when raised to the night-table, or even in bed, be seized with deliquium, you may expect that the patient, man or woman, who experiences these symptoms, is about to fall into a state of delirium. Attention also should be paid to the hands, for if they tremble, you may expect epistaxis; and observe the nostrils, whether the breath be drawn in equally by both; and if expiration by the nostrils be large, a convulsion is apt to take place; and should a convulsion occur to such a person, death may be anticipated, and it is well to announce it beforehand.

10. If, in a winter fever, the tongue be rough, and if there be swoonings, it is likely to be the remission of the fever. Nevertheless such a person is to be kept upon a restricted diet, with water for drink, and hydromel, and the strained juices, not trusting to the remission of the fevers, as persons having these symptoms are in danger of dying; when, therefore, you perceive these symptoms, announce this prognostic, if you shall judge proper, after making the suitable observations. When, in fevers, any dangerous symptom appears on the fifth day, when watery discharges suddenly take place from the bowels, when deliquium animi occurs, or the patient is attacked with loss of speech, convulsions, or hiccup, under such circumstances he is likely to be affected with nausea, and sweats break out under the nose and forehead, or on the back part of the neck and head, and patients with such symptoms shortly die, from stoppage of the respiration.[577] When, in fevers, abscesses form about the legs, and, getting into a chronic state, are not concocted while the fever persists, and if one is seized with a sense of suffocation in the throat, while the fauces are not swelled, and if it do not come to maturation, but is repressed, in such a case there is apt to be a flow of blood from the nose; if this, then, be copious, it indicates a resolution of the disease, but if not, a prolongation of the complaint; and the less the discharge, so much worse the symptoms, and the more protracted the disease; but if the other symptoms are very favorable, expect in such a case that pains will fall upon the feet; if then they attack the feet, and if those continue long in a very painful, and inflamed state, and if there be no

resolution, the pains will extend by degrees to the neck, to the clavicle, shoulder, breast, or to some articulation, in which an inflammatory tumour will necessarily form. When these are reduced, if the hands are contracted, and become trembling, convulsion and delirium seize such a person; but blisters break out on the eyebrow, erythema takes place, the one eyelid being tumefied overtops the other, a hard inflammation sets in, the eye become strongly swelled, and the delirium increases much, but makes its attacks rather at night than by day. These symptoms more frequently occur on odd than on even days, but, whether on the one or the other, they are of a fatal character. Should you determine to give purgative medicines in such cases, at the commencement, you should do so before the fifth day, if there be borborygmi in the bowels, or, if not, you should omit the medicines altogether. If there be borborygmi, with bilious stools, purge moderately with scammony; but with regard to the treatment otherwise, administer as few drinks and draughts as possible, until there be some amendment, and the disease is past the fourteenth day. When loss of speech seizes a person, on the fourteenth day of a fever, there is not usually a speedy resolution, nor any removal of the disease, for this symptom indicates a protracted disease; and when it appears on that day, it will be still more prolonged. When, on the fourth day of a fever, the tongue articulates confusedly, and when there are watery and bilious discharges from the bowels, such a patient is apt to fall into a state of delirium; the physician ought, therefore, to watch him, and attend to whatever symptoms may turn up. In the season of summer and autumn an epistaxis, suddenly occurring in acute diseases, indicates vehemence of the attack, and inflammation in the course of the veins, and on the day following, the discharge of thin urine; and if the patient be in the prime of life, and if his body be strong from exercise, and brawny, or of a melancholic temperament, or if from drinking he has trembling hands, it may be well to announce beforehand either delirium or convulsion;[578] and if these symptoms occur on even days, so much the better; but on critical days, they are of a deadly character. If, then, a copious discharge of blood procure an issue to the fullness thereof about the nose, or what is collected about the anus, there will be an abscess, or pains in the hypochondrium, or testicles, or in the limbs; and when these are resolved, there will be a discharge of thick sputa, and of smooth, thin urine. In fever attended with singultus, give asafœtida, oxymel, and carrot, triturated together, in a draught; or galbanum in honey, and cumin in a linctus, or the juice of

ptisan. Such a person cannot escape, unless critical sweats and gentle sleep supervene, and thick and acrid urine be passed, or the disease terminate in an abscess: give pine-fruit[579] and myrrh in a linctus, and further give a very little oxymel to drink; but if they are very thirsty, some barley-water.

11. Peripneumonia, and pleuritic affections, are to be thus observed: If the fever be acute, and if there be pains on either side, or in both, and if expiration be attended with pain, if cough be present, and the sputa expectorated be of a blond or livid color, or likewise thin, frothy, and florid, or having any other character different from the common, in such a case, the physician should proceed thus: if the pain pass upward to the clavicle, or the breast, or the arm, the inner vein in the arm should be opened on the side affected, and blood abstracted according to the habit, age, and color of the patient, and the season of the year, and that largely and boldly, if the pain be acute, so as to bring on deliquium animi,[580] and afterwards a clyster is to be given. But if the pain be below the chest, and if very intense, purge the bowels gently in such an attack of pleurisy, and during the act of purging give nothing; but after the purging give oxymel. The medicine is to be administered on the fourth day; on the first three days after the commencement, a clyster should be given, and if it does not relieve the patient, he should then be gently purged, but he is to be watched until the fever goes off, and till the seventh day; then if he appear to be free from danger, give him some unstrained ptisan, in small quantity, and thin at first, mixing it with honey. If the expectoration be easy, and the breathing free, if his sides be free of pain, and if the fever be gone, he may take the ptisan thicker, and in larger quantity, twice a day. But if he do not progress favorably, he must get less of the drink, and of the draught, which should be thin, and only given once a day, at whatever is judged to be the most favorable hour; this you will ascertain from the urine. The draught is not to be given to persons after fever, until you see that the urine and sputa are concocted, (if, indeed, after the administration of the medicine he be purged frequently, it may be necessary to give it, but it should be given in smaller quantities and thinner than usual, for from inanition he will be unable to sleep, or digest properly, or wait the crisis;) but when the melting down of crude matters has taken place, and his system has cast off what is offensive, there will then be no objection. The sputa are concocted when they resemble pus, and the urine when it has reddish sediments like tares. But

there is nothing to prevent fomentation and cerates being applied for the other pains of the sides; and the legs and loins may be rubbed with hot oil, or anointed with fat; linseed, too, in the form of a cataplasm, may be applied to the hypochondrium and as far up as the breasts. When pneumonia is at its height, the case is beyond remedy if he is not purged, and it is bad if he has dyspnœa, and urine that is thin and acrid, and if sweats come out about the neck and head, for such sweats are bad, as proceeding from the suffocation, *râles*, and the violence of the disease which is obtaining the upper hand, unless there be a copious evacuation of thick urine, and the sputa be concocted; when either of these come on spontaneously, that will carry off the disease. A linctus for pneumonia: Galbanum and pine-fruit in Attic honey; and southernwood in oxymel; make a decoction of pepper and black hellebore, and give it in cases of pleurisy attended with violent pain at the commencement. It is also a good thing to boil opoponax in oxymel, and, having strained it, to give it to drink; it answers well, also, in diseases of the liver, and in severe pains proceeding from the diaphragm, and in all cases in which it is beneficial to determine to the bowels or urinary organs, when given in wine and honey; when given to act upon the bowels, it should be drunk in larger quantity, along with a watery hydromel.

12. A dysentery, when stopped, will give rise to an aposteme, or tumour, if it do not terminate in fevers with sweats, or with thick and white urine, or in a tertian fever, or the pain fix upon a varix, or the testicles, or on the hip-joints.[581]

13. In a bilious fever, jaundice coming on with rigor before the seventh day carries off the fever, but if it occur without the fever, and not at the proper time, it is a fatal symptom.

14. When the loins are in a tetanic state, and the spirits in the veins are obstructed by melancholic humors, venesection will afford relief.[582] But when, on the other hand, the anterior tendons are strongly contracted, and if there be sweats about the neck and face, extorted by the violent pain of the parched and dried tendons of the sacral extremity (these are very thick, sustaining the spine, and giving rise to very great ligaments, which terminate in the feet,) in such a case, unless fever and sleep come on, followed by concocted urine and critical sweats, give to drink a strong Cretan wine, and boiled barley-meal for food; anoint and rub with

ointments containing wax; bathe the legs and feet in hot water, and then cover them up; and so in like manner the arms, as far as the hands, and the spine, from the neck to the sacrum, are to be wrapped in a skin smeared with wax; this must extend to the parts beyond, and intervals are to be left for applying fomentations, by means of leather bottles filled with hot water, then, wrapping him up in a linen cloth, lay him down in bed. Do not open the bowels, unless by means of a suppository, when they have been long of being moved. If there be any remission of the disease, so far well, but otherwise, pound of the root of bryonia[583] in fragrant wine, and that of the carrot, and give to the patient fasting early in the morning, before using the affusion, and immediately afterwards let him eat boiled barley-meal in a tepid state, and as much as he can take, and in addition let him drink, if he will, wine well diluted. If the disease yield to these means, so much the better, but, if otherwise, you must prognosticate accordingly.

15. All diseases are resolved either by the mouth, the bowels, the bladder, or some other such organ. Sweat is a common form of resolution in all these cases.[584]

16. You should put persons on a course of hellebore who are troubled with a defluxion from the head. But do not administer hellebore to such persons as are laboring under empyema connected with abscesses, hæmoptysis, and intemperament, or any other strong cause, for it will do no good; and if anything unpleasant occur the hellebore will get the blame of it. But if the body have suddenly lost its powers, or if there be pain in the head, or obstruction of the ears and nose, or ptyalism, or heaviness of the limbs, or an extraordinary swelling of the body, you may administer the hellebore, provided these symptoms be not connected with drinking, nor with immoderate venery; nor with sorrow, vexation, nor insomnolency, for, if any of these causes exist, the treatment must have respect to it.

17. From walking arise pains of the sides, of the back, of the loins, and of the hip-joint, and disorder of the respiration has often been from the same cause, for, after excesses of wine and flatulent food, pains shoot to the loins and hips, accompanied with dysuria.[585] Walking is the cause of such complaints, and also of coryza and hoarseness.

18. Disorders connected with regimen, for the most part, make their attack accordingly as any one has changed his habitual mode of diet.[586]

For persons who dine contrary to custom experience much swelling of the stomach, drowsiness, and fullness; and if they take supper over and above, their belly is disordered; such persons will be benefited by sleeping after taking the bath, and by walking slowly for a considerable time after sleep; if, then, the bowels be moved, he may dine and drink a small quantity of wine not much diluted; but if the bowels are not opened, he should get his body rubbed with hot oil, and, if thirsty, drink of some weak and white wine, or a sweet wine, and take repose; if he does not sleep he should repose the longer. In other respects he should observe the regimen laid down for those who have taken a debauch. With regard to the bad effects of drinks, such as are of a watery nature pass more slowly through the body, they regurgitate, as it were, and float about the hypochondria, and do not flow readily by urine; when filled up with such a drink, he should not attempt any violent exertion, requiring either strength or swiftness, but should rest as much as possible until the drink has been digested along with the food; but such drinks as are stronger or more austere, occasion palpitation in the body and throbbing in the head, and in this case the person affected will do well to sleep, and take some hot draught for which he feels disposed; for abstinence is bad in headache and the effects of a surfeit. Those who, contrary to usage, restrict themselves to one meal, feel empty and feeble, and pass hot urine in consequence of the emptiness of their vessels; they have a salt and bitter taste in the mouth; they tremble at any work they attempt; their temples throb; and they cannot digest their supper so well as if they had previously taken their dinner. Such persons should take less supper than they are wont, and a pudding of barley-meal more moist than usual instead of bread, and of potherbs the dock, or mallow, and ptisan, or beets, and along with the food they should take wine in moderation, and diluted with water; after supper they should take a short walk, until the urine descend and be passed; and they may use boiled fish.

Articles of food have generally such effects as the following:[587] Garlic occasions flatulence and heat about the chest, heaviness of the head, and nausea, and any other habitual pain is apt to be exasperated by it; it is diuretic, which, in so far, is a good property which it possesses; but it is best to eat it when one means to drink to excess, or when intoxicated. Cheese produces flatulence and constipation, and heats the other articles of food; and it gives rise to crudities and indigestion, but it is worst of all to eat it along with drink after a full meal. Pulse of all kinds are flatulent, whether

raw, boiled, or fried; least so when macerated in water, or in a green state; they should not be used except along with food prepared from the cerealia. Each of these articles, however, has bad effects peculiar to itself. The vetch, whether raw or boiled, creates flatulence and pain. The lentil is astringent, and disorders the stomach if taken with its hull. The lupine has the fewest bad effects of all these things. The stalk and the juice of silphium (*asafœtida*), pass through some people's bowels very readily, but in others, not accustomed to them, they engender what is called dry cholera;[588] this complaint is more especially produced by it if mixed with much cheese, or eaten along with beef. Melancholic diseases are most particularly exacerbated by beef, for it is of an unmanageable nature, and requires no ordinary powers of stomach to digest it; it will agree best with those who use it well boiled and pretty long kept. Goat's flesh has all the bad properties of beef; it is as indigestible, more flatulent and engenders acid eructations and cholera; such as has a fragrant smell, is firm, and sweet to the taste, is the best, when well baked and cooled; but those kinds which are disagreeable to the taste, have a bad smell, and are hard, such are particularly bad, and especially if very fresh; it is best in summer and worst in autumn. The flesh of young pigs is bad, either when it is too raw or when it is over-roasted, for it engenders bile and disorders the bowels. Of all kinds of flesh, pork is the best; it is best when neither very fat, nor, on the other hand, very lean, and the animal had not attained the age of what is reckoned an old victim; it should be eaten without the skin, and in a coldish state.

19. In dry cholera the belly is distended with wind, there is rumbling in the bowels, pain in the sides and loins, no dejections, but, on the contrary, the bowels are constipated. In such a case you should guard against vomiting, but endeavor to get the bowels opened. As quickly as possible give a clyster of hot water with plenty of oil in it, and having rubbed the patient freely with unguents, put him into hot water, laying him down in the basin, and pouring the hot water upon him by degrees; and if, when heated in the bath, the bowels be moved, he will be freed from the complaint. To a person in such a complaint it will do good if he sleep, and drink a thin, old, and strong wine; and you should give him oil, so that he may settle, and have his bowels moved, when he will be relieved. He must abstain from all other kinds of food; but when the pain remits, give him asses' milk to drink until he is purged. But if the bowels are loose, with bilious discharges,

tormina, vomitings, a feeling of suffocation, and gnawing pains, it is best to enjoin repose, and to drink hydromel, and avoid vomiting.

20. There are two kinds of dropsy, the one anasarca, which, when formed, is incurable; the other is accompanied with emphysema (tympanites?) and requires much good fortune to enable one to triumph over it.[589] Laborious exertion, fomentation, and abstinence (are to be enjoined). The patient should eat dry and acrid things, for thus will he pass the more water, and his strength be kept up. If he labors under difficulty of breathing, if it is the summer season, and if he is in the prime of life, and is strong, blood should be abstracted from the arm, and then he should eat hot pieces of bread, dipped in dark wine and oil, drink very little, and labor much, and live on well-fed pork, boiled with vinegar, so that he may be able to endure hard exercises.[590]

21. Those who have the inferior intestines hot, and who pass acrid and irregular stools of a colliquative nature, if they can bear it, should procure revulsion by vomiting with hellebore; but if not, should get a thick decoction of summer wheat in a cold state, lentil soup, bread cooked with cinders, and fish, which should be taken boiled if they have fever, but roasted if not feverish; and also dark-colored wine if free of fever; but otherwise they should take the water from medlars, myrtles, apples, services, dates, or wild vine. If there be no fever, and if there be tormina, the patient should drink hot asses' milk in small quantity at first, and gradually increase it, and linseed, and wheaten flour, and having removed the bitter part of Egyptian beans, and ground them, sprinkle on the milk and drink; and let him eat eggs half-roasted, and fine flour, and millet, and perl-spelt (chondrus) boiled in milk;—all these things should be eaten cold, and similar articles of food and drink should be administered.

22. The most important point of regimen to observe and be guarded about in protracted diseases, is to pay attention to the exacerbations and remissions of fevers, so as to avoid the times when food should not be given, and to know when it may be administered without danger; this last season is at the greatest possible distance from the exacerbation.

23. One should be able to recognize those who have headache from gymnastic exercises, or running, or walking or hunting, or any other unseasonable labour, or from immoderate venery; also those who are of a

pale colour, or troubled with hoarseness; those who have enlarged spleen, those who are in a state of anæmia, those who are suffering from tympanites, those having dry cough and thirst, those who are flatulent, and have the course of the blood in their veins intercepted; those persons whose hypochondria, sides, and back are distended; those having torpor; those laboring under amaurosis, or having noises in their ears; those suffering from incontinence of urine or jaundice, or whose food is passed undigested; those who have discharges of blood from the nose or anus, or who have flatulence and intense pain, and who cannot retain the wind. In these cases you may do mischief, but cannot possibly do any good by purging, but may interrupt the spontaneous remissions and crises of the complaints.[591]

24. If you think it expedient to let blood, see that the bowels be previously settled, and then bleed; enjoin abstinence, and forbid the use of wine; and complete the cure by means of a suitable regimen, and wet fomentations.[592] But if the bowels appear to be constipated, administer a soothing clyster.

25.[593] If you think it necessary to give medicines, you may safely purge upwards by hellebore, but none of those should be purged downwards. The most effectual mode of treatment is by the urine, sweats, and exercise; and use gentle friction so as not to harden the constitution; and if he be confined to bed let others rub him. When the pain is seated above the diaphragm, place him erect for the most part, and let him be as little reclined as possible; and when he is raised up let him be rubbed for a considerable time with plenty of hot oil. But if the pains be in the lower belly below the diaphragm, it will be useful to lie reclined and make no motion, and to such a person nothing should be administered except the friction. Those pains which are dissolved by discharges from the bowels, by urine, or moderate sweats, cease spontaneously, if they are slight, but if strong they prove troublesome; for persons so affected either die, or at least do not recover without further mischief, for they terminate in abscesses.

26. *A draught for a dropsical person.* Take three cantharides,[594] and removing their head, feet, and wings, triturate their bodies in three cupfuls (cyathi) of water, and when the person who has drunk the draught complains of pain, let him have hot fomentations applied. The patient

should be first anointed with oil, should take the draught fasting, and eat hot bread with oil.

27.[595] *A styptic.* Apply the juice of the fig inwardly to the vein; or having moulded biestings into a tent, introduce up the nostril, or push up some chalcitis with the finger, and press the cartilages of the nostrils together; and open the bowels with the boiled milk of asses: or having shaved the head apply cold things to it if in the summer season.

28. The sesamoides[596] purges upwards when pounded in oxymel to the amount of a drachm and a half, and drunk; it is combined with the hellebores, to the amount of the third part, and thus it is less apt to produce suffocation.

29. *Trichiasis.* Having introduced a thread into the eye of a needle push it through the upper part of the distended eyelid, and do the same at the base of it; having stretched the threads tie a knot on them, and bind up until they drop out: and, if this be sufficient, so far well; but if otherwise, you must do the same thing again.[597] And hemorrhoids, in like manner, you may treat by transfixing them with a needle and tying them with a very thick and large woolen thread; for thus the cure will be more certain. When you have secured them, use a septic application, and do not foment until they drop off, and always leave one behind; and when the patient recovers, let him be put upon a course of hellebore. Then let him be exercised and sweated; the friction of the gymnasium and wrestling in the morning will be proper; but he must abstain from running, drinking, and all acrid substances, except marjoram; let him take an emetic every seven days, or three times in a month; for thus will he enjoy the best bodily health. Let him take straw-colored, austere, and watery wine, and use little drink.

30. *For persons affected with empyema.* Having cut some bulbs or squill, boil in water, and when well boiled, throw this away, and having poured in more water, boil until it appear to the touch soft and well-boiled; then triturate finely and mix roasted cumin, and white sesames, and young almonds pounded in honey, form into an electuary and give; and afterwards sweet wine. In draughts, having pounded about a small acetabulum of the white poppy, moisten it with water in which summer wheat has been washed, add honey, and boil. Let him take this frequently during the day. And then taking into account what are to happen, give him supper.

31. *For dysentery.* A fourth part of a pound of cleaned beans, and twelve shoots of madder having been triturated, are to be mixed together and boiled, and given as a linctus with some fatty substance.

32. *For diseases of the eyes.* Washed spodium (tutty?) mixed with grease, and not of a thinner consistence than dough, is to be carefully triturated, and moistened with the juice of unripe raisins; and having dried in the sun, moisten until it is of the consistence of an ointment. When it becomes again dry, let it be finely levigated, anoint the eyes with it, and dust it upon the angles of the eyes.

33. *For watery eyes.* Take one drachm of ebony and nine oboli of burnt copper, rub them upon a whetstone, add three oboli of saffron; triturate all these things reduced to a fine powder, pour in an Attic hemina of sweet wine, and then place in the sun and cover up; when sufficiently digested, use it.[598]

34. *For violent pains of the eyes.* Take of chalcitis,[599] and of raisin, of each 1 dr., when digested for two days, strain; and pounding myrrh and saffron, and having mixed must, with these things, digest in the sun; and with this anoint the eyes when in a state of severe pain. Let it be kept in a copper vessel.

35. *Mode of distinguishing persons in an hysterical fit.* Pinch them with your fingers, and if they feel, it is hysterical; but if not, it is a convulsion.

36. *To persons in coma*, (dropsy?) give to drink meconium (*euphorbia peplus?*) to the amount of a round Attic *leciskion* (small acetabulum[600]).

37. Of squama æris, as much as three specilla can contain, with the gluten of summer wheat: levigate, pound, form into pills, and give; it purges water downwards.

38. *A medicine for opening the bowels.* Pour upon figs the juice of spurge, in the proportion of seven to one: then put into a new vessel and lay past when properly mixed. Give before food.

39. Pounding meconium, pouring on it water, and straining, and mixing flour, and baking into a cake, with the addition of boiled honey, give in affections of the anus and in dropsy; and after eating of it, let the patient

drink of a sweet watery wine, and diluted hydromel prepared from wax: or collecting meconium, lay it up for medicinal purposes.[601]

FIRST AND THIRD BOOKS

OF

THE EPIDEMICS.

THE EPIDEMICS.

BOOK I.

THE ARGUMENT.

The ancient physicians commonly used the term Epidemic in the same sense as it is understood now, that is to say, as applying to any disease which attacks a multitude of persons in a locality at any particular period. This, as will be seen in our annotations below, is nearly the definition which Galen gives of it; and it is generally used by Hippocrates, in the first and third books of the "Epidemics," in pretty much the same sense as it is used by our great modern authority on epidemics, Sydenham. But, although this be the strict sense in which the ancient authorities use the term, it must be borne in mind that, as applied to the whole seven books of the "Epidemics," it must be taken in a much wider signification; for there are many things treated of in them to which the term epidemic can by no means be thus applied, such as surgical cases, fragments of anatomical descriptions, philosophical speculations, empirical remedies, general reflections on various topics, and so forth. In fact, the work entitled "The Books of Epidemics" can be viewed in no other light than as an *Adversaria*, or *Memorandum Book*, in which is collected a variety of isolated facts and detached observations, to serve as the materials for more elaborate and finished works on professional subjects. Indeed, Galen does not hesitate to give it as his opinion, that some of the most celebrated of our author's productions, such as the "Aphorisms" and "Prognostics," are in a great measure made up from the materials originally laid up in this capacious repertory of observations;[602] and, with regard to the former of these works, there is no person familiarly acquainted with it but must admit the truth of Galen's remark. But, respecting the other, although it must be obvious, upon a comparison of them, that there is a close connection between it and the "Epidemics," there can be no doubt that, in composing the "Prognostics," Hippocrates availed himself of other materials ready prepared for his use, in the "Prorrhetics" and "Coan Prænotions" of his predecessors, the Asclepiadæ;[603] so that, of all his admired productions, it, perhaps, is the one which has the least pretension to any originality of matter. If it be thought strange that the term epidemics should have been applied to a work composed of such heterogeneous materials, I would

remark, in explanation, that, although the subject-matters of which it consists are not all of this nature, the most valuable portion of them refers to epidemics, and it is not to be wondered at that the whole collection should have got its appellation from the most prominent subject to which it relates.

I shall now proceed to give a succinct analysis of the various subjects which are contained in the First and Third Books of the "Epidemics."

The first book opens with a description of the leading phenomena of a certain season, which is called the First Constitution; it was southerly, coldish, rainy, clouded and misty, with some intervals of drought. The most noted diseases of spring in this constitution were causus and an epidemical parotitis. But the most important subject which is handled under this head, is an epidemic phthisis, of which a very interesting description is given.

The Second Constitution is described as being northerly and humid; humid ophthalmies, dysenteries, and diarrhœas are described among the prevailing diseases of the season; but the most marked affection which is said to have occurred in this constitution, is a continual fever of a serious character, which did not come to a crisis until after it had run a long course. It is described as passing off by deposits, and principally by dropsies, and an affection of the urinary organs. One cannot help being struck with the remark which Hippocrates makes, that he never knew a case prove fatal in which the strangury supervened. The directions as to the treatment he condenses into one general rule, which well deserves to be engraved in letters of gold, that "*the aim of the physician should be to do good to his patient, or, at least, to do no harm*." The description of this constitution concludes with some general reflections on the prognostics in causus and phrenitis.

The Third Constitution is described as being of a very variable character; winter stormy, spring rainy, summer hot, autumn cold and dry. The ardent fevers (*or* causi) began early in the season, but did not assume a fatal character until autumn. This disease came to a crisis in four modes—by an epistaxis, by a copious flow of urine, by a deposit, or by an alvine discharge. In women, there was also sometimes a crisis by menstruation.

The Fourth Constitution is one which, by Galen and the other authorities, has been entitled the pestilential, and has attracted great attention, as being supposed to have derived its peculiar characters from the great Plague which prevailed during the Peloponnesian war, and which is described in so interesting a manner by Thucydides. Galen, not only in his Commentary, but in various other parts of his works, advocates this opinion, and it will be seen from what is stated in our annotations, that there is in reality a striking resemblance between the features of the plague, as delineated by Thucydides, and the epidemical diseases which are noticed by Hippocrates as having prevailed during this constitution. Of all the diseases here described the most remarkable is the erysipelas, which, although not of a very fatal character, was still of a formidable nature, as it frequently terminated in gangrene. Causus, phrenitis, and anthrax are also described as being common under this constitution. The last of these being a well-known symptom of the Oriental plague, it has naturally excited a good deal of speculation to determine whether or not our author here refers to the glandular plague. See our remarks on Epidem. III.

In these books it is remarkable that phthisis is treated of as a febrile disease, and in particular as supervening upon attacks of the semitertian. There seems reason to suppose that our author means to describe a hectic fever succeeding to intermittents, which had caused organic derangement of the internal viscera, more especially of the liver and spleen. See PAULUS ÆGINETA, Book II., 32.

In the first book, fourteen cases of disease are related, and in the beginning of the third twelve, and sixteen in the end; thus making forty-two in all. It is worthy of remark, that in twenty-five of these the result was fatal. There is every reason, then, to suppose that they were selected for a purpose, but what that purpose was cannot now be easily determined. The most natural would, no doubt, have been to illustrate, by examples, the forms of the different diseases which are described as occurring during the Constitutions previously described. But there seems to be little or no reason to suppose that this is the object for which they are related. In proof of this, I may mention that there is not in the collection a single case of the

epidemical erysipelas which is described as having been the prevailing disease during the fourth Constitution. Indeed it must strike everybody, who reads them carefully, as a singular feature in these cases, that the lineaments of a particular disease are seldom to be recognized, and this perhaps may be regarded as a proof of the faithfulness with which they have been copied from nature. In short, we here recognize the features of disease in the concrete, and not in the abstract. And is not this what we should expect in all true copies from Nature? How often does the candid physician find himself forced honestly to admit that he is at a loss what name to give to the combination of morbid actions which he is called upon to treat! The common herd of mankind would seem to fancy, as in Nature there are certain types of all animal and vegetable substances, and the botanist has no difficulty in classing such a plant, for example, as the *conium maculatum*; and the natural historian can readily pronounce that such a bird is the *alcedo Ispida*; that the physician, in like manner, upon examining the characteristic features of any case, should have no difficulty in pronouncing that it is *pleuritis*, for example, or *pneumonia*, or the like. But how often does it happen, that the complaint in question is an aggregate of symptoms, produced by peculiarities of constitution, and incidental circumstances, which, taken together, constitute an *ensemble* which does not well admit of being referred to any one of the general forms of disease described in our nosological systems? Now, I say the most wonderful feature in the cases related by Hippocrates, is that they are descriptive of the symptoms observed in certain diseased individuals, instead of being, what most modern cases are, symptoms drawn to correspond with certain ideal forms of disease. What, in my opinion, likewise adds very much to the value of these cases is, that (as Galen somewhere remarks in his Commentary) the author never aimed to make his Books of Epidemics a work on Therapeutics, and hence, in noting morbid phenomena, his mind in not warped by any particular hypothesis, nor by any selfish interest, in order to place some favorite mode of practice, advocated by himself, in a favorable light. May I be permitted here to remark, that the reader will be much struck with our author's admirable talent for describing the phenomena of disease as they are actually presented to us, if he will compare the case related by him in these two books with those of almost any modern authority whatever;—for example, with those related by the late Dr. James Hamilton, in his celebrated work on Purgative Medicines. In the latter, you look in

vain for the strongly-marked features which present themselves in all the cases related by our author,—for a description of the condition of the hypochondriac region,—of the state of the animal heat in the extremities,—of the minute characters of the alvine and urinary discharges,—of the respiration,—of the patients' position in bed,—and many other symptoms, which are invariably noticed by Hippocrates. And what reasonable person will venture to deny, that the symptoms I have just now mentioned are most important features in every febrile disease, and that no one can be said to have a sufficient view of such a case, who does not take these into account? To confine our attention at present to only one of these symptoms,—can it ever be a matter of indifference what are the physical characters of so important an excretion as the urine? that is to say, whether the grosser particles of it, which usually fall to the bottom, be present in the urine or not? Yet in all the seventeen cases related in the modern work just now referred to, the characters of the urine are not given in a single instance. And although the object of the writer is to enforce his own peculiar views, as to the utility of purgative medicines in this disease, he scarcely ever gives the minute characters of the alvine discharges, as is uniformly the case with Hippocrates; or if they are noticed at all, it is in so confused a manner that the reader is at a loss to determine whether they are produced by the disease, or by the medicines which have been administered. For the issue of the case no obvious cause is stated, but the reader is expected to draw the conclusion that, as purgatives were freely given, and a considerable proportion of the cases did well,—(agreeably to the hackneyed rule, *post quod, ergo propter quod*,)—the purgatives brought about the fortunate result. Had the cases been fully and circumstantially detailed, it might have been found that, as in those related by Hippocrates, recovery was preceded by a critical discharge of urine, accompanied with a copious sediment; and then the more probable inference would have been, that the amendment was referable to *it*, and not to the purgative medicines which were administered. It is, I regret to say, a notable example of the want of logical training in the education of professional men, in the present age, that inferences regarding a peculiar method of practice were allowed to be founded upon narratives of observations so defective and one-sided as those I refer to.

I cannot quit the present subject of discussion, without saying a few words in reference to what must strike the reader as a singular feature in the cases related in the books of the Epidemics; I mean the general omission of any mention of treatment. The reader will find in our annotations various remarks of Galen on this head, from which he will learn that the Great Commentator inclines to the opinion, that in all these cases the usual routine of practice was followed, but that no mention is made of medicines, unless when there was some deviation from the established rules. For example, in a certain febrile case, it is stated that the patient was bled on the eighth day, and Galen contends that venesection is noticed in this instance, merely because it was contrary to the established rule of not bleeding after the fourth day; for that if the practice had been in accordance with the general rule, it would not have been noticed at all. Now it must be admitted, that this supposition is by no means improbable, and that examples of this usage are not wanting, even in the modern literature of medicine. To give an example, which just occurs to me; in not a few of the cases of cerebral disease related by Dr. Abercrombie, in his work "On the Brain," there is no allusion whatever to remedies, although no one, who recollects the vigorous system of treatment then pursued by the profession in "Modern Athens," will doubt for a moment that they must have been applied. As this eminent authority, then, when he believed that the treatment had no perceptible effect on the course which the disease ran, thought himself warranted in omitting all mention of it, it might be supposed, in like manner, that Hippocrates may have passed over the remedies applied, from some such motive or consideration. But another reason for the absence of remedies in these Reports may be readily supposed. May not Hippocrates have been at first quite undecided what was the proper plan of treatment to be adopted in those cases, and thought it the wisest course to attempt nothing rashly, but to be for a season the quiet spectator of the course which the diseases in question were naturally disposed to run, before attempting to interfere in the struggle between morbific agents with which he was imperfectly acquainted, and their great physician, as he held Nature to be?[604] And however much the advocates for a bold system of treating diseases may be disposed to deride this expectant method, which Asclepiades contemptuously denominated "the contemplation of death,"[605] it does not want the sanction of a name which is second only to Hippocrates in the literature of epidemical fevers. Sydenham admits, that with all the diligence

which he had applied to the study of these diseases, he was always greatly puzzled what plan of treatment to adopt at the first breaking out of a new epidemic, and that it was only "ingenti adhibita cautela intentisque animi nervis," that he could make up his mind what course of treatment to adopt in such an emergency. Need it be wondered at, then, that two thousand years earlier the modest mind of our great author should have hesitated for a time, before deciding how to act under similar circumstances? I must own, therefore, that I have long inclined to the opinion, that, distracted with the conflicting plans of treatment adopted by his contemporaries, Hippocrates at first did little or nothing in the treatment of epidemical fevers, and that it was only after a patient study of their symptoms, and many cautious trials, that he ventured to lay down those excellent rules of treatment which he has described so admirably in his work "On Regimen in Acute Diseases." This, however, is merely my individual opinion, and the reader must receive it as such.

M. Littré, in the Argument prefixed to his translation of the Epidemics, enters very fully into the discussion of the question regarding the nature of the diseases which are treated of in the course of this work. This is a task, however, which I deem it superfluous to undertake at any length, as I have stated my opinions on this subject in the Commentaries on the Second Book of PAULUS ÆGINETA, and after maturely weighing what has been elicited by subsequent inquirers, I find no cause to retract any of the opinions which are there advanced. That the causus of Hippocrates, and the other ancient authorities, was not the typhus of the more temperate parts of Europe, but a bilious fever, of the remittent type, must be quite apparent to every person at all acquainted with the medical literature of febrile diseases. M. Littré's researches lead him to exactly the same conclusion, and much deference is due to his judgment in this case, as it must be admitted that a French physician is now very favorably situated for contrasting the diseases of temperate and hot climates, owing to the familiar intercourse which at present subsists between Paris and Algiers. Of all the materials which he has collected from the observations of French physicians in Algeria, the most interesting are those which he draws from a work on Fevers, by M. Maillot. The description which is there given of "la fièvre algide," is so striking, and is so much calculated to illustrate the nature of the fevers which are treated of in this work of Hippocrates, that I shall not scruple to quote it entire.

“La fièvre algide (dit M. Maillot) n’est pas généralement, comme on le dit, la prolongation indéfinie du stade de froid; je l’ai vue rarement débuter de la sorte. Il y a même entre ces deux états une contraste frappante. Dans le premier stade des fièvres intermittentes, la sensation du froid est hors de toute proportion avec l’abaissement réel de la température de la peau, tandis que, dans la fièvre algide, le froid n’est pas perçu par le malade, alors que la peau est glacée. C’est ordinairement pendant la réaction que commencent les symptômes qui la caractérisent; souvent ils surviennent tout à coup au milieu d’une réaction qui paraissait franche. Au trouble de la circulation succède en peu d’instants et presque sans transition le ralentissement du pouls, qui devient bientôt très rare, fuit sous le doigt et disparaît; l’abaissement de la température du corps va vite et suit la progression promptement décroissante de la circulation; les extrémitiés, la face, le torse, se refroidissent successivement; l’abdomen seul conserve encore quelque temps un peu de chaleur; le contact de la peau donne la sensation de froid que procure le marbre. Les lèvres sont décolorées, l’haleine froide, la voix cassée, les battemens du cœur rares, incomplets, appréciables seulement par l’auscultation; les facultés intellectuelles sont intactes, et le malade se complaît dans cet état de repos, surtout lorsqu’il succède à une fièvre violente, la physionomie est sans mobilité, l’impassibilité la plus grande est peinte sur son visage; ses traits sont morts. La marche de cette fièvre est très insidieuse; il n’est peut-être personne, dont elle n’ait surpris la vigilance, avant d’être familiarisé avec l’observation des accidens de cette nature, on prend souvent pour une très grande amélioration due aux déplétions sanguines, le calme qui succède aux accidents inflammatoires; et plus d’une fois, dans de semblables circonstances, on n’a été détrompé que par la mort soudaine du malade. Toutes les fois qu’à une réaction plus on moins forte, on verra succéder tout à coup un ralentissement du pouls, avec pâleur de la langue et décoloration des lèvres, on ne devra hésiter à diagnostiquer une fièvre algide. La temporisation ici donne la mort, en quelques heures. Dans quelques cas très rares, j’ai cependant vu cet état algide se prolonger trois ou quatre jours. Le malade expire en conservant toutes ses facultés intellectuelles,[606] il s’éteint comme par un arrêt de l’innervation. Lorsque la mort n’est pas le terme de cet état morbide si grave, le pouls se relève; la peau reprend sa chaleur naturelle; quelquefois alors la réaction détermine une irritation de l’encéphale ou des voies digestives; mais rarement elle est assez intense pour qu’on soit obligé de la combattre par des déplétions

sanguines."[607] I shall add a remark, which M. Littré gives on the same authority: "J'ai tenu à mentionner ici l'impression qu'éprouva M. Maillot au début de sa pratique en Algérie, et qui est si instructive; car, aller subitement de France exercer la médecine dans un pays chaud, ou lire les observations d'Hippocrate, c'est tout un: l'impression est la même, le changement de scène est aussi grand."[608]

I cannot help remarking in this place, however, that it appears to me singular, that M. Littré should represent the febris algida as being confined to southern climates, and should speak of it as being unknown in Paris; for, at all events, there seems to be no doubt that it prevails in a more northerly region, namely, in Holland. It is thus described by the celebrated Franciscus de le Boe (*or* Sylvius), who was professor of practical medicine at Leyden about the middle of the 17th century: "Febres algidæ observantur nonnunquam, non tantum frigore præsertim, sed frigore tantum molestæ: adeo ut aliquando et frequentius levis, aliquando et rarius nullus sequatur calor. Tales, etiam semper algidas in Nosocomio academico habuimus ita manifestas, ut non tantum incipiente, atque augescente, sed etiam vigente et déclinante, imò cessante paroxysmo, id est, semper tum suo, tum adstantium, tum medicorum sensu moleste ubique frigerent, nunquam teperent, minus calerent ullibi ægri. Suntque hæ algidæ graviores semper forsan quotidianæ."[609] The febris algida is also named "rigor without heat," by the Greek authorities, and "frigus quod non calefit" by the Arabians, who, like Sylvius, as quoted above, regard it as a variety of the quotidian intermittent. See PAULUS ÆGINETA, Book II., 26.

M. Littré[610] quotes the remark of an excellent English authority on fever, J. Johnson,[611] that it is singular the effects of marsh effluvia should have escaped the observation of Hippocrates, more especially as the remittent and intermittent fevers, of which he treats so fully, are mostly derived from this source. Now I must say, that I am not aware of there being any passages in the works of Hippocrates where the effects of marsh effluvia in engendering such fevers are distinctly noticed; but if Hippocrates was ignorant of this fact, in the etiology of fevers, it was well known to Galen, as may be seen on reference to his very interesting work "On the Difference of Fevers."[612] The Arabians also were familiar with the fact. See Avicenna, iv., 1, 2, 1.

In the treatise “On Airs,” which, although not admitted by us into the list of genuine works, has considerable pretension to be so regarded, the causes of fever are treated of with great precision, and there the pestilential fevers are said to derive their origin from miasma, but whether or not under this term be included marsh effluvia, cannot be determined. But perhaps a better reason might be assigned for there being little or no allusion to malaria in the works of Hippocrates, namely, that after all, this was *not* the cause of the epidemical diseases which he describes. The following extract from a work of very high authority on fever is well deserving of consideration in this place: “A question has arisen as to whether or not the inflammatory states of fever, in warm countries, are caused by malaria, or by the other causes now instanced (excess of heat, etc.). There can be no doubt that malaria very frequently produces in the plethoric, young, and robust, who have recently arrived in a hot climate, fever of an inflammatory and continued kind; but it must also be conceded that this fever chiefly occurs, even in persons thus constituted, during the dry season, and at times and in places where the existence of malaria is doubtful, or, at least, by no means proved. It is notoriously admitted that the inflammatory states of continued fever, in both the East and West Indies, appear among those soldiers, sailors, and civilians, who have not been long in a warm country, and who have not suffered from disease since their arrival; and that they take place chiefly during the dry and warm seasons, and in situations where the usual affects of malaria are never observed. This is the result of the experience of Jackson, Annesley, Boyle, Twining, Conwell, and the other experienced practitioners in warm countries. It agrees with my own observations, and is even admitted by Dr. Fergusson, who has gone much further than any one else in assigning malaria as the cause of intertropical fevers.”[613] I may mention, moreover, that Hippocrates and his contemporaries were evidently not ignorant of the fact, that the atmosphere in the vicinity of marshes and large rivers is unwholesome to the inhabitants of warm climates. See De Diæta, ii, 2.

The following are part of the conclusions which M. Littré draws from his investigations into the nature of the fevers described by Hippocrates. I quote them as being strongly confirmatory of the opinions delivered by me in the Commentary on the Second Book of Paulus Ægineta.

"Les fièvres décrites dans les *Epidémies* d'Hippocrate différent de nos fièvres continués.

"Les fièvres décrites dans les *Epidémies* ont, dans leur apparence générale, une similitude très grande avec celles des pays chauds.

"La similitude n'est pas moins grande dans les détails que dans l'ensemble.

"Dans les unes comme dans les autres les hypochondres sont pour un tiers des cas, le siége d'une manifestation toute spéciale.

"Dans les unes comme dans les autres, il y a une forte tendence ou réfroidissement du corps, à la sueur froide et à la lividité des extrémités."

On almost all the other diseases treated of in these books, M. Littré's opinions, in like manner, exactly coincide with those delivered by me in the above-mentioned work. Thus he arrives at the conclusion, that the Phrenitis and Lethargus of Hippocrates were varieties of the Causus. Compare PAULUS ÆGINETA, Book III., 6, 9. He refers them to *les fièvres pernicieuses comateuses pseudo-continués et les fièvres pernicieuses dolorantes pseudo-continués* of M. Maillot. It would appear from the extracts which he quotes from a work of M. Roux, on the Diseases of Morea, that a similar tendency to pass into phrenitis and lethargy is still observable in the land of Greece. The fevers of the East Indies also, as described by Dr. Twining,[614] appear to partake very much of the same character. In a word, the conclusions to which a patient study of modern authorities on the subject have brought me amount to this; that the fevers described by Hippocrates in his "Epidemics," are exactly the same as those which are now described as still prevailing in the land of Greece: that they correspond very well with those described by Cleghorn as occurring in Majorca; differ but little from those described by Pringle, Monro, and Sylvius, as happening in the Low Countries, and differ from those described by Twining, as happening in Bengal, only in a few particulars.

From the analysis of their contents given above it will readily be understood that the subject-matters of these two books are not arranged methodically. Indeed it is quite obvious from the nature of the work that the matters which are treated of in it had never been methodized by the author. Certainly then, as proposed by Desmair,[615] it would be a much more

natural arrangement to give the four Constitutions of the season first, and then to give the forty-two cases together. But the present arrangement being of old standing, no editor has thought himself warranted to depart from it.

There are two important professional subjects of which it may appear surprising that there is no mention in the "Books of the Epidemics," I mean sphygmology and contagion. Galen repeatedly declares it as his opinion, that Hippocrates paid no attention to the characters of the arterial pulse, and that the subject was not at all studied until after his time; and as far as I can see there is no ground for calling in question this opinion of Galen. Herophilus, in fact, would appear to have been the first person that made any progress in this study. It is more remarkable that Hippocrates should omit all allusion to the other subject, more especially as the contagiousness of certain diseases would appear to have been the popular belief of his age. Thus his contemporary, Thucydides, in describing the plague, expresses himself in such terms as puts it beyond a doubt that he regarded the disease as being of a contagious nature. And another contemporary, Isocrates, makes such observations on a certain case of empyema, by which he evidently means phthisis pulmonalis, as to show that it also was regarded as being communicable.[616] How the omission is to be accounted for I do not know, but certain it is that not the least reference to contagion, in any shape, is to be found in any of the Hippocratic treatises.

BOOK I.—OF THE EPIDEMICS.

Sec. I.—Constitution First.

1. In Thasus,[617] about the autumnal equinox, and under the Pleiades, [618] the rains were abundant, constant, and soft, with southerly winds; the winter southerly, the northerly winds faint, droughts; on the whole, the winter having the character of spring. The spring was southerly, cool, rains small in quantity. Summer, for the most part, cloudy, no rain, the Etesian winds, rare and small, blew in an irregular manner. The whole constitution of the season being thus inclined to the southerly, and with droughts early in the spring, from the preceding opposite and northerly state, ardent fevers occurred in a few instances, and these very mild, being rarely attended with hemorrhage, and never proving fatal.[619] Swellings appeared about the ears, in many on either side, and in the greatest number on both sides, being

unaccompanied by fever so as not to confine the patient to bed; in all cases they disappeared without giving trouble, neither did any of them come to suppuration, as is common in swellings from other causes. They were of a lax, large, diffused character, without inflammation or pain, and they went away without any critical sign. They seized children, adults, and mostly those who were engaged in the exercises of the palestra and gymnasium, but seldom attacked women. Many had dry coughs without expectoration, and accompanied with hoarseness of voice. In some instances earlier, and in others later, inflammations with pain seized sometimes one of the testicles, and sometimes both;[620] some of these cases were accompanied with fever and some not; the greater part of these were attended with much suffering. In other respects they were free of disease, so as not to require medical assistance.[621]

2. Early in the beginning of spring, and through the summer, and towards winter, many of those who had been long gradually declining, took to bed with symptoms of phthisis; in many cases formerly of a doubtful character the disease then became confirmed; in these the constitution inclined to the phthisical.[622] Many, and, in fact, the most of them, died; and of those confined to bed, I do not know if a single individual survived for any considerable time; they died more suddenly than is common in such cases. But other diseases, of a protracted character, and attended with fever, were well supported, and did not prove fatal: of these we will give a description afterwards. Consumption was the most considerable of the diseases which then prevailed, and the only one which proved fatal to many persons. Most of them were affected by these diseases in the following manner: fevers accompanied with rigors, of the continual type, acute, having no complete intermissions, but of the form of the semitertians, being milder the one day, and the next having an exacerbation, and increasing in violence; constant sweats, but not diffused over the whole body; extremities very cold, and warmed with difficulty; bowels disordered, with bilious, scanty, unmixed, thin, pungent, and frequent dejections. The urine was thin, colourless, unconcocted, or thick, with a deficient sediment, not settling favorably, but casting down a crude and unseasonable sediment. Sputa small, dense, concocted, but brought up rarely and with difficulty; and in those who encountered the most violent symptoms there was no concoction at all, but they continued throughout spitting crude matters. Their fauces, in

most of them, were painful from first to last, having redness with inflammation; defluxions thin, small and acrid; they were soon wasted and became worse, having no appetite for any kind of food throughout; no thirst; most persons delirious when near death. So much concerning the phthisical affections.[623]

3. In the course of the summer and autumn many fevers of the continual type, but not violent;[624] they attacked persons who had been long indisposed, but who were otherwise not in an uncomfortable state. In most cases the bowels were disordered in a very moderate degree, and they did not suffer thereby in any manner worth mentioning; the urine was generally well coloured, clear, thin, and after a time becoming concocted near the crisis. They had not much cough, nor was it troublesome; they were not deficient in appetite, for it was necessary to give them food, (on the whole, persons labouring under phthisis were not affected in the usual manner).[625] They were affected with fevers, rigors, and deficient sweats, with varied and irregular paroxysms, in general not intermitting, but having exacerbations in the tertian form. The earliest crisis which occurred was about the twentieth day, in most about the fortieth, and in many about the eightieth. But there were cases in which it did not leave them thus at all, but in an irregular manner, and without any crisis; in most of these the fevers, after a brief interval, relapsed again; and from these relapses they came to a crisis in the same periods; but in many they were prolonged so that the disease was not gone at the approach of winter. Of all those which are described under this constitution, the phthisical diseases alone were of a fatal character; for in all the others the patients bore up well, and did not die of the other fevers.[626]

Sec. II.—Constitution Second.

1. In Thasus, early in autumn, the winter suddenly set in rainy before the usual time, with much northerly and southerly winds. These things all continued so during the season of the Pleiades, and until their setting.[627] The winter was northerly, the rains frequent, in torrents, and large, with snow, but with a frequent mixture of fair weather. These things were all so, but the setting in of the cold was not much out of season. After the winter solstice, and at the time when the zephyr usually begins to blow, severe winterly storms out of season, with much northerly wind, snow, continued

and copious rains; the sky tempestuous and clouded; these things were protracted, and did not remit until the equinox. The spring was cold, northerly, rainy, and clouded; the summer was not very sultry, the Etesian winds blew constant, but quickly afterwards, about the rising of Arcturus, there were again many rains with north winds. The whole season being wet, cold, and northerly, people were, for the most part, healthy during winter; but early in the spring very many, indeed, the greater part, were valetudinary. At first ophthalmies set in, with rheums, pains, unconcocted discharges, small concretions, generally breaking with difficulty, in most instances they relapsed, and they did not cease until late in autumn.[628] During summer and autumn there were dysenteric affections, attacks of tenesmus and lientery, bilious diarrhœa, with thin, copious, undigested, and acrid dejections, and sometimes with watery stools; many had copious defluxions, with pain, of a bilious, watery, slimy, purulent nature, attended with strangury, not connected with disease of the kidneys, but one complaint succeeding the other; vomitings of bile, phlegm, and undigested food, sweats, in all cases a redundance of humors. In many instances these complaints were unattended with fever, and did not prevent the patients from walking about, but some cases were febrile, as will be described. In some all those described below occurred with pain. During autumn, and at the commencement of winter, there were phthisical complaints, continual fevers; and, in a few cases, ardent; some diurnal, others nocturnal, semitertians, true tertians, quartans, irregular fevers. All the fevers which are described attacked great numbers. The ardent fevers attacked the smallest numbers, and the patients suffered the least from them, for there were no hemorrhages, except a few and to a small amount, nor was there delirium; all the other complaints were slight; in these the crises were regular, in most instances, with the intermittents, in seventeen days; and I know no instance of a person dying of causus, nor becoming phrenitic.[629] The tertians were more numerous than the ardent fevers, and attended with more pain;[630] but these all had four periods in regular succession from the first attack, and they had a complete crisis in seven, without a relapse in any instance. The quartans attacked many at first, in the form of regular quartans, but in no few cases a transition from other fevers and diseases into quartans took place; they were protracted, as is wont with them, indeed, more so than usual. Quotidian, nocturnal, and wandering fevers attacked many persons, some of whom continued to keep up, and others were

confined to bed. In most instances these fevers were prolonged under the Pleiades and till winter. Many persons, and more especially children, had convulsions from the commencement;[631] and they had fever, and the convulsions supervened upon the fevers; in most cases they were protracted, but free from danger, unless in those who were in a deadly state from other complaints. Those fevers which were continual in the main, and with no intermissions, but having exacerbations in the tertian form,[632] there being remissions the one day and exacerbations the next, were the most violent of all those which occurred at that time, and the most protracted, and occurring with the greatest pains, beginning mildly, always on the whole increasing, and being exacerbated, and always turning worse, having small remissions, and after an abatement having more violent paroxysms, and growing worse, for the most part, on the critical days. Rigors, in all cases, took place in an irregular and uncertain manner, very rare and weak in them, but greater in all other fevers; frequent sweats, but most seldom in them, bringing no alleviation, but, on the contrary, doing mischief. Much cold of the extremities in them, and these were warmed with difficulty. Insomnolency, for the most part, especially in these fevers, and again a disposition to coma. The bowels, in all diseases, were disordered, and in a bad state, but worst of all in these. The urine, in most of them, was either thin and crude, yellow, and after a time with slight symptoms of concoction in a critical form, or having the proper thickness, but muddy, and neither settling nor subsiding; or having small and bad, and crude sediments; these being the worst of all. Coughs attended these fevers, but I cannot state that any harm or good ever resulted from the cough. The most of these were protracted and troublesome, went on in a very disorderly and irregular form, and, for the most part, did not end in a crisis, either in the fatal cases or in the others; for if it left some of them for a season it soon returned again. In a few instances the fever terminated with a crisis; in the earliest of these about the eightieth day, and some of these relapsed, so that most of them were not free from the fever during the winter; but the fever left most of them without a crisis, and these things happened alike to those who recovered and to those who did not. There being much want of crisis and much variety as to these diseases, the greatest and worst symptom attended the most of them, namely, a loathing of all articles of food, more especially with those who had otherwise fatal symptoms; but they were not unseasonably thirsty in such fevers. After a length of time, with much

suffering and great wasting, abscesses were formed in these cases, either unusually large, so that the patients could not support them, or unusually small, so that they did no good, but soon relapsed and speedily got worse. The diseases which attacked them were in the form of dysenteries, tenesmus, lientery, and fluxes; but, in some cases, there were dropsies, with or without these complaints. Whatever attacked them violently speedily cut them off, or again, did them no good. Small rashes, and not corresponding to the violence of the disease, and quickly disappearing, or swellings occurred about the ears, which were not resolved, and brought on no crisis. [633] In some they were determined to the joints, and especially to the hip-joint, terminating critically with a few, and quickly again increasing to its original habit. Persons died of all these diseases, but mostly of these fevers, and especially infants just weaned, and older children, until eight or ten years of age, and those before puberty. These things occurred to those affected with the complaints described above, and to many persons at first without them. The only favorable symptom, and the greatest of those which occurred, and what saved most of those who were in the greatest dangers, was the conversion of it to a strangury, and when, in addition to this, abscesses were formed.[634] The strangury attacked, most especially, persons of the ages I have mentioned, but it also occurred in many others, both of those who were not confined to bed and those who were. There was a speedy and great change in all these cases. For the bowels, if they happened previously to have watery discharges of a bad character, became regular, they got an appetite for food, and the fevers were mild afterwards. But, with regard to the strangury itself, the symptoms were protracted and painful. Their urine was copious, thick, of various characters, red, mixed with pus, and was passed with pain. These all recovered, and I did not see a single instance of death among them.

5.[635] With regard to the dangers of these cases, one must always attend to the seasonable concoction of all the evacuations, and to the favorable and critical abscesses. The concoctions indicate a speedy crisis and recovery of health; crude and undigested evacuations, and those which are converted into bad abscesses, indicate either want of crisis, or pains, or prolongation of the disease, or death, or relapses; which of these it is to be must be determined from other circumstances. *The physician must be able to tell the antecedents, know the present, and foretell the future—must meditate these*

things, and have two special objects in view with regard to diseases, namely, to do good or to do no harm. The art consists in three things—the disease, the patient, and the physician. The physician is the servant of the art, and the patient must combat the disease along with the physician.[636]

6. Pains about the head and neck, and heaviness of the same along with pain, occur either without fevers or in fevers. Convulsions occurring in persons attacked with frenzy, and having vomitings of verdigris-green bile, in some cases quickly prove fatal. In ardent fevers, and in those other fevers in which there is pain of the neck, heaviness of the temples, mistiness about the eyes, and distention about the hypochondriac region, not unattended with pain, hemorrhage from the nose takes place,[637] but those who have heaviness of the whole head, cardialgia and nausea, vomit bilious and pituitous matters; children, in such affections, are generally attacked with convulsions, and women have these and also pains of the uterus; whereas, in elder persons, and those in whom the heat is already more subdued, these cases end in paralysis, mania, and loss of sight.

Third Constitution.

7. In Thasus, a little before and during the season of Arcturus,[638] there were frequent and great rains, with northerly winds. About the equinox, and till the setting of the Pleiades, there were a few southerly rains: the winter northerly and parched, cold, with great winds and snow. Great storms about the equinox, the spring northerly, dryness, rains few and cold. About the summer solstice, scanty rains, and great cold until near the season of the Dog-star.[639] After the Dog-days, until the season of Arcturus, the summer hot, great droughts, not in intervals, but continued and severe: no rain; the Etesian winds blew; about the season of Arcturus southerly rains until the equinox.

8. In this state of things, during winter, paraplegia set in, and attacked many, and some died speedily; and otherwise the disease prevailed much in an epidemical form, but persons remained free from all other diseases.[640] Early in the spring, ardent fevers commenced and continued through the summer until the equinox. Those then that were attacked immediately after the commencement of the spring and summer, for the most part recovered, and but few of them died. But when the autumn and the rains had set in,

they were of a fatal character, and the greater part then died.[641] When in these attacks of ardent fevers there was a proper and copious hemorrhage from the nose, they were generally saved by it, and I do not know a single person who had a proper hemorrhage who died in this constitution. Philiscus, Epaminon, and Silenus, indeed, who had a trifling epistaxis on the fourth and fifth day, died.[642] The most of those seized with the disease had a rigor about the time of the crisis, and especially those who had no hemorrhage; these had also the rigor associated. Some were attacked with jaundice on the sixth day,[643] but these were benefited either by an urinary purgation, or a disorder of the bowels, or a copious hemorrhage, as in the case of Heraclides, who was lodged with Aristocydes: this person, though he had the hemorrhage from the nose, the purgation by the bladder, and disorder of the bowels, experienced a favorable crisis on the twentieth day, not like the servant of Phanagoras, who had none of these symptoms, and died. The hemorrhages attacked most persons, but especially young persons and those in the prime of life, and the greater part of those who had not the hemorrhage died:[644] elderly persons had jaundice or disorder of the bowels, such as Bion, who was lodged with Silenus. Dysenteries were epidemical during the summer, and some of those cases in which the hemorrhage occurred, terminated in dysentery, as happened to the slave of Eraton, and to Mullus, who had a copious hemorrhage, which settled down into dysentery, and they recovered. This humor was redundant in many cases, since in those who had not the hemorrhage about the crisis, but the risings about the ears disappeared, after their disappearance there was a sense of weight in the left flank extending to the extremity of the hip, and pain setting in after the crisis, with a discharge of thin urine; they began to have small hemorrhages about the twenty-fourth day, and the swelling was converted into the hemorrhage. In the case of Antiphon, the son of Critobulus, the fever ceased and came to a crisis about the fortieth day. Many women were attacked, but fewer than of the men, and there were fewer deaths among them. But most of them had difficult parturition, and after labor they were taken ill, and these most especially died, as, for example, the daughter of Telebolus died on the sixth day after delivery.[645] Most females had the menstrual discharge during the fever, and many girls had it then for the first time: in certain individuals both the hemorrhage from the nose and the menses appeared; thus, in the case of the virgin

daughter of Dætharses, the menses then took place for the first time, and she had also a copious hemorrhage from the nose, and I knew no instance of any one dying when one or other of these took place properly. But all those in the pregnant state that were attacked had abortions, as far as I observed. The urine in most cases was of the proper color, but thin, and having scanty sediments:[646] in most the bowels were disordered with thin and bilious dejections; and many, after passing through the other crises, terminated in dysenteries, as happened to Xenophanes and Critias. The urine was watery, copious, clear, and thin; and even after the crises, when the sediment was natural, and all the other critical symptoms were favorable, as I recollect having happened to Bion, who was lodged in the house of Silenus, and Critias, who lived with Xenophanes, the slave of Areton, and the wife of Mnesistratus. But afterwards all these were attacked with dysentery. It would be worth while to inquire whether the watery urine was the cause of this.[647] About the season of Arcturus many had the crisis on the eleventh day, and in them the regular relapses did not take place, but they became comatose about this time, especially children; but there were fewest deaths of all among them.

9. About the equinox, and until the season of the Pleiades, and at the approach of winter, many ardent fevers set in; but great numbers at that season were seized with phrenitis, and many died;[648] a few cases also occurred during the summer. These then made their attack at the commencement of ardent fevers, which were attended with fatal symptoms; for immediately upon their setting in, there were acute fever and small rigors, insomnolency, aberration, thirst, nausea, insignificant sweats about the forehead and clavicles, but no general perspiration; they had much delirious talking, fears, despondency, great coldness of the extremities, in the feet, but more especially in their hands: the paroxysms were on the even days; and in most cases, on the fourth day, the most violent pains set in, with sweats, generally coldish, and the extremities could not be warmed, but were livid and rather cold, and they had then no thirst; in them the urine was black, scanty, thin, and the bowels were constipated; there was an hemorrhage from the nose in no case in which these symptoms occurred, but merely a trifling epistaxis; and none of them had a relapse, but they died on the sixth day with sweats.[649] In the phrenitic cases, all the symptoms which have been described did not occur, but in them the disease mostly

came to a crisis on the eleventh day, and in some on the twentieth. In those cases in which the phrenitis did not begin immediately, but about the third or fourth day, the disease was moderate at the commencement, but assumed a violent character about the seventh day. There was a great number of diseases, and of those affected, they who died were principally infants, young persons, adults having smooth bodies, white skins, straight and black hair, dark eyes, those living recklessly and luxuriously; persons with shrill, or rough voices, who stammered and were passionate, and women more especially died from this form. In this constitution, four symptoms in particular proved salutary; either a hemorrhage from the nose, or a copious discharge by the bladder of urine, having an abundant and proper sediment, or a bilious disorder of the bowels at the proper time, or an attack of dysentery.[650] And in many cases it happened, that the crisis did not take place by any one of the symptoms which have been mentioned, but the patient passed through most of them, and appeared to be in an uncomfortable way, and yet all who were attacked with these symptoms recovered. All the symptoms which I have described occurred also to women and girls; and whoever of them had any of these symptoms in a favorable manner, or the menses appeared abundantly, were saved thereby, and had a crisis, so that I do not know a single female who had any of these favorably that died. But the daughter of Philo, who had a copious hemorrhage from the nose, and took supper unseasonably on the seventh day, died. In those cases of acute, and more especially of ardent fevers, in which there is an involuntary discharge of tears, you may expect a hemorrhage from the nose, unless the other symptoms be of a fatal character, for in those of a bad description, they do not indicate a hemorrhage, but death. Swellings about the ears, with pain in fevers, sometimes when the fever went off critically, neither subsided nor were converted into pus; in these cases a bilious diarrhœa, or dysentery, or thick urine having a sediment, carried off the disease, as happened to Hermippus of Clazomenæ. The circumstances relating to crises, as far as we can recognize them, were so far similar and so far dissimilar. Thus two brothers became ill at the same hour (they were brothers of Epigenes, and lodged near the theatre), of these the elder had a crisis on the sixth day, and the younger on the seventh, and both had a relapse at the same hour; it then left them for five days, and from the return of the fever both had a crisis together on the seventeenth day. Most had a crisis on the sixth day; it then

left them for six days, and from the relapse there was a crisis on the fifth day.[651] But those who had a crisis on the seventh day, had an intermission for seven days; and the crisis took place on the third day after the relapse. Those who had a crisis on the sixth day, after an interval of six days were seized again on the third, and having left them for one day, the fever attacked them again on the next and came to a crisis, as happened to Evagon the son of Dætharses. Those in whom the crisis happened on the sixth day, had an intermission of seven days, and from the relapse there was a crisis on the fourth, as happened to the daughter of Aglaïdas. The greater part of those who were taken ill under this constitution of things, were affected in this manner, and I did not know a single case of recovery, in which there was not a relapse agreeably to the stated order of relapses; and all those recovered in which the relapses took place according to this form: nor did I know a single instance of those who then passed through the disease in this manner who had another relapse. In these diseases death generally happened on the sixth day, as happened to Epaminondas, Silenus, and Philiscus the son of Antagoras. Those who had parotid swellings experienced a crisis on the twentieth day, but in all these cases the disease went off without coming to a suppuration, and was turned upon the bladder. But in Cratistonax, who lived by the temple of Hercules, and in the maid servant of Scymnus the fuller, it turned to a suppuration, and they died. Those who had a crisis on the seventh day, had an intermission of nine days, and a relapse which came to a crisis on the fourth day from the return of the fever, as was the case with Pantacles, who resided close by the temple of Bacchus. Those who had a crisis on the seventh day, after an interval of six days had a relapse, from which they had a crisis on the seventh day, as happened to Phanocritus, who was lodged with Gnathon the painter. During the winter, about the winter solstices, and until the equinox, the ardent fevers and frenzies prevailed, and many died. The crisis, however, changed, and happened to the greater number on the fifth day from the commencement, left them for four days and relapsed; and after the return, there was a crisis on the fifth day, making in all fourteen days. The crisis took place thus in the case of most children, also in elder persons. Some had a crisis on the eleventh day, a relapse on the fourteenth, a complete crisis on the twentieth; but certain persons, who had a rigor about the twentieth, had a crisis on the fortieth. The greater part had a rigor along with the original crisis, and these had also a rigor about the crisis in the

relapse. There were fewest cases of rigor in the spring, more in summer, still more in autumn, but by far the most in winter; then hemorrhages ceased.

SEC. III.

10. With regard to diseases, the circumstances from which we form a judgment of them are,—by attending to the general nature of all, and the peculiar nature of each individual,—to the disease, the patient, and the applications,—to the person who applies them, as that makes a difference for better or for worse,—to the whole constitution of the season, and particularly to the state of the heavens, and the nature of each country;—to the patient's habits, regimen, and pursuits;—to his conversation, manners, taciturnity, thoughts, sleep, or absence of sleep, and sometimes his dreams, what and when they occur;—to his picking and scratching;[652]—to his tears;—to the alvine discharges, urine, sputa, and vomitings; and to the changes of diseases from the one into the other;—to the deposits, whether of a deadly or critical character;—to the sweat, coldness, rigor, cough, sneezing, hiccup, respiration, eructation, flatulence, whether passed silently or with a noise;—to hemorrhages and hemorrhoids;—from these, and their consequences, we must form our judgment.[653]

11. Fevers are,—the continual, some of which hold during the day and have a remission at night, and others hold during the night and have a remission during the day;[654] semitertians, tertians, quartans, quintans, septans, nonans. The most acute, strongest, most dangerous, and fatal diseases, occur in the continual fever. The least dangerous of all, and the mildest and most protracted, is the quartan, for it is not only such from itself, but it also carries off other great diseases.[655] In what is called the semitertian, other acute diseases are apt to occur, and it is the most fatal of all others, and moreover phthisical persons, and those laboring under other protracted diseases, are apt to be attacked by it.[656] The nocturnal fever is not very fatal, but protracted; the diurnal is still more protracted, and in some cases passes into phthisis. The septan is protracted, but not fatal; the nonan more protracted, and not fatal. The true tertian comes quickly to a crisis, and is not fatal; but the quintan is the worst of all, for it proves fatal when it precedes an attack of phthisis, and when it supervenes on persons

who are already consumptive.[657] There are peculiar modes, and constitutions, and paroxysms, in every one of these fevers; for example,—the continual, in some cases at the very commencement, grows, as it were, and attains its full strength, and rises to its most dangerous pitch, but is diminished about and at the crisis; in others it begins gentle and suppressed, but gains ground and is exacerbated every day, and bursts forth with all its heat about and at the crisis; while in others, again, it commences mildly, increases, and is exacerbated until it reaches its acmé, and then remits until at and about the crisis.[658] These varieties occur in every fever, and in every disease. From these observations one must regulate the regimen accordingly. There are many other important symptoms allied to these, part of which have been already noticed, and part will be described afterwards, from a consideration of which one may judge, and decide in each case, whether the disease be acute, and whether it will end in death or recovery; or whether it will be protracted, and will end in death or recovery; and in what cases food is to be given, and in what not; and when and to what amount, and what particular kind of food is to be administered.

12. Those diseases which have their paroxysms on even days have their crises on even days; and those which have their paroxysms on uneven days have their crises on uneven days. The first period of those which have the crisis on even days, is the 4th, 6th, 8th, 10th, 14th, 20th, 30th, 40th, 60th, 80th, 100th; and the first period of those which have their crises on uneven days, is the let, 3d, 5th, 7th, 9th, 11th, 17th, 21st, 27th, 31st. It should be known, that if the crisis take place on any other day than on those described, it indicates that there will be a relapse, which may prove fatal. But one ought to pay attention, and know in these seasons what crises will lead to recovery and what to death, or to changes for the better or the worse. Irregular fevers, quartans, quintans, septans, and nonans should be studied, in order to find out in what periods their crises take place.

13. Fourteen Cases of Disease.[659]

Case I.—Philiscus, who lived by the Wall, took to bed on the first day of acute fever; he sweated; towards night was uneasy. On the second day all the symptoms were exacerbated; late in the evening had a proper stool from a small clyster; the night quiet. On the third day, early in the morning and until noon, he appeared to be free from fever; towards evening, acute fever,

with sweating, thirst, tongue parched; passed black urine; night uncomfortable, no sleep; he was delirious on all subjects. On the fourth, all the symptoms exacerbated, urine black; night more comfortable, urine of a better color. On the fifth, about mid-day, had a slight trickling of pure blood from the nose; urine varied in character, having floating in it round bodies, resembling semen, and scattered, but which did not fall to the bottom; a suppository having been applied, some scanty flatulent matters were passed; night uncomfortable, little sleep, talking incoherently; extremities altogether cold, and could not be warmed; urine black; slept a little towards day; loss of speech, cold sweats; extremities livid; about the middle of the sixth day he died. The respiration throughout, like that of a person recollecting himself, was rare, and large, and spleen was swelled upon in a round tumor, the sweats cold throughout, the paroxysms on the even days. [660]

Case II.—Silenus lived on the Broad-way, near the house of Evalcidas. From fatigue, drinking, and unseasonable exercises, he was seized with fever. He began with having pain in the loins; he had heaviness of the head, and there was stiffness of the neck. On the first day the alvine discharges were bilious, unmixed, frothy, high colored, and copious; urine black, having a black sediment; he was thirsty, tongue dry; no sleep at night. On the second, acute fever, stools more copious, thinner, frothy; urine black, an uncomfortable night, slight delirium. On the third, all the symptoms exacerbated; an oblong distention, of a softish nature, from both sides of the hypochondrium to the navel; stools thin, and darkish; urine muddy, and darkish; no sleep at night; much talking, laughter, singing, he could not restrain himself. On the fourth, in the same state. On the fifth, stools bilious, unmixed, smooth, greasy; urine thin, and transparent; slight absence of delirium. On the sixth, slight perspiration about the head; extremities cold and livid; much tossing about; no passage from the bowels, urine suppressed, acute fever. On the seventh, loss of speech; extremities could no longer be kept warm; no discharge of urine. On the eighth, a cold sweat all over; red rashes with sweat, of a round figure, small, like *vari*, persistent, not subsiding; by means of a slight stimulus, a copious discharge from the bowels, of a thin and undigested character, with pain; urine acrid, and passed with pain; extremities slightly heated; sleep slight, and comatose; speechless; urine thin, and transparent. On the ninth, in the same state. On the tenth, no drink taken; comatose, sleep slight; alvine discharges the

same; urine abundant, and thickish; when allowed to stand, the sediment farinaceous and white; extremities again cold. On the eleventh, he died. At the commencement, and throughout, the respiration was slow and large; there was a constant throbbing in the hypochondrium; his age was about twenty.[661]

Case III.—Herophon was seized with an acute fever; alvine discharges at first were scanty, and attended with tenesmus; but afterwards they were passed of a thin, bilious character, and frequent; there was no sleep; urine black, and thin. On the fifth, in the morning, deafness; all the symptoms exacerbated; spleen swollen; distention of the hypochondrium; alvine discharges scanty, and black; he became delirious. On the sixth, delirious; at night, sweating, coldness; the delirium continued. On the seventh, he became cold, thirsty, was disordered in mind; at night recovered his senses; slept. On the eighth, was feverish; the spleen diminished in size; quite collected; had pain at first about the groin, on the same side as the spleen; had pains in both legs; night comfortable; urine better colored, had a scanty sediment. On the ninth, sweated; the crisis took place; fever remitted. On the fifth day afterwards, fever relapsed, spleen immediately became swollen; acute fever; deafness again. On the third day after the relapse, the spleen diminished; deafness less; legs painful; sweated during the night; crisis took place on the seventeenth day; had no disorder of the senses during the relapse.[662]

Case IV.—In Thasus, the wife of Philinus, having been delivered of a daughter, the lochial discharge being natural, and other matters going on mildly, on the fourteenth day after delivery was seized with fever, attended with rigor; was pained at first in the cardiac region of the stomach and right hypochondrium; pain in the genital organs; lochial discharge ceased. Upon the application of a pessary all these symptoms were alleviated; pains of the head, neck, and loins remained; no sleep; extremities cold; thirst; bowels in a hot state; stools scanty; urine thin, and colorless at first. On the sixth, towards night, senses much disordered, but again were restored. On the seventh, thirsty; the evacuations bilious, and high colored. On the eighth, had a rigor; acute fever; much spasm, with pain; talked much, incoherently; upon the application of a suppository, rose to stool, and passed copious dejections, with a bilious flux; no sleep. On the ninth, spasms. On the tenth, slightly recollected. On the eleventh, slept; had perfect recollection, but

again immediately wandered; passed a large quantity of urine with spasms, (the attendants seldom putting her in mind,) it was thick, white, like urine which has been shaken after it has stood for a considerable time until it has subsided, but it had no sediment; in color and consistence, the urine resembled that of cattle, as far as I observed. About the fourteenth day, startings over the whole body; talked much; slightly collected, but presently became again delirious. About the seventeenth day became speechless, on the twentieth died.[663]

Case V.—The wife of Epicrates, who was lodged at the house of Archigetes, being near the term of delivery, was seized with a violent rigor, and, as was said, she did not become heated;[664] next day the same. On the third, she was delivered of a daughter, and everything went on properly. On the day following her delivery, she was seized with acute fever, pain in the cardiac region of the stomach, and in the genital parts. Having had a suppository, was in so far relieved; pain in the head, neck, and loins; no sleep; alvine discharges scanty, bilious, thin, and unmixed; urine thin, and blackish. Towards the night of the sixth day from the time she was seized with the fever, became delirious. On the seventh, all the symptoms exacerbated; insomnolency, delirium, thirst; stools bilious, and high colored. On the eighth, had a rigor; slept more. On the ninth, the same. On the tenth, her limbs painfully affected; pain again of the cardiac region of the stomach; heaviness of the head; no delirium; slept more; bowels constipated. On the eleventh, passed urine of a better color, and having an abundant sediment; felt lighter. On the fourteenth had a rigor; acute fever. On the fifteenth, had a copious vomiting of bilious and yellow matters; sweated; fever gone; at night acute fever; urine thick, sediment white.[665] On the seventeenth, an exacerbation; night uncomfortable; no sleep; delirium. On the eighteenth, thirsty; tongue parched; no sleep; much delirium; legs painfully affected. About the twentieth, in the morning, had a slight rigor; was comatose; slept tranquilly; had slight vomiting of bilious and black matters; towards night deafness. About the twenty-first, weight generally in the left side, with pain; slight cough; urine thick, muddy, and reddish; when allowed to stand, had no sediment; in other respects felt lighter; fever not gone; fauces painful from the commencement, and red; uvula retracted; defluxion remained acrid, pungent, and saltish throughout. About the twenty-seventh, free of fever; sediment in the urine; pain in the

side. About the thirty-first, was attacked with fever, bilious diarrhœa; slight bilious vomiting on the fortieth. Had a complete crisis, and was freed from the fever on the eightieth day.[666]

Case VI.—Cleonactides, who was lodged above the Temple of Hercules, was seized with a fever in an irregular form; was pained in the head and left side from the commencement, and had other pains resembling those produced by fatigue: paroxysms of the fevers inconstant and irregular; occasional sweats; the paroxysms generally attacked on the critical days. About the twenty-fourth was cold in the extremities of the hands, vomitings bilious, yellow, and frequent, soon turning to a verdigris-green color; general relief. About the thirtieth, began to have hemorrhage from both nostrils, and this continued in an irregular manner until near the crisis; did not loathe food, and had no thirst throughout, nor was troubled with insomnolency; urine thin, and not devoid of color. When about the thirtieth day, passed reddish urine, having a copious red sediment; was relieved, but afterwards the characters of the urine varied, sometimes having sediment, and sometimes not. On the sixtieth, the sediment in the urine copious, white, and smooth; all the symptoms ameliorated; intermission of the fever; urine thin, and well colored. On the seventieth, fever gone for ten days. On the eightieth had a rigor, was seized with acute fever, sweated much; a red, smooth sediment in the urine; and a perfect crisis.[667]

Case VII.—Meton was seized with fever; there was a painful weight in the loins. Next day, after drinking water pretty copiously, had proper evacuations from the bowels. On the third, heaviness of the head, stools thin, bilious, and reddish. On the fourth, all the symptoms exacerbated; had twice a scanty trickling of blood from the right nostril; passed an uncomfortable night; alvine discharges like those on the third day; urine darkish, had a darkish cloud floating in it, of a scattered form, which did not subside. On the fifth, a copious hemorrhage of pure blood from the left nostril; he sweated, and had a crisis. After the fever restless, and had some delirium; urine thin, and darkish; had an affusion of warm water on the head; slept and recovered his senses. In this case there was no relapse, but there were frequent hemorrhages after the crisis.[668]

Case VIII.—Erasinus, who lived near the Canal of Bootes, was seized with fever after supper; passed the night in an agitated state. During the first

day quiet, but in pain at night. On the second, symptoms all exacerbated; at night delirious. On the third, was in a painful condition; great incoherence. On the fourth, in a most uncomfortable state; had no sound sleep at night, but dreaming and talking; then all the appearances worse, of a formidable and alarming character; fear, impatience. On the morning of the fifth, was composed, and quite coherent, but long before noon was furiously mad, so that he could not constrain himself; extremities cold, and somewhat livid; urine without sediment; died about sunset. The fever in this case was accompanied by sweats throughout; the hypochondria were in a state of meteorism, with distention and pain; the urine was black, had round substances floating in it, which did not subside; the alvine evacuations were not stopped; thirst throughout not great; much spasms with sweats about the time of death.[669]

Case IX.—Criton, in Thasus, while still on foot, and going about, was seized with a violent pain in the great toe; he took to bed the same day, had rigors and nausea, recovered his heat slightly, at night was delirious. On the second, swelling of the whole foot, and about the ankle erythema, with distention, and small bullæ (phlyctænæ); acute fever; he became furiously deranged; alvine discharges bilious, unmixed, and rather frequent. He died on the second day from the commencement.[670]

Case X.—The Clazomenian who was lodged by the Well of Phrynichides was seized with fever. He had pain in the head, neck, and loins from the beginning, and immediately afterwards deafness; no sleep, acute fever, hypochondria elevated with a swelling, but not much distention; tongue dry. On the fourth, towards night, he became delirious. On the fifth, in an uneasy state. On the sixth, all the symptoms exacerbated. About the eleventh a slight remission; from the commencement to the fourteenth day the alvine discharges thin, copious, and of the color of water, but were well supported; the bowels then became constipated. Urine throughout thin, and well colored, and had many substances scattered through it, but no sediment. About the sixteenth, urine somewhat thicker, which had a slight sediment; somewhat better, and more collected. On the seventeenth, urine again thin; swellings about both his ears, with pain; no sleep, some incoherence; legs painfully affected. On the twentieth, free of fever, had a crisis, no sweat, perfectly collected. About the twenty-seventh, violent pain of the right hip; it speedily went off. The swellings about the

ears subsided, and did not suppurate, but were painful. About the thirty-first, a diarrhœa, attended with a copious discharge of watery matter, and symptoms of dysentery; passed thick urine; swellings about the ears gone. About the fortieth day, had pain in the right eye, sight dull. It went away. [671]

Case XI.—The wife of Dromeades having been delivered of a female child, and all other matters going on properly, on the second day after was seized with rigor and acute fever. Began to have pain about the hypochondrium on the first day; had nausea and incoherence, and for some hours afterwards had no sleep; respiration rare, large, and suddenly interrupted. On the day following that on which she had the rigor, alvine discharges proper; urine thick, white, muddy, like urine which has been shaken after standing for some time, until the sediment had fallen to the bottom; it had no sediment; she did not sleep during the night. On the third day, about noon, had a rigor, acute fever; urine the same; pain of the hypochondria, nausea, an uncomfortable night, no sleep; a coldish sweat all over, but heat quickly restored. On the fourth, slight allevation of the symptoms about the hypochondria; heaviness of the head, with pain; somewhat comatose; slight epistaxis, tongue dry, thirst, urine thin and oily; slept a little, upon awaking was somewhat comatose; slight coldness, slept during the night, was delirious. On the morning of the sixth had a rigor, but soon recovered her heat, sweated all over; extremities cold, was delirious, respiration rare and large. Shortly afterwards spasms from the head began, and she immediately expired.[672]

Case XII.—A man, in a heated state, took supper, and drank more than enough; he vomited the whole during the night; acute fever, pain of the right hypochondrium, a softish inflammation from the inner part; passed an uncomfortable night; urine at the commencement thick, red, but when allowed to stand, had no sediment, tongue dry, and not very thirsty. On the fourth, acute fever, pains all over. On the fifth, urine smooth, oily, and copious; acute fever. On the sixth, in the evening, very incoherent, no sleep during the night. On the seventh, all the symptoms exacerbated; urine of the same characters; much talking, and he could not contain himself; the bowels being stimulated, passed a watery discharge with lumbrici: night equally painful. In the morning had a rigor; acute fever, hot sweat, appeared to be free of fever; did not sleep long; after the sleep a chill, ptyalism; in the

evening, great incoherence; after a little, vomited a small quantity of dark bilious matters. On the ninth, coldness, much delirium, did not sleep. On the tenth, pains in the limbs, all the symptoms exacerbated; he was delirious. On the eleventh, he died.[673]

Case XIII.—A woman, who lodged on the Quay, being three months gone with child, was seized with fever, and immediately began to have pains in the loins. On the third day, pain of the head and neck, extending to the clavicle, and right hand; she immediately lost the power of speech; was paralyzed in the right hand, with spasms, after the manner of paraplegia; was quite incoherent; passed an uncomfortable night; did not sleep; disorder of the bowels, attended with bilious, unmixed, and scanty stools. On the fourth, recovered the use of her tongue; spasms of the same parts, and general pains remained; swelling in the hypochondrium, accompanied with pain; did not sleep, was quite incoherent; bowels disordered, urine thin, and not of a good color. On the fifth, acute fever; pain of the hypochondrium, quite incoherent; alvine evacuations bilious; towards night had a sweat, and was freed from the fever. On the sixth, recovered her reason; was every way relieved; the pain remained about the left clavicle; was thirsty, urine thin, had no sleep. On the seventh trembling, slight coma, some incoherence, pains about the clavicle and left arm remained; in all other respects was alleviated; quite coherent. For three days remained free from fever. On the eleventh, had a relapse, with rigor and fever. About the fourteenth day, vomited pretty abundantly bilious and yellow matters, had a sweat, the fever went off, by coming to a crisis.[674]

Case XIV.—Melidia, who lodged near the Temple of Juno, began to feel a violent pain of the head, neck, and chest. She was straightway seized with acute fever; a slight appearance of the menses; continued pains of all these parts. On the sixth, was affected with coma, nausea, and rigor; redness about the cheeks; slight delirium. On the seventh, had a sweat; the fever intermitted, the pains remained. A relapse; little sleep; urine throughout of a good color, but thin; the alvine evacuations were thin, bilious, acrid, very scanty, black, and fetid; a white, smooth sediment in the urine; had a sweat, and experienced a perfect crisis on the eleventh day.[675]

BOOK III.—OF THE EPIDEMICS.

THE ARGUMENT.

Though in the Argument prefixed to the First Book of the Epidemics I have given a pretty full summary of the contents both of that book and the third, I have still a few observations to make on some important points, which were not sufficiently considered on that occasion; and this I do the more readily, as it will afford me an opportunity of noticing a subject on which M. Littré has bestowed very extensive research. I allude to the origin of the Glandular Plague. As I make it a rule, in giving these my annotations, not to enter into any lengthy details, I shall now state, in a very succinct manner, the result of my inquiries. The reader is referred, for a fuller discussion of the subject, to the more ample disquisitions of M. Littré.[676]

The opinion has been pretty generally maintained by modern authorities, that the first description which we have of the glandular plague of the East is that given by the historian Procopius, in the sixth century; and the inference drawn therefrom is that the disease was unknown until his time. This opinion is still held, to a certain extent, by Hecker, Rosenbaum, Pariset, Nauman, and others of the most distinguished scholars of the day, but it appears to be untenable after the discovery of the "Fragment" of Ruffus, published by Mai, Rome, 1831. As the passage is very important, I shall give a translation of it in this place. It is as follows: "The buboes called pestilential are most fatal and acute, especially those which are seen occurring about Libya, Egypt, and Syria, and which are mentioned by Dionysius Curtus. Dioscorides and Posidonius make much mention of them in the plague which occurred in their time in Libya; they say it was accompanied by acute fever, pain, and prostration of the whole body, delirium, and the appearance of large and hard buboes, which did not suppurate, not only in the accustomed parts, but also in the groins and armpits." The only thing which detracts from the value of this paragraph is the difficulty of determining exactly who the authorities are which are referred to in it. Of Dionysius Curtus nothing is known; indeed it is more than probable, that there is some mistake in this name. There are several medical authors of the name of Dioscorides and Posidonius, and it is difficult to determine to which of them reference is here made. Still, however, there seems to be no reason for questioning the authenticity of the

passage. Ruffus, I may add, is generally admitted to have flourished in the reign of Trajan.[677]

To this important document let me join an interesting extract from Galen's work "On Fevers." Galen, *treating professedly of Pestilential Fevers*, which he maintains are all connected with a tendency to putridity, expresses himself as follows: "Moreover, as Hippocrates says, all fevers from buboes are bad, with the exception of ephemerals; although the bubo is also of the class of phlegmons. And I agree in so far with what is said of putrefaction, for this is the cause of the fever in inflammations, and not as Erasistratus supposed.[678] But yet there are certain fevers from buboes of the class of ephemerals, as certain others proclaim them to be; diseases difficult to cure, which derive their origin from an inflammation, an ulcer, an abscess, or some other such affection in a viscus. But the ephemeral fevers from buboes differ from those connected with putrefactions, either in a certain viscus, or in the hollow and very large vessels, that in those from buboes, which always impart their heat to the surrounding parts, the heat is communicated to the heart, and the putrefactive fume does not reach it, but remains circumscribed in the seat of the bubo, and the heat reaching the heart solely by a change in the connecting parts, in like manner as in those exposed to excessive heat and fatigue, the diffusion of the heat takes place from the parts first warmed to the source of vitality; but in a putrefaction about the viscera and large vessels, a fume, as it were, from the putrefying humors reaches the cavities of the heart, etc."[679] From these two passages alone, without taking into account several others of less importance, which might be gathered from other medical authorities,[680] it must be quite obvious that the glandular plague was known, at all events, in the second century of the Christian era. Moreover it is equally clear, that Galen did not look upon it as a new disease, but considered that it was noticed in the works of Hippocrates. To my mind, then, there can be no doubt that the pestilence which prevailed during the Peloponnesian war partook of the nature of the glandular plague. What has tended to create doubts on this subject, in the minds of many learned men, is the omission of any distinct mention of buboes in the graphic description of it given by Thucydides. But it should always be taken into account that Thucydides was not a professional man, and therefore there is a strong presumption that his acquaintance with the disease, even although, as he states, he himself had

experienced an attack of it, must have been altogether of a general nature. Indeed Galen, both in the treatise from which I have quoted above and in many other parts of his works, does not hesitate to declare, that the historian describes the disease as a common, that is to say, a non-professional man, whereas Hippocrates gives its characters as a physician. It is also to be borne in mind, that the description of it given by Thucydides applies to it only at its outbreak in the city of Athens, and it is a well-known characteristic of pestilential epidemics that they change very much during their progress. This character of them was well illustrated in the Plague of Aleppo, so admirably described by Dr. Russel; for although the glandular form of the disease prevailed in a large number of cases, a considerable proportion of them were unaffected with buboes. Indeed it appears to me to be too much the practice for the profession, as well as the public, to imagine to themselves a certain type or ideal of every disease, and when they do not recognize the exact characters which they fancy it should present, they immediately set down such cases as constituting an entirely different disease. This is an error that is constantly committed, and one which I believe to be at the bottom of the discordant opinions which prevail among professional men, on the subject of the glandular plague. It would be well for the physician to bear in mind how many varieties of symptoms the fever designated as Typhus puts on,—some with the rash reckoned peculiar to this fever, and some without it,—some with petechiæ, and miliary eruptions, and others without them; and many other complications of symptoms, which are sometimes present and sometimes not.

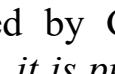
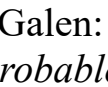
With regard to the hypothesis lately advanced by Mr. Theod. Krause, [681] and in so far countenanced by M. Littré, that the plague of Athens was an epidemical variola, I must say that I can see no probability in this supposition; for that a disease so strongly marked as smallpox should have prevailed in ancient times, and yet not be distinctly noticed by the Greek and Roman writers on medicine, I cannot conceive, more especially when we call to recollection the very accurate descriptions which they have left us of other cutaneous diseases, by no means attended with symptoms of so obvious a nature. Indeed it appears to me most wonderful, that such an opinion should have been entertained by any person at all acquainted with the Arabic writers on medicine, who described most distinctly both the plague and the smallpox. Not to lose ourselves amidst a host of authorities, I would refer the reader, in particular, to Avicenna, iv., 1, 4, where the two

diseases are treated of most distinctly, so that I cannot entertain a doubt that the Arabian physicians considered them to be essentially different.

In a considerable number of the cases reported in this book, there are affixed to them in the original certain characters, the interpretation of which the reader will find given in the translation. It will be necessary, then, to give the reader some account of the origin of these characters, regarding which our sole authority is Galen, who, in his Commentaries on this book, enters on the question in his usual elegant and attractive style. He admits that he derived his information principally from Zeuxis, one of his predecessors in the office of commenting upon the works of Hippocrates. (See § 2, of the Preliminary Discourse.) It appears that Ptolemy Philadelphus was so zealous in his search for books to adorn his library, in Alexandria, that he gave instructions to the masters of ships going on distant voyages to collect all the books they could procure, and bring them back with them; that he ordered copies to be taken of books brought to him in this way, and kept the originals, but returned the copies, along with large sums of money, in certain cases, to those who had lent them to him; and that the works so obtained were preserved in a separate department of the library, with the inscription, "The Books of the Ships." Among these was found a copy of the Third Book of the Epidemics, with the inscription, "One of the Books of the Ships, according to the *redacteur* Memnon of Sida." Others say, that the term "*redacteur*" was wanting, and that the book bore simply the inscription of "Memnon;" and that the servants of the king inscribed the names of all the seamen who had brought these books, when they were installed on the shelves of the library. This, it would seem, was not done immediately after their arrival in Alexandria, but that at first they were collected together in certain houses. Memnon, the librarian, then, is generally supposed to have surreptitiously introduced the characters into one of the copies, in order that he might raise himself into importance by interpreting them. But whether or not this ruse was actually perpetrated by Memnon, the general belief of the commentators was, that Hippocrates himself had nothing to do with them. In fact, Zeno would appear to have been the only commentator who held them to be genuine, and ascribed the introduction of them to our author. The opinion thus advanced by Zeno led him into a violent controversy with the two Apollonii, namely, the Empiric and Biblas, who strenuously maintained that the characters were an interpolation executed by Memnon. This came to be the settled opinion of

the commentators, and among others of Galen, who, although he gives a key to the interpretation of the characters, maintains, on all occasions, that they are of no authority, and had in fact been forged by Memnon.

The following is the key which Galen gives to the interpretation of the characters: α, signifies ἀποφθορὰν, *abortion*, or ἀπώλειαν, *loss*; γ, signifies γονοειδὲς ὂυρον, *urine resembling semen*; δ, punctuated below, thus, δ, signifies ἱδρῶτα, *sweat*, and διάρροιαν, *diarrhœa*, and διαφόρησιν, *perspiration*, or in fact any other *evacuation* which it is wished to express; ἐ, signifies ἐποχὴν, *retention*, or ἕδραν, *seat*; ζ, signifies ζήτημα, *the object of research*; θ, signifies θάνατον, *death*; ι, signifies ἱδρῶτα, *sweat*; κ, signifies κρίσιν, *crisis*, or κοιλιακὴν διάθεσιν; μ, signifies μανίαν, *madness*, or μήτραν, *the womb*; ν, signifies νεότητα, *youth*, or νέκρωσιν, *mortification*; x, signifies ξανθὴν χολὴν, *yellow bile*, or ξένον τι καὶ σπάνιον, *something strange and rare*, or ξυσμὸν, *irritation*, or ξηρότητα, *dryness*; ο, signifies ὀδύνας, *pains*, or οὖρον, *urine* (but some think that it is only when it has a ὐ above it that it signifies urine); π signifies πλῆθος, *abundance*, or πτύελον, *sputum*, or πυρὸν (πυρρὸν?), *yellow*, or πυρετὸν, *fever*, or πνεύμονος τάθος, *affection of the lungs*; π, with a character ι in its middle or), signifies πυθανὸν, *probable*; ρ, signifies ῥύσιν, *flux*, or ρίγος, *chill*; φ, signifies φρενῖτιν, *phrensy*; ς, signifies σπασμὸν, *convulsion*, or στομαχοῦ ἢ στόματός κάκωσιν, *illness of the stomach or mouth*; τ, signifies τόκον, *accouchement*; υ, signifies ὑγείαν, *health*, or ὑποχόνδριον, *hypochondrium*; χ, signifies χολὴν, *bile*, or χολῶδες, *bilious*; ψ, signifies ψύξιν, *congealing*; ω, signifies ὠμότητα, *crudity*. See Galeni Opera, t. v., p. 412, ed. Basil.; and Littré's Hippocrates, t. iii., p. 33.

According to this key, the characters at the end of the first case are thus explained by Galen: they are  ΠΟΥΜΥ. Here, then,  signifies πιθανὸν, *it is probable*, Π, πλῆθος, *that an abundance*, ου, οὖρων, *of urine*; M, *on the 40th day*; Y, ὑγείαν, *brought health*. It is more fully expressed thus by Galen: πιθανὸν ειναιδιὰ τὸ πλῆθος τῶν ἐκριθέντων ὁυρων ἀυτὸ λυρθῆναι τό νοσημα καὶ ὑγιῆ γενέσθαι τὸν ἄνθρωπον ἐν τὴ τεσσαρακοστῇ τῶν ἡμερῶν, that is to say, "*it is probable that, owing to the copious discharge of urine, the disease was resolved, and the patient became well on the fortieth day*."

SEC. I.

CASE I.—Pythion, who lived by the Temple of the Earth, on the first day, trembling commencing from his hands; acute fever, delirium. On the second, all the symptoms were exacerbated. On the third, the same. On the fourth alvine discharges scanty, unmixed, and bilious. On the fifth, all the symptoms were exacerbated, the tremors remained; little sleep, the bowels constipated. On the sixth sputa mixed, reddish. On the seventh, mouth drawn aside. On the eighth, all the symptoms were exacerbated; the tremblings were again constant; urine, from the beginning to the eighth day, thin, and devoid of color; substances floating in it, cloudy. On the tenth he sweated; sputa somewhat digested, had a crisis; urine thinnish about the crisis; but after the crisis, on the fortieth day, an abscess about the anus, which passed off by a strangury.

Explanation of the characters. It is probable that the great discharge of urine brought about the resolution of the disease, and the cure of the patient on the fortieth day.[682]

CASE II.—Hermocrates, who lived by the New Wall,[683] was seized with fever. He began to have pain in the head and loins; an empty distention of the hypochondrium; the tongue at first was parched; deafness at the commencement; there was no sleep; not very thirsty; urine thick and red, when allowed to stand it did not subside; alvine discharge very dry, and not scanty. On the fifth, urine thin, had substances floating in it which did not fall to the bottom;[684] at night he was delirious. On the sixth, had jaundice;[685] all the symptoms were exacerbated; had no recollection. On the seventh, in an uncomfortable state; urine thin, as formerly; on the following days the same. About the eleventh day, all the symptoms appeared to be lightened. Coma set in; urine thicker, reddish, thin substances below, had no sediment; by degrees he became collected. On the fourteenth, fever gone; had no sweat; slept, quite collected; urine of the same characters. About the seventeenth, had a relapse, became hot. On the following days, acute fever, urine thin, was delirious. Again, on the twentieth, had a crisis; free of fever; had no sweat; no appetite through the whole time; was perfectly collected; could not speak, tongue dry, without thirst; deep sleep. About the twenty-

fourth day he became heated; bowels loose, with a thin, watery discharge; on the following days acute fever, tongue parched. On the twenty-seventh he died. In this patient deafness continued throughout;[686] the urine either thick and red, without sediment, or thin, devoid of color, and having substances floating in it; he could taste nothing.

Explanation of the characters. It is probable that it was the suppression of the discharges from the bowels which occasioned death on the twenty-seventh day.

Case III.—The man who was lodged in the Garden of Dealces:[687] had heaviness of the head and pain in the right temple for a considerable time, from some accidental cause, was seized with fever, and took to bed. On the second, there was a trickling of pure blood from the left nostril, but the alvine discharges were proper, urine thin, mixed, having small substances floating in it, like coarse barley meal, or semen. On the third, acute fever; stools black, thin, frothy, a livid sediment in the dejections; slight coma; uneasiness at the times he had to get up; sediment in the urine livid, and somewhat viscid. On the fourth, slight vomiting of bilious, yellow matters, and, after a short interval, of the color of verdigris; a few drops of pure blood ran from the left nostril; stools the same; urine the same; sweated about the head and clavicles; spleen enlarged, pain of the thigh on the same side; loose swelling of the right hypochondrium; at night had no sleep, slight delirium. On the sixth, stools black, fatty, viscid, fetid; slept, more collected. On the seventh, tongue dry, thirsty, did not sleep; was somewhat delirious; urine thin, not of a good color. On the eighth, stools black, scanty, and compact; slept, became collected; not very thirsty. On the ninth had a rigor, acute fever, sweated, a chill, was delirious, strabismus of the right eye, tongue dry, thirsty, without sleep.[688] On the tenth, much the same. On the eleventh, became quite collected; free from fever, slept, urine thin about the crisis. The two following days without fever; it returned on the fourteenth, then immediately insomnolency and complete delirium. On the fifteenth, urine muddy, like that which has been shaken after the sediment has fallen to the bottom; acute fever, quite delirious, did not sleep; knees and legs painful; after a suppository, had alvine dejection of a black color. On the sixteenth, urine thin, had a cloudy eneorema, was delirious. On the seventeenth, in the morning, extremities cold, was covered up with the bedclothes, acute fever, general sweat, felt relieved, more collected; not free

of fever, thirsty, vomited yellow bile, in small quantities; formed fæces passed from the bowels, but soon afterwards black, scanty, and thin; urine thin, not well colored. On the eighteenth, not collected, comatose. On the nineteenth, in the same state. On the twentieth, slept; quite collected, sweated, free from fever, not thirsty, but the urine thin. On the twenty-first, slight delirium; somewhat thirsty, pain of the hypochondrium, and throbbing about the navel throughout. On the twenty-fourth, sediment in the urine, quite collected. Twenty-seventh, pain of the right hip joint; urine thin and bad, a sediment; all the other symptoms milder. About the twenty-ninth, pain of the right eye; urine thin. Fortieth, dejections pituitous, white, rather frequent; sweated abundantly all over; had a complete crisis.[689]

Explanation of the characters. It is probable that, by means of the stools, the urine, and the sweat, this patient was cured in forty days.

SEC. II.

CASE IV.—In Thasus, Philistes had headache of long continuance, and sometimes was confined to bed, with a tendency to deep sleep; having been seized with continual fevers from drinking, the pain was exacerbated; during the night he, at first, became hot. On the first day, he vomited some bilious matters, at first yellow, but afterwards of a verdigris-green color, and in greater quantity; formed fæces passed from the bowels; passed the night uncomfortably. On the second, deafness, acute fever; retraction of the right hypochondrium; urine thin, transparent, had some small substances like semen floating in it; delirium ferox about mid-day. On the third, in an uncomfortable state. On the fourth, convulsions; all the symptoms exacerbated. On the fifth, early in the morning, died.

Explanation of the characters. It is probable that the death of the patient on the fifth day is to be attributed to a phrenitis, with unfavorable evacuations.[690]

CASE V.—Charion, who was lodged at the house of Demænetus, contracted a fever from drinking. Immediately he had a painful heaviness of the head; did not sleep; bowels disordered, with thin and somewhat bilious discharges. On the third day, acute fever; trembling of the head, but especially of the lower lip; after a little time a rigor, convulsions; he was quite delirious; passed the night uncomfortably. On the fourth, quiet, slept

little, talked incoherently. On the fifth, in pain; all the symptoms exacerbated; delirium; passed the night uncomfortably; did not sleep. On the sixth, in the same state. On the seventh had a rigor, acute fever, sweated all over his body; had a crisis. Throughout the alvine discharges were bilious, scanty, and unmixed; urine thin, well colored, having cloudy substances floating in it. About the eighth day, passed urine of a better color, having a white scanty sediment; was collected, free from fever for a season. On the ninth it relapsed. About the fourteenth, acute fever. On the sixteenth, vomited pretty frequently yellow, bilious matters. On the seventeenth had a rigor, acute fever, sweated, free of fever; had a crisis; urine, after the relapse and the crisis, well colored, having a sediment; neither was he delirious in the relapse. On the eighteenth, became a little heated; some thirst, urine thin, with cloudy substances floating in it; slight wandering in his mind. About the nineteenth, free of fever, had a pain in his neck; a sediment in the urine. Had a complete crisis on the twentieth.

Explanation of the characters. It is probable that the patient was cured in twenty days, by the abundance of bilious stools and urine.[691]

Case VI.—The daughter of Euryanax, a maid, was taken ill of fever. She was free of thirst throughout, but had no relish for food. Alvine discharges small, urine thin, scanty, not well colored. In the beginning of the fever, had a pain about the nates. On the sixth day, was free of fever, did not sweat, had a crisis; the complaint about the nates came to a small suppuration, and burst at the crisis. After the crisis, on the seventh day, had a rigor, became slightly heated, sweated. On the eighth day after the rigor, had an inconsiderable rigor; the extremities cold ever after. About the tenth day, after a sweat which came on, she became delirious, and again immediately afterwards was collected; these symptoms were said to have been brought on by eating grapes. After an intermission of the twelfth day, she again talked much incoherently; her bowels disordered with bilious, scanty, unmixed, thin, acrid discharges; she required to get frequently up. She died on the seventh day after the return of the delirium. At the commencement of the disease she had pain in the throat, and it was red throughout; uvula retracted, defluxions abundant, thin, acrid; coughed, but had no concocted sputa; during the whole time loathed all kinds of food, nor had the least desire of anything; had no thirst, nor drank anything worth

mentioning; was silent, and never spoke a word; despondency; had no hopes of herself. She had a congenital tendency to phthisis.[692]

Case VII.—The woman affected with quinsy, who lodged in the house of Aristion: her complaint began in the tongue; speech inarticulate; tongue red and parched. On the first day, felt chilly, and afterwards became heated. On the third day, a rigor, acute fever; a reddish and hard swelling on both sides of the neck and chest, extremities cold and livid; respiration elevated; the drink returned by the nose; she could not swallow; alvine and urinary discharges suppressed. On the fourth, all the symptoms were exacerbated. On the sixth she died of the quinsy.

Explanation of the characters. It is probable that the cause of death on the sixth day was the suppression of the discharges.[693]

Case VIII.—The young man who was lodged by the Liars' Market was seized with fever from fatigue, labor, and running out of season. On the first day, the bowels disordered, with bilious, thin, and copious dejections; urine thin and blackish; had no sleep; was thirsty. On the second all the symptoms were exacerbated; dejections more copious and unseasonable; he had no sleep; disorder of the intellect; slight sweat. On the third day, restless, thirst, nausea, much tossing about, bewilderment, delirium; extremities livid and cold; softish distention of the hypochrondrium on both sides. On the fourth, did not sleep; still worse. On the seventh he died. He was about twenty years of age.

Explanation of the characters. It is probable that the cause of his death on the seventh day was the unseasonable practices mentioned above. An acute affection.[694]

Case IX.—The woman who lodged at the house of Tisamenas had a troublesome attack of iliac passion; much vomiting; could not keep her drink; pains about the hypochondria, and pains also in the lower part of the belly; constant tormina; not thirsty; became hot; extremities cold throughout, with nausea and insomnolency; urine scanty and thin; dejections undigested, thin, scanty. Nothing could do her any good. She died.[695]

Case X.—A woman of those who lodged with Pantimides, from a miscarriage, was taken ill of fever. On the first day, tongue dry, thirst,

nausea, insomnolency, belly disordered, with thin, copious, undigested dejections. On the second day, had a rigor, acute fever; alvine discharges copious; had no sleep. On the third, pains greater. On the fourth, delirious. On the seventh she died. Belly throughout loose, with copious, thin, undigested evacuations; urine scanty, thin. An ardent fever.[696]

Case XI.—Another woman, after a miscarriage about the fifth month, the wife of Ocetes, was seized with fever. At first had sometimes coma and sometimes insomnolency; pain of the loins; heaviness of the head. On the second, the bowels were disordered, with scanty, thin, and at first unmixed dejections. On the third, more copious, and worse; at night did not sleep. On the fourth was delirious; frights, despondency; strabismus of the right eye; a faint cold sweat about the head; extremities cold. On the fifth day, all the symptoms were exacerbated; talked much incoherently, and again immediately became collected; had no thirst; labored under insomnolency; alvine dejections copious, and unseasonable throughout; urine scanty, thin, darkish; extremities cold, somewhat livid. On the sixth day, in the same state. On the seventh she died. Phrenitis.[697]

Case XII.—A woman who lodged near the Liars' Market, having then brought forth a son in a first and difficult labor, was seized with fever. Immediately on the commencement had thirst, nausea, and cardialgia; tongue dry; bowels disordered, with thin and scanty dejections; had no sleep. On the second, had slight rigor, acute fever; a faint cold sweat about the head. On the third, painfully affected; evacuations from the bowels undigested, thin, and copious. On the fourth, had a rigor; all the symptoms exacerbated; insomnolency. On the fifth, in a painful state. On the sixth, in the same state; discharges from the bowels liquid and copious. On the seventh, had a rigor, fever acute; much thirst; much tossing about; towards evening a cold sweat over all; extremities cold; could no longer be kept warm; and again at night had a rigor; extremities could not be warmed; she did not sleep; was slightly delirious, and again speedily collected. On the eighth, about mid-day, she became warm, was thirsty, comatose, had nausea; vomited small quantities of yellowish bile; restless at night, did not sleep; passed frequently large quantities of urine without consciousness. On the ninth, all the symptoms gave way; comatose, towards evening slight rigors; small vomitings of bile. On the tenth, rigor; exacerbation of the fever, did not sleep at all; in the morning passed much urine having a

sediment; extremities recovered their heat. On the eleventh, vomited bile of a verdigris-green color; not long after had a rigor, and again the extremities cold; towards evening a rigor, a cold sweat, much vomiting; passed a painful night. On the twelfth, had copious black and fetid vomitings; much hiccup, painful thirst. On the thirteenth, vomitings black, fetid, and copious; rigor about mid-day, loss of speech. On the fourteenth, some blood ran from her nose, she died. In this case the bowels were loose throughout; with rigors; her age about seventeen. An ardent fever.[698]

Section III.—Constitution 2.[699]

The year was southerly, rainy; no winds throughout.[700] Droughts having prevailed during the previous seasons of the year, the south winds towards the rising of Arcturus were attended with much rain. Autumn gloomy and cloudy, with copious rains. Winter southerly, damp, and soft. But long after the solstice, and near the equinox, much winterly weather out of season; and when now close to the equinox, northerly, and winterly weather for no long time. The spring again southerly, calm, much rain throughout until the dog-days. Summer fine and hot; great suffocating heats. The Etesian winds blew small and irregular; again, about the season of Arcturus, much rains with north winds. The year being southerly, damp, and soft towards winter, all were healthy, except those affected with phthisis, of whom we shall write afterwards.

3. Early in spring, along with the prevailing cold, there were many cases of erysipelas, some from a manifest cause, and some not.[701] They were of a malignant nature, and proved fatal to many; many had sore-throat and loss of speech. There were many cases of ardent fever, phrensy, aphthous affections of the mouth,[702] tumors on the genital organs; of ophthalmia, anthrax,[703] disorder of the bowels, anorexia, with thirst and without it; of disordered urine, large in quantity, and bad in quality; of persons affected with coma for a long time, and then falling into a state of insomnolency. There were many cases of failure of crisis, and many of unfavorable crisis; many of dropsy and of phthisis. Such were the diseases then epidemic.[704] There were patients affected with every one of the species which have been mentioned, and many died. The symptoms in each of these cases were as follows:

4. In many cases erysipelas, from some obvious cause, such as an accident, and sometimes from even a very small wound, broke out all over the body, especially, in persons about sixty years of age, about the head, if such an accident was neglected in the slightest degree; and this happened in some who were under treatment; great inflammation took place, and the erysipelas quickly spread all over.[705] In the most of them the abscesses ended in suppurations, and there were great fallings off (sloughing) of the flesh, tendons, and bones; and the defluxion which seated in the part was not like pus, but a sort of putrefaction, and the running was large and of various characters. Those cases in which any of these things happened about the head were accompanied with falling off of the hairs of the head and chin, the bones were laid bare and separated, and there were excessive runnings; and these symptoms happened in fevers and without fevers. But these things were more formidable in appearance than dangerous; for when the concoction in these cases turned to a suppuration, most of them recovered; but when the inflammation and erysipelas disappeared, and when no abscess was formed, a great number of these died.[706] In like manner, the same things happened to whatever part of the body the disease wandered, for in many cases both forearm and arm dropped off; and in those cases in which it fell upon the sides, the parts there, either before or behind, got into a bad state; and in some cases the whole femur and bones of the leg and whole foot were laid bare. But of all such cases, the most formidable were those which took place about the pubes and genital organs. [707] Such was the nature of these cases when attended with sores, and proceeding from an external cause; but the same things occurred in fevers, before fevers, and after fevers. But those cases in which an abscess was formed, and turned to a suppuration, or a seasonable diarrhœa or discharge of good urine took place, were relieved thereby: but those cases in which none of these symptoms occurred, but they disappeared without a crisis, proved fatal. The greater number of these erysipelatous cases took place in the spring, but were prolonged through the summer and during autumn.

5. In certain cases there was much disorder, and tumors about the fauces, and inflammations of the tongue, and abscesses about the teeth. And many were attacked with impairment or loss of speech;[708] at first, those in the commencement of phthisis, but also persons in ardent fever and in phrenitis.

6. The cases of ardent fever and phrenitis occurred early in spring after the cold set in, and great numbers were taken ill at that time, and these cases were attended with acute and fatal symptoms. The constitution of the ardent fevers which then occurred was as follows: at the commencement they were affected with coma, nausea, and rigors; fever not acute, not much thirst, nor delirium, slight epistaxis,[709] the paroxysms for the most part on even days; and, about the time of the paroxysms, forgetfulness, loss of strength and of speech, the extremities, that is to say, the hands and feet, at all times, but more especially about the time of the paroxysms, were colder than natural; they slowly and imperfectly became warmed, and again recovered their recollection and speech.[710] They were constantly affected either with coma, in which they got no sleep, or with insomnolency, attend with pains; [711] most had disorders of the bowels, attended with undigested, thin, and copious evacuations; urine copious, thin, having nothing critical nor favorable about it; neither was there any other critical appearance in persons affected thus; for neither was there any proper hemorrhage, nor any other of the accustomed evacuations, to prove a crisis. They died, as it happened, in an irregular manner, mostly about the crisis, but in some instances after having lost their speech for a long time, and having had copious sweats. These were the symptoms which marked the fatal cases of ardent fever; similar symptoms occurred in the phrenitic cases; but these were particularly free from thirst, and none of these had wild delirium[712] as in other cases, but they died oppressed by a bad tendency to sleep, and stupor.

7. But there were also other fevers, as will be described. Many had their mouths affected with aphthous ulcerations. There were also many defluxions about the genital parts, and ulcerations, boils (phymata), externally and internally, about the groins.[713] Watery ophthalmies of a chronic character, with pains; fungous excrescences of the eyelids, externally and internally, called fici, which destroyed the sight of many persons.[714] There were fungous growths, in many other instances, on ulcers, especially on those seated on the genital organs. There were many attacks of carbuncle (anthrax) through the summer, and other affections, which are called “the putrefaction” (*seps*); also large ecthymata,[715] and large tetters (*herpetes*) in many instances.

8. And many and serious complaints attacked many persons in the region of the belly. In the first place, tenesmus, accompanied with pain, attacked many, but more especially children, and all who had not attained to puberty; and the most of these died. There were many cases of lientery and of dysentery; but these were not attended with much pain.[716] The evacuations were bilious, and fatty, and thin, and watery; in many instances the disease terminated in this way, with and without fever; there were painful tormina and volvuli of a malignant kind; copious evacuations of the contents of the guts, and yet much remained behind; and the passages did not carry off the pains, but yielded with difficulty to the means administered; for in most cases purgings were hurtful to those affected in this manner; many died speedily, but in many others they held out longer. In a word, all died, both those who had acute attacks and those who had chronic, most especially from affections of the belly, for it was the belly which carried them all off.

9. All persons had an aversion to food in all the afore-mentioned complaints to a degree such as I never met with before,[717] and persons in these complaints most especially, and those recovering from them, and in all other diseases of a mortal nature. Some were troubled with thirst, and some not; and both in febrile complaints and in others no one drank unseasonably or disobeyed injunctions.

10. The urine in many cases was not in proportion to the drink administered, but greatly in excess; and the badness of the urine voided was great, for it had not the proper thickness, nor concoction, nor purged properly; for in many cases purgings by the bladder indicate favorably, but in the greatest number they indicated a melting of the body, disorder of the bowels, pains, and a want of crisis.[718]

11. Persons laboring under phrenitis and causus were particularly disposed to coma; but also in all other great diseases which occurred along with fever. In the main, most cases were attended either by heavy coma, or by short and light sleep.

12. And many other forms of fevers were then epidemic, of tertian, of quartan, of nocturnal,[719] of continual, of chronic, of erratic, of fevers attended with nausea, and of irregular fevers. All these were attended with much disorder, for the bowels in most cases were disordered, accompanied

with rigors, sweats not of a critical character, and with the state of the urine as described. In most instances the disease was protracted, for neither did the deposits which took place prove critical as in other cases; for in all complaints and in all cases there was difficulty of crisis, want of crisis, and protraction of the disease, but most especially in these. A few had the crisis about the eightieth day, but in most instances it (the disease?) left them irregularly. A few of them died of dropsy without being confined to bed. And in many other diseases people were troubled with swelling, but more especially in phthisical cases.

13. The greatest and most dangerous disease, and the one that proved fatal to the greatest number, was the consumption.[720] With many persons it commenced during the winter, and of these some were confined to bed, and others bore up on foot; the most of those died early in spring who were confined to bed; of the others, the cough left not a single person, but it became milder through the summer; during the autumn, all these were confined to bed, and many of them died, but in the greater number of cases the disease was long protracted. Most of these were suddenly attacked with these diseases, having frequent rigors, often continual and acute fevers; unseasonable, copious, and cold sweats throughout; great coldness, from which they had great difficulty in being restored to heat; the bowels variously constipated, and again immediately in a loose state, but towards the termination in all cases with violent looseness of the bowels; a determination downwards of all matters collected about the lungs; urine excessive, and not good; troublesome melting. The coughs throughout were frequent, and sputa copious, digested, and liquid, but not brought up with much pain; and even when they had some slight pain, in all cases the purging of the matters about the lungs went on mildly. The fauces were not very irritable, nor were they troubled with any saltish humors; but there were viscid, white, liquid, frothy, and copious defluxions from the head. But by far the greatest mischief attending these and the other complaints, was the aversion to food, as has been described. For neither had they any relish for drink along with their food, but continued without thirst. There was heaviness of the body, disposition to coma, in most cases swelling, which ended in dropsy; they had rigors, and were delirious towards death.

14. The form of body peculiarly subject to phthisical complaints was the smooth, the whitish, that resembling the lentil; the reddish, the blue-eyed,

the leucophlegmatic,[721] and that with the scapulæ having the appearance of wings: and women in like manner,[722] with regard to the melancholic and subsanguineous, phrenitic and dysenteric affections principally attacked them. Tenesmus troubled young persons of a phlegmatic temperament. Chronic diarrhœa, acrid and viscid discharges from the bowels, attacked those who were troubled with bitter bile.

15. To all those which have been described, the season of spring was most inimical, and proved fatal to the greatest numbers: the summer was the most favorable to them, and the fewest died then; in autumn, and under the Pleiades, again there died great numbers. It appears to me, according to the reason of things, that the coming on of summer should have done good in these cases; for winter coming on cures the diseases of summer, and summer coming on removes the diseases of winter. And yet the summer in question was not of itself well constituted, for it became suddenly hot, southerly, and calm; but, notwithstanding, it proved beneficial by producing a change on the other constitution.

16. I look upon it as being a great part of the art to be able to judge properly of that which has been written. For he that knows and makes a proper use of these things, would appear to me not likely to commit any great mistake in the art. He ought to learn accurately the constitution of every one of the seasons, and of the diseases; whatever that is common in each constitution and disease is good, and whatever is bad; whatever disease will be protracted and end in death, and whatever will be protracted and end in recovery; which disease of an acute nature will end in death, and which in recovery. From these it is easy to know the order of the critical days, and prognosticate from them accordingly. And to a person who is skilled in these things, it is easy to know to whom, when, and how aliment ought to be administered.[723]

Sec. 17. Sixteen Cases.[724]

Case I.—In Thasus, the Parian who lodged above the Temple of Diana was seized with an acute fever, at first of a continual and ardent type; thirsty, inclined to be comatose at first, and afterwards troubled with insomnolency; bowels disordered at the beginning, urine thin. On the sixth day, passed oily urine, was delirious. On the seventh, all the symptoms were

exacerbated; had no sleep, but the urine of the same characters, and the understanding disordered; alvine dejections bilious and fatty. On the eighth, a slight epistaxis; small vomiting of verdigris-green matters; slept a little. On the ninth, in the same state. On the tenth, all the symptoms gave way. On the eleventh, he sweated, but not over the whole body; he became cold, but immediately recovered his heat again. On the fourteenth, acute fever; discharges bilious, thin, and copious; substances floating in the urine; he became incoherent. On the seventeenth, in a painful state, for he had no sleep, and the fever was more intense. On the twentieth, sweated all over; apyrexia, dejections bilious; aversion to food, comatose. On the twenty-fourth, had a relapse. On the thirty-fourth, apyrexia; bowels not confined; and he again recovered his heat. Fortieth, apyrexia, bowels confined for no long time, aversion to food; had again slight symptoms of fever, and throughout in an irregular form; apyrexia at times, and at others not; for if the fever intermitted, and was alleviated for a little, it immediately relapsed again; he used much and improper food; sleep bad; about the time of the relapse he was delirious; passed thick urine at that time, but troubled, and of bad characters; bowels at first confined, and again loose; slight fevers of a continual type; discharges copious and thin. On the hundred and twentieth day he died. In this patient the bowels were constantly from the first either loose, with bilious, liquid, and copious dejection, or constipated with hot and undigested fæces; the urine throughout bad; for the most part coma, or insomnolency with pain; continued aversion to food. Ardent fever.

Explanation of the characters. It is probable that the weakness produced by the fever, the phrenitis, and affection of the hypochondrium caused death on the hundred and twentieth day.[725]

Case II.—In Thasus, the woman who lodged near the Cold Water, on the third day after delivery of a daughter, the lochial discharge not taking place, was seized with acute fever, accompanied with rigors. But a considerable time before delivery she was feverish, confined to bed, and loathed her food. After the rigor which took place, continual and acute fevers, with rigors. On the eighth and following days, was very incoherent, and immediately afterwards became collected; bowels disordered, with copious, thin, watery, and bilious stools; no thirst. On the eleventh was collected, but disposed to coma; urine copious, thin, and black; no sleep. On the twentieth, slight chills, and immediately afterwards was warm; slight

incoherence; no sleep; with regard to the bowels, in the same condition; urine watery, and copious. On the twenty-seventh, free from fever; bowels constipated; not long afterwards violent pain of the right hip-joint for a considerable time; fevers afterwards supervened; urine watery. On the fortieth, complaints about the hip-joint better; continued coughs, with copious, watery sputa; bowels constipated; aversion to food; urine the same; fever not leaving her entirely, but having paroxysms in an irregular form, sometimes present, sometimes not. On the sixtieth, the coughs left her without a crisis, for no concoction of the sputa took place, nor any of the usual abscesses; jaw on the right side convulsively retracted; comatose, was again incoherent, and immediately became collected; utter aversion to food; the jaw became relaxed; alvine discharges small, and bilious; fever more acute, affected with rigors; on the following days lost her speech, and again became collected, and talked. On the eightieth she died. In this case the urine throughout was black, thin, and watery; coma supervened; there was aversion to food, despondency, and insomnolency; irritability, restlessness; she was of a melancholic turn of mind.

Explanation of the characters. It is probable that the suppression of the lochial discharge caused death on the eightieth day.[726]

Case III.—In Thasus, Pythion, who was lodged above the Temple of Hercules, from labor, fatigue, and neglected diet, was seized with strong rigor and acute fever; tongue dry, thirsty, and bilious; had no sleep; urine darkish, eneorema floating on the top of the urine, did not subside. On the second day, about noon, coldness of the extremities, especially about the hands and head; loss of speech and of articulation; breathing short for a considerable time; recovered his heat; thirst; passed the night quietly; slight sweats about the head. On the third, passed the day in a composed state; in the evening, about sunset, slight chills; nausea, agitation; passed the night in a painful state; had no sleep; small stools of compact fæces passed from the bowels. On the fourth, in the morning, composed; about noon all the symptoms became exacerbated; coldness, loss of speech, and of articulation; became worse; recovered his heat after a time; passed black urine, having substances floating in it; the night quiet; slept. On the fifth, seemed to be lightened, but a painful weight about the belly; thirsty, passed the night in a painful state. On the sixth, in the morning, in a quiet state; in the evening the pains greater; had a paroxysm; in the evening the bowels

properly opened by a small clyster; slept at night. On the seventh, during the day, in a state of nausea, somewhat disturbed; passed urine of the appearance of oil; at night, much agitation, was incoherent, did not sleep. On the eighth, in the morning, slept a little; but immediately coldness, loss of speech, respiration small and weak; but in the evening recovered his heat again; was delirious, but towards day was somewhat lightened; stools small, bilious, and unmixed. On the ninth, affected with coma, and with nausea when roused; not very thirsty; about sunset he became restless and incoherent; passed a bad night. On the tenth, in the morning, had become speechless; great coldness; acute fever; much perspiration; he died. His sufferings were on the even days.

Explanation of the characters. It is probable that the excessive sweats caused death on the tenth day.[727]

Case IV.—The patient affected with phrenitis, having taken to bed on the first day, vomited largely of verdigris-green and thin matters; fever, accompanied with rigors, copious and continued sweats all over; heaviness of the head and neck, with pain; urine thin, substances floating in the urine small, scattered, did not subside; had copious dejections from the bowels; very delirious; no sleep. On the second, in the morning, loss of speech; acute fever; he sweated, fever did not leave him; palpitations over the whole body, at night, convulsions. On the third, all the symptoms exacerbated; he died.

Explanation of the characters. It is probable that the sweats and convulsions caused death.[728]

Case V.—In Larissa, a man, who was bald, suddenly was seized with pain in the right thigh; none of the things which were administered did him any good. On the first day, fever acute, of the ardent type, not agitated, but the pains persisted. On the second, the pains in the thigh abated, but the fever increased; somewhat tossed about; did not sleep; extremities cold; passed a large quantity of urine, not of a good character. On the third, the pain of the thigh ceased; derangement of the intellect, confusion, and much tossing about. On the fourth, about noon, he died. An acute disease.[729]

Case VI.—In Abdera, Pericles was seized with a fever of the acute, continual type, with pain; much thirst, nausea, could not retain his drink; somewhat swelled about the spleen, with heaviness of the head. On the first

day, had hemorrhage from the left nostril, but still the fever became more violent; passed much muddy, white urine, which when allowed to stand did not subside. On the second day, all the symptoms were exacerbated, yet the urine was thick, and more inclined to have a sediment; the nausea less; he slept. On the third, fever was milder; abundance of urine, which was concocted, and had a copious sediment; passed a quiet night. On the fourth, had a copious and warm sweat all over about noon; was free of fever, had a crisis, no relapse. An acute affection.[730]

Case VII.—In Abdera, the young woman who was lodged in the Sacred Walk was seized with an ardent fever. She was thirsty, and could not sleep; had menstruation for the first time. On the sixth, much nausea, flushing, was chilly, and tossed about. On the seventh, in the same state; urine thin, but of a good color; no disturbance about the bowels. On the eighth, deafness, acute fever, insomnolency, nausea, rigors, became collected; urine the same. On the ninth, in the same state, and also on the following days; thus the deafness persisted. On the fourteenth, disorder of the intellect; the fever abated. On the seventeenth, a copious hemorrhage from the nose; the deafness slightly better; and on the following days, nausea, deafness, and incoherence. On the twentieth, pain of the feet; deafness and delirium left her; a small hemorrhage from the nose; sweat, apyrexia. On the twenty-fourth, the fever returned, deafness again; pain of the feet remained; incoherence. On the twenty-seventh, had a copious sweat, apyrexia; the deafness left her; the pain of her feet partly remained; in other respects had a complete crisis.

Explanation of the characters. It is probable that the restoration of health on the twentieth day was the result of the evacuation of urine.[731]

Case VIII.—In Abdera, Anaxion, who was lodged near the Thracian Gates, was seized with an acute fever; continued pain of the right side; dry cough, without expectoration during the first days, thirst, insomnolency; urine well colored, copious, and thin. On the sixth, delirious; no relief from the warm applications. On the seventh, in a painful state, for the fever increased, while the pains did not abate, and the cough was troublesome, and attended with dyspnœa. On the eighth, I opened a vein at the elbow, and much blood, of a proper character, flowed; the pains were abated, but the dry coughs continued. On the eleventh, the fever diminished; slight sweats about the head; coughs, with more liquid sputa; he was relieved. On the

twentieth, sweat, apyrexia; but after the crisis he was thirsty, and the expectorations were not good. On the twenty-seventh the fever relapsed; he coughed, and brought up much concocted sputa: sediment in the urine copious and white; he became free of thirst, and the respiration was good. On the thirty-fourth, sweated all over, apyrexia, general crisis.

Explanation of the characters. It is probable that the evacuation of the sputa brought about the recovery on the thirty-fourth day.[732]

Case IX.—In Abdera, Heropythus, while still on foot, had pain in the head, and not long afterwards he took to bed; he lived near the High Street. Was seized with acute fever of the ardent type; vomitings at first of much bilious matter; thirst; great restlessness; urine thin, black, substances sometimes floating high in it, and sometimes not; passed the night in a painful state; paroxysms of the fever diversified, and for the most part irregular. About the fourteenth day, deafness; the fever increased; urine the same. On the twentieth and following days, much delirium. On the thirtieth, copious hemorrhage from the nose, and became more collected; deafness continued, but less; the fever diminished; on the following days, frequent hemorrhages, at short intervals. About the sixtieth, the hemorrhages ceased, but violent pain of the hip-joint, and increase of fever. Not long afterwards, pains of all the inferior parts; it then became a rule, that either the fever and deafness increased, or, if these abated and were lightened, the pains of the inferior parts were increased. About the eightieth day, all the complaints gave way, without leaving any behind; for the urine was of a good color, and had a copious sediment, while the delirium became less. About the hundredth day, disorder of the bowels, with copious and bilious evacuations, and these continued for a considerable time, and again assumed the dysenteric form with pain; but relief of all the other complaints. On the whole, the fevers went off, and the deafness ceased. On the hundred and twentieth day, had a complete crisis. Ardent fever.

Explanation of the characters. It is probable that the bilious discharge brought about the recovery on the hundred and twentieth day.[733]

Case X.—In Abdera, Nicodemus was seized with fever from venery and drinking. At the commencement he was troubled with nausea and cardialgia; thirsty, tongue was parched; urine thin and dark. On the second day, the fever exacerbated; he was troubled with rigors and nausea; had no

sleep; vomited yellow bile; urine the same; passed a quiet night, and slept. On the third, a general remission; amelioration; but about sunset felt again somewhat uncomfortable; passed an uneasy night. On the fourth, rigor, much fever, general pains; urine thin, with substances floating in it; again a quiet night. On the fifth, all the symptoms remained, but there was an amelioration. On the sixth, some general pains; substances floating in the urine; very incoherent. On the seventh, better. On the eighth, all the other symptoms abated. On the tenth, and following days, there were pains, but all less; in this case throughout, the paroxysms and pains were greater on the even days. On the twentieth, the urine white and thick, but when allowed to stand had no sediment; much sweat; seemed to be free from fever; but again in the evening he became hot, with the same pains, rigor, thirst, slightly incoherent. On the twenty-fourth, urine copious, white, with an abundant sediment; a copious and warm sweat all over; apyrexia; the fever came to its crisis.

Explanation of the characters. It is probable that the cure was owing to the bilious evacuations and the sweats.[734]

Case XI.—In Thasus, a woman, of a melancholic turn of mind, from some accidental cause of sorrow, while still going about, became affected with loss of sleep, aversion to food, and had thirst and nausea. She lived near the Pylades, upon the Plain. On the first, at the commencement of night, frights, much talking; despondency, slight fever; in the morning, frequent spasms, and when they ceased, she was incoherent and talked obscurely; pains frequent, great, and continued. On the second, in the same state; had no sleep; fever more acute. On the third, the spasms left her; but coma, and disposition to sleep, and again awake, started up, and could not contain herself; much incoherence; acute fever; on that night a copious sweat all over; apyrexia, slept, quite collected; had a crisis. About the third day, the urine black, thin, substances floating in it generally round, did not fall to the bottom; about the crisis a copious menstruation.[735]

Case XII.—In Larissa,[736] a young unmarried woman was seized with a fever of the acute and ardent type; insomnolency, thirst; tongue sooty and dry; urine of a good color, but thin. On the second, in an uneasy state, did not sleep. On the third, alvine discharges copious, watery, and greenish, and on the following days passed such with relief. On the fourth, passed a small

quantity of thin urine, having substances floating towards its surface, which did not subside; was delirious towards night. On the sixth, a great hemorrhage from the nose; a chill, with a copious and hot sweat all over; apyrexia, had a crisis. In the fever, and when it had passed the crisis, the menses took place for the first time, for she was a young woman. Throughout she was oppressed with nausea, and rigors; redness of the face; pain of the eyes; heaviness of the head; she had no relapse, but the fever came to a crisis. The pains were on the even days.[737]

Case XIII.—Apollonius, in Abdera, bore up (under the fever?) for some time, without betaking himself to bed. His viscera were enlarged, and for a considerable time there was a constant pain about the liver, and then he became affected with jaundice; he was flatulent, and of a whitish complexion. Having eaten beef, and drunk unseasonably, he became a little heated at first, and betook himself to bed, and having used large quantities of milk, that of goats and sheep, and both boiled and raw, with a bad diet otherwise, great mischief was occasioned by all these things; for the fever was exacerbated, and of the food taken scarcely any portion worth mentioning was passed from the bowels; the urine was thin and scanty; no sleep; troublesome meteorism; much thirst; disposition to coma; painful swelling of the right hypochondrium; extremities altogether coldish; slight incoherence, forgetfulness of everything he said; he was beside himself. About the fourteenth day after he betook himself to bed, had a rigor, became heated, and was seized with furious delirium; loud cries, much talking, again composed, and then coma came on; afterwards the bowels disordered, with copious, bilious, unmixed, and undigested stools; urine black, scanty, and thin; much restlessness; alvine evacuations of varied characters, either black, scanty, and verdigris-green, or fatty, undigested, and acrid; and at times the dejections resembled milk. About the twenty-fourth, enjoyed a calm; other matters in the same state; became somewhat collected; remembered nothing that had happened since he was confined to bed; immediately afterwards became delirious; every symptom rapidly getting worse. About the thirtieth, acute fever; stools copious and thin; was delirious; extremities cold; loss of speech. On the thirty-fourth he died. In this case, as far as I saw, the bowels were disordered; urine thin and black; disposition to coma; insomnolency; extremities cold; delirious throughout. Phrenitis.[738]

Case XIV.—In Cyzicus,[739] a woman who had brought forth twin daughters, after a difficult labor, and in whom the lochial discharge was insufficient, at first was seized with an acute fever, attended with chills; heaviness of the head and neck, with pain; insomnolency from the commencement; she was silent, sullen, and disobedient; urine thin, and devoid of color; thirst, nausea for the most part; bowels irregularly disordered, and again constipated. On the sixth, towards night, talked much incoherently; had no sleep. About the eleventh day was seized with wild delirium, and again became collected; urine black, thin, and again deficient, and of an oily appearance; copious, thin, and disordered evacuations from the bowels. On the fourteenth, frequent convulsions; extremities cold; not in anywise collected; suppression of urine. On the sixteenth loss of speech. On the seventeenth, she died. Phrenitis.

Explanation of the characters. It is probable that death was caused, on the seventeenth day, by the affection of the brain consequent upon her accouchement.[740]

Case XV.—In Thasus, the wife of Dealces, who was lodged upon the Plain, from sorrow was seized with an acute fever, attended with chills. From first to last she wrapped herself up in her bedclothes; still silent, she fumbled, picked, bored, and gathered hairs (from them); tears, and again laughter; no sleep; bowels irritable, but passed nothing; when directed, drank a little; urine thin and scanty; to the touch of the hand the fever was slight; coldness of the extremities. On the ninth, talked much incoherently, and again became composed and silent. On the fourteenth, breathing rare, large, at intervals; and again hurried respiration. On the sixteenth, looseness of the bowels from a stimulant clyster; afterwards she passed her drink, nor could retain anything, for she was completely insensible; skin parched and tense. On the twentieth, much talk, and again became composed; loss of speech; respiration hurried. On the twenty-first she died. Her respiration throughout was rare and large; she was totally insensible; always wrapped up in her bedclothes; either much talk, or complete silence throughout. Phrenitis.[741]

Case XVI.—In Meliboea,[742] a young man having become heated by drinking and much venery, was confined to bed; he was affected with rigors and nausea; insomnolency and absence of thirst. On the first day much

fæces passed from the bowels along with a copious flux; and on the following days he passed many watery. stools of a green color; urine thin, scanty, and deficient in color; respiration rare, large, at long intervals; softish distention of the hypochondrium, of an oblong form, on both sides; continued palpitation in the epigastric region throughout; passed urine of an oily appearance. On the tenth, he had calm delirium, for he was naturally of an orderly and quiet disposition; skin parched and tense; dejections either copious and thin, or bilious and fatty. On the fourteenth, all the symptoms were exacerbated; he became delirious, and talked much incoherently. On the twentieth, wild delirium, jactitation, passed no urine; small drinks were retained. On the twenty-fourth he died. Phrenitis.[743]

ON INJURIES OF THE HEAD.

THE ARGUMENT.

This treatise opens with a description of the bones of the head, which, although in most respects pretty accurate, is remarkable for containing an account of particular configurations of the cranium, and of certain varieties in the arrangement of the sutures, which it has puzzled modern authorities in anatomy to explain, otherwise than upon the supposition that the writer must have been but imperfectly acquainted with the subject. But as the work otherwise bears evidence that our author must have examined the bones of the head very carefully, and moreover, as in all his works he displays a wonderfully minute acquaintance with osteology, (to say nothing of the historical tradition, mentioned by Pausanias, that he was possessed of a skeleton, which at his death he bequeathed to the Temple of Apollo, at Delphi,) it seems incredible that he should have committed most glaring blunders in describing the prominent features of a part to which it is clear that he had paid very great attention. Moreover, the reputation of Hippocrates for accuracy stood so high, that an eminent authority does not hesitate to declare of him, that he was a man who knew not how to deceive or be deceived.[744] An easy way of getting rid of the difficulty would no doubt be, to adopt the conjecture advanced by Scaliger,[745] and in part approved of by Riolanus,[746] that the treatise had suffered much in early times, from the interpolations of ignorant transcribers; or to hold, with M. Malgaigne, that the whole work is to be condemned as spurious. But it would be a dangerous practice in ancient criticism, to reject as spurious a work which has such unexceptionable evidence in its favor, although it may contain matter which appears to us derogatory to the reputation of its author, and it will be admitted, by any competent judge who examines the arguments by Scaliger, that the proofs which he brings forward of great interpolations in this treatise, are generally of a very fanciful nature.

On a point so obscure, and which has puzzled so many eminent scholars, it is to be feared that I shall not be able to throw much additional light, but as, consistently with my general plan, I cannot well avoid stating some opinion on the question I shall endeavor to elucidate it in so far by

giving in the first place a brief sketch of the information supplied by all the other ancient authorities who have touched upon this subject. I shall begin, then, with Aristotle, the contemporary of our author, who, in his work "On the History of Animals," gives the following very inaccurate description of the sutures of the human skull: "The female cranium has one circular suture, but men generally three, which unite in one point. But a male skull has been seen not having a suture."[747] Celsus describes the sutures in the following terms: "Ex ceteris, quo suturæ pauciores sunt, eo capitis valetudo commodior est. Neque enim certus eorum numerus est, sicut ne locus quidem. Ferè tamen duæ, super aures, tempora a superiori parte discernunt; tertia ad aures, occipitium a summo capite deducit; quarta, ab eodem vertice per medium caput ad frontem procedit; eaque modo sub imo capillo desinit, modo frontem ipsam secans inter supercilia finitur." (viii., 1.) "Nam neque utique certa sedes, supra posui, suturarum est." (viii., 4.) Pliny gives the following description of the head, which it is impossible not to recognize as having been borrowed from our author: "Vertices bini hominum tantum aliquibus. Capitis ossa plana, tenuia, sine medullis, serratis pectinatim structa compagibus."[748] Of Ruffus Ephesius I may just mention, that his descriptions of the human body are in general remarkable for their correctness, which is not to be wondered at, as he would appear to have followed, in general, Erasistratus and the other authorities belonging to the great Alexandrian period in anatomy; and that he has described very accurately all the sutures of the human cranium, but says not a word of the different configurations of the head, as here given by our author.[749] We now come to Galen, who gives a very lengthy description of the various forms of the head, in nearly the same terms as our author, and after alluding to the uses of the sutures, the principal of which he holds to be to permit transpiration from the brain, he proceeds thus to describe the distribution of the sutures: "That there is one which runs straight along the middle of the head, (the sagittal?) and two transverse, (the coronal and lambdoid?) has been stated previously, and need not require many words in this place. For, the head being like an oblong sphere, one was justly made to extend straight through its middle from behind forwards, and two transverse sutures meet it, and the form of the three sutures is like the letter H. For the whole head being more elongated in this case than usual, and, as it were, compressed towards the ears, it was equitable that the number of the sutures should be unequal as to length and breadth, otherwise Nature would undeservedly

have been named just, by Hippocrates, in thus giving equal gifts to the unequal. But it is not the case; for being most just, she formed the strongest suture which extends along the length of the head single, being thus proportionate to the width of the parts on both sides of it; namely, on the right and on the left; but she formed the transverse double in number, the one behind, as formerly said, called the lambdoid, and the other before, called the coronal, so that the bone of the head between these two sutures might be equal to those in the middle, on each side (the parietal bones?). The sutures of the head, in that configuration which is acuminated,[750] furnish a very great example of the justness of Nature. For there are three principal figures of the head: the one entirely opposed to the natural configuration already described, when the head loses both its protuberances, that behind and the other before, and is equal on all hands, and like a true sphere; and two others, the one form having no protuberance in front, and the other none in the occiput. The sutures of the spherical head are like the letter χ, two only in number, and intersecting one another; the one extending transverse from the one ear to the other, and the other extending straight through the middle of the vertex to the middle of the forehead. For, as when one part of the head is excessive, being longer than the other, it was just that the longer form should have more sutures, so, when both are alike, Nature bestowed an equal number on both. But in the head which wants the protuberance at the occiput, the straight and the coronal sutures remain, but the lambdoid is wanting (it being near to the protuberance that is wanting), so that the figure of the two resembles the letter T; as also when the protuberance of the head in front is wanting, the coronal at the same time is wanting, but there remains the one running lengthways and joining the lambdoid, and this form of construction is made to resemble the letter T. A fourth species of acuminated (sugar-loaf) head might be imagined, but which does not occur, with the head more prominent at the two ears than in front and behind." He goes on to state the reasons why there is no such construction of the head as this, and concludes as follows: "Wherefore Hippocrates described four configurations, and the sutures of each, in the manner we have now said that they exist, being justly distributed to each configuration by Nature as to position and number."[751] The description of the bones and sutures of the head, given in the Latin work "De Ossibus," generally attributed to Galen, is to the same effect. The same number of distinct configurations of the head, and the same characters as regards the

sutures, is also given by Avicenna, who professedly copies from Galen. (I., i., 5, 3.)

When examined together, these descriptions certainly must be admitted to have the appearance of being all derived from one original, namely, from our author, in this place; and taken literally, there can be no doubt that their meaning amounts to this: that the number of the sutures varies with the form of the head; that when there are protuberances both before and behind, the head in its upper part has two transverse sutures, namely, the coronal and the lambdoid, and one longitudinal, namely, the sagittal; that if the anterior protuberance be wanting, the coronal is wanting, and, if the posterior, the lambdoid. Now I need scarcely remark, that modern anatomists do not recognize such varieties in the configuration of the head nor in the numbers of the sutures, and that it is very rare indeed for either the coronal or the lambdoid suture to be found wanting. To all appearance, then, Galen was mistaken, and it only appears remarkable that, with all his knowledge of anatomy, theoretical and practical, and considering the opportunities which he must have possessed of examining human skeletons in Alexandria, he should have failed to observe and describe the bones of the cranium for himself.

Before stating my own conjectures on this question, it may be interesting to examine the solution of it attempted by authorities who lived about the period when the original study of human anatomy was revived in modern times. In the first place, then, I may mention that Ambrose Paré, who, I need scarcely say, was possessed of no mean talent for original observation, in treating of fractures of the head, adopts exactly the description given by Hippocrates; thus he describes “the bunches of the head” in nearly the same terms as our author, and adds, that such “bunches change the figure and site of the sutures,” and that “there be some skulls that want the foremost suture, and other some the hind, and sometimes none of the true sutures, but only the false, *or* spurious, remain.”[752] Nay, it. cannot but appear remarkable, that Vesalius, the great antagonist of Galen and of the ancient authorities in general, in the present instance does not venture to call in question their opinion, but gives a description of the different forms of the head, and the varieties of the sutures, which scarcely at all differs from that given by Hippocrates.[753] It is singular, also, that certain other authorities, who were much more disposed to show a leaning

to antiquity, such as Columbus, Eustachius, Fallopius, and Riolanus, should, in the present instance, have manifested a more independent spirit in challenging the authority of Hippocrates, though, at the same time, they show a disposition to find out some mode of bringing him clear off. Thus, for example, Riolanus is compelled to admit that there is no such variety in the forms and numbers of the sutures as Hippocrates describes; but he attempts to free him from error, by suggesting that the cases in which Hippocrates found them wanting must have been those of old men.[754] He also quotes some very extraordinary instances, in which something approaching the varieties described by our author had been remarked.[755] Fallopius does not hesitate, in his great anatomical work, to express the surprise he felt that all the authorities should have assented to the descriptions of the protuberances and sutures of the head given by Hippocrates; for that he, after having examined large heaps of crania in the Musea of Ferrara and Florence, had not found that they agreed with the descriptions given by Hippocrates; that he had seen crania without a suture, and yet not wanting in the protuberances; and in like manner, that he had seen the coronal suture obliterated, and yet the skull possessed its anterior prominence, and the lambdoid wanting, although the posterior protuberance was as usual. Altogether, then, in this work he modestly ventures to impugn the authority of Hippocrates.[756] In his work entitled "Expositio in Librum Galeni de Ossibus," he adopts the same views, and there declares that he had never seen the sutures obliterated except from old age. But, in his work entitled "Expositio in Lib. Hippocrat. de Vulneribus Capitis," he gives two suppositions, which he had devised in order to defend the authority of Hippocrates: first, that Hippocrates did not give these varieties of form as real, but as hypothetical; and second, that he merely described them as being the vulgar opinion, without pledging himself to the correctness of the description. These, as far as I am aware, are the only defences which have ever been set up for our author in this matter, and it must be admitted that they are not very satisfactory. I shall now present the reader with the conjectural explanation which has occurred to myself. I have imagined that what Hippocrates meant was to express himself to the following effect: when the forehead is remarkably prominent, and, at the same time, there is a great depression behind, the cranium, if looked upon from above, will show the coronal suture running across the fore part of the head, and the sagittal through its middle, while the lambdoid will be inconspicuous, from

being below the level of the coronal. The two together, then, would form some resemblance to the letter T. When, on the other hand, the forehead is low, that is to say, wants its normal development, and the occiput is unusually prominent, the lambdoid suture joins the sagittal, so as to present some appearance of the same letter reversed. But in a square-built head, where the frontal and occipital regions have protuberances equally developed, the coronal and lambdoid sutures run nearly parallel to one another, and are joined in the middle by the sagittal, in which case the three sutures may be imagined to present some resemblance to the Greek letter H. When there is no protuberance either before or behind, and the sagittal suture passes through the middle of the bone down to the nasal process, the coronal suture intersects it, so as to give them something like the shape of the Greek letter χ.[757] I offer this explanation, however, merely as a conjecture, and wish the reader to judge of it accordingly.

I now proceed to give an analysis of the contents of this treatise, and to attempt to form a correct estimate of their value.

Injuries of the cranial bones are divided by our author into five orders, as follows: 1, simple fractures, *or* fissures of various kinds and sizes (§ 4); 2, contusion, without fracture or depression (§ 5); 3, fractures attended with depression (§ 6); 4, the *hedra*, that is to say, the indentation or cut in the outer table of the bone, and not necessarily attended either with fracture or contusion (§ 7); 5, the counter-fissure, or *fracture par contre-coup* fracture and the severe contusion, require the operation of trepanning; whereas neither the *hedra* (*or* simple cut) nor the depressed fracture require it, and the counter-fissure does not admit it, owing to the obscurity of the symptoms with which it is attended (§ 9).

In the first place, the surgeon is to ascertain the nature and situation of the wound, by a careful investigation of all the circumstances of the case, but so as to avoid the use of the sound, if possible (§§ 9, 10).

Next are described the various kind of injury which the different sorts of weapons are most likely to inflict, and from the consideration of them the surgeon is to form an estimate of the probable nature of the accident (§ 11).

The characters of the *hedra*, or superficial injury of the cranium, and the difficulty of forming a correct estimate of it, when complicated by the presence of a suture, are strongly insisted upon (§ 12).

The principles upon which the treatment of injuries situated in different parts of the head should be treated, are carefully defined and stated. Great, and as now would be thought, superfluous directions are given, for ascertaining whether or not a fissure exists in the bone. The treatment, as far as applications go, is to be mild and desiccant. When a fracture cannot be made to disappear by scraping, the trepan is to be applied (§§ 13, 14).

The dangers which the bone incurs of becoming affected from the soft parts, are strongly insisted upon, and applications of a drying nature are prescribed (§ 15).

The condition of a piece of bone which is going to exfoliate is correctly and strikingly described (§ 16).

The treatment of depression is laid down, and the danger of applying the trepan in this case is strongly insisted upon (§ 17).

The peculiarities in the case of children are pointed out. Under certain circumstances, when there is contusion combined with the fracture, he admits of perforating the skull with a small trepan (§ 18).

When, after a severe injury, symptoms of irritation and inflammation appear to be coming on, the surgeon is to lose no time in proceeding to the operation. Some correct observations are made on the consequences of injuries of the head on other parts of the body (§ 19).

The treatment of erysipelatous inflammation is distinctly laid down (§20).

The operation of trepanning the skull is circumstantially described, and an interesting description is given of a mode of doing the operation peculiar to our author[758] (§ 21).

This, then, as far as I know, is the first exposition ever made of a highly important subject in surgery, upon which professional men are still greatly divided in opinion. I cannot, then, resist the temptation to offer some remarks on the views of practice here recommended, and to institute a comparison between them and certain methods of treatment which have been in vogue of late years.

I can scarcely doubt but it will be generally admitted that the exposition of the subject here given is remarkably lucid, that our author’s divisions of

it are strongly marked, and his rules of practice, whether correct or not, distinctly laid down. At all events, it will not be affirmed that there is any confusion in his ideas, or that his principles of treatment are not properly defined. After all that has been written on injuries of the head, it would be difficult to point to any better arrangement of them than that of our author, into five orders: 1st, simple fractures without depression; 2d, contusions without fracture or depression; 3d, depression with fracture; 4th, simple incisions without fracture; 5th, fractures *par contre-coup*.

As regards the operation of trepanning the skull, then, our author's rule of practice is sufficiently well defined: we are to operate in the first two of these cases, that is to say, in simple fractures and contusions, but not in the last three, that is to say, in fracture with depression, in simple incisions in the skull, and in the counter-fissure. To begin, then, with the examination of those cases in which the operation is proscribed: it is not to be had recourse to in the counter-fissure, because, from the nature of it, there is generally no rule by which its existence can be positively ascertained, and therefore the case is to be given up as hopeless.

In the simple incision of the bone, that is to say, in the slash or indentation, when the effects of the injury are not transmitted to the brain, it must be obvious that all instrumental interference must be strongly contraindicated.[759]

At first sight it will appear remarkable to a surgeon, who approaches the subject with views exclusively modern, that our author should have interdicted the use of instruments in that class of injuries in which one would be inclined to suppose that they are most clearly indicated, namely, in a fracture of considerable extent, attended with depression of part of the bone from its natural level. Several questions present themselves here to be solved. Is the operation generally required? Has it been successful when it has been had recourse to? When it is to be performed, should it be done immediately, or not until the bad effects of the injury have manifested themselves?

With regard, then, to the necessity of the operation for depressed fractures, the most discordant opinions have prevailed in modern times, and even within a very recent period. Not to go farther back than Pott, it is well known that he established it as the general rule of practice, that in every

case of fracture with depression, the skull should be perforated, and the depressed portion of the bone either raised to its level, or entirely removed. But since his time a great change of opinion has taken place on this subject, and of late it has become the general rule of practice (if rule can be predicated, where opinions are so vague and indeterminate) not to interfere, even in cases of depression, unless urgent symptoms have supervened. The late Mr. Abernethy took the lead in questioning the propriety of the rule laid down by Pott; and with the view of demonstrating that the operation may be often dispensed with in fractures complicated with depression, and in order, as he says, "to counteract in some degree the bias which long-accustomed modes of thinking and acting are apt to impress on the minds of practitioners," he relates the histories of five cases of fracture with depression, which, in the space of twelve months, occurred under his own eyes in St. Bartholomew's Hospital, and which all terminated favorably, although no operation was performed. These cases, supported by the authority of so great a name as Mr. Abernethy, made a deep impression on the profession, especially in this country, so that it became the established rule of practice in British surgery never to interfere in cases of fracture, unless with the view of removing urgent symptoms. See Cooper's Surgical Dictionary, edit. 1825, and the previous edition. The old Hippocratic rule in regard to the trepan, when it is at all to be applied, namely, that of applying it as a preventive of bad consequences, was altogether eschewed, and it was held to be perfectly unwarrantable to perforate the skull, except with the intention of removing substances which were creating irritation and pressure of the brain. This practice, I say, was sanctioned by all the best army and hospital surgeons, from about the beginning of the present century, down to a very recent period. What, then, it will be asked, have been the results? Has experience confirmed the safety of this rule of practice, or has it not? To enable us to solve these queries, we have most elaborate and trustworthy statistics, published a few years ago by Dr. Laurie of Glasgow, which deserve to be seriously studied by every surgeon who may be called upon to discharge the duties of his profession in such cases. I cannot find room for long extracts from these valuable papers, but may be allowed to state a few of the more important results which are to be deduced from Dr. Laurie's interesting investigation. Coming then at once to the point, it deserves to be remarked that Dr. Laurie's ample experience has led him to reject decidedly the rule of practice, which, as I have stated, was

established by Mr. Abernethy, about forty years ago, namely, that, in cases of depression, the symptoms of compression should be our guide to the employment of the trephine. He adds, "however well this rule may sound, when delivered *ex cathedrá*, it will be found of very little practical utility, for this reason, that if we limit interference to cases exhibiting symptoms of compression, we had much better not interfere at all, inasmuch as such cases prove almost invariably fatal. Such, at least, has been the experience of the Glasgow hospitals; for out of fifty-six cases operated upon, including, in point of time, a period little short of fifty years, there does not appear in our records a single unequivocal instance of profound insensibility, in which the mere operation of trepanning removed the coma and paralysis, or in any way conduced to the recovery of the patient. We wish to be clearly understood as speaking of the trephine used in reference to the state of the bone in cases of profound insensibility, not employed to remove extravasated blood. Nor does the cause of our want of success appear at all obscure. We believe that in practice the cases of urgent compression dependent on depressed bone alone are very few indeed; we are well aware that many such are on record, we do not presume to impugn their accuracy, we merely affirm that the records of the Glasgow Infirmary do not add to the number." He thus states his views with regard to the principles by which the application of the trephine should be regulated. "From what we have said, it will appear that we coincide with these who, in using the trephine, in cases of compound fracture of the skull, look more to the state of the bone than to the general symptoms, and *who employ it more as a preventive of inflammation and its consequences, than as a cure for urgent symptoms, the immediate result of the accident*." He goes on to state that "the details we have given are by no means in favor of the trephine. Of fifty-six cases operated upon, eleven recovered, and forty-five died. We feel assured that this affords too favorable a view of the actual results."[760]

From the extracts now given, it will readily be seen that this very able authority has rejected entirely the rule of practice established by Mr. Abernethy, and that, in so far, he has reverted to the principle upon which the use of the instruments in simple fractures of the skull was regulated by

Hippocrates, namely, as a preventive of the bad consequences of fracture on the brain, rather than with the view of relieving them when established. It will further be seen that, in whatever way applied, the use of perforating instruments in the case of depressed fractures is attended with so unsatisfactory results, that it may be doubted if any other operation in surgery, recognized as legitimate, be equally fatal.[761] Less than one fifth of the patients operated upon recovered. In fact, he very candidly admits "that it would not have been greatly to the disadvantage of the patients admitted into the Glasgow Infirmary, if the trephine had never found its way within its walls." He further, in conclusion, adverts to the well-known fact that Desault, in the end, completely abandoned the operation, and that Mr. Lawrence states, "as far as the experience of this Hospital (St. Bartholomew's) goes, he can cite very few instances in which the life of the patient had been saved by the operation of trephining."[762]

Altogether, then, it will be allowed to no very questionable whether, in general, the Hippocratic treatment, in cases of fracture with depression, would not be fully as successful as the modern practice of perforating the skull. Moreover, it is by no means well ascertained, as generally assumed by superficial observers of facts in medical practice, that depressed fractures are more dangerous than other injuries of the skull attended with less formidable appearances. Indeed, recent experience has shown, in confirmation of the opinion advanced by our author, that extensive fractures, with great depression, are frequently not followed by any very dangerous train of consequences. (See Thomson's "Observations made in the Military Hospitals of Belgium," pp. 59, 60; Hennen's "Military Surgery," p. 287; Cooper's "Lectures," xiii.; Mr. Guthrie's "Lectures on Injuries of the Head," p. 56.) All these, in substance, coincide with Mr. Guthrie, who mentions with approbation that "it has been stated from the earliest antiquity, that the greater the fracture, the less the concussion of the brain." I may mention further, that I myself, in the course of my own experience, have known many instances in which fractures with considerable depression were not followed, either immediately or afterwards, by any bad consequences; while, on the other hand, I have known cases in which simple contusion of the bone, without fracture or extravasation, and without even very urgent symptoms of concussion at first, have proved fatal in the course of a day or two. Now, in such

circumstances, Hippocrates would have operated by either perforating the skull at once, down to the meninx, and removing a piece of it, or by sawing it nearly through, and leaving the piece of bone to exfoliate. It will be asked here, what object can he have had in view by this procedure? This he has nowhere distinctly defined; but, judging from the whole tenor of this treatise, and that of his commentator, Galen, I can have no doubt in my mind that what he wished to accomplish was to loosen the bones of the head, and give greater room to the brain, which he conceived to be in a state of congestion and swelling brought on by the vibration, or *trémoussement*, communicated directly to the brain by the contusion. It is, in fact, an opinion which Hippocrates repeatedly inculcates, not only with regard to the brain, but also respecting injuries of the chest and joints, that severe contusions are, in general, more dangerous than fractures, the effects of the vibration in the former case being more violent than in the latter.[763] Believing, then, that, in contusions, the internal structure of the brain is extensively injured, and that irritation, with hypertrophy, are the consequences, he advocated instrumental interference, in order as I have stated, to give more room to the brain, and relieve it from its state of compression.[764] This, no doubt, was the rationale of his practice also in simple fractures, not attended with depression, that is to say, his object in perforating the skull was to remove tension, and furnish an outlet to the collection within, whether of a liquid or a gaseous nature.

There can be no doubt that our author also had it in view, by perforating the skull, to afford an issue to extravasated blood and other matters collected within the cranium. This clearly appears from what is stated in section 18, and the same rule of practice is distinctly described by Celsus in the following terms: “Raro, sed aliquando tamen evenit, ut os quidem totum integrum maneat, intus vero ex ictu vena aliqua in cerebri membrana rupta aliquid sanguinis mittat; isque ibi concretus magnos dolores moveat, et oculos quibusdam obcæcet.... Sed ferè contra id dolor est, et, eo loco cute incisa, pallidum os reperitur: ideoque id os quoque excidendum est.” (viii., 4.) It is quite certain, then, that one of the objects for which our author recommended trepanning, was to give issue to extravasated blood on the surface of the skull. This naturally leads me to compare the results of modern experience in the treatment of cases of contusion, with or without extravasation of blood.

All the earlier of our modern authorities on surgery, such as Theodoric, Pet. c. Largelata, Ambrose Paré, Wiseman, and Fallopius, distinctly held that contusions of the skull, even when not complicated with a fracture, are often of so formidable a nature as to require the use of perforating instruments. The same views are strenuously advocated by Pott, who has described the effects of contusion in very elegant and impressive language. See page 42; ed. Lond. 1780. The upshot is, that one of the consequences of a severe contusion of the bone frequently is separation of the pericranium, "which is almost always followed by a separation between the cranium and the dura mater; a circumstance extremely well worth attending to in fissures and undepressed fractures of the skull, because it is from this circumstance principally that the bad symptoms and the hazard in such cases arise." (p. 50.)[765] After insisting, in very strong terms, on the danger attending severe contusions of the, skull, he proceeds to lay down the rules of treatment, which, in a word, are comprehended in the two following intentions:—first, to prevent bad consequences by having recourse, at first, to depletion; and, second, to procure the discharge of matter collected under the cranium, which can be answered only by the perforation of it. He agrees with Archigenes that the operation is generally too long deferred, and that the sooner it is performed the better. Still, however, it is to be borne in mind that even Potts does not make it a general rule to operate at first, *before* the bad symptoms have come on, that is to say, during the first three days, and that he rather appears to have followed Celsus, who alludes to the method of Hippocrates, and describes his rule of practice in the following terms:

—"In omni vero fisso fractoque osse, protinus antiquiores medici ad ferramenta veniebant, quibus id exciderent. Sed multo melius est ante emplastra experiri, etc.... Si vero sub prima curatione febris intenditur, ... magni dolores sunt, cibique super hæc fastidium increseit; tum demum ad manum scalprumque veniendum est." (viii., 4.) Pott then, it appears, follows the rule of Celsus, and does not operate until unpleasant effects have developed themselves;[766] but, at the same time, he candidly admits that, although the course now described be all that our art is capable of doing in these melancholy cases, he wishes he could say that it was frequently successful. He then goes on to relate several cases: first, of simple contusion without a wound; second, of contusion with a wound; and, third, of contusion with extravasation. In all these classes of cases he

operated with very equivocal results; but then it is to be borne in mind, that, as I have said, he operated, like Celsus, after the bad effects had come on, and not, like Hippocrates, at first, in order to prevent them. Even with all these discouraging results, he continued to adhere to this rule of treatment, which, under the sanction of his name, became the established practice of the profession. The late Mr. Abernethy, who took the lead in innovating upon Pott's rules for the application of the trephine, did not venture to make any material change in this case when he supposed that there was any considerable extravasation of blood; and he delivered it as a test whereby we might judge whether or not a great vessel had been ruptured within the skull, to examine whether or no the bone bled, having generally found, as, indeed, had been clearly laid down by Celsus, that in these cases the bone does not bleed. The rule of practice, then, to operate in order to remove the coagula of blood and matters which form between the skull and the dura mater, was sanctioned by Sir Charles Bell and Sir Astley Cooper; but they, like Mr. Abernethy, generally condemn interference when the fluids are situated below the membrane. On this subject Mr. Guthrie remarks:—"The operation of incising the dura mater, to admit of the discharge of blood or matter from beneath, and even of puncturing the brain, is much more commonly performed in France than in Great Britain, where it is very rarely had recourse to, *and which may be an error*," etc. (p. 125.)

After thirty years' further experience, this practice has been tested by the recent statistics of Dr. Laurie, and the results, as stated by him, are very discouraging. In the Hospital of Glasgow, it was found in practice that there was no certain symptom whereby it could be determined at what part of the head the blood had been effused, nor, when discovered, could it, in general, be removed by trephining the skull. The results, in short, were the following: "We have thus thirty-nine cases in which extravasation existed as the principal lesion, or as an important complication, in only one of which extravasation existed as the principal lesion, or as an important complication; in only one of which could an operation have saved the patient; and of the seventeen cases operated upon, *not one* recovered after, or was benefited by, the removal of the coagula."

Such, then, are the results of modern experience, as far as they are at present ascertained, in the use of the trephine for the treatment of contusion, and undepressed fracture, complicated with the effusion either of blood or

of matter, from the days of Pott down to the present time. The reader, however, should bear in remembrance that the practice, of which the results have been shown to be so unsatisfactory, is not that of Hippocrates, but of Celsus; for, in the present instance, even Dr. Laurie repudiates the idea of operating "for the purpose of relieving the evil consequences *which may follow* concussion of the brain," and holds distinctly in this case that one is not warranted in even entertaining the idea of operating, unless—"first, when the puffy tumor indicates the spot which probably has sustained the greatest amount of injury; second, such an inflamed and suppurating condition of the injured soft parts as renders it more than probable that the corresponding portion of the dura mater is in a similarly diseased condition; third, inflammatory fever, preceded or followed by rigors, and symptoms of compression." From what has been stated, then, it must appear evident that the recent statistics furnish no test whatever of the results of the practice laid down by Hippocrates, which was founded upon an entirely different principle, namely, the preventive.

But, however anxious I may feel to prosecute further this comparison of the results of ancient and of modern experience on this highly interesting subject, my necessary limits compel me to bring this discussion to a close. Before doing so, however, I shall briefly state the inferences which I think may be drawn from a careful study of all the principle authorities who have written on injuries of the head from Hippocrates down to the present time:

1. All the serious injuries of the skull may be arranged conveniently under the classes of contusions, simple fractures and fractures with depressions.

2. Hippocrates recommended the operation of perforating the cranium, in cases of simple fractures and contusions, whenever he apprehended that these would be followed by serious consequences, such as inflammation, extravasation of blood, and the effusion of matter.

3. Hippocrates operated in these cases during the first three days, before any serious symptoms had come on, but Celsus rejected this rule, and postponed the operation until after these effects had been developed.

4. The objects which Hippocrates had in view by perforating the skull, either entirely through or nearly so, would appear to have been to slacken

the tightness of the skull, and procure the evacuation of extravasated blood lying within it.

5. The object for which Celsus opened the skull would appear to have been solely to remove bodies which were creating irritation in the brain.

6. All the ancient authorities looked upon contusions and simple fractures as being very formidable injuries, which generally produce congestion in the brain, with inflammation and effusion.

7. In modern times, at least within the last hundred years, the trephine has never been applied in cases of contusion and simple fracture, upon the principle of the operation acting as a preventive of subsequent mischief, but only with the object of relieving effusion when it was supposed to have taken place within the cranium, that is to say, upon the plan recommended by Celsus.

8. The most contradictory accounts are given by modern authorities, especially by the French surgeons of the eighteenth century, as to the different results in cases of this description, when let alone, and when treated upon the Celsian principle; and the recent statistics of the operation are extremely unfavorable.

9. Hippocrates regarded fractures accompanied with depression and a considerable separation of the bones as being generally less dangerous than severe contusions and simple fractures, as in the former case the brain is usually less hurt by the vibration of the shock which inflicted the injury, and there is an outlet to any noxious matters which may get congested in the brain.

10. Hippocrates, as a general rule, did not operate in cases of depression, not even in cases of comminuted fracture, but in the latter case left the pieces of bone to separate gradually by suppuration.

11. Celsus, on the other hand, approved of removing spiculæ at once, of raising the depressed corner of a fractured bone, by sawing off the superincumbent part, and even of perforating the adjoining bone, and, in certain instances, of removing the whole of the depressed portion.

12. Pott laid it down as a general rule of practice, to operate with the trephine in all cases of fracture accompanied with any considerable degree of depression, and this formed the established practice in this country, until

the late Mr. Abernethy, about forty years ago, introduced the rule of not interfering in such cases until urgent symptoms had come on.

13. Of late years a further innovation has taken place in this rule of practice in cases of depressed fracture, the operation being had recourse to by Dr. Laurie and others, on the principle of preventing the bad effects likely to result from the injury.

14. On whatever principle applied, the statistics of large hospitals exhibit the results of the operation in a most unfavorable light, insomuch that many of the most able and experienced surgeons of the day hesitate whether, as a general rule, the operation ought not to be abandoned altogether.

Finally, a careful study of the whole literature of the subject, from Hippocrates down to the present time, leads to the conclusion that what constitutes the great difficulty in the treatment of injuries of the head is, that the operation, to be successful, would require to be performed early, and rather with a view of preventing serious consequences, than of removing them after they have come on; and that these can seldom be estimated so correctly as could be wished, since they frequently bear no proportion to the apparent magnitude of the mischief which the cranium has sustained.[767]

As the reader may find some difficulty in apprehending correctly the nature of the instruments and other apparatus used by the ancients in surgical operations, I have subjoined drawings of them, taken principally from the works of Vidus Vidius and Andreas à Cruce, who both lived at a time when these instruments must have been sufficiently common in the cabinets of learned physicians, so that there is every presumption that the figures which they give are sufficiently correct. The manner in which they were used will readily be comprehended from their shapes, assisted by the following lucid description of the ancient process of trepanning the skull, given by Mr. Pott. “If the piece of bone intended to be removed was larger than could be comprehended within the modiolus (*trephine?*) then in use, and which was a very defective instrument in many respects, the operation was thus performed by means of terebræ. The piece intended to be taken away was surrounded with perforations made at small distances from each other, and then either the scalper excisorius or the scalper lenticulatus was introduced, and, by means of repeated strokes with a heavy mallet, was

driven through all the interspaces between each perforation. By these means the portion of bone so surrounded was removed, and the dura mater was laid bare."[768] That the modiolus of Celsus was a small circular saw with a pivot, exactly like the modern trephine, seems quite obvious from his own description of it; and that the instrument called by our author terebra serrata (πρίων χαρακτὸς) was identical with it, cannot admit of any doubt. See Foës, Œc. Hipp. in voce πρίων.

Before concluding, I must also say a few words on one important point connected with the constitutional treatment, which the modern reader may at first sight be surprised to find no mention made of in this treatise—I mean the use of venesection in the treatment of injuries of the head. Now certainly it does not appear that Hippocrates regarded bleeding as necessarily forming a portion of the system of treatment in injuries of the bones of the head any more than in those of other bones. But, although these were his views, it can be as little doubted, by any one who is acquainted with his general views of practice, that he bled whenever the abstraction of blood was indicated, either to produce evacuation or revulsion. We know, for example, that in pains of the back part of the head he opened the temporal vessels,[769] and that in all inflammations and febrile diseases he abstracted blood freely, nay, perhaps, *ad deliquium animi*.[770] And that Hippocrates enforced the depletory system of treatment in injuries of the head, when pain and inflammatory fever supervened, is quite obvious, from its having been the system pursued in such cases by all subsequent authorities, who looked up to him as their great guide in practice. See PAULUS ÆGINETA, Book VI., 90, Syd. Soc. Edit. I may mention further, as a proof that I am not straining a point in the present instance, in order, as might be supposed, to bring my author clear off in a case where he would appear to have been in fault, that Ambrose Paré, who is a great advocate for depletion in the treatment of fractures of the skull, is at great pains to show that he has Hippocrates on his side in support of this practice.[771] But while it is maintained that our author did not omit venesection when properly indicated, I did not mean to say that he or any of the ancient authorities carried the abstraction of the blood to the extent practiced by Pott, or the members of the Royal Academy of Surgery in France, nor as was done by the army and hospital surgeons of this country during the late war.[772] Whether or not this was a defect in ancient practice I shall not take

it upon me to offer an opinion. Suffice it to say, that there is undoubted evidence that in injuries of the head the ancient surgeon, as is *naively* recommended by Avicenna, "bled his patient when he stood in need of being bled;"[773] that is to say, according to special indications, and not in obedience to any general rule.[774]

There is another point of practice in injuries of the head to which it is proper that I should draw attention—I mean cold applications. Now it is beyond a doubt that the application of cold in diseases of the brain is pointedly condemned by Hippocrates, and that he used hot applications instead;[775] and, moreover, that most of the ancient authorities adhered to his rule on this point. At the same time it would appear, that in extreme cases certain of them did not scruple to apply ice to the shaved head.[776] I shall only remark further, that in this case, as in diseases of the eyes, perhaps the safest rule is, to be guided very much by the feelings and habits of the patient.

[The Plates referred to will be found at the end of the work.]

ON INJURIES OF THE HEAD

1. Men's heads are by no means all like to one another, nor are the sutures of the head of all men constructed in the same form. Thus, whoever has a prominence in the anterior part of the head (by prominence is meant the round protuberant part of the bone which projects beyond the rest of it), in him the sutures of the head take the form of the Greek letter *tau*, T; for the head has the shorter line running transverse before the prominence, while the other line runs through the middle of the head, all the way to the neck.[777] But whoever has the prominence in the back part of the head, in him the sutures are constructed in quite the opposite form to the former; for in this case the shorter line runs in front of the prominence, while the longer runs through the middle all along to the forehead.[778] But whoever has a prominence of the head both before and behind, in him the sutures resemble the Greek letter *êta* H; for the long lines of the letter run transverse before each prominence while the short one runs through the middle and terminates in the long lines.[779] But whoever has no prominence on either part he has the sutures of the head resembling the Greek letter χ; for the one line comes transverse to the temple while the other passes along the middle

of the head.[780] The bone at the middle of the head is double, the hardest and most compact part being the upper portion, where it is connected with the skin, and the lowest, where it is connected with the meninx (dura mater); and from the uppermost and lowermost parts the bone gradually becomes softer and less compact, till you come to the *diploe*.[781] The diploe is the most porous, the softest, and most cavernous part. But the whole bone of the head, with the exception of a small portion of the uppermost and lowermost portions of it, is like a sponge; and the bone has in it many juicy substances, like caruncles; and if one will rub them with the fingers, some blood will issue from them.[782] There are also in the bone certain very slender and hollow vessels full of blood. So it is with regard to hardness, softness, and porosity.

2. In respect to thickness and thinness; the thinnest and weakest part of the whole head is the part about the bregma; and the bone there has the smallest and thinnest covering of flesh upon it, and the largest proportion of brain is situated in that region of the head. And hence it happens that from similar or even smaller wounds and instruments, when a person is wounded to the same or a less degree, the bone of the head there is more contused, fractured, and depressed; and that injuries there are more deadly and more difficult to cure; and it is more difficult to save one's life in injuries there than in any other part of the head; that from having sustained a similar or even a less wound a man will die, and that, too, in a shorter space of time than from a wound in any other part of the head. For the brain about the bregma feels more quickly and strongly any mischief that may occur to the flesh or the bone; for the brain about the bregma is in largest quantity, and is covered by the thinnest bone and the least flesh. Of the other portions, the weakest is that about the temples; for it is the conjunction of the lower jaw with the cranium, and there is motion there up and down as at a joint; and the organ of hearing is near it; and further, a hollow and important vein runs along the temple. But the whole bone of the head behind the vertex and the ear is stronger than the whole anterior part, and the bone itself has a larger and deeper covering of flesh upon it. And hence it follows, that when exposed to the same or even greater injuries from instruments of the same or greater size, the bone is less liable to be fractured and depressed than elsewhere; and that in a fatal accident the patient will live longer when the wound is in the posterior part of the head than when elsewhere; and that pus

takes longer time to form and penetrate through the bone to the brain, owing to the thickness of the bone; and moreover, as there is less brain in that part of the head, more persons who are wounded in the back part of the head escape than of those who are wounded in the anterior part.[783] And in fatal cases, a man will survive longer in winter than in summer, whatever be the part of the head in which the wound is situated.

3. As to the *hædræ* (dints *or* marks?) of sharp and light weapons, when they take place in the bone without fissure, contusion, or depression inwards (and these take place equally in the anterior and posterior part of the head), death, when it does occur, does not properly result from them. A suture appearing in a wound, when the bone is laid bare, on whatever part of the head the wound may have been inflicted, is the weakest point of the head to resist a blow or a weapon, when the weapon happens to be impinged into the suture itself; but more especially when this occurs in the bregma at the weakest part of the head, and the sutures happen to be situated near the wound, and the weapon has hit the sutures themselves.[784]

4. The bone in the head is liable to be wounded in the following modes, and there are many varieties in each of these modes of fracture: When a wounded bone breaks, in the bone comprehending the fissure, contusion necessarily takes place where the bone is broken; for an instrument that breaks the bone occasions a contusion thereof more or less, both at the fracture and in the parts of the bone surrounding the fracture.[785] This is the first mode. But there are all possible varieties of fissures; for some of them are fine, and so very fine that they cannot be discovered, either immediately after the injury, or during the period in which it would be of use to the patient if this could be ascertained. And some of these fissures are thicker and wider, certain of them being very wide. And some of them extend to a greater, and some to a smaller, distance. And some are more straight, nay, completely straight; and some are more curved, and that in a remarkable degree. And some are deep, so as to extend downwards and through the whole bone; and some are less so, and do not penetrate through the whole bone.

5. But a bone may be contused, and yet remain in its natural condition without any fracture in it; this is the second mode. And there are many varieties of contusion; for they occur to a greater and less degree, and to a

greater depth, so as sometimes to extend through the whole bone; or to a less depth, so as not to extend through the whole bone; and to a greater and smaller length and breadth. But it is not possible to recognize any of these varieties by the sight, so as to determine their form and extent; neither, indeed, is it visible to the eyes when any mischief of this kind takes place, and immediately after the injury, whether or not the bone has been actually bruised, as is likewise the ease with certain fractures at a distance from the seat of injury.[786]

6. And the bone being fractured, is sometimes depressed inwards from its natural level along with the fractures, otherwise there would be no depression; for the depressed portion being fractured and broken off, is pushed inwards, while the rest of the bone remains in its natural position; and in this manner a fracture is combined with the depression.[787] This is the third mode. There are many varieties of depression, for it may comprehend a greater and a smaller extent of bone, and may either be to a greater depth, or less so, and more superficial.[788]

7. When a *hedra*, or dint of a weapon, takes place in a bone, there may be a fracture combined with it; and provided there be a fracture, contusion must necessarily be joined, to a greater or less extent, in the seat of the dint and fracture, and in the bone which comprehends them.[789] This is the fourth mode. And there may be a *hedra*, or indentation of the bone, along with contusion of the surrounding bone, but without any fracture either in the *hedra* or in the contusion inflicted by the weapon. But the indentation of a weapon takes place in a bone, and is called *hedra*, when the bone remaining in its natural state, the weapon which struck against the bone leaves its impression on the part which it struck. In each of these modes there are many varieties, with regard to the contusion and fracture, if both these be combined with the *hedra*, or if contusion alone, as it has been already stated that there are many varieties of contusion and fracture. And the *hedra*, or dint, of itself may be longer and shorter, crooked, straight, and circular; and there are many varieties of this mode, according to the shape of the weapon; and they may be more or less deep, and narrower or broader, and extremely broad. When a part is cleft, the cleft or notch which occurs in the bone, to whatever length or breadth, is a *hedra*, if the other bones comprehending the cleft remain in their natural position, and be not driven

inwards; for in this case it would be a depression, and no longer a *hedra*.[790]

8. A bone may be injured in a different part of the head from that on which the person has received the wound, and the bone has been laid bare. This is the fifth mode. And for this misfortune, when it occurs, there is no remedy; for when this mischief takes place, there is no means of ascertaining by any examination whether or not it has occurred, or on what part of the head.[791]

9. Of these modes of fracture, the following require trepanning: the contusion, whether the bone be laid bare or not; and the fissure, whether apparent or not. And if, when an indentation (*hedra*) by a weapon takes place in a bone it be attended with fracture and contusion, and even if contusion alone, without fracture, be combined with the indentation, it requires trepanning. A bone depressed from its natural position rarely requires trepanning; and those which are most pressed and broken require trepanning the least; neither does an indentation (*hedra*) without fracture and contusion require trepanning; nor does a notch, provided it is large and wide; for a notch and a *hedra* are the same.[792]

10. In the first place, one must examine the wounded person, in what part of the head the wound is situated, whether in the stronger or weaker parts; and ascertain respecting the hairs about the wound, whether they have been cut off by the instrument, and have gone into the wound; and if so, one should declare that the bone runs the risk of being denuded of flesh, and of having sustained some injury from the weapon. These things one should say from a distant inspection, and before laying a hand on the man;[793] but on a close examination one should endeavor to ascertain clearly whether the bone be denuded of flesh or not; and if the denuded bone be visible to the eyes, this will be enough; but otherwise an examination must be made with the sound. And if you find the bone denuded of the flesh, and not safe from the wound, you must first ascertain the state of the bone, and the extent of the mischief, and what assistance it stands in need of. One should also inquire of the wounded person how and in what way he sustained the injury; and if it be not apparent whether the bone has sustained an injury or not, it will be still more necessary, provided the bone be denuded, to make inquiry how the wound occurred, and in what manner; for when contusions

and fractures exist in the bone, but are not apparent, we must ascertain, in the first place from the patient's answers, whether or not the bone has sustained any such injuries, and then find out the nature of the case by word and deed, with the exception of sounding. For sounding does not discover to us whether the bone has sustained any of these injuries or not; but sounding discovers to us an indentation inflicted by a weapon, and whether a bone be depressed from its natural position, and whether the bone be strongly fractured; all which may also be ascertained visibly with the eyes. [794]

11. And a bone sustains fractures, either so fine as to escape the sight, or such as are apparent, and contusions which are not apparent, and depression from its natural position, especially when one person is intentionally wounded by another, or when, whether intentionally or not, a blow or stroke is received from an elevated place, and if the instrument in the hand, whether used in throwing or striking, be of a powerful nature, and if a stronger person wound a weaker. Of those who are wounded in the parts about the bone, or in the bone itself, by a fall, he who falls from a very high place upon a very hard and blunt object is in most danger of sustaining a fracture and contusion of the bone, and of having it depressed from its natural position; whereas he that falls upon more level ground, and upon a softer object, is likely to suffer less injury in the bone, or it may not be injured at all. Of those instruments which, falling upon the head, wound the parts about the bone, or the bone itself, that which falls from a very high place, and the least on a level with the person struck, and which is at the same time very hard, very blunt, and very heavy, and which is the least light, sharp, and soft, such an instrument would occasion a fracture and contusion of the bone. And there is most danger that the bone may sustain these injuries, under such circumstances, when the wound is direct and perpendicular to the bone, whether struck from the hand or from a throw, or when any object falls upon the person, or when he is wounded by falling, or in whatever way the bone sustains a direct wound from this instrument. Those weapons which graze the bone obliquely are less apt to fracture, contuse, or depress the bone, even when the bone is denuded of flesh; for in some of those wounds thus inflicted the bone is not laid bare of the flesh. Those instruments more especially produce fractures in the bone, whether apparent or not, and contusions, and inward depression of the bone, which are rounded, globular, smooth on all sides, blunt, heavy, and hard; and such

weapons bruise, compress, and pound the flesh; and the wounds inflicted by such instruments, whether obliquely or circularly, are round, and are more disposed to suppurate, and to have a discharge, and take longer time to become clean; for the flesh which has been bruised and pounded must necessarily suppurate and slough away. But weapons of an oblong form, being, for the most part, slender, sharp, and light, penetrate the flesh rather than bruise it, and the bone in like manner; and such an instrument may occasion a *hedra* and a cut (for a *hedra* and a cut are same thing); but weapons of this description do not produce contusions, nor fractures, nor depressions inwardly. And in addition to the appearances in the bone, which you can detect by the sight, you should make inquiry as to all these particulars (for they are symptoms of a greater or less injury), whether the wounded person was stunned, and whether darkness was diffused over his eyes, and whether he had vertigo, and fell to the ground.[795]

12. When the bone happens to be denuded of flesh by the weapon, and when the wound occurs upon the sutures, it is difficult to distinguish the indentation (*hedra*) of a weapon which is clearly recognized in other parts of the bone, whether it exist or not, and especially if the *hedra* be seated in the sutures themselves. For the suture being rougher than the rest of the bone occasions confusion, and it is not clear which is the suture, and which the mark inflicted by the instrument, unless the latter (*hedra*) be large. Fracture also for the most part is combined with the indentation when it occurs in the sutures; and this fracture is more difficult to discern when the bone is broken, on this account, that if there be a fracture, it is situated for the most part in the suture. For the bone is liable to be broken and slackened there, owing to the natural weakness of the bone there, and to its porosity, and from the suture being readily ruptured and slackened: but the other bones which surround the suture remain unbroken, because they are stronger than the suture.[796] For the fracture which occurs at the suture is also a slackening of the suture, and it is not easy to detect whether the bone be broken and slackened by the indentation of a weapon occurring in the suture, or from a contusion of the bone at the sutures; but it is still more difficult to detect a fracture connected with contusion. For the sutures, having the appearance of fissures, elude the discernment and sight of the physician, as being rougher than the rest of the bone, unless the bone be strongly cut and slackened, (for a cut and a *hedra* are the same thing.)[797]

But it is necessary, if the wound has occurred at the sutures, and the weapon has impinged on the bone or the parts about it, to pay attention and find out what injury the bone has sustained. For a person wounded to the same, or a much smaller, extent, and by weapons of the same size and quality, and even much less, will sustain a much greater injury, provided he has received the blow at the sutures, than if it was elsewhere. And many of these require trepanning, but you must not apply the trepan to the sutures themselves, but on the adjoining bone.[798]

13. And with regard to the cure of wounds in the head, and the mode of detecting injuries in the bone which are not apparent, the following is my opinion:—In a wound of the head, you must not apply anything liquid, not even wine, but as little as possible, nor a cataplasm, nor conduct the treatment with tents, nor apply a bandage to an ulcer on the head, unless it be situated on the forehead, in the part which is bare of hairs, or about the eyebrow and eye, for wounds occurring there require cataplasms and bandages more than upon any other part of the head.[799] For the rest of the head surrounds the whole forehead, and the wounds wherever situated become inflamed and swelled, owing to an influx of blood from the surrounding parts.[800] And neither must you apply cataplasms and bandages to the forehead at all times; but when the inflammation is stopped and the swelling has subsided, you must give up the cataplasms and bandages. A wound in any other part of the head must not be treated with tents, bandages, or cataplasms, unless it also requires incision. You must perform incision on wounds situated on the head and forehead, whenever the bone is denuded of flesh, and appears to have sustained some injury from the blow, but the wound has not sufficient length and breadth for the inspection of the bone, so that it may be seen whether it has received any mischief from the blow, and of what nature the injury is, and to what extent the flesh has been contused, and whether the bone has sustained any injury, or whether it be uninjured by the blow, and has suffered no mischief; and with regard to the treatment, what the wound, and the flesh, and the injury of the bone stand in need of. Ulcers of this description stand in need of incision; and, if the bone be denuded of the flesh, and if it be hollow, and extend far obliquely, we cut up the cavity wherever the medicine cannot penetrate readily, whatever medicine it may be; and wounds which are more inclined to be circular and hollow, and for the most part others of the like

shape, are cut up by making a double incision in the circle lengthways, according to the figure of the man, so as to make the wound of a long form. Incisions may be practiced with impunity on other parts of the head, with the exception of the temple and the parts above it, where there is a vein that runs across the temple, in which region an incision is not to be made. For convulsions seize on a person who has been thus treated; and if the incision be on the left temple, the convulsions seize on the right side; and if the incision be on the right side, the convulsions take place on the left side.[801]

14. When, then, you lay open a wound in the head on account of the bones having been denuded of the flesh, as wishing to ascertain whether or not the bone has received an injury from the blow, you must make an incision proportionate to the size of the wound, and as much as shall be judged necessary. And in making the incision you must separate the flesh from the bone where it is united to the membrane (*pericranium?*) and to the bone, and then fill the whole wound with a tent, which will expand the wound very wide next day with as little pain as possible; and along with the tents apply a cataplasm, consisting of a mass (*maza*) of fine flour pounded in vinegar, or boiled so as to render it as glutinous as possible.[802] On the next day, when you remove the tent, having examined the bone to see what injury it has sustained, if the wound in the bone be not right seen by you, nor can you discover what mischief the bone itself has sustained, but the instrument seems to have penetrated to the bone so as to have injured it, you must scrape the bone with a raspatory to a depth and length proportionate to the suture of the patient, and again in a transverse direction, for the sake of the fractures which are not seen, and of the contusions which are not discovered, as not being accompanied with depression of the bone from its natural position. For the scraping discovers the mischief, if the injuries in the bone be not otherwise manifest. And if you perceive an indentation (*hedra*) left in the bone by the blow, you must scrape the dint itself and the surrounding bones, lest, as often happens, there should be a fracture and contusion, or a contusion alone, combined with the dint, and escape observation. And when you scrape the bone with the raspatory, and it appears that the wound in the bone requires the operation, you must not postpone it for three days, but do it during this period, more especially if the weather be hot, and you have had the management of the treatment from the commencement. If you suspect that the bone is broken or contused, or has

sustained both these injuries, having formed your judgment from the severity of the wound, and from the information of the patient, as that the person who inflicted the wound, provided it was done by another person, was remarkably strong, and that the weapon by which he was wounded was of a dangerous description, and then that the man had been seized with vertigo, dimness of vision, and stupor, and fell to the ground,—under these circumstances, if you cannot discover whether the bone be broken, contused, or both the one and the other, nor can see the truth of the matter, you must dissolve the jet-black ointment,[803] and fill the wound with it when thus dissolved, and apply a linen rag smeared with oil, and then a cataplasm of the maza with a bandage; and on the next day, having cleaned out the wound, scrape the bone with the raspatory. And if the bone is not sound, but fractured and contused, the rest of it which is scraped will be white; but the fracture and contusion, having imbibed the preparation, will appear black, while the rest of the bone is white. And you must again scrape more deeply the fracture where it appears black; and, if you thus remove the fissure, and cause it to disappear, you may conclude that there has been a contusion of the bone to a greater or less extent, which has occasioned the fracture that has disappeared under the raspatory; but it is less dangerous, and a matter of less consequence, when the fissure has been effaced. But if the fracture extend deep, and do not seem likely to disappear when scraped, such an accident requires trepanning. But having performed this operation, you must apply the other treatment to the wound.

15. You must be upon your guard lest the bone sustain any injury from the fleshy parts if not properly treated. When the bone has been sawed and otherwise denuded, whether it be actually sound, or only appears to be so, but has sustained some injury from the blow, there may be danger of its suppurating (although it would not otherwise have done so), if the flesh which surrounds the bone be ill cured, and become inflamed and strangled; for it gets into a febrile state, and becomes much inflamed.[804] For the bone acquires heat and inflammation from the surrounding flesh, along with irritation and throbbing, and the other mischiefs which are in the flesh itself, and from these it gets into a state of suppuration. It is a bad thing for the flesh (*granulations?*) in an ulcer to be moist and mouldy, and to require a long time to become clean. But the wound should be made to suppurate as quickly as possible; for, thus the parts surrounding the wound would be the

least disposed to inflammation, and would become the soonest clean; for the flesh which has been chopped and bruised by the blow, must necessarily suppurate and slough away. But when cleaned the wound must be dried, for thus the wound will most speedily become whole, when flesh devoid of humors grows up, and thus there will be no fungous flesh in the sore. The same thing applies to the membrane which surrounds the brain: for when, by sawing the bone, and removing it from the meninx, you lay the latter bare, you must make it clean and dry as quickly as possible, lest being in a moist state for a considerable time, it become soaked therewith and swelled; for when these things occur, there is danger of its mortifying.[805]

16. A piece of bone that must separate from the rest of the bone, in consequence of a wound in the head, either from the indentation (*hedra*) of a blow in the bone, or from the bone being otherwise denuded for a long time, separates mostly by becoming exsanguous. For the bone becomes dried up and loses its blood by time and a multiplicity of medicines which are used; and the separation will take place most quickly, if one having cleaned the wound as quickly as possible will next dry it, and the piece of bone, whether larger or smaller. For a piece of bone which is quickly dried and converted, as it were, into a shell, is most readily separated from the rest of the bone which retains its blood and vitality; for, the part having become exsanguous and dry, more readily drops off from that which retains its blood and is alive.[806]

17. Such pieces of bone as are depressed from their natural position, either being broken off or chopped off to a considerable extent, are attended with less danger, provided the membrane be safe; and bones which are broken by numerous and broader fractures are still less dangerous and more easily extracted.[807] And you must not trepan any of them, nor run any risks in attempting to extract the pieces of bone, until they rise up of their own accord, upon the subsidence of the swelling. They rise up when the flesh (*granulations*) grows below, and it grows from the diploe of the bone, and from the sound portion, provided the upper table alone be in a state of necrosis. And the flesh will shoot up and grow below the more quickly, and the pieces of bone ascend, if one will get the wound to suppurate and make it clean as quickly as possible. And when both the tables of the bone are driven in upon the membrane, I mean the upper and lower, the wound, if

treated in the same way, will very soon get well, and the depressed bones will quickly rise up.[808]

18. The bones of children are thinner and softer, for this reason, that they contain more blood [than those of adults]; and they are porous and spongy, and neither dense nor hard. And when wounded to a similar or inferior degree by weapons of the same or even of an inferior power, the bone of a young person more readily and quickly suppurates, and that in less time than the bone of an older person; and in accidents, which are to prove fatal, the younger person will die sooner than the elder. But if the bone is laid bare of flesh, one must attend and try to find out, what even is not obvious to the sight, and discover whether the bone be broken and contused, or only contused; and if, when there is an indentation in the bone, whether contusion, or fracture, or both be joined to it; and if the bone has sustained any of these injuries, we must give issue to the blood by perforating the bone with a small trepan, observing the greatest precautions, for the bone of young persons is thinner and more superficial than that of elder persons.[809]

19. When a person has sustained a mortal wound on the head, which cannot be cured, nor his life preserved, you may form an opinion of his approaching dissolution, and foretell what is to happen from the following symptoms which such a person experiences.[810] When a bone is broken, or cleft, or contused, or otherwise injured, and when by mistake it has not been discovered, and neither the raspatory nor trepan has been applied as required, but the case has been neglected as if the bone were sound, fever will generally come on before the fourteenth day if in winter, and in summer the fever usually seizes after seven days. And when this happens, the wound loses its color, and the inflammation dies in it; and it becomes glutinous, and appears like a pickle, being of a tawny and somewhat livid color; and the bone then begins to sphacelate, and turns black where it was white before, and at last becomes pale and blanched. But when suppuration is fairly established in it, small blisters form on the tongue and he dies delirious. And, for the most part, convulsions seize the other side of the body; for, if the wound be situated on the left side, the convulsions will seize the right side of the body; or if the wound be on the right side of the head, the convulsion attacks the left side of the body.[811] And some become apoplectic. And thus they die before the end of seven days, if in summer;

and before fourteen, if in winter. And these symptoms indicate, in the same manner, whether the wound be older or more recent. But if you perceive that fever is coming on, and that any of these symptoms accompany it, you must not put off, but having sawed the bone to the membrane (*meninx*), or scraped it with a raspatory, (and it is then easily sawed or scraped,) you must apply the other treatment as may seem proper, attention being paid to circumstances.[812]

20. When in any wound of the head, whether the man has been trepanned or not, but the bone has been laid bare, a red and erysipelatous swelling supervenes in the face, and in both eyes, or in either of them, and if the swelling be painful to the touch, and if fever and rigor come on, and if the wound look well, whether as regards the flesh or the bone, and if the parts surrounding the wound be well, except the swelling in the face, and if the swelling be not connected with any error in the regimen, you must purge the bowels in such a case with a medicine which will evacuate bile; and when thus purged the fever goes off, the swelling subsides, and the patient gets well. In giving the medicine you must pay attention to the strength of the patient.[813]

21. With regard to trepanning, when there is a necessity for it, the following particulars should be known. If you have had the management of the case from the first, you must not at once saw the bone down to the meninx; for it is not proper that the membrane should be laid bare and exposed to injuries for a length of time, as in the end it may become fungous. And there is another danger if you saw the bone down to the meninx and remove it at once, lest in the act of sawing you should wound the meninx. But in trepanning, when only a very little of the bone remains to be sawed through, and the bone can be moved, you must desist from sawing, and leave the bone to fall out of itself.[814] For to a bone not sawed through, and where a portion is left of the sawing, no mischief can happen; for the portion now left is sufficiently thin. In other respects you must conduct the treatment as may appear suitable to the wound. And in trepanning you must frequently remove the trepan, on account of the heat in the bone, and plunge it in cold water. For the trepan being heated by running round, and heating and drying the bone, burns it and makes a larger piece of bone around the sawing to drop off, than would otherwise do. And if you wish to saw at once down to the membrane, and then remove the

bone, you must also, in like manner, frequently take out the trepan and dip it in cold water. But if you have not charge of the treatment from the first, but undertake it from another after a time, you must saw the bone at once down to the meninx with a serrated trepan,[815] and in doing so must frequently take out the trepan and examine with a sound (specillum), and otherwise along the tract of the instrument.[816] For the bone is much sooner sawn through, provided there be matter below it and in it, and it often happens that the bone is more superficial,[817] especially if the wound is situated in that part of the head where the bone is rather thinner than in other parts. But you must take care where you apply the trepan, and see that you do so only where it appears to be particularly thick, and having fixed the instrument there, that you frequently make examinations and endeavor by moving the bone to bring it up. Having removed it, you must apply the other suitable remedies to the wound. And if, when you have the management of the treatment from the first, you wish to saw through the bone at once, and remove it from the membrane, you must, in like manner, examine the tract of the instrument frequently with the sound, and see that it is fixed on the thickest part of the bone, and endeavor to remove the bone by moving it about. But if you use a perforator (*trepan?*), you must not penetrate to the membrane, if you operate on a case which you have had the charge of from the first, but must leave a thin scale of bone, as described in the process of sawing.

END OF VOL. I.

EXPLANATION OF THE PLATES TO VOL. I.

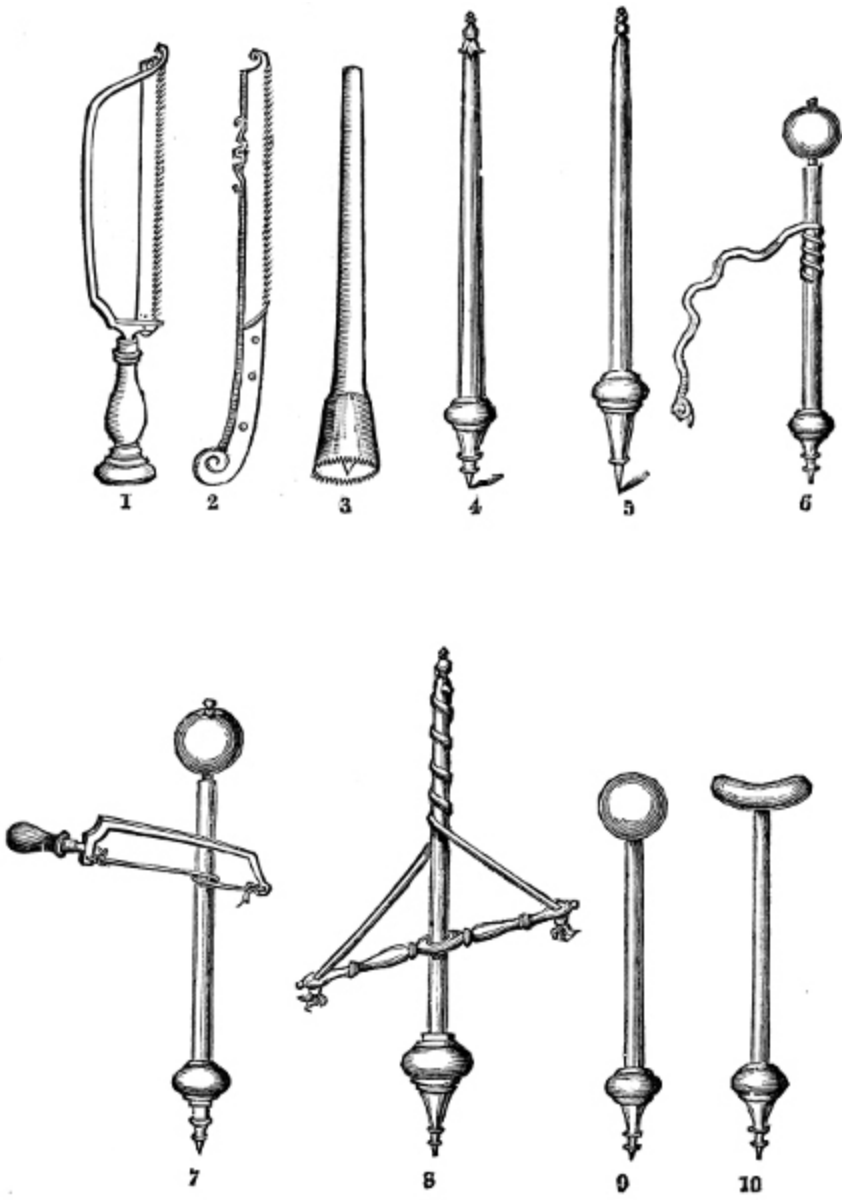


PLATE I.

FIG. 1. The Saw used by carpenters. (Taken from *Chirurgia è Græco in Latinum conversa, Vido Vidio interprete Lutetiæ Parisiorum*, p. 115.)

2. A small Saw. (*Ibid.*)

3. The Modiolus, *or* ancient Trephine. (*Ibid.*)

4. The Terebra, *or* Trepan, called Abaptiston. (*Ibid.* p. 116.)

5. The Auger used by carpenters. (*Ibid.* p. 116.)

6. The Terebra, *or* Trepan, which is turned round by a thong bound tight about its middle. (*Ibid.* p. 117.)

7. The Auger, *or* Trepan, which is turned round by a bow. (*Ibid.* p. 118.)

8. A Terebra, *or* Trepan, which is turned round by a thong on a cross-beam. (*Ibid.* p. 119.)

9. A Terebra, *or* Trepan, which has a ball in its upper end, by which it is turned round. (*Ibid.* p. 120.)

10. A Terebra, *or* Trepan, which is turned round by a cross piece of wood, *or* handle, on its upper end. (*Ibid.* p. 120.)

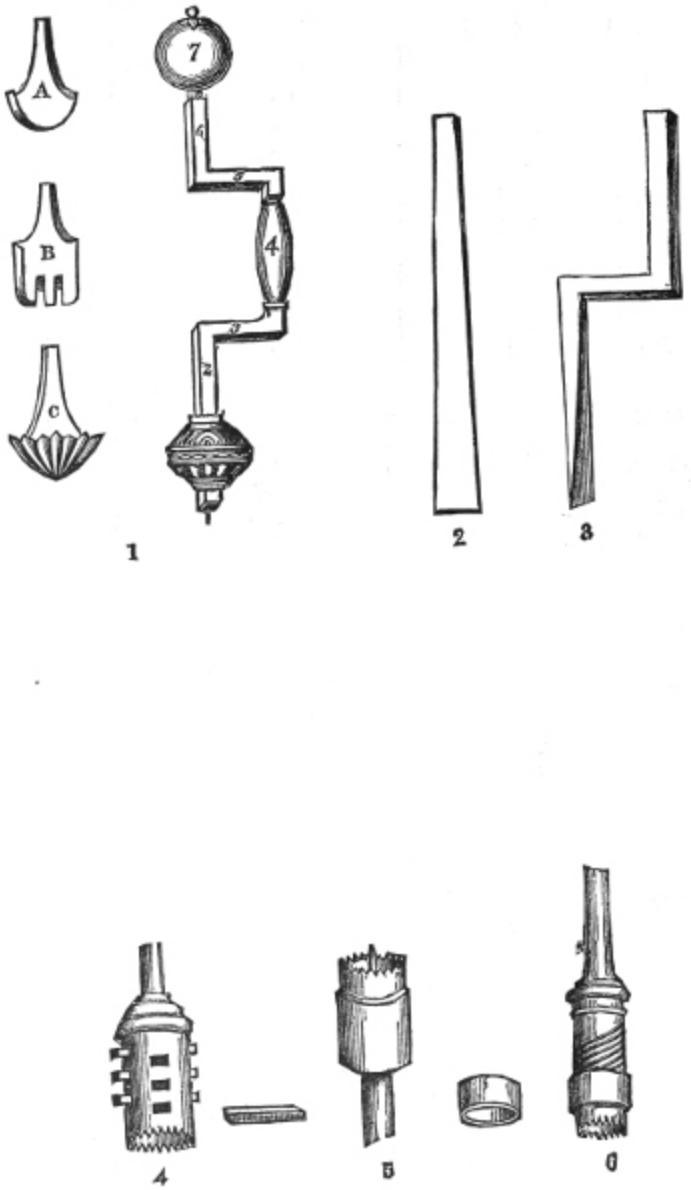


PLATE II.

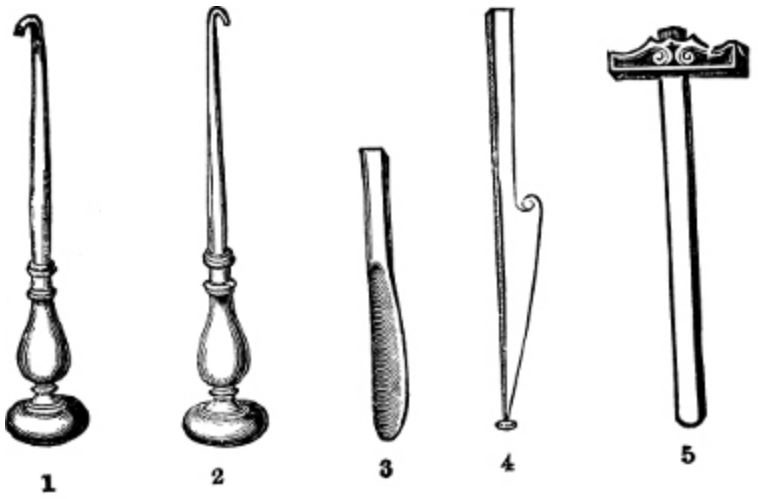
FIG. 1. A Terebra, *or* Trepan, turned round by a handle in its middle. (*Ibid.* p. 122.) It resembles the centre-bit of modern artisans.

1. A hole into which the iron head is fixed.
2. Upright part, three inches long.
3. Cross part, one inch long.
4. The part which is grasped in turning the instrument.
5. Cross part, an inch long.
6. Upright part.
7. A ball fixed to the top.
A. B. C. Different forms of the iron head fixed in the hole 1.

FIG. 2. Scalper rectus, *or* straight Raspatory. (*Ibid.* p. 123.)

3. Scalper in medio recurvatus, *or* bent Raspatory. (*Ibid.* p. 123.)

4, 5, 6. Ancient Modioli, as represented by Pott (*Injuries of the Head*, p. 153).



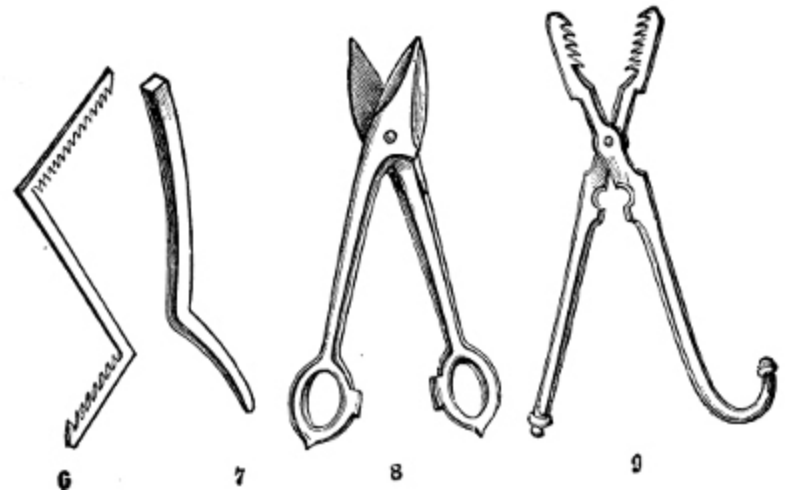


PLATE III.

FIGS. 1 and 2. A Scalper, *or* Raspatory, with which the moderns scrape the bone. (*Chirurgia è Græco, &c.*, p. 125.)

3. Scalper cavus *or* scooped Raspatory. (*Ibid.* p. 126.)

4. A Lenticular. (*Ibid.* p. 127.)

5. A Malleolus, *or* Mallet. (*Ibid.* p. 126.)

6. A Lever, by which modern surgeons protect the dura mater, and raise a depressed bone. (*Ibid.* p. 128.)

7. The ancient Meningophylax. (*Ibid.* p. 128.)

8. Forfex excisoria, *or* Cutting Scissors. (*Ibid.* p. 129.)

9. A Forceps, used for extracting bones. (*Ibid.* p. 130.)

FOOTNOTES:

[1] It is necessary to inform my readers in this place, that, owing to its bulk, it has been judged expedient by the Council of the Sydenham Society to divide the work into two separate parts or volumes.

[2] This is the view which is taken regarding the origin of Grecian medicine by Schulze, in his Historia Medicinæ. He is a most learned and trustworthy authority on the history of medicine, but in the present instance his judgment is biassed by the opinion which was generally held in his age with respect to the origin of Grecian philosophy. At that time it was customary to follow the later Platonists in tracing the rise of philosophy to Egypt. Lord Monboddo, in his work on Ancient Metaphysics, strongly espouses this opinion, which, in fact, was the established belief of learned men down to a late period. Kant advocated the views which are here adopted.

[3] See in particular the introductory chapters to Ritter's History of Ancient Philosophy; Thirlwall's History of Greece, c. xii.; Grote's History of Greece, P. I., c. xvii. The opinion now generally held on this subject may be explained in few words. The Homeric poems are beyond all doubt of Grecian origin, for it cannot be shown that the ancient Egyptians or Babylonians had anything resembling a regular epos. Now, as Mr. Grote well observes, "from the poetry of Homer to the history of Thucydides, and the philosophy of Plato and Aristotle, was a prodigious step, but it was the native growth of the Hellenic youth into the Hellenic man, and what is of still greater moment, it was brought about without breaking the thread either of religious or poetic tradition—without any coercive innovation or violent change in the mental feelings. The transition of Grecian mind from its poetical to its comparatively positive state was self-operated, and accomplished by its own inherent and expansive force—aided indeed, but by no means either impressed or provoked, from without."—L. c.

[4] Plato, Menex.

[5] Celsus mentions Pythagoras, Empedocles, and Democritus, as the most distinguished of the philosophers who cultivated medicine.—Præfat.

[6] "Hippocrates primus ab studio sapientiæ disciplinam hanc separavit."—Præfat.

[7] See the authorities quoted at PAULUS ÆGINETA, Vol. I., p. 73, Syd. Soc. edition; also in particular Xenophon's Memorabilia, iii., 13; and Pausanias, ii., 2. The most complete list which is anywhere given of the ancient Asclepia, is that contained in Schulze's History of Medicine, i., 24. It is to be regretted, however, that the references to Pausanias are made according to the pages of an old edition, instead of books and chapters, so that one experiences some difficulty in finding the passages referred to. The number of Asclepia in Greece noticed by him is sixty-four. Plutarch states in positive terms that all the Temples of Health were erected in high situations, and where the air was wholesome.—(Quæst. Rom.) On the practice of medicine in the Ancient Temples of Health, see further

Sprengel, Hist. de la Méd., e. v. Sprengel, however, does not acknowledge so candidly as he ought to have done his obligations to his predecessor Schulze.

[8] Philostratus, Vita Apollonii, i., 9; Strabo, Geogr., xiv.

[9] Pausanias, vii., 21.

[10] This I have reason to know is the belief of the learned and estimable author of the Isis Revelata.

[11] Aristides, Orat. in Æsculap., viii. It may be proper to state that Sprengel, in referring to this passage (Hist. de la Méd., p. 160. French edition), falls into the mistake of saying that these medicines were prescribed to Aristides himself.

[12] Galen, de Administ, Anatom., ii.

[13] Censura Operum Hippocrat., p. 184.

[14] Hist. de la Méd., i., 5, p. 175, French edit. Schulze, in like manner, depreciates the anatomical knowledge of the Asclepiadæ, and holds that it had been overrated by Galen.—Hist. Med., i., 2, 5.

[15] Comment, in Libr. de Artie, iii., 28; de Decret. Hippocrat. et Platon., viii., I.

[16] Polit., iii., 399; ed. Tauchnitz.

[17] Geograph., xiv., 2.

[18] De Sanitate tuenda, i.

[19] L. c.

[20] Galen, Opera, tom. iv., ed. Basil, 35.

[21] Aristotle, Polit., vii., 4. Notwithstanding the high compliment which Aristotle here pays to the professional reputation of Hippocrates, there can be no doubt that he does not always make proper acknowledgment for the many obligations which he lies under to the Coan sage. Galen states repeatedly that the greater part of Aristotle's physiology is derived from Hippocrates.

[22] See some ingenious observations on these mythical genealogies in Grote's History of Greece., vol. i., p. 593. He holds that they are altogether unworthy of credit, or at least that there is no test whereby one can separate the true from the false in them. Clinton, indeed, in his Fasti Hellenici, attaches more importance to them; but apparently Mr. Grote's judgment on them is perfectly just. See further vol. ii., p. 53, etc.

[23] Noctes Atticæ, xvii., 21.

[24] That Hippocrates drew the rudiments of his medical knowledge from the reports of cases collected in the Asclepion of Cos, is attested by good authorities. See Strabo, Geogr., xiv.; Pliny, H. N., xxix., 2.

[25] On the introduction of the gymnastic exercises into the practice of medicine, see Schulze, Hist. Med., i., 2, 8. The author of the VI. Epidem. condemns Herodicus for using exercises in the treatment of acute diseases. Herodicus is frequently mentioned in the Dialogues of Plato. See Protagoras, § 20; and de Repub., iii. Plato says, that being in ill health, he wore out first himself and afterwards many others, by combining gymnastics with medicine.

[26] Somnus alludes to this fiction, and quotes Andreas as an authority for it. See also Pliny, H. N., xxix., 2. Tzetzes calls it the Temple of Cos, and not of Cnidos, which was burned.

[27] See Plato, Protagoras.

[28] Galen, Comment. in Libr. de Nat. Human.

[29] Suidas in voce Hippocrates.

[30] It was a common practice in ancient times to kindle great fires as *disinfectants* or *deodorizers*. We have entered pretty fully upon this subject in our Commentary on PAULUS ÆGINETA, Vol. I., p. 274. There can be no doubt that it was the established practice of the profession in the days of Hippocrates. The names of Acron, Empedocles, and Hippocrates are particularly famous as having successfully adopted the practice. See Aëtius, v., 94; Paulus Ægineta, l. c.; Pliny, H. N., xxxvi., 69; and Plutarch, De Iside et Osiride.

[31] Hist., iii., 87.

[32] It deserves to be mentioned further, as adding probability to the present narrative, that it was quite common in ancient times for the Asclepiadæ to be publicly consulted by cities and States respecting the general health of the inhabitants, and this both for the prevention and cure of diseases. See Aristid. Opera, i., p. 81.

[33] Galen, in many parts of his works, alludes to the professional services of Hippocrates during the great plague described by Thucydides. He mentions decidedly that Thucydides gives only those symptoms which would strike a common, that is to say, a non-professional man; whereas Hippocrates describes the disease accurately like a professional man, but gives few of those symptoms which appeared most interesting to Thucydides.—De Difficult. Respir., ii., 7.

[34] Thucydides mentions that the mortality of the plague was greatly aggravated by the influx of the people from the country into the city, and the crowding of them in ill-ventilated huts. (ii., 52.) Mitford, in describing the plague of Athens, remarks that the want of sewers in ancient times must have contributed very much to the severity of the disease. (Hist. of Greece, vol. ii., p. 195.) He refers (l. c.) to Strabo (Geogr. v.) for proof that the Romans were the first people who constructed sewers.

[35] See Xenophon, Cyropæd., i. and viii.

[36] Galen, Comment in libr. de Artic. iii.

[37] Xenophon, Anabasis, i. It has never been clearly determined whether he was in the suite of Artaxerxes the king, or of his brother Cyrus, before the battle of Cunaxa, in which the latter was killed, and the former being severely wounded, was attended professionally by Ctesias. Diodorus Siculus, indeed, says decidedly that he was taken prisoner on the occasion. (Bibl. ii., 32.) But we are certain, from the authentic narrative of Xenophon, that he was not taken prisoner in the battle, nor is it likely that he was one of those who were kidnapped afterwards, otherwise the historian would certainly not have omitted the name of so distinguished a personage. Besides, had he been brought to Babylon in this way, as a captive, Artaxerxes was not likely to have intrusted his

royal life to a person who had been so lately the professional attendant on his rebel brother.

[38] See Thucyd., ii., 48.

[39] De Prisca Medicina.

[40] See in the next section, under xxiii. Though I have not admitted the treatise here referred to into the list of genuine works, it will be seen below that it possesses considerable evidence in its favor, and that beyond doubt it is very ancient.

[41] Aphor., I., 1.

[42] See Galen, Opera, tom. v., p. 488; ed. Basil.

[43] This is clearly defined and stated by Aristotle, Phys., i. See also Boethius in Præd., p. 113; ed. Basil.

[44] This is the more remarkable, as it does not appear to have been the established creed of the greatest literary men and philosophers of the age, who still adhered or professed to adhere to the popular belief in the extraordinary interference of the gods with the works of Nature and the affairs of mankind. This at least was remarkably the case with Socrates, whose mind, like that of most men who make a great impression on the religious feelings of their age, had evidently a deep tinge of mysticism. See Xenoph. Memor., i., 1, 6–9; Ibid. iv., 7, 7; also Grote's History of Greece, vol. i., p. 499. The latter remarks, "Physical and astronomical phenomena are classified by Socrates among the divine class, interdicted to human study." (Mem., i. 1, 13.) He adds, in reference to Hippocrates, "On the other hand, Hippocrates, the contemporary of Socrates, denied the discrepancy, and merged into one the two classes of phenomena—the divine and the scientifically determinable,—which the latter had put asunder. Hippocrates treated all phenomena as at once both divine and scientifically determinable." (p. 499.) He then quotes the memorable passage in the treatise "On Airs," etc. It does not appear, however, that in ancient times the charge of Atheism was ever brought against him. It has been urged against him by modern fanatics, but scarcely deserves a serious refutation. See Schulze (Hist. Med., i., 3, 2), and Ackerman (Hist. Lit. Hippocr., pp. xii, xiii; ed. Kühn). By such persons, whoever does not join in their anthropomorphical notions of a first cause is held up for an Atheist.

[45] For the medicine of the ancient Jews, Egyptians, and Babylonians, see the introductory chapters of Sprengel's Hist. de la Méd. The medicine of the Hindoos, as given in the "Susruta" of D'Hanvantare, abounds in superstitious practices.

[46] Epidem., vi.

[47] Epidem., i.

[48] De Diæta in Morb. Acut., Prognost., 15. See the argument to the Appendix to the former work.

[49] See Galen, Oper. tom. v., p. 106; ed. Basil.

[50] See De Morbis, pluries; de Prisca, Med., 22.

[51] De Superfœt. et pluries.

[52] De Ratione Victus in Acut. There is some doubt, however, whether the σκαμμώνιον of Dioscorides be the *Convolvulus scammonia*. Some rather take it for the *C. sagittifolius*.

[53] De Superfœt. et alibi.

[54] De Morb. Mulier.

[55] De Fract., Aphor. et alibi.

[56] Galen, Meth. Med., v., 3; Comment. in Libr. de Humor. See further in illustration, Œconom. Hippocrat. under Παροχετεύειν and 'Αντίσπασις; and Schulze, Hist. Med., i., 3, 4, 10.

[57] See Epidem., i, and iii.; Aphor., i., 16; and De Diæta Acutor., passim.

[58] See de Morbis, ii.; and Le Clerc, Hist. Med., 1, 3, 20.

[59] See the work "On the Articulations," pluries.

[60] See in particular Venesect. adv. Erasistrat., Comment. in Lib. de Offic. Medic.

[61] De Dyspn., ii., p. 181; ed. Basil. This brevity of style, Galen, in another passage of the same work, pronounces to be characteristic of all the old writings. In fact, when the materials of writing were scarce and dear, it is not likely that authors would indulge in an extravagant use of them.

[62] Coray, Traité de Hippocrat. des Airs, etc., Discours préliminaire, pp. l., lvii.

[63] Dionysius Halicarnassensis de iis quæ Thucyd. propria sunt, et de Platon. judicium.

[64] Opus supra laudatum, p. clxxiv.

[65] See the editions of Horace by Bentley and Tate, pluries.

[66] See in Bentley's Horace. The poet himself in several of his pieces, alludes to the separate publication of the various books, as i., 97; vi., 1; ii., præfat.; et pluries.

[67] See Middleton's Life of Cicero, pluries.

[68] See the editions by Ast, Bekker, and Stallbaum, and the ancient authorities there referred to.

[69] See the preliminary dissertation prefixed to Buhle's edition; also Schneider's edition of the Historia Animalium, Epimetrum iii.

[70] He mentions, in his commentary on the treatises entitled "On Regimen in Acute Diseases," that, from the marks of confused arrangement about it, he was persuaded the author had left it in an unfinished state, and that it had been published after his death. See Opera, tom. v., p. 70; ed. Basil.

[71] See Galen, de Crisibus, i., 6.

[72] Galen, Gloss., tom. v., p. 705; ed. Basil. As frequent mention of the commentators will occur in the course of this work, I will here subjoin a complete list of them, with a few brief notices of them, more especially of a chronological nature, derived principally from the following sources: Ackerman,

Bibliotheca Græca; Dietz, Præfatio in Scholia Apollonii, etc.; Littré, Op. Hippocrat., tom. i., pp. 80–132; Daremberg, Cours sur l'Histoire et la Littérature des Sciences Médicales.

Herophilus, the famous anatomist of Alexandria; flourished about from 310–280 A.C.

Xenocrates of Cos, quoted by Erotian as an authority on the Prognostics; nearly contemporary with Herophilus.

Philinus of Cos, contemporary with Herophilus, and probably a disciple.

Bacchius, contemporary with Philinus.

Glaucias immediately after Bacchius; flourished probably between 290–260 A.C.

Zeuxis the Empiric, immediately after Glaucias and before Zeno; probably from 270–240 A.C. See Daremberg.

Heraclides Tarentinus, somewhat later than Bacchius, probably between 260–240 A.C.

Zeno the Herophilean, the contemporary and rival of Heraclides; probably the same as Zeno of Laodicea.

Apollonius Biblas, the contemporary and rival of Zeno.

Callimachus, according to Daremberg, an immediate disciple of Herophilus.

Epiceleustus of Crete, of uncertain date.

Apollonius Ophis, of uncertain date.

Lysimachus of Cos, uncertain.

Euphorion, uncertain.

Heraclides the Erythrean, rather uncertain; but, according to Daremberg, a contemporary with Heraclides Tarentinus. The same as Heraclides the Herophilean. (Strabo, Geogr., xiv.)

Epicles, uncertain.

Eurycles, uncertain.

Philonides of Sicily, uncertain.

Ischomachus, uncertain.

Cydias, uncertain.

Cinesias, uncertain.

Demetrius, the Epicurean.

Diagoras, uncertain.

Nicander the Poet of Colophon, from 150–120 A.C.

Apollonius Citiensis; Daremberg places him between 80–52 A.C. See also Dietz and Littré.

Asclepiades of Bithynia, contemporary with Pompey the Great; about 60–40 A.C.

Thessalus, the famous Methodist; about 50–70 P.C.

Erotian flourished in the reign of Nero, from 50–70 P.C. His Glossary still preserved.

Sabinus, of uncertain date, but probably not long anterior to Galen, by whom he is frequently quoted. (Op., tom. v., p. 433.)

Metrodorus, disciple of Sabinus.

Rufus *or* Ruffus Ephesius, contemporary with Sabinus. Several of his works remain, but no portion of his Commentaries on Hippocrates.

Marinus, the celebrated anatomist, about the beginning of the second century P.C.

Quintus, the Empiric, probably about from 110–130 P.C.

Lycus, the Macedonian, the disciple of Quintus; from 120–140 P.C. See Daremberg.

Lycus, of Naples, date rather uncertain.

Artemidorus, a favorite of the Emperor Hadrian; often blamed by Galen for his alterations of the text; about 120–140 P.C.

Dioscorides (*not* the author of the Materia Medica), an associate of Artemidorus.

Numesianus, somewhat later than Dioscorides.

Dionysius, about the time of the last.

Pelops, the disciple of Numesianus.

Satyrus, the disciple of Quintus.

Phecianus, the disciple of Quintus.

Julian the Alexandrian, the immediate predecessor of Galen, who frequently animadverts on his writings.

GALEN, flourished between 150–190 P.C.; wrote Commentaries, still in existence, on the following works:—On the Nature of Man; on Regimen in Health; on Regimen in Acute Diseases; on the Prognostics; on the First Book of the Prorrhetics; on the Aphorisms; on the First, the Third, and the Sixth Books of the Epidemics; on the Treatise on Fractures; on the Articulations; on the Physicians' Establishment or Surgery; on the Humours; fragments of the Commentaries on Airs, Waters, Places, and on the Aliment. Besides these, he wrote several other Commentaries, which are lost.

Domnus, of uncertain date, after Galen.

Attalion, like the last, cited in the Commentary attributed to Oribasius.

Philagrius, of uncertain date, quoted by Theophilus.

Gesius, of uncertain date.

Asclepius, of uncertain date, quoted by Theophilus. (Dietz, tom. ii., p. 458.)

Stephanus, the Athenian, supposed by Dietz to have lived in the reign of Heraclius, that is to say, in the earlier part of the seventh century. According to Dietz, not the same as Stephanus Alexandrinus.

Palladius, probably about the seventh century; his Commentary on the book "On Fractures," published by Foës, and a considerable portion of his Commentary "On the Sixth Epidemic," by Dietz.

Joannes Alexandrinus, probably near the time of Palladius; part of his Commentary "On the Nature of the Young Man," published by Dietz.

Theophilus, or Philotheus, surnamed Protospatharius, probably flourished in the seventh century P.C. See the Annotations of Dr. Greenhill, in his excellent edition of the work "De Corporis Humani Fabrica;" Oxford, 1842. Several of his Commentaries on the Aphorisms, published by Dietz.

Meletius, of uncertain date; part of his Commentaries on the Aphorisms, published by Dietz. See also Anec. Gr., ed. Cramer.

Damascius, of uncertain date; a few of his Commentaries on the Aphorisms, published by Dietz.

[73] Œuvres d'Hippocrat., tom. i., p. 171.

[74] See Schulze, Hist. Med., i., 3, 1.

[75] It will be proper to give this Class:—

1. De Aëre, Aquis, et Locis.
2. De Natura Hominis.
3. De Locis in Homine.
4. De Humoribus.
5. De Alimento.
6. De Morbis popularibus.
7. Prognosticon.
8. Prædictionum, ii.
9. De Victu Acutorum.
10. De Fracturis.
11. De Articulis.
12. Mochlicus.
13. De Vulneribus Capitis.
14. Officina Medici.
15. Aphorismi.

[76] Censura Librorum Hippocrateorum, Vratislaviæ, 1772.

[77] De Elementis, i., 9.

[78] Tom. v., p. 442; ed. Basil.

[79] Galen, who is a most unexceptionable judge in such a case, says that the language of Hippocrates inclines to the Attic, and that some had held it to be Old Attic. (Tom. v., p. 525; ed. Basil.) Dionysius of Halicarnassus, another admirable critic, says that Herodotus is the most excellent standard of the Ionic (and so, by the way, Photius also says, under the head of *Ctesias*) and Thucydides of the Attic. (De Platon. Judicium.) Now, since we have already made it appear that there is a most striking similarity between the language of Hippocrates and Thucydides, the judgment of Dionysius is evidently in accordance with that of Galen on this point. Indeed, as briefly stated in the text, the Attic was nothing more than a new development of the Ionic, and scarcely more different from it than the English language in the age of Pope is from the same in the age of Milton. It is to be borne in mind that the name Ionian was originally applied to the Thracians and the inhabitants of Attica, who were evidently closely allied to one another in consanguinity. It was in Thrace that learning and civilization first sprang up under the auspices of Thamyris, Orpheus, and Musæus, by whom the elegant arts were transplanted to Athens. (See Hesychius, in voce Iones; Eustathius, ad Iliad., ii.; Diogenes Laertius, *Præfat*.; also Hermes Philologus, p. 23, by the author of this disquisition, whose mind now reverts with great delight, *ad studia quæ adolescentiam alebant*.) The inhabitants of Asiatic Ionia and the adjoining islands were colonists from Attica. (Thucyd., i., 12; Herodotus, viii., 44; Heraclides, de Polit.) From what has been stated it will readily be understood that the only standard of polite Greek was the Ionic, with its offspring the Attic. The Æolic and Doric dialects, although used in certain scientific and popular compositions, such as Bucolics and certain philosophical treatises, were never looked upon as being fashionable and learned dialects.

[80] De Artic., i.

[81] See his Historia Literaria Hippocratis, in the Bibliotheca Græca of Albertus Fabricius, or in vol. i. of Kühn's edition of Hippocrates.

[82] Galen, tom. v., p. 17; ed. Basil.

[83] Apologie, etc.

[84] Hippocratis nomine quæ circumferuntur scripta ad temporis rationes disposuit Christianus Petersen, p. prior. Hamburgi, 1839.

[85] Prædict., i.; Coacæ Prænot.; de Loc. in Hom.

[86] De Carne.; de Part. Sept.; de Part. Oct.; de Superf.; de Dent.

[87] De Flat.

[88] De Morb. Popul., i., iii.; de Morb., i.; de Affect.; de Morbo Sacro; de Insan.; de Veratr. Usu; de Victu Acut.; de Victu Sal.; Præn.; Prædict., ii.; Aphor.; de Aëre, Locis, et Aq.; de Insom.; de Hæmorrh.; de Fistul.

[89] De Nat. Puer.

[90] De Prisca Med.

[91] De Nat. Hom.; de Humor.; de Nat. Oss.; de Corde; de Corp. Sect.; de Gland.; de Visu; de Alim.; de Usu Liquid.; de Affect. Intern.; de Morb. Popul.,

ii., iv., etc.; de Morb., ii., iii.; de Morb. Mulier.; de Nat. Mulieb.; de his quæ ad Virg. Spect.; de Steril.; de Vulner.; de Judic.; de Dieb. Judic.

[92] De Morb., iv.; de Genitura; de Remed. Purgant.

[93] De Victu Sanor. libri tres.

[94] Tom. ii., pp. 32, 33.

[95] Œuvres d'Hippocrate, tom. i., p. 263.

[96] See Stephanus, Comment. in Prognost. Hippocrat., tom. ii., p. 61, ed. Dietz.; and Galen, tom. v., p. 328, ed. Basil.

[97] The well known story regarding the concealment of Aristotle's library by his heir, Neleus of Scepsis, and its restoration by Apellicon, is faithfully related by Strabo, Geograph., ix. In this passage Strabo states, that before the restoration of the library by Apellicon, there were but few of Aristotle's works in the hands of the peripatetic philosophers, and these principally his exoteric works. But that the treatise "On the History of Animals" was an exoteric work, can admit of no question. This is confidently maintained by the learned Schneider in the prolegomena to his edition of this work. Indeed, as he suggests, there is no good reason for doubting that the treatise "On the History of Animals" had been published by Aristotle in his lifetime. (Epimetrum, ii.) See also Buhle's dissertation prefixed to his edition of Aristotle's works. I need scarcely add that, it being thus shown that all the most learned authorities on the literature of Aristotle's works are agreed that the History of Animals, in which is contained this disputed fragment on the veins, was published before the time when the Hippocratic Collection is supposed to have been made, M. Littré's conclusions on this head must fall to the ground.

[98] The death of Aristotle is referred to A.C. 321. Now this is just about the date of the foundation of the Royal Library at Alexandria, and very near the age when Herophilus flourished. These (M. Littré's) positions clearly made out, it would follow that the dates of the treatises in the Collection come down very near to the foundation of the Alexandrian Library.

[99] See Hengstenberg's Commentary on the Psalms, pluries.

[100] Although this piece be admitted into the first class, it also merits a place here.

[101] Prænotiones or Prognostica; Aphorismi; Epidemiorum, i., iii.; de Diæta Acutorum; de Aëre, Aquis, et Locis; de Capitis Vulneribus.

[102] De Prisca Medicina; de Articulis; de Fracturis; Mochlicus; Jusjurandum; Lex; de Ulceribus; de Fistulis; de Hæmorrhoidibus; de Officina Medici; de Morbo Sacro.

[103] Prorrhetica, i.; Coacæ Prænotiones.

[104] De Natura Hominis; de Salubri Victus Ratione; de Natura Muliebri; de Morbis, ii., iii.; de Superfœtatione.

[105] De Flatibus; de Locis in Homine; de Arte; de Diæta; de Insomniis; de Affectionibus; de Internis Affectionibus; de Morbis, i.; de Septimestri Partu; de Octimestri Partu; Epidemiorum, ii., iv., vii.; de Humoribus; de Usu Liquidorum.

[106] Epistolæ; Thessali Legati Oratio; Oratio ad Aram; Atheniensium Senatus-Consultum.

[107] De Genitura; de Natura Pueri; de Morbis, iv.; de Mulierum Morbis; de Virginum Morbis; de Sterilibus.

[108] Epidemiorum, v., vii.; de Corde; de Alimento; de Carnibus; de Septimanis; de Natura Ossium; de Glandulis; de Medico; de Decenti habitu; Præceptiones; de Anatomia; de Dentitione; de Exsectione Fœtus; de Visu; de Crisibus; de Diebus Criticis; de Medicamentis Purgativis.

[109] Hippocrat. Coi Comment. etc., Theod. Zuingeri studio. Basil, 1579.

[110] See his additions to Ackerman's Dissertation, in his edition of the Works of Hippocrates.

[111] § 122, tom. i., p. 172 (ed. Bekker), where see the note of Heindorf.

[112] Galeni Opera, tom. v., pp. 2, 16; ed. Basil.

[113] Œuvres Complètes, etc., tom. i., p. 320.

[114] The argument turns principally on the meaning of the expression, τι πότε λέγει Ἱπποκράτης τε καὶ ὁ ἀληθὴ λόγος, which M. Littré contends signifies, "ce qu'Hippocrate et la raison *pourraient dire*." Now I must say that, to me, the words of Plato here quoted do not warrant the interpretation which M. Littré puts upon them; and, not satisfied with my own judgment on this point, which happens in the present instance to be an important one, I applied to one of the best authorities in Britain on the minutiæ of the Greek language for his opinion, and was happy to find that it entirely corresponded with my own. Having alluded in the text to the prolixity of the discussion which M. Littré enters into on this occasion, I trust that eminent scholar will not be offended (provided these pages ever meet his eyes) if I introduce here an anecdote of the celebrated Kuster. Having been shown a work in which the quantity of argumentation and reflection greatly over-balanced the amount of facts and references, he laid it aside with the remark, "I find nothing here but reasoning: *non sic itur ad astra*."

[115] Galeni Opera, tom. v., p. 119; ed. Basil.

[116] Comment. vii.; et sect. vii., 53 et seq.

[117] See under *Hippocrates* in Smith's Greek and Roman Biographical and Mythological Dictionary.

[118] "In all paroxysms, or sharp fits of intermitting diseases, we must take away meat, for then to give it is hurtful."

[119] "The belly is naturally hottest in winter and the spring, and most addicted to rest. Consequently in these seasons a greater proportion of food is to be allowed, because the inward heat is stronger, which is the reason that a more plentiful food is necessary. This difference may be seen in such as are old, and in such as are lusty and well-grown bodies."

[120] "Those things that are or have been justly determined by nature, ought not to be moved or altered, either by purging or other irritating medicines; but should be left alone."

[121] "Things evacuated and purged are not to be estimated by the multitude and quantity, but by their fitness to be avoided and sent forth; and must be such

as are not too troublesome to the patient to bear. Though, where it is necessary, we must proceed in evacuating, even to swooning and fainting, if the patient can bear it."

[122] "Those who are grieved in any part of the body, and are scarce sensible of their grief, have a distempered mind."

[123] "When the upper parts of the throat or gullet are sore, or a breaking out of small tumours does arise in the body, we ought to look upon the excrements; for if they are choleric, the body is also sick; but if they are like the excrements of sound persons, the body may be nourished without danger."

[124] "When that which ought to be evacuated is discharged by spontaneous vomiting and diarrhœa, it is useful and easily endured; but when otherwise, the contrary. *This is equally true with regard to every vessel*," etc.

[125] "They in whom the greatest vigor of the disease is immediately perceived, are to be immediately sparingly supplied with food; but from those in whom it occurs later, the food must at that time, or a little earlier, be abstracted. Previously, however, we must nourish more freely, that the sick may be supported."

[126] "Whilst the crisis is forming, and when it is complete, nothing ought to be moved or to be introduced, whether by purgatives or other irritants; but all should be left at rest."

[127] "They who are accustomed to daily labor, although even weak or old, endure it more easily than the robust or young, who are even accustomed to it."

[128] "In regard to the seasons, if the winter has been dry and cold, and the spring moist and warm, in summer acute fevers, ophthalmias, and dysenteries must necessarily occur, chiefly, however, among females and men of pituitous temperament."

[129] Tom. v., p. 399; ed, Basil.

[130] "The state of the air being, upon the whole, dry, with a south wind, which was just contrary to what happened the year before, when the north chiefly prevailed; there were but few inflammatory fevers, and these were of a mild disposition, very few being attended with hemorrhages, and much fewer, if any, with death." (p. 4.)

"They affected children, young persons, and those who were arrived at years of maturity, and especially those who used much exercise, yet but few women." (Ibid.)

"Before the summer, and even during that season, nay, in winter likewise, there were many who had been disposed to a phthisis who were now afflicted with that disease," etc. (Ibid.)

"The extremities were generally very cold, there was seldom any heat in them." (p 3.)

[131] Præfat. Gloss.

[132] Comment. in Libr. de Fract.

[133] In Lib. Prognos. Comment.

[134] Tom. v., p. 89; ed. Basil.

[135] Comment. in Lib. de Fract.

[136] Deipnos, ii., 7.

[137] De Propr. Lib., in III. Epid., Comm. ii., Præf.

[138] Bibl. Med., p. 1, 29, 59.

[139] The inhabitants of Asiatic Ionia, and the islands adjoining, were all colonists from Attica. (See in particular Thucyd., i., 12; and also Herodot. viii., 44; and Heraclides, de Politiis.) Dr. Coray supposes that Hippocrates represents himself as being a European, in consequence of his having composed this treatise in Europe, at a distance from his native country. But there is no necessity for this supposition, as Hippocrates, being of Grecian descent, would naturally enough consider himself a European, since the great body of the Greeks were Europeans. Coray mentions a striking instance of Haller's incapacity to form a correct judgment on the works of Hippocrates, from want of a proper acquaintance with the Greek language.—Discours Préliminaire, etc., p. lvi.

[140] De Placit. Hippocr., et Platon. ix.; de Diff. Resp., iii., 7.

[141] Ap. Foës., p. 197.

[142] Galeni Opera, tom. v., p. 652; ed. Basil.

[143] Opera, tom. v., p, 578; ed. Basil.

[144] Ibid., p. 170.

[145] In Prædict. i., Comm. i., 4.

[146] V. Galen, in Exeges. in vocibus ἐκλούσθω, σφάκερος, etc.

[147] Præfat. Gloss. Hippocrat.

[148] Gynæc., tom. i., P. I., p. 13.

[149] In vita Hippocrat.

[150] Ad Nepotian. de vita Cleric., Ep. ii., p. 13, tom. i.; ed. Paris, 1643.

[151] Orat. Funebr., in Cæsarium Fratrem.

[152] Sub voce Hippocrates.

[153] Epist. ad C. Jal. Callistum.

[154] Thesmophor., l. 240.

[155] De Legg. iv., l. vi., p. 134; ed. Tauchnitz.

[156] Tom. ii., p. xlviii.; Add. et Corrig.

[157] Tom. v., p. 526; ed. Basil, etc. Elsewhere he quotes it as being undoubtedly genuine.—De Placit. Hippoc. etc., ix., 1.

[158] Hist. Med., p. 283.

[159] See Polybius, as quoted by Littré, l., c.; also section iii. of the Preliminary Discourse.

[160] Saturnal., vii., 6.

[161] Hist. Animal., iii., 3.

[162] In Boerhaav., Meth. Stud. Med.

[163] De Placit. Hippocrat. et Plat., vi., 3; et Opera, tom. v., p. 22; ed. Basil.

[164] De Nat. Facult., tom. i., p. 87.

[165] Opera, tom. v., p. 329; ed. Basil.

[166] See English translation of PAULUS ÆGINETA, Book I., p. 549.

[167] See Galen, tom. v., p. 2.

[168] See further, under No. 1.

[169] Opera, tom. v., pp. 17, 29.

[170] See PAULUS ÆGINETA, I., 50.

[171] I., 3.

[172] Sect. ii., near the beginning.

[173] Comment. in III. Epidem.

[174] Ad Hippocrat. de Aëre, Aquis, Locis, § 65.

[175] De Vulneribus superciliis allatis. Lips., 1741.

[176] Lehre von den Augen-krankheiten. Wien, 1813.

[177] In VI. Aphor., 3, Comm. vi.; Meth. Med., iv., 6.

[178] Hist. Med., i., 3, 4, 60. His language is particularly strong: "Maximè genuinus ab omnibus judicatur."

[179] In his Commentary on this work.

[180] Book iv., 44. See the authorities quoted in the Commentary on this chapter in the English edition. Schulze properly remarks, that the composition which he recommends as an application to certain sores resembles the Ægyptiacum of modern times.—Hist. Med., i., 3, 4, 63.

[181] Comment in Lib. de Nat. Human.

[182] They are as follows: "Continuari cum libello de hæmorrhoidis manifeste spurio, ideoque ipsum esse spurium, Galenus jam notat in Gloss., s. v. πήρινα et στρυβλήν." Now, as stated above, Galen does not say a word against the authenticity of these works.

[183] Comment i., in Hipp. Prognost. The quotation prefixed to this work in the editions of Vander-linden and Frobenius, in which Galen is stated to have held this work not to be genuine, is admitted by Littré to be of no authority.

[184] Morb. Diuturn., i., 4.

[185] See Menage in Diogen. Laert., p. 241.

[186] See § 66, tom. vii., p. 359: ed. Bekker.

[187] See all these authorities as quoted by Ackerman.

[188] Hist. de la Méd., i., iii., 4.

[189] It may appear a singular idea that the earth is supported on air, and yet it was very generally held by the learned men of antiquity. The poet Lucan thus alludes to this doctrine:

"Dum terra fretum terramque levabit
Aer."

Pharsal., i., 89.

And in like manner Ovid:

"Nec circumfuso pendebat in aere tellus
Ponderibus librata suis."

Met., I., 11.

Bentley remarks, in his note on the passage in Lucan, "Omnis poetarum chorus hoc prædicat ut et philosophorum veterum."

[190] Morb. Chron., i.

[191] Corp. Human. Appell., ii., 1.

[192] See under θήριον and κρημνόι.

[193] They refer apparently to Deipnos, ii., 7, where Athenæus quotes a treatise of Hippocrates περὶ τόπων, but he evidently means by it the work "de Aëre, Aquis, Locis." It is to be borne in mind that Athenæus often makes his references in a loose manner.

[194] De Facult. Natur., ii.

[195] Censura Libr. Hippocrat., p. 115.

[196] Comment. in Epidem., ii., 3. See also Le Clerc, Hist. de la Méd., iii., 17; and Sprengel, Hist. de la Méd., tom. i., p. 325, etc. A passage, which we shall see below, in the Prognostics (§ 15) puts it beyond a doubt that venesection was part of the routine of practice pursued by Hippocrates in cases of pneumonia. See also (and this passage is very decisive) de Diæta in Morb. Acut., § 5; and Galen's Commentary, pluries.

[197] The strongest argument in favor of its being a production of the Cnidian school is the mode of treating pneumonia here laid down, which certainly in so far agrees with what Galen says of Cnidian practice in such cases, namely, that those authorities omitted bleeding and purging. See Opera, tom. v., p. 87.

[198] See under Ἱπποκράτης. The meaning of the passage, however, is somewhat doubtful.

[199] Comment, in Lib. Vict. Acut., i., p. 43; ed. Basil.

[200] Zuinger, however, stands up for its genuineness. Hippocratis Vigenti duo Comment., etc., p. 386. He gives a most elaborate analysis of it.

[201] These dreamy views of human life look very much like an anticipation of the Fourierism of the present day. So true is the hackneyed saying, "there is nothing new under the sun!"

[202] Hist. de la Méd., i., iii., 13.

[203] Hippocrates, in his treatise ‘On Diet in Acute Diseases,’ says decidedly that the ancients—that is to say, his predecessors—had written nothing of any value on the subject of Dietetics (§ 1). From this we may infer that the present work was not known in his days; for it can scarcely be supposed that he would have spoken so disparagingly of it.

[204] Galen quotes it as a portion of the work on Diet. See Opera, tom. v., p. 377; ed. Basil.

[205] This idea is well explained and enlarged upon by Alexander Aphrodisiensis.—Probl. i., 118. This writer must not be confounded with the commentator on Aristotle.

[206] Zuinger points out a striking mark of the connection between it and the work ‘On Diet:’ op. sup. laud. p. 549.

[207] Amstel., 1658.

[208] Oneirocritica, etc. Lutetiæ, 1603.

[209] Σκιᾶς ὄναρ ἄνθρωποι. Pind. Pyth., viii.

[210] Comment. in Libr. de Diæt. Acut., i.

[211] Tom. v., pp. 306, 614, etc.; ed. Basil.

[212] See the Syd. Soc. edition of Paulus Ægineta, Vol. I., p. 264.

[213] Galen, by the way, mentions that Euryphon, the celebrated Cnidian physician in the days of Hippocrates, was in the practice of treating empyema with the actual cautery.—Comment. in Aphor., vii., 44. This is a strong confirmation of the opinion that this treatise must have emanated from the Cnidian school.

[214] See the Syd. Soc. edition of Paulus Ægineta, Vol. I., p. 354.

[215] I presume it was the rib itself that was perforated, and not the intercostal space. The term τρύπανον was generally applied to the trepan. The epithet τρυγλητήριον, or, as Foës proposes to read it, τρωλοδυτήριων, is probably derived from τρώγλη, a hole, and δύω, to penetrate; joined together, they would signify a trepan for boring holes.

[216] Morb. Acut., iii., 17.

[217] De Humor., Comment. in VI. Epidem.

[218] Opera, tom. v., p. 456; ed. Basil.

[219] The silphium, indeed, is mentioned among the remedies for this case in the treatise “On Regimen in Acute Diseases” (7), but not the other articles.

[220] Ad Epidem., vi., 6, 27.

[221] Hippocrat. Opera, i., p. 318.

[222] The opinions on this subject are given very fully by Aulus Gellius. Noctes Atticæ, iii., 10.

[223] I should mention that Zuinger pronounces, without the slightest hesitation, in favor of their genuineness: op. sup. laud. pp. 188, 199.

[224] De Difficult. Respir., ii., 8; ibid., iii., 1.

[225] Comm. Epid., vi., 2, 15.

[226] Opera, tom. v., p. 24; ed. Basil.

[227] See series of papers in illustration of it, published in the Medical Gazette for the year 1847, by Dr. Wardel. On one point I cannot agree with this writer; he says, the fever was of a continued character, whereas in all the cases which I met with it was decidedly remittent.

[228] VIII., 4.

[229] Institut., Orat. iii.

[230] De Perfect. in Virt.

[231] § 27.

[232] It cannot but appear singular that so distinguished a person as Robert Boyle should have found fault with Hippocrates for relating so many cases of which the issue was fatal. He says, "Revera penes me non parum Hippocratis auctoritate decedit, quod in scriptis suis tot ægrotorum epiphonema *ipsos mortuos esse* legerem."—Exer. v., de Utilitate Philosoph. Exper., p. 192. On the other hand, Mart. Lister justly defends Hippocrates: "A me sane absit illa quorundam nuperorum scriptorum jactantia, qui nihil exhibent, nisi quod bonum eventum habuit; errores et infortunia caute abscondunt, aliter autem nobis profuit magnus Hippocrates, apud quem fere non nisi casus funesti occurrunt, ac si iidem potioris doctrinæ essent."—Exercit. de Hydrope.

[233] Acut. Morb., iii., 17.

[234] Perspiratio dicta Hippocrati.

[235] By Nature, the ancient philosophers understood an immaterial principle diffused through all the works of creation, that is to say, an internal principle of motion and of rest, which presides over the growth and nourishment of all substances. It is well defined by Aristotle in different parts of his works. See De Anima, ii., 4; and Auscultationes Naturales, pluries. That truly learned and ingenious author Bishop Berkeley, in his "Siris," describes nature as being mind so fuddled with matter as to have lost its consciousness. Probably, the distinction between a material and immaterial principle as the cause of the vital phenomena was not so well understood until after Plato and Aristotle had cultivated mental philosophy with so great success; for, as we shall see in the next section, Hippocrates seems to identify mind with heat, that is to say, he confounds the cause of motion and of change with its first instrument, *or* co-cause (συνάιτιον).

[236] See the references given by Gruner, Ackerman, and Littré.

[237] See Musonius, Ap. Stobæi Sentent., xviii. It occurs frequently in Galen.

[238] Des Maladies de la France dans leurs Rapports avec les Saisons, p. 193. Paris, 1840.

[239] Natural. Facult., ii., 8; de Placit. Plat. et Hippocrat., viii., 5.

[240] Opera, tom. v., pp. 257, 479; ed. Basil.

[241] Deipnos, ii., 46.

[242] Zuinger considers it in the light of extracts from the Note-book of Hippocrates (or Hippocratea Adversaria).

[243] Ad Aphor. v., 37.

[244] De Fœtus fabricat.

[245] Comment. in Libr. de Fract. ap. Foës, p. 147.

[246] Somnium Scipionis, i., 6.

[247] Vol. i., p. 386; ed. Kühn.

[248] Even Zuinger admits that, both in style and matter, these treatises are unlike the genuine works of Hippocrates.

[249] Vol. i., p. 371; ed. Kühn.

[250] Ibid., p. 387.

[251] Ibid., p. 420.

[252] In Gloss. in voce ἄλφιτα, etc.

[253] See Foës, Œconom. Hippocrat. in voce κιών.

[254] Bibl. Græc., ii., 24, p. 801.

[255] Aristotle refers this opinion to Leophanes, De Generatione Animalium, v., 1.

[256] De Placit. Hippocrat. et Plat., ix.

[257] Comment., tom. xv., p. 224; ed. Kühn.

[258] Noct. Attic., iii., 16.

[259] Ap. Foës; ed. Hippocrat.

[260] Comment. in Galen; ed. Dietz.

[261] Hist. Med., P. i., iii., 2, 257.

[262] In Boerhaav. Meth. Stud. Med., i., 3, p. 594.

[263] De Placit. Hippocrat. et Platon.

[264] De Acut., i., 7; de Chron., i., 13.

[265] See Galen, de Facult. Natural., i.; de Diff. Febr., ii.; de Usu Pulsuum, i.; and Alexander Trallian, i.

[266] In Epidem. Comm., iii., 29, etc.

[267] See the remarks on this passage in the next section.

[268] De Cosmopœa.

[269] Opera, tom. v., p. 594; ed. Basil.

[270] Καλὸν καὶ αγαθὸν. See the Annotations on Mitchell's Aristophanes as to the import of this expression. I quote from memory.

[271] I quote here from memory, not having leisure to search the passages in Galen's works where this saying occurs. It is a maxim, however, which he frequently repeats.

[272] One word (ἰχθύη) which occurs in this work is in the Glossaries of Galen and Erotian. This is likely to be an interpolation.

[273] Tuscul. Disputat., v., 35.

[274] In vita Platonis.

[275] I have always looked upon the "Epistolæ Græcanicæ" as being a species of literary composition allied to the *Declamationes* of the Romans, that is to say, that they were mere exercises in composition. On the latter, see Quintilian, Instit. Orator., iv., 2. We possess a volume of these Declamations under the name of Quintilian, but they are not generally admitted to be genuine. They are exercises on themes prescribed in the schools of rhetoric. The subjects were sometimes historical events, connected with the lives of distinguished personages. The poet Juvenal alludes to Declamations in several places, as in Satir. i., 16; x., 167; vi., 169; vii., 161. The Satyricon of Petronius Arbiter opens with a powerful invective against the declaimers of the day, whom the author holds to have been the corrupters of all true eloquence.

[276] Scaliger, Menage, Gruner, and Littré, although they regard the Epistles as spurious, admit that they are "very ancient."

[277] See Diog. Lært. ix. Ælian. Var. Hist. iv., 20.

[278] Chemical Essays, vol. iv., Essay 7.

[279] Ocellus Lucanus, On the Universe.

[280] Αόγοι γὰρ ἀσώματοι τυγχάνουσι τούτων.

[281] Ocellus Lucanus, On the Universe.

[282] Ibid.

[283] Timæus Locrus, On the Soul of the Universe.

[284] Diogenes Laertius, Life of Pythagoras. That Monad and Duad, in the symbolical language of Pythagoras, signified Mind and Matter, is positively stated by Philo Judæus. Ἑπόμενος δ' ἀκολουθίᾳ ὑσεως κἀκεῖνο λέξω ὅτι μουὰς εἴκων αἰτίου πρώτου, δυὰς δε παθητῆς καὶ διαιρετῆς ὕλης.—De Specialibus Legibus. It may be proper to mention here that it is not true, as has been often stated in modern works, that Pythagoras himself taught the same system of the world as Copernicus; the first person who did so was Philolaus the Pythagorean philosopher. See Diogenes Laertius.

[285] Jamblichus, Life of Pythagoras, § 27. I have adopted the emendation of the text proposed by Obrechtus.

[286] Ovid's Metamorph., translated by Dryden, Book xv.

[287] Plato, in his Timæus.

[288] Ἐκμαγεῖον. Harris, in his Philosophical Arrangements, translates this word by "impression"; but it does not, strictly speaking, signify impression, but the substance which receives the impression. Wax, for example, is not the impression of the seal, but the substance which receives the impression. Matter, in like manner, is not the impression of forms, but the substance which receives the impression.

[289] Plato, in his Timæus.

[290] Ibid. These opinions regarding the elements and the first matter are expressed with much precision and clearness; but, in other parts of his Timæus, it must be admitted that he betrays some confusion of ideas on this subject, as is remarked by his illustrious pupil Aristotle (De Ortu et Interitu, ii., 1). A translation of part of Plato's Timæus regarding the elements, may be seen in the Somnium Scipionis of Macrobius, lib. i.

[291] Apuleius the Platonic Philosopher, On Natural Philosophy.

[292] Idem, On the Universe.

[293] Cicero, On the Nature of the Gods, ii., 33.

[294] Plotinus, Ennead ii., 4.

[295] Plotinus, Ennead ii., 6.

[296] Proclus, Inst. Theol., 72.

[297] Plutarch, On the Opinions of the Philosophers.

[298] Galen, On the Elements, etc., ii.

[299] Galen, Commentary on the Nature of Man.

[300] Idem, On the Elements, etc.

[301] Philo, on the Creation of the World.

[302] On the Indestructibility of the Universe.

[303] On the Creation.

[304] On a Contemplative Life.

[305] Haly Abbas, Theor., i., 5.

[306] Auscult. Natur., i., near the end.

[307] Categor.

[308] On Birth and Death, ii., 1.

[309] Auscult. Phys., iv.

[310] Simplicius, Comment. in Auscult. Nat., iv.

[311] Ammonius, Comment. in Porphyr. Introd.

[312] Ibid.

[313] Theophrastus, On Fire.

[314] Ibid.

[315] Cicero, Quæd. Acad., i., 6.

[316] Cicero, Quæd. Acad., i., 7.

[317] Diogenes Laertius, in the Life of Zeno the Stoic. The reader must take care not to confound him with Zeno the Eclectic.

[318] Seneca, Ep. 65.

[319] Seneca, Nat. Quæst., ii., 15.

[320] Seneca, Nat. Quæst., iii., 10.

[321] Lactantius, Div. Inst., iii., 3.

[322] See under ἀρχαι.

[323] Plutarch, Concerning the Opinions of the Philosophers.

[324] Simplicius, Comm. in Aristot. Auscult. Nat., p. 7; ed. Ald.

[325] Marcus Antoninus, iv., 46.

[326] Ibid.

[327] Ibid.

[328] Manilius, Astron., iii., 53:—

> "Principium rerum et custos natures latentûm
> Cum tantas strueret moles per inania mundi:
>
> * * * * *
>
> Aëraque et terras flammamque undamque natantem
> Mutua in alternum præbere alimenta juberet."

[329] Lucretius, Of the Nature of Things, Book i., translated by Creech.

[330] Cicero, Acad. Quæst., i., 2; Galen, de Elementis.

[331] Diogenes Laertius, Life of Democritus.

[332] Ἡ ὕλη ἄποιος. Galen, de Element. ex Hippocrat.

[333] The eternity of matter is a doctrine which was maintained by all the ancient philosophers and by several of the Christian fathers of the church, but is generally rejected by our modern divines as being, in their opinion, contradictory to Revelation. But were it really so, it would hardly have found an advocate in the learned and pious author of "Paradise Lost." That such was truly his opinion can now admit of no doubt, from what he states on the subject in his treatise on Christianity, published some years ago by the present Archbishop of Canterbury; and the same might have been inferred from more than one passage in his great poem. The Jewish philosopher, Philo, seems to admit the eternity of matter, although he denies the eternity of the world. (On the Creation.)

[334] "There are varieties," says Strabo, "of the watery element; for this kind is saltish, and that sweet, and fit for drink; and others again poisonous, salutary, deadly, cold, and hot."—Geograph., xvii., 1. See also Aristot., Meteorol.

[335] Aristotle inquires whether the atmosphere be a single substance or many, and if many, of how many it consists. (Meteorol., i., 3.) I may be allowed to remark in this place, that Galen's ideas regarding respiration are wonderfully accurate, and not very different from those now entertained by the profession. Thus he compares the process of respiration to combustion, and says it produces the same change upon atmospheric air. He further agrees with modern physiologists in considering it as the vital operation by which the innate (or animal) heat is preserved. (De Respiratione.) Compare this treatise with Baron Cuvier's admirable section on Respiration and observe on how many points these two great physiologists agree. (Leçons d'Anatom. Compar., 26.)

[336] Timæus.

[337] De Igne.

[338] De Partibus Animalium, ii., 2. His great commentator, Averrhoes the Arabian, states this distinction very correctly. See Cantic. Avicennæ, tr. v.

[339] Lucan's Pharsalia, i., 157, 606.

[340] De Carnibus. (See the preceding section.) In like manner Phornutus says, "our souls are fire." (De Nature Deorum, ap. Gale's Opuscula Mythologica, p. 142.) Such is also said to have been the doctrine of Hippocrates and Democritus. See Macrobius (Somnium Scipionis, i., 14); and Nemesius (de Nat. Hominis). In the Hippocratic treatise De Septimadibus, which M. Littré has discovered in Latin, the essence of the soul is held to be heat. (Ed. Littré, i., p. 391.)

[341] De Partibus Animalium, ii., 7.

[342] De Anima, ii., 4.

[343] Ὅτι πᾶν ἐκ πάντος γινέσθαι πέφυκε.—Aristot. de Ortu et Interitu. et Auscultationes Naturales, i.

[344] See Simon's Chemistry, vol. i., p. 118, and the authorities there referred to.

[345] Baron Cuvier says: "En un mot, toutes les fonctions animales paroissent en reduire à des transformations de fluides; et c'est dans la manière dont ces transformations s'opérent, que gît le véritable secret de cette admirable économie."—Leçons d'Anatom. Comp. lib. i.

[346] It will be readily understood that allusion is here made to the diseases ossification and osteosarcoma.

[347] The same application of this myth is made by Eustatheus, the commentator on Homer (ad Odyss., iv., 417), and by Heraclides Ponticus (Gale's Opuscula Mytholog., p. 490). The words of Heraclides are very striking: "That hence it was with good reason that the formless matter was called Proteus; and that Providence which modified each being with its peculiar form and character was called Eidothia."

[348] De Sapient. Vet., cap. xiii.

[349] Op. cit., iv.

[350] These opinions of Newton bear a strong resemblance to those of Strabo, as expressed in the following passage: "Since all things are in motion and undergoing great changes, it is to be supposed that neither does the earth always remain the same, so as neither to be augmented nor diminished; nor yet water; nor that either always possesses the same seat, for that a change of one thing into another seems very much according to nature. For that much earth is converted into water, and much water into earth."—Geograph., xvii., 1.

[351] See p. 120, Ray Society's edition.

[352] See Simon's Chemistry, vol. i., p. 5; Sydenham Society's edition. The etymology of the term *protein* is there given from πρωτέυω, *I am first*; but it may more properly be derived from Proteus, to which, as we have mentioned above, the first matter was likened.

[353] Lucretius, de R. N., i., 48.

[354] I have always looked upon the story of the Sirens as being one of the most beautiful fictions in the Homeric poems. By the two Sirens I cannot but think that the poet meant to represent Philosophy and Melody, these being, as it were, the handmaids of Poetry. They assail the virtue of Ulysses with no vulgar temptations, by assuring him that they were well acquainted with all the martial exploits in which he had been engaged, and that he would leave them "much delighted, and with an increase of knowledge."

Ἀλλ' ὄγε τερψάμενος νεῖται καὶ πλέιονα ἐιδώς.
Odyss, xii., 188.

[355] Diogenes Laertius, in fact, states that Xenophanes, the founder of the school, held the doctrine of the four elements. On the Eleatic philosophy, see further, Aristotle (de Xenophane; and Metaphys., i., 5); and, of the modern authorities Ritter (History of Ancient Philosophy, vol. i.,) and Grote (Hist. of Greece, tom. iv., p. 518, etc.) Whether or not these modern authors, however, have rightly apprehended the doctrine of Xenophanes and Anaximander with regard to the elements, may, I think, be justly doubted. Dr. Thirlwall gives a very judicious exposition of the ethical opinions of the Eleatic philosophers, but does not touch on their physical. (Hist. of Greece, § 12.)

[356] M. Littré is inclined to give the Pythagorean philosopher, Alcmæon, the credit of priority in broaching the philosophical theory which runs through this treatise. His only authority, however, on this point is Plutarch (De Placit. Philos., v., 30); whereas Galen, as he admits, says expressly that Hippocrates himself is the author of this theory. Now, I must say that, of the two, Galen appears to me to be the better authority, being profoundly skilled both in medical and philosophical literature. But further, neither Diogenes Laertius in his life, nor any other writer who has noticed Alcmæon, says anything of his having promulgated the theory of the Crasis.

[357] Tom. i., p. 567.

[358] See Note, p. 191.

[359] The invention of bread must have been very ancient, as is obvious from the circumstance of its being referred to a mythological name, that is to say, Demeter *or* Ceres. The ancients would appear to have paid great attention to the manufacture of bread. See Athenæus Deipnos, iii., 26; and PAULUS ÆGINETA, B. I., 78, Syd. Soc. edition.

[360] The maza was a sort of pudding *or* cake made from barley-meal mixed up with water, oil, milk, oxymel, hydromel, or the like. It also was a very ancient invention, for it is mentioned in one of the works of Hesiod, which is universally allowed to be genuine, I mean the Opera et Dies, 1., 588.

[361] We have stated in our brief sketch of the Life of Hippocrates, that he studied the application of gymnastics to medicine under the great master of the art, Herodicus. He was a native of Selymbra in Thrace, and is generally represented as the father of medicinal gymnastics; but, as we have mentioned above, this statement must be received with considerable allowance, since there

is every reason to believe that the Asclepiadæ applied exercises to the cure of diseases.

[362] He means both the pilot and physician.

[363] Καθαρὸς ἄρτος ἢ συγκομιστός. There has been some difference of opinion regarding these two kinds of bread; but it appears to me probable that the former was made of flour from which the bran had been entirely excluded, and the other from flour containing the whole of the bran. Later authorities called the one *siligo*, and the other *autopyrus*. See PAULUS ÆGINETA, Vol. I., p. 121.

[364] He alludes here to the secretions and humors in the body. See the Commentary of Heurnius.

[365] See Littré, h. 1.

[366] Meaning probably the diaphragm, with its membranes. See the Commentary of Heurnius, p. 92.

[367] Meaning the mammæ, according to Heurnius.

[368] Such as the spleen and lungs.

[369] Although I shall touch cursorily on this subject in my annotations, I cannot deny myself the pleasure of setting down here the following passage from the treatise of Longinus "On the Sublime." It is to be borne in mind that it was written by a noble-minded Greek, who lived at the court of an Oriental despot, and must have been a daily observer of the effects which he so feelingly depicts. Who does not lament to think of a generous mind placed under circumstances where cowardice is honored and courage debased? And what more melancholy picture of human misery can be imagined than that which is here exhibited of the bodily and mental powers in a state of arrested development from the effects of confinement?

Ἥμισυ γάρ τ' ἀρετῆς (κατὰ τὸν Ὅμηρον) ἀποαίνυται δύλιον ἦμαρ· ὥσπερ οὖν (εἴγε γησὶ, τοῦτο πιστόν ἐστι) ἀκούω τὰ γλωττόκομα, ἐν οἷς οἱ Πυγμαῖοι καλούμενοι νάνοι τρέφονται, οὐ μόνον κωγύει τῶν εγκεκλεισμένων τὰς αὐξήσεις, ἀλλὰ καὶ συνάγει διὰ τὸν περικείμενον τοῖς σώμασι δεσμόν· οὐ τως ἅπασαν δουλείαν, καὶ ἧ δικαιοτάτη, ψυχῆς γλωττόκομον, καὶ κοιόν δή τις ἀποφήναιτο δεσωπτήριον.—§ 39.

[370] M. Littré thus states the four principal points to which Hippocrates here directs attention:

"1st. Il cherche quelle est, sur le maintein de la santé et la production des maladies, l'influence de l'exposition des villes par rapport au soleil et aux vents.

"2d. Il examine quelles sont les propriétés des eaux, bonnes ou mauvaises.

"3d. Il s'efforce de signaler les maladies qui prédominent suivant les saisons, et suivant les alternatives que chacune d'elles épreuve.

"4th. Enfin, il compare l'Europe et l'Asie, et it rattache les différences physiques et morales qui en séparent les habitants, aux différences du sol et du climat."

He goes on, however, to state, that these four questions, although neatly put, are merely sketched, and half insinuates that it is a defect in the work, that it

merely contains our author's assertions, without the corresponding proofs. In a modern work, he remarks, the mode of procedure would be different; for it would be expected that the general truths should be supported by detailed and prolonged statistics on particular facts. It is to be borne in mind, however, that the work of Hippocrates was probably meant merely as a text-book, on which were grounded his public prelections, wherein would, no doubt, be given all the necessary proofs and illustrations. In this respect, it resembles the esoteric works of Aristotle, of which the author of them said that when they were published the contents of them, in one sense, were not communicated to the public, as they would be unintelligible without the illustrations by which they were accompanied when delivered in his school. In conclusion, I would beg leave to remark that, if the work of Hippocrates, in its present form, appear defective when compared with what a modern work on the same subject would be expected to be, it has also peculiar traits which would hardly be matched in a modern composition. In a modern work we might have a greater abundance of particular facts, and a more copious detail of individual observations, but would there be such an exuberance of general truths, of grand results, and of original reflections?

[371] The classical reader is referred to Theophrastus' treatise De Signis Aquarum et Ventorum, for much interesting information on this subject.—See also Galen, Op. tom. v., p. 346, 347, ed. Basil.

[372] I. 105.

[373] It appears to me, however, that the meaning of Longinus in this place is rather overstrained.

[374] Coster, Défense des (Œvres de Voiture, etc., p. 194.

[375] Réponse à l'Apologie de Voiture, par Coster, p. 54.

[376] Memoria Scythica, in Comm. Petropol. p. 377–78.

[377] P. vi., p. 35.

[378] Notæ in Longinum.

[379] Comment, in vetus Monument, p. 415.

[380] Nosol. Meth. p. 365.

[381] De maribus inter Scythas morbo effeminatis, etc., p. 28.

[382] Hipp. de Aere, etc., t. ii., p. 326.

[383] Morb. Târd. iv., 9.

[384] Hist. of Greece, pluries.

[385] The part in parenthesis is rather obscure. In the old French translation it is rendered thus: "Elles sont très différentes entre elles par leur nature, et il arrive d'ailleurs une infinité de changemens qui sont tous divers." On these changes, see Aphor. iii., 2–15.

[386] I have translated this passage agreeably to the reading suggested by Coray, that is to say, ὀυκ ἐδωδὸς, which appears to be a great improvement, although it is not adopted by Littré. Without the negation (ὀυκ) the contrast between the first and the last clause of the sentence is entirely lost. It will be

remarked that I have translated ἀριστητάι, eating to excess. The ἄριστον, or dinner, was a meal which persons of regular habits seldom partook of, and hence Suetonius mentions it as an instance of Domitian's gormandising propensities, that he was in the habit of taking dinner.—See Vita Domitiani; also PAULUS ÆGINETA, B. I., 109.

[387] It will be remarked that our author uses meteorology and astronomy almost as synonymous terms. In his time meteorology was looked upon by practical men as a visionary subject of investigation, which had a tendency to make those who engaged in it atheists, and the enemies of Socrates took advantage of the prejudices then prevailing against it to represent him as a meteorologist. See Aristophanes (Nub. 225.) Aristophanes, who would appear to have been always too ready to pander to the popular prejudices of the day, also represents the physicians as being "meteorological impostors,"—μετεωροφένακας. (Ibid. 330.) The enlightened mind of Aristotle, however, regarded meteorology in a very different light, and accordingly he wrote a work on the subject replete with all the astronomical and geological knowledge of his time. In it he professes to treat of the heavenly bodies and atmospherical phenomena, including winds, earthquakes and the like; also of minerals, fossils, etc. See the introduction to his *Meteorologica*.

[388] Upon reference to the editions of Coray, Clifton, and Littré, it will be seen that the text here is in a doubtful state. I shall not weary the reader by stating my reasons for adhering to the meaning which I have adopted.

[389] In place of the common reading, παιδίον, Coray adopts θεῖον which certainly, at first sight, appears to be an improvement. But I admit, with Littré, that the authority of Galen (tom. v., p. 447, ed. Basil), is quite decisive in favour of παιδίον. It is also to be taken into account in this place that the author of the treatise on Dentition brings prominently into view the connection between infancy and convulsions, which adds probability to the supposition that in those days convulsions may have been called "the disease of infancy."

[390] The Hepialus is a species of intermittent fever, very common in warm climates. It would appear to be a variety of the quotidian. See PAULUS ÆGINETA, Vol. I., 252, Syd. Soc. edition.

[391] Frequent mention of this disease of the skin occurs in the works of the ancient writers on medicine. See PAULUS ÆGINETA, Vol. II., 40. We have there stated that it would appear to have been some species of Eczema, with which we are now unacquainted. Coray has a very lengthy note on it, but arrives at no satisfactory conclusions on the subject. He brings into review three cutaneous diseases, namely, the *bouton d'Alep.*. (described, Mémoir. de la Société Royale de Médic., année 1777, 1778, t. i., p. 313;) the *pelagre*, (described, Toaldo, Essai Méteorolog., pp. 19, 20; Comment. de Rebus in Scient. Nat. et Médec. Gestis., tom. xxxi., p. 553; and Journ. de Médec. tom. lxxx., p. 272;) and the *lepre des Asturies* or *mal de la rosa*, (described by Thieri, Journ. de Médec., tom. ii., p. 337.)

[392] *Coups de soleil*, or strokes of the sun, are often mentioned incidentally in the works of the ancient authors, but no one has treated of them in any very systematic manner, as far as I recollect. On the effects of exposure to cold and heat, see, however, PAULUS ÆGINETA, Vol. I., 49–51, Syd. Soc. edition.

[393] Ῥηγματα καὶ σπάσματα. There has been much difference of opinion as to the exact import of these two terms. It would appear to me that they were intended to apply to a rupture or straining of the fibres, occasioned by external violence. M. Littré has a very interesting note on this subject, tom. v., p. 579. On these strainings see further Coacæ Prænotiones, 376, 418. M. Littré, l. c., relates a case of empyema brought on by lifting a heavy piece of wood. On these terms see further the Annotations on Demosthenes, Olynth. ii., 8, ed. Dobson; and Foës, Œc. Hippocr.

[394] Clifton translates this clause of the sentence thus: "Even if there be but a small distance between them," and, I think, correctly, although Coray is not quite satisfied with this interpretation. The stadium was *nearly* the eighth part of a Roman mile, that is to say, it consisted of 94½ French toises, or 625 English feet.

[395] In another place, I have given a summary of the information supplied by the ancient authors on this subject, (PAULUS ÆGINATA, Vol. I., 66.) Upon the whole, none of them gives so much valuable matter on it as our author. Coray has some elaborate annotations on this passage.

[396] It can scarcely admit of a doubt that our author here alludes to scurvy. (See Coray at this place, and Lind on Scurvy, iii., 1.) He also describes the disease distinctly in the second book of Prorrhetics, that is to say, if Hippocrates be actually the author of that book. See also Epidem. ii., 1; de Affection., de inter. affect.; Cælius Aurelianus, Tard. Pass. iii., 4; Celsus, iv., 9; Aëtius, x., 11; Pliny, H. N., xxv., 3; Aretæus, Morb. Diuturn, i., 14; and Paulus Ægineta, iii., 49; Marcellus, de Medic. ii.

[397] The leucophlegmasia is treated of in different parts of the Hippocratic treatises, as Aphor. vii., 29; de Morb. ii. By it he evidently meant a species of dropsy, as Galen remarks in his commentary on the Aphorisms (l. c.). It occurs in Aretæus's chapter on dropsy. Morb. Diuturn. ii., 1; Octavius Horatianus, v. Celsus makes it to be synonymous with anasarca, iii., 21. Our author would seem to notice these varieties of dropsy as being affections to which pregnant women are subject.

[398] On hydrops uteri see the authorities quoted in the Commentary on PAULUS ÆGINATA, B. III., 48, Syd. Soc. edition. It may appear singular that hydatids of the womb should be particularly prevalent in the case of women that drink unwholesome water from marshes, and yet our author's observation is confirmed by a modern authority as quoted by Coray: "Il a été également prouvé par les observations des Modernes, que les fausses grossesses produites par les hydatides; sont très-communes dans les pays marécageux, ou la plupart des habitans ont une constitution lâche, propre à l'affection scorbutique, qui y est presque endémique, qu'elles terminent plus ou moins tard par l'excrétion de ces hydatides."—(Notes sur le Traité des Airs, &c., p. 106.) Sydenham, moreover, describes the symptoms of false pregnancy in much the same terms as our author. (Tract de Hydrop.)

[399] On the Thermal waters of the ancients, see PAULUS ÆGINATA, Vol. I., 72. I have treated fully of the ancient *alum* and *nitre* under στυπτηρία and λίτρον, in the Third Volume. Coray, in his notes on this passage, does not throw much light on this subject. The opinion here delivered by our author, that these metallic substances are produced by the operation of heat, is adopted and followed out by Aristotle towards the end of the third book on Meteorologia.

[400] Corny appears to me to be unnecessarily puzzled to account for our author's statement, that saltish waters, although held to be purgative, are, in fact, astringent of the bowels. But, although their primary effect certainly be cathartic, is it not undeniable that their secondary effect is to induce or aggravate constipation of the bowels? Certain it is, moreover, that all the ancient authorities held salts to be possessed of desiccant and astringent powers. See PAULUS ÆGINETA, Vol. III., under ἅλες.

[401] Aristotle discusses the subject in his Problems, ii., 9, 36, 37; ii., 15; i., 53; v., 34, and arrives at nearly the same conclusions as Hippocrates. See also Theophrastus de Sudoribus.

[402] I cannot hesitate in adopting the emendation suggested by Coray (ἀποσήθεσθαι) in place of the common reading (ἀποσήπεσθαι), which evidently has no proper meaning in this place. I am surprised that M. Littré should have hesitated in admitting it into the text.

[403] Athenæus, in like manner, praises rain water. Deipnos ii., 5.

[404] It appears singular that Athenæus, who is undoubtedly a most learned and judicious authority on all matters relating to Dietetics, speaks as favorably of water from ice as he does of rain water. Both he praises for their lightness, (l. c.) Celsus gives the character of the different kinds of water with his characteristic terseness and accuracy: "Aqua levissima pluvialis est; deinde fontana; tum ex flumine; tum ex puteo: post hæc ex nive, aut glacie; gravior his ex lacu; gravissima ex palude," (ii., 19.) Galen treats of the medicinal and dietetical properties of water in several of his works, and uniformly agrees with Hippocrates in the judgment he pronounces on them. See in particular, De Ptisana; De Sanit. tuend. ii.; Comment. ii. in Libr. de Ratione victus in Morb. acut.

[405] Athenæus, on the other hand, argues from the fact that ice is lighter than water, that water formed from ice must be light. Pliny gives a lucid statement of the opinions of those who held that water from ice is light and wholesome, and those who, like Hippocrates, held it to be just the reverse. He says in the words of Hippocrates, literally translated, "nec vero pauci inter ipsos e contrario ex gelu ac nivibus insaluberrimos potius prædicant, quoniam exactum sit inde, quod tenuissimum fuerit." (H.N. xxxi., 21.) See also Seneca, Quæst. Natural. iv. It would appear that iced *liqueurs* were greatly relished at the tables of *gourmands* in those days. I need scarcely remark that there has been great difference of opinion in modern times regarding the qualities of water from melted snow and ice. It was at one time generally believed that it is the cause of the goîtres to which the inhabitants of the valleys bordering on the Alps are subject. This opinion, however, is by no means generally held at the present time.

[406] This is a most interesting chapter, as containing the most ancient observations which we possess on the important subject of urinary calculi. The ancients never improved the theory, nor added much to the facts which are here stated by our author. We have given the summary of their opinions in the Commentary on PAULUS ÆGINETA, B. III., 45. I would beg leave to remark that, notwithstanding the number of curious facts which modern chemistry has evolved regarding the composition of urinary calculi, the etiology of the disease is nearly as obscure now as it was in the days of Hippocrates.

[407] Coray remarks that Prosper Martian, in his commentary on this passage, confirms the truth of the observation here made, that persons affected with calculus have the bowels constipated.

[408] Theophilus, in his treatise De Urinis, would seem to contradict this observation of Hippocrates, when he states that the urine of calculous persons is thick and milky (8.) But, according to Prosper Martian, when the calculus is in the state of formation, its characters are as described by the latter, whereas, when the calculus is already formed, the urine is limpid, as described by Hippocrates.

[409] It is worthy of remark that Celsus states just the reverse with regard to the practice of women laboring under the stone; he says: "Feminæ vero oras naturalium suorum manibus admotis scabere crebro coguntur." (ii., 7.) Are we to suppose that he followed a different reading? Considering how well he shows himself acquainted with the works of Hippocrates, it cannot be thought that he had overlooked this passage.

[410] Our author, it will be remarked, ascribes the comparative immunity from calculus which females enjoy to their freer use of liquids. Celsus, in laying down directions for the regimen of a calculous person, as preparatory for the operation, among other things, directs, "ut aquam bibat," (vii., 26–2.) Coray collects the opinions of several modern authorities in favor of drinking water as a preventive of calculus. Thus Tissot states that the Chinese, who drink so much water with their tea, enjoy almost an immunity from the disease. (De la Santé des Gens de Lettres, p. 196,) Campfer, in like manner, affirms that calculus has become less common in Europe since the introduction of tea, which he justly attributes to the amount of water drunk with it, rather than to any virtues of the plant itself. (Comment de Reb. in scient. nat. et medic. gestis, vol. xvi., p. 594.) Metzger attributes the diminution of the number of calculous cases in Königsberg to the use of draughts of tepid water. (Journal de Médec., vol. lxvii., 348.) The Turks, according to Thevenot, owing to their free use of water, are almost exempt from the disease. (Voyage au Lévant, c. xxvii., p. 70.)

[411] Coray makes the following remarks on the natural characters of the seasons in Greece. The natural temperature of the winter in Greece was cold and humid; thus a dry and northerly winter was reckoned an unnatural season. Spring was reckoned unnatural when the heat and rain were excessive. See further Theophrast. de Caus. Plant. ii., 1.

[412] See Aphorism iii., 11.

[413] The celebrated Haller charges Hippocrates with inaccurate observation in stating that dysenteries are epidemic in spring, which, he contends, is contrary to modern experience. (Bibl. Med. Pract., vol. i., p. 61.) Hippocrates, however, is defended by Gruner (Cens. libr. Hippocrat. ii., 5, p. 51), and by Coray. (Notes,

etc., p. 159.) The latter justly argues, that although dysentery may not prevail at that season in Germany, that is no reason for holding why it may not be so in Greece. He also refers to the works of Birnstiel and Stoll for descriptions of epidemical dysentery, occurring in the season of spring.

[414] See Aphorism iii., 12; also Aristot. Probl. i., 9; Celsus, ii., 1.

[415] Coray, in this place, refers to an epidemic of the same description related by Caillar, which prevailed in the winter of 1751, and was treated by emetics more successfully than by bleeding.

[416] By sphacelus of the brain Clifton understands "paralytic diseases," which is not far removed from the conclusion which we have arrived at respecting it in the Commentary on PAULUS ÆGINETA, Vol. I., p. 365. See Coray's lengthened note on this passage.

[417] Aphorism, iii., 13.

[418] Aphorism, iii., 14.

[419] I have stated in my analysis of the short treatise "On Purgative Medicines," that the author of it forbids the administration of these medicines, that is to say, of drastic purgatives, during excessive heat or cold.

[420] One may see, upon consulting the editions of Clifton, Coray, and Littré, that there are great varieties of readings in regard to the word which I have translated "affectionate." It will be remarked that I have followed Coray and Littré in reading εὐοργητότερα. Clifton adopts ἀεργότερα, and translates it "unactive."

[421] This expression of our author is ambiguous. Coray explains it thus: "il entend le lever d'été, qu'il place à 45 degrés de l'Est au Nord, dans l'horizon de la Grece, et particulièrement celui de l'île de Cos; et le lever d'hiver qu'il place à 45 degrés de l'Est au Sud."

[422] The sense undoubtedly requires this addition, and therefore I have not scrupled to follow the reading of Cornarius, καὶ τοῦ θερμοῦ.

[423] The term here used meant particularly the fructus horæi, or summer fruits; namely, cucumbers, gourds, and the like. (See PAULUS ÆGINETA, B. I., § 80.) Surely Coray forgot himself, when he wrote thus regarding the distinction between the summer and autumnal fruits of his country: "les Grecs entendoient particulièrement par ὡρᾶια les fruits de la fin de l'été, c'est-à-dire, de cette partie de l'année qu'ils appelloient ὀπώραν, etc."

[424] It is but too apparent that there is a lacuna in the text here. A chapter devoted to an examination of the peculiarities of the Egyptians and Libyans is evidently lost. As M. Littré has remarked, Galen appears to refer to the contents of the lost chapter. (Opera, tom. xvi., p. 392; ed. Kühn.)

[425] That is to say, the Sea of Azoff. See Herodotus, iv., 86, who calls it Μαιῆτις. This was generally held to be the division between Europe and Asia, as stated by our author. As Coray remarks, its borders on the north-west are occupied by the inhabitants of Little Tartary: it has the Crimea on the south-west; the Tartars of Cuban and the Circassians on the south-east.

[426] That the inhabitants of a country bear a resemblance to the country itself, is no doubt a profound and most philosophical remark, although it must be admitted that the comparisons which our author makes are somewhat quaintly expressed, and hence a German physician wished the passage expunged, as being unworthy of Hippocrates. (Comment de Reb. in Scient. Natur. et Med. gestis, vol. xx., p. 131.) There can be no question, however, that it embodies a grand general truth, although the particular application of it may not always be apparent.

[427] On the Macrocephali, see Pliny, H. N. vi., 4; Stephanus, de Urbibus; Suidas and Harpocration in Μακροκέφαλοι; Pomponius Mela, i., 19; Strabo, xii.; Scholiast Apollon. Rhod., i.; Dionysius Periegetes.

The exact situation of the savage nation of the Macrocephali cannot be precisely determined, but it was evidently not far from the Palus Mæotis, and most probably in the vicinity of the Caucasus. Little is known of them, except what our author says respecting the practice which they had of disfiguring their heads by squeezing them, in early infancy, into an elongated shape. It is well known that the same absurd usage prevailed among the early inhabitants of MEXICO. I need scarcely say that much important information respecting them has been obtained of late years. M. Littré, in the fourth vol. of his edition of Hippocrates, supplies some very important information in illustration of this subject, from a recent publication of Dr. H. Rathke. Certain tumuli having been excavated at Kertch, in the Crimea, there were found in them, besides different utensils and statues, several skeletons, and it was most remarkable that the form of the head was greatly elongated, in the manner described by Hippocrates with regard to the Macrocephali. The author's words are: "On y remarquait, en effet, un hauteur extraordinaire par rapport au diamètre de la base, et par là ils frappaient même les personnes qui n'avaient aucune connaissance de la structure du corps humain."

[428] The same theory respecting the secretion of the semen is given in the treatises "De Genitura" and "De Morbo Sacro." It is espoused by Galen, in his little work. "Quod animal sit quod utero continetur." Coray remarks that Hippocrates's theory on the origin of the fœtus does not differ much from that of Buffon.

[429] I need scarcely remark that both the river and city of this name are very celebrated in ancient mythology and history. See in particular Apollonius Rhodius, with his learned Scholiast, Arg. II.; Strabo, xi.; Pliny, H. N., vi., 4; Procopius, Pers., ii., 29; Mela, i., 85; Arrian, periplus. The river takes its rise in the Caucasus, and terminates in the Black Sea. It is called *Rion* by the inhabitants, and the river and a city situated upon it are called *Fache* by the Turks. See Coray at this place, and Mannert., Geograph., iv., 394.

[430] Coray quotes from Lamberti, a modern traveller, a description of the Colchide and its inhabitants, which agrees wonderfully with the account of both given by our author. The following is part of his description: "Il sito della Colchide porta seco un' aria tanto humida che forse in altro luogo non si è veduta la simile. E la ragione si è perchè venendo dall' occidente bagnata, dall' Eusino, et dall' oriente cinta dal Caucaso, dal quale sorgano gran quantità di fiumi rende da per tutto l'aria humidissima affatto. A questo s' aggiungono la frequenza de' boschi, fra quali non viene agitata l'aria da' venti, et li spessi venti

marini apportatoi di pioggie et de' vapori del mare. Questa humidità si grande genera poi gran quantità de' vapori, che sollevati in alto si dissolvono in frequentissime pioggie."—Relatione della Colchide, c. 27. He goes on to state that a great part of the inhabitants are fishers.

[431] It is singular that Procopius, on the other hand, states that the Phasis is a very rapid river, and Chardin confirms his statement. (Voyage en Perse, vol. i., p. 105.) Lamberti reconciles these discrepant accounts by explaining that the river is rapid in its course near where it rises among the mountains, but quite smooth and stagnant when it arrives at the plain.—Relat. dell Colchid., 29.

[432] The best practical proof of the justness of our author's reflections in this place is the result of the battle of Salamis; and the noblest intellectual monument which ever the wit of man has raised to the triumph of freedom is the Persæ of Æschylus, in celebration of that event. A single line, descriptive of the Greeks, is sufficient to account for their superiority to the Asiatics:

Οὔ τινος δοῦλοι κέκληνται φωτὸς, οὐδ' ὑπήκοοι.—1., 240.

None seem to have felt the force of this great truth so much as the Persian despots themselves, or to have estimated the effects of civil liberty higher than they did. The younger Cyrus, before the battle of Cynaxa, addresses his Grecian soldiers in the following memorable words: Ὦ ἄνδρες Ἕλληνες, οὐκ ἀνθρώπων ἀπορῶν βαρβάρων συμμάχους ἡμᾶς ἄγω, ἀλλὰ νομίζων ἀμείνονας καὶ κρείττους πολλπῶν βαρβάρων ὑμᾶς εἶναι διὰ τοῦτο προσέλαβον ὅπως οὖν ἔσεσθε ἄνδρες ἄξιοι τῆς ἐλευθερίας, ἧς κέκτησθε, καὶ ὑπὲρ ἧς ὑμᾶς ἐγὼ εὐδαιμονίζω· εὖ γὰρ ἴστε, ὅτι τὴν ἐλευθερίαν ἑλοίμην ἂν ἀντὶ ὧν ἔχω πάντων καὶ ἄλλων πολλαπλασίων.—Anab., i., 7. Such being the established opinions of the intelligent portion of mankind in the days of Hippocrates, the sentiment here expressed would then be regarded as a self-evident truth. Plato, indeed, modifies this opinion in so far when he holds despotism to be the consequence and not the cause of servility.—De Repub., viii.

[433] The name Sauromatæ or Sarmatæ was applied by the ancient geographers to certain inhabitants of that vast and, to them, nearly unexplored country, extending from the Sinus Codanus *or* Baltic Sea, to the Euxine *or* Black Sea. It comprehends, then, a large portion of Russia, Poland, and perhaps Prussia. (See Pomponius Mela, iii., 4; Ptolemy, Geograph.; and Maltebrun, Geograph., vol. i., p. 126.) That the Sarmatians and Scythians were the same race of men, although some of the authorities make a distinction between them, can scarcely admit of a doubt. Our author, it will be remarked, seems to restrict the name to a peculiar race of Scythians, who lived near the Palus Mæotis (*or* Sea of Asaph). From the account which he gives of them it is impossible to doubt that he alludes to the Amazonians, so celebrated in ancient legends. The opinion which I entertain of them is pretty fully stated in the Argument to this treatise. That our author should not have doubted the real existence of the Amazonians need excite no wonder, considering the very positive and very circumstantial account of them given by his contemporary Herodotus (iv., 110–18).

[434] It may at first sight appear singular that our author should have mixed up his account of the Scythians with allusions to the Egyptians; but he probably had in view Herodotus (ii., 103–6), who connects the Egyptians with the

Scythians, and more especially with the tribe of them called Colchians. He states in particular that the Colchians and Egyptians resembled one another in the fashion of their linen, their whole course of life, and in their language.

[435] Herodotus (iv., 28, 29) and Strabo (Geogr., vii.), assign the same reason for the Scythian cattle not having horns.

[436] This description evidently applies to the wandering tribes which roam over the steppes of Tartary. The passage is of classical celebrity, for I cannot but fancy that certainly Virgil (Georg., iii., 349–83), and perhaps Horace (Od. iii., 24), had it in view when they drew their pictures of the nomadic life of the Scythians. The extraordinary cold of that region, notwithstanding its southern latitude, has not been exaggerated by ancient authors; but to account for it, as the modern traveller, Clark, remarks, is still a problem which no one has solved. Strabo mentions that carts were driven across the Palus Mæotis (Geogr., vii., 3). The chariots covered in from the inclemency of the weather with a roof of felt, are described also by Strabo (Geogr., l. c.); and, according to Dr. Coray, similar contrivances are still to be found among the Kalmucs and other savage nations. (Notes sur le Traité des Airs, etc., h. 1.) A preparation from milk resembling the hippace is still used by the inhabitants of that region. On the people who lived upon this composition from milk, see in particular Strabo, vii., 3.

[437] The following lines of Virgil, referred to above, may be almost said to be a translation of this passage:

> "Semper hiems, semper spirantes frigora Cauri.
> Tum sol pallentes haud unquam discutit umbras;
>
> * * * * *
>
> Talis Hyperboreo septem subjecta trioni
> Gens effrena virûm Rhiphæo tunditur Euro."

It was in this region of mist and cold that the celebrated race of the Cimmerians resided. See Herodot., i., 6, etc.; Homer, Odyss. x., 14. The montes Rhiphæi would appear to have been the Ural mountains which separate Russia from Siberia.

[438] It is well known now that excessive cold has a tendency to retard the growth of animals. This opinion is confirmed in several instances by Pallas (Voy. en Russie, i., 197; iii., 431.) Strabo mentions, as the consequences of the cold which prevails in the country of the Getæ, that there are no asses in it, the cattle want horns, and the horses are small. (Geogr., vii., 3.)

[439] Buffon, on the other hand, maintains that the Nomadic race are men of active habits. (Hist., Nat., tom. iii., p. 384.) Pallas, however, confirms the judgment of Hippocrates. (Voyag. en Russie, tom. i., p. 499.) See also Coray, ad. h. l.

[440] It is to be borne in mind that Hippocrates, and after him most of the ancient authorities, held that the fœtus is formed from the male semen. This doctrine prevailed generally down to the days of Harvey. Some of the ancient physiologists, however, maintained that "omne animal est ab ovo." See Plutarch, de Placit. Philos.

[441] Ὑγρότης, when applied to the body, may signify both humidity and relaxation, in like manner as the adjective (ὑγρὸς) signifies humid and relaxed. We shall see an example of the latter signification in the Prognostics.

[442] This practice came to be one of the regular operations of surgery, being performed with the view of correcting the tendency of a joint to dislocation. It is minutely described by Hippocrates (De Artic., xi.), Paulus Ægineta, (VI., 42), Albucasis (Chirurg., i., 27), Haly Abbas (Pract., ix., 78). See the Sydenham Society's edition of PAULUS ÆGINETA, 1. c.

[443] The meaning of this passage is ambiguous. I have followed Coray, who gives some very interesting annotations on it. He translates these words, "Ils sont naturellement d'une complexion lâche et trapus; premièrement, parceque dans leur enfance ils ne sont point emmaillotés, non plus que les Ægyptiens." Clifton has given nearly the same meaning of the passage: "Their fluidness and breadth proceed first from their neglect of bandages, as in Egypt." Littré, on the other hand, appears to give a different interpretation of the passage: "D'abord parceque on ne les emmaillotte pas, comme en Egypte."

[444] A fat condition of the body was also supposed adverse to conception in the case of cattle. Virgil alludes to this opinion, and the means used to counteract the effects of an excessively fat state of the body in the following verses, which have been always admired as an example how delicately a great genius can touch upon an indelicate subject:

> "Ispa autem macie tenuant armenta volentes,
> Atque, ubi concubitus primos jam nota voluptas
> Sollicitat, frondesque negant, et fontibus arcent.
> Sæpe etiam cursu quatiunt et sole fatigunt;
> Hoc faciunt nimio ne luxu obtusior usus
> Sit genitali arvo, et sulcos oblimet inertes;
> Sed rapiat sitiens venerem, interiusque recondat."
>
> Georg., iii., 136.

[445] On the nature of this affection see the Argument. There is a variety in the reading, most of the MSS. having ἀνανδριείς, but the one usually marked 2146, which is followed in the Aldine edition, reading ἀνδριεῖς. See a long discussion in Coray's edition on this point. There seems to be no good reason for at all interfering with the text as it now stands.

[446] Our author in this place, as in the treatise on the Sacred Disease, holds the philosophical opinion in opposition to the superstitious, that all diseases have natural causes, and that no one more than another is to be ascribed to the extraordinary interference of supernatural beings. Plato, his contemporary, would appear to have endeavored to steer a sort of middle course between the scientific and the popular belief. Thus he ascribes epilepsy, like all other diseases, to a natural cause, namely, in this instance, to a redundancy of black bile; but he qualifies this opinion by calling the passages of the brain (the ventricles?) most divine, and adds that the disease had been most appropriately denominated sacred. (Timæus, § 66.)

[447] The origin and signification of this term are by no means well defined. See Galen (Exeges, etc.), Foës (Œcon. Hippocr.), and Coray (ad h. l.). It has

been applied first, to certain varieties of morbus coxarius; secondly, to chronic buboes, superinduced by disease of the hip-joint; thirdly, to paralysis of the muscles about the genital organs; fourthly, aneurismal varix. (See Aretæus, Morb. Acut., ii., 8; and the note in Boerhaave's edition.) I must own that I find some difficulty in deciding to which of these significations I should give the preference; I rather incline, however, to the first, from what our author says towards the end of this section, namely, that all men who ride much "are afflicted with rheums in the joints, sciatica and gout, and are inept at venery."

[448] This opinion of our author was no doubt founded on the erroneous notion regarding the distribution of the veins which prevailed in his time, and which we find advocated in the tract "on the Nature of Man," and elsewhere. (See Aristot., H. N., iii., 3.) Coray strives hard, in his annotations on this passage, to make out that the fact may be as stated by his ancient countryman, although the hypothesis by which he explained it be false. It is singular, however, that, after the lapse of more than two thousand years, Phrenology should have come to the assistance of Hippocrates in this case. I need scarcely remark that Gall and his followers hold that the cerebellum is the seat of the animal appetites, so that, if this be really the fact, a close sympathy between the back of the head and the genital organs may be very legitimately inferred. At all events, this coincidence between ancient observation and modern hypothesis must be admitted to be very remarkable.

[449] Aristotle, on the other hand, holds that the effects of equitation are aphrodisiac. (Probl. iv., 12.) Coray attempts to reconcile the discordant opinions of the physician and philosopher, by supposing that moderate exercises may excite the venereal appetite, whereas excessive extinguish them. Van Swieten agrees with Hippocrates that inordinate exercise in riding may induce impotence. (Comment. in Boerh. Aphor., § 1063.)

[450] It is a singular idea of our author that the wearing of breeches by confining the development of the genital organs impairs the sexual desires. It is curious, as remarked by Coray, that the same opinion is advocated by Hunter in his treatise on the Venereal Disease. Coray also quotes the following passage from Lalement: "Sæpe audivimus pistores et cæteros quorum partes pudendæ subligaculis non obteguntur sed liberius pendent crassos et bene nutritos habere testiculos."—Comment. in Hippocrat. de Aer., etc.

[451] I trust I shall be excused in quoting entire Dr. Coray's note on this section: "Trente mille Macédoniens (dit Pauw) ont conquis la Perse; quarante mille Mogols ont conquis les Indes; cinquante mille Tartares ont conquis la Chine, où l'on comptait alors plus de quarante millions d'habitans, qui abandonnèrent leurs souverains. On a vu de nos jours l'armée du grand Visir déserter presque complètement dans les environs de Varna; et jamais les Turcs n'eurent plus de bon sens qu'en cette occasion là; car leurs tyrans ne méritent pas qu'on verse une seule goutte de sang pour les maintenir sur le trône de ces contrées qu'ils ont dévastées en voleurs et en brigands. (Recherch. philosoph. sur les Grecs.)—Par ce dernier exemple on voit encore combien les causes politiques ou morales, et les causes naturelles, peuvent se modifier réciproquement. Les Russes, quoique soumis à un gouvernement despotique, ont cependant été la terreur des Turcs, à cause, sans doute de la différence du climat, de la discipline militaire, et des progrès dans la civilisation. Ces circonstances ont concouru à mitiger le despotisme Russe, et à le rendre si différent du

despotisme brutal des Turcs. Il en est de même des autres peuples Septentrionaux de l'Europe. Quoique gouvernés par des loix qui ne sont point leur ouvrage, ils sont très belliqueux, et par la nature de leur climat, et par les lumières que les sciences et les arts ont répandues parmi eux."

[452] Aristotle, in drawing the traits of the European and Asiatic character, would appear to have borrowed freely from our author. He says the inhabitants of cold countries and of Europe are full of spirit, but deficient in intellect and skill; they therefore remain in a state of freedom, but without regular government, and they are incapable of governing their neighbors. The inhabitants of Asia are described by him as being intellectual and skilled in the arts, but deficient in courage, and therefore they are in constant subjection and slavery. The Greeks, he maintains, held an intermediate place between these two, have both courage and intellect, and therefore enjoy freedom and good government. (Polit., iii., 7.)

[453] We have lately had a notable example of the warlike and independent spirit of mountaineers in the determined resistance which the Circassians have made to the colossal power of Russia. Great Britain, too, I may be permitted to remark, experienced disasters in contending with the mountaineers of Affganistan, such as she had never met with in the rich plains of India. And, by the way, the conqueror of Greece and of Persia was very nearly cut off by the same people. See Arrian, Exped. Alexandr., iv., 22, etc.

[454] Ἄναρθροι. The meaning of this term seems to be, persons whose joints are indistinct owing to fatness.

[455] Coray supposes, and apparently with justice, that our author in this passage tacitly refers to the inhabitants of Attica. It is worthy of remark that Thucydides ascribes the early civilization of the Athenians to the infertility of the soil. (Ἀττίκην λεπτόγεων, i., 2.) See Arnold's Note, h., 1.; also the quotation from Aristotle at § 23; and Plato's Timæus, tom. iii., p. 247; ed. Bekker. According to Coray (but perhaps he was partially disposed towards his adopted country), the characters of Provence and Marseilles are analogous to those of Attica and Athens, and the effects on the inhabitants similar. That Marseilles was at one time a flourishing seat of learning is undoubted; see Tacitus (Agricola) and Strabo (Geogr., iii.); but in literary celebrity it cannot surely aspire to be put on a level with the region which produced an Æschylus, a Thucydides, a Plato, and a Demosthenes! And it may be doubted whether even the Marseillais Hymn equals in masculine energy the war songs of Tyrtæus!

[456] Its title is, Specimen Historico-Medicum Inaugurale de Hippocratis Doctrina a Prognostice Oriunda. Lugduni Batavorum, 1832.

[457] Cap. v.

[458] Comment. in Prognos. ap. Dietz.

[459] The opinion here advanced is expressed with great precision by a French writer who has been making some figure in the political world of late. "Great men," says Louis Blanc, "only govern society by means of a force which they themselves borrow. They enlighten the world only by a burning focus of all the scattered rays emanating from itself."—Organization of Labor, p. 98, English edition.

[460] Ascarus, a Theban statuary for one. See Pausanias, v., 24, 1.

[461] See the Commentary of Simplicius. As I quote from memory I cannot refer to the page.

[462] Galen, in his Commentary on this clause of the sentence, acutely remarks that patients are justly disposed to form a high opinion of a physician who points out to them symptoms of their complaint which they themselves had omitted to mention to him. And Stephanus further remarks that the patient naturally estimates highly the acumen of the physician who detects any errors in regimen which he has been guilty of, such as drinking water, or eating fruit when forbidden; (Ed. Dietz, p. 54;) or when he has some disease about him, such as bubo or inflammation, which he wishes to conceal. (Ibid., p. 63.)

[463] It has puzzled all the commentators, ancient and modern, to explain satisfactorily why Hippocrates, in this place, seems to adopt the popular creed, and acknowledge that a certain class of diseases are of divine origin; whilst in his treatises "On Airs," etc., and "On the Sacred Disease" he combats this doctrine as being utterly unfounded. Galen attempts to get over the difficulty by supposing that, in this place, by divine our author means diseases connected with the state of the atmosphere; this, however, would merely imply that, on the present occasion, he expressed himself in accordance with the popular belief. And, by the way, I would beg leave to remark that the plague which is described by Homer in the exordium to the Iliad, and is referred to the wrath of a god, that is to say, of Apollo, was at the same time held by Eustathius and other commentators to be connected with the state of the atmosphere; that is to say, agreeably to the vulgar belief, epidemical diseases were looked upon as divine. See also Stephanus, the commentator, t. i., p. 77; ed. Dietz. M. Littré has given, from a MS. in the Royal (National?) Library at Paris, a gloss never before published, which contains an interesting extract from one of the early Hippocratic commentators, Xenophon of Cos, bearing upon this passage. It is to this effect, that Bacchius, Callimachus, Philinus, and Heraclides Terentinus, supposed that by divine, in this place, was meant pestilential, because the pestilence was held to be from god; but that Xenophon, the acquaintance of Praxagoras, reckoned the nature of the critical days divine; for, as to persons in a storm, the appearance of the gods Dioscuri brings safety, so do the critical days bring life to men in disease. (Opera, tom. i., p. 76.) See some remarks on this scholium by Grote, Hist. of Greece, vol. i., p. 488. On the θεῖον of Hippocrates see further Berends, Lect. in Aphor., p. 349.

[464] It will be remarked that, in his sketch of Prognosis (πρόνοια), in this place our author uses the term with considerable latitude; in fact, it comprehends the past, the present, and the future condition of the patient. Hippocrates, in a word, appears to have desired that the physician should be in his line what his contemporary, Thucydides, describes Themistocles to have been as a statesman: "Quod de instantibus (ut ait Thucydides), verissime judicabat, et de futuris callidissime conjiciebat."—Cornelius Nepos, in vita Themistocles. See also Thucydides, i., 138. Probably both these writers had in his mind the character of the prophet as drawn by Homer: Ὅς ἤδη τά τ' ἐοντα τά τ' ἐσσόμενα πρό τ' ἐοντα.. (Iliad i.)

[465] The groundwork of the matters contained in this section is to be found in the Coacæ Prænotiones, 212; but it is greatly expanded and improved by our

author. I need scarcely remark that the description of the features of a dying man is of classical celebrity. It is given in elegant prose by Celsus, ii., 6; and by Lucretius it is thus put into a poetical form:

> "Item ad supremum denique tempus
> Compressæ nares, nasi primoris acumen
> Tenue, cavati oculi, cava tempora, frigida pellis
> Duraque, inhorrebat rictum, frons tenta minebat."
> De Rerum Natura, vi., 1190.

Shakespeare's description of the death of Falstaff, by the way, contains images which have always appeared to me to be borrowed (at second-hand, no doubt) from this and other passages of the present work: "For after I saw him fumble with the sheets, and play with flowers, and smile upon his fingers'-ends, I knew there was but one way: for his nose was as sharp as a pin, and he babbled of green fields.—So he bade me lay more clothes on his feet: I put my hand into the bed and felt them, and they were as cold as any stone," etc.—Henry V., ii., 3. Although perhaps it may be thought rather hypercritical, I cannot omit the present opportunity of making the remark, that it appears to me rather out of character to make the wandering mind of a London debauchee dwell upon images "of green fields." One would have thought that "the ruling passion strong in death" would have rather suggested stews and pot-houses to the imagination of such a person.

[466] It will be remarked that our author modifies his judgment on the result of the *ensemble* of dangerous symptoms which he has just described, provided they be connected with want of food and of rest, or with looseness of the bowels. See Galen's Commentary on this passage. Celsus renders this clause of the sentence as follows: "Si ita hæc sunt, ut neque vigilia præcesserit, neque ventris resolutio, neque inedia."—ii., 6. I may briefly mention that both Galen and Stephanus seem to have understood this passage as I have translated it. Littré it will be seen has rendered it somewhat differently.

[467] The prognostics, drawn from the position in which the patient is found reclining, are mostly taken from the Coacæ Prænotiones, 497. As usual, however, Hippocrates has improved very much the materials which he avails himself of.

I would here point out a mistake which most of the modern translators have committed respecting the meaning of an expression contained in this paragraph. It is καὶ τὸ ξύμπαν σῶμα ὑγρον κείμενον, which Clifton, Moffat, and even Littré understand as descriptive of the body's being in a moist state with sweat. Littré's translation is, "Le corps entier en moiteur." The translators forget that the word ὑγρὸν is used by the best classical authors to signify "relaxed" or "soft." Thus Pindar, in his celebrated description of the eagle perched upon the sceptre of Jupiter, and lulled asleep by the power of music (every English scholar will remember Gray's version of it in his Ode on the Progress of Poesy), has the expression ὑγρὸν νῶτον, which Heyne interprets by *flexile* and *lubricum*. (Ad Pyth., 1.) See also the Scholiast, in h. 1. Galen apprehends the meaning of the term as I have stated it: thus he defines it as applying to the position intermediate between complete extension and complete flexion, that is to say, half-bent or relaxed. Foës also renders the expression correctly by "corpus molliter positum."

(Œconom. Hippocrat.) See also Stephanus (p. 96, ed. Dietz), who decidedly states that the epithet (ὑγρὸς), in this place, means slightly bent or relaxed. Heurnius explains ὑγρὸν as signifying "molliter decumbens," p. 189. Celsus renders the words in question by "cruribus paulum reductis," ii., 3.

[468] This is taken pretty closely from the Coacæ Prænotiones, 235.

[469] This sentence is thus translated by Celsus: "Ubi ulcus, quod aut ante, aut in ipso morbo natum est, aridum, et aut pallidum, aut lividum factum est." (ii., 6.) It is imitated from the Coacæ Prænotiones, 496.

[470] This graphic description of the movement of the hands in delirium is nearly original, being but slightly touched upon in the Coacæ Prænotiones, 76. The terms are copied by most of the ancient authors subsequent to Hippocrates, in their descriptions of phrenitis and febrile delirium. See in particular PAULUS ÆGINETA, Book III., 6. Stephanus, in his Commentary, has several very philosophical remarks on this passage, namely, upon the rationale of the ocular deception which leads to these extraordinary movements of the hands. (Ed. Dietz, t. i., pp. 103, 104.)

[471] This is imitated pretty closely from the Coacæ Prænotiones, 260. Dr. Ermerins remarks that there is a greater number of symptoms in the Prænotiones than in the Prognostics. He therefore suggests the question whether there may not be a lacuna in the text. The description of the respiration preceding dissolution in the Prænotiones is certainly most graphic, and it appears wonderful that it should be omitted by Hippocrates in the Prognostics.

[472] The paragraph on sweats is founded on the Coacæ Prænotiones, 572, 573; but the Prognostics is much fuller than the other. The cold sweats described in this paragraph were called syncoptic by the ancients, and were supposed to be connected with atony of the pores of the skin. See Galen, h. 1., and De Causis Sympt. iii., 9. Stephanus, with rather too much logical parade, gives a good many acute and interesting remarks on this passage. He says that cold sweats are connected with a complete prostration of the innate heat (calidum innatum). (p. 114.)

[473] The characters of the hypochondriac region are copied in part from the Coacæ Prænotiones, 279, 280, 282; but they are much improved in the Prognostics. It will be remarked that in the Epidemics great attention is paid to the state of the hypochondria. Stephanus remarks that pulsation *or* palpitation in the hypochondria is caused by violent throbbing of the aorta as it passes through this region, which is occasioned by the effervescence and inflammation of the important parts which are situated in it, and with which the brain is apt to sympathize. (p. 118.) Meteorism of the hypochondriac region is often mentioned in the reports of the cases described in the Epidemics.

[474] The author evidently alluded to hepatitis ending in abscess. This would seem to have been a very common termination of inflammation of the liver in Greece, as it is often described in the ancient medical works. See PAULUS ÆGINETA, B. III., 46, and the authorities quoted there in the Sydenham Society's edition.

[475] The paragraph on the prognostics relating to dropsies is founded in a great measure on the Coacæ Prænotiones, 454. The ancient writers who treat systematically of dropsy generally describe four varieties of it, namely, dropsy

from disease of the liver, from disease of the spleen, from fever, and from a sudden draught of cold water. See De Morbis, and PAULUS ÆGINETA, B. III., 48, Sydenham Society's edition.

[476] On this variety I have remarked in the Comment. on Paulus Ægineta: "Hippocrates refers one species of dropsy to disease of the parts situated in the loins, by which Galen and Stephanus agree that he means the jejunum, mesaraic veins, and kidneys." (Paulus Ægineta, l. c.) M. Littré accordingly holds it probable that allusion is made to granular degeneration of the kidneys, that is to say, to Bright's disease. (Opera, etc., tom. ii., 388.)

[477] Dr. Ermerins remarks that the species of dropsy here described was most probably connected with organic disease of the parts situated in the abdominal region, arising from inflammation with which they had been previously attacked.

[478] This paragraph is pretty closely taken from the Coacæ Prænotiones, 492. A good deal of stress is laid upon the state of the temperature of the extremities in the reports of the febrile cases contained in the Epidemics. He announces it as a general truth that coldness of the extremities in acute diseases is bad. (Aphor. vii., 1.) Sprengel considers that he has stated this fact in too general terms, as there are many exceptions to it. (Hist. de la Méd., tom. i., 317.)

[479] This is taken in part from the Coacæ Prænotiones, 493. Sprengel finds great fault with Hippocrates for laying it down as a rule, that in cases of gangrene a black color of the part is less dangerous than a livid. Dr. Ermerins, however, espouses the side of Hippocrates, and maintains that our author has acutely pointed out the difference between gangrene proving critical, and gangrene connected with weakness of the vital actions in the part. In the former case the part becomes perfectly black, whereas in the other it is livid. He mentions that he observed in an hospital at the same time a case of mortification from cold, and another of the same from want and congelation; that in the former the part was black, and the patient recovered; whilst in the other the arms were livid, and the patient soon died. (Specimen Hist. Med., p. 68.) Stephanus, by the way, gives nearly the same explanation of this remark. (p. 142.) Perhaps our author had in view the plague of Athens, in which the disease often terminated favorably in mortification of the fingers or toes. (Thucyd., ii., 49.)

[480] A considerable portion of the Prognostics from Sleep are taken from the Coacæ Prænotiones, 497. This part is elegantly rendered by Celsus: "Ubi nocturna vigilia premitur, etiamsi interdiu somnus accedit; ex quo tamen pejor est, qui inter quartam horum et noctem est, quam qui matutino tempore ad quartam. Pessimum tamen est, si somnus neque noctu, neque interdiu accedit; id enim fere sine continuo dolore esse non potest." (ii., 4.) Stephanus gives a philosophical disquisition on the nature and causes of sleep. (pp. 142–8.)

[481] This is pretty closely taken from the Coacæ Prænotiones, 601.

[482] A small part of this is to be found in the Coacæ Prænotiones, 609.

[483] Part of this is borrowed from the Coacæ Prænotiones, 601.

[484] Strigmentosa: that is to say, resembling the scrapings *or* strippings of the bowels.

[485] This in part is borrowed from the Coacæ Prænotiones, 604, 631.

[486] This is pretty closely copied from the Coacæ Prænotiones, 495.

[487] This is taken from the Coacæ Prænotiones, 281. Several of the other ancient writers on medicine, both Greek and Arabian, have treated fully on the characters of the alvine discharges; but, upon the whole, have not added much to the information contained in the Coacæ Prænotiones and Prognostics. See the Commentary on PAULUS ÆGINETA, B. II., 13. Stephanus has many interesting observations on the prognostics from the urine. He remarks that the urine is a good index of the condition which the digestive process is in, and more especially the process of sanguification. (p. 162.)

[488] This is closely copied from the Coacæ Prænotiones, 575.

[489] According to Stephanus, both the farinaceous and leafy sediments are the products of a melting of the solid parts, as a consequence of inflammatory heat. (p. 165.)

[490] A small portion of the above occurs in the Coacæ Prænotiones, 578.

[491] For part of this our author is indebted to the Coacæ Prænotiones, 580.

[492] See Coacæ Prænotiones, 582.

[493] This is partly taken from the Coacæ Prænotiones, 577.

[494] Galen, in his Commentary, justly praises Hippocrates for the acuteness of the remark contained in this sentence, since both with regard to the urinary and fecal discharges, it must be highly important to determine whether their characters be indicative of the condition of the general system, or of the viscus by which they are secreted. (Opera, v., p. 142; ed. Basil.) The ancients paid great attention to the characters of the urine in disease, and their knowledge of the subject will be admitted, even at the present day, to have been remarkable. The works of some of the later authorities, particularly of Theophilus and Actuarius, are well deserving of an attentive perusal. See PAULUS ÆGINETA, Vol. I., p. 225.

[495] This is partly taken from the Coacæ Prænotiones, 556.

[496] These characters of the sputa are partly borrowed from the Coacæ Prænotiones, 390, 399.

[497] They are founded on the Coacæ Prænotiones, 390, 391.

[498] This is taken in part from the Coacæ Prænotiones, 302, 304. The succeeding paragraphs on empyema are also partly derived from the Coacæ Prænotiones, 393, 402, 428. I may be allowed to remark in this place that modern pathologists are agreed that abscesses after pneumonia are of rare occurrence; at the same time, however, purulent infiltration and its natural consequence, expectoration of pus, are not so very uncommon results of the disease. True pulmonary abscess or empyema is commonly occasioned by chronic inflammation. I am inclined to think that the ancients applied the term also to the cavities in the lungs produced by the softening of tubercles. It is difficult otherwise to account for the frequent mention of empyemata in the works of the ancient authorities on medicine, especially in the Hippocratic treatises. See De Locis in Homine, p. 415, ed. Foës; and tom. i., p. 306, ed. Kühn, et alibi. M. Littré makes the following remarks on the descriptions of empyema which occur in the Hippocratic treatises: “On remarquera dans le *Pronostic*, et cette remarque s’étend à plusieurs autres des écrits Hippocratiques,

qu'une très-large place est faite aux affections de la poitrine, péripneumonies et pleurésies. Il paraîtrait que, sous le climat de la Grèce, ces affections ont une grande fréquence, plus peut-être qu'elles n'en ont même dans notre climat. La description, fort abrégée il est vraie, qu'en donne Hippocrate, me porte à penser que, si cette description est exacte, elles ne suivent pas la même marche que parmi nous. En effet, que sont ces empyèmes que, suivant Hippocrate, se font jour an dehors sous forme d'expectoration purulente? On peut croire, que dans les dénominations d'empyèmes sont compris les épanchements pleurétiques; mais les épanchements pleurétiques ne se font pas jour au dehors, ils se guérissent par résorption; alors, que sont ces empyèmes signalés par Hippocrate, comme terminaison des péripneumonies, et ces expectorations qui en procurent l'evacuation? Il m'est impossible de répondre à ces questions: peut-être des observations faites dans la Grèce même, permettraient de résoudre la difficulté." (Œuvres Complets d'Hippocrate, tom. ii., p. 97.) Perhaps, as I have hinted above, the most probable answer that could be returned to the questions put by M. Littré would be, that many of the cases of pneumonia terminating in empyema, which occur in the Hippocratic treatises, were what are now described as cases of acute phthisis. See Louis on Phthisis, ii., 2. In confirmation of my supposition that many of the cases of empyema described by the ancients were, in fact, cases of phthisis, I would refer to PAULUS ÆGINETA, B. III., 32, where it will be seen that the two diseases, phthisis and empyema, are treated of under the same head. See also the second book of the Prorrhetics, tom. i., pp. 198–201; ed. Kühn.

M. Littré reverts to this subject in the Argument to the Coacæ Prænotiones, tom. v., p. 576, where he relates, from two recent authorities, a case of empyema after pleurisy, and another after pneumonia, in both of which the pus was evacuated by the mouth. He also quotes the remark of an English writer, Dr. Twining, that, in and about Bengal, abscess of the lungs after pneumonia is by no means very rare. Still M. Littré admits that the paucity of such cases in modern works must lead to the conclusion either that Hippocrates had not observed correctly, or that this termination is more rare now than formerly. I leave the reader to judge whether my suggestion stated above does not remove this difficulty.

[499] The observations of Andral have in some measure confirmed the opinion of Hippocrates and other authors, ancient and modern, that there are certain days in the duration of the disease in which there is a greater tendency to amelioration. Of ninety-three cases, he found twenty-three give way on the seventh, thirteen on the eleventh, eleven on the fourteenth, and nine on the twentieth days. The recoveries in the remaining cases commenced on twelve out of forty-two non-critical days, as many as eleven being ascribed to the tenth day. Thus the recoveries on critical days averaged as high as fourteen, while those on non-critical scarcely exceeded three. (Dr. C. J. B. Williams on Pneumonia, Cyclop. of Pract. Med., vol. iii., p. 405.) See also Andral, Clin. Med., c. ii., p. 365.

[500] Stephanus has a lengthened and most important commentary on this passage, containing an elaborate disquisition on empyema. (pp. 184–91.)

[501] This is taken pretty closely from the Coacæ Prænotiones, 395.

[502] A part of this is copied from the Coacæ Prænotiones, 396.

[503] It will be seen in our analysis of several of the Hippocratic treatises, such as De Affect. Intern., De Morbis, etc., that it was the common practice in such cases to evacuate the matter either by the cautery or the knife. See also Aphorism, vii., 44.

[504] Part of this is borrowed from the Coacæ Prænotiones, 108.

[505] This is in part derived from the Coacæ Prænotiones, 471. Galen, in his commentary, is at pains to explain that by a hard bladder Hippocrates means a bladder in a state of inflammation.

[506] The subject of the critical days is not touched upon in the Coacæ Prænotiones, so that the contents of this section are either original or taken from some source with which we are totally unacquainted. Galen, indeed, does not hesitate to declare that Hippocrates himself was the first who treated of the critical days; but whether he had any competent authority for pronouncing this opinion cannot be satisfactorily determined. The critical days are incidentally treated of in the Epidemics and Aphorisms; but, as we have stated in our critique on the Hippocratic treatises in the Preliminary Discourse, the work "On Critical Days" is in all probability spurious. The system of the critical days taught by Hippocrates was adopted by almost all the ancient authorities, with the exception of Archigenes and his followers, who, however, were not numerous nor of any great name, with the exception of Celsus. See the Commentary on PAULUS ÆGINETA, B. II., 7, Syd. Soc. edition.

[507] The contents of this section are borrowed in a great measure from the Coacæ Prænotiones, 160. Dr. Ermerins remarks that the headache here described is probably of a catarrhal or rheumatic nature. (Specimen Hist. Med. Inaug., etc., p. 84.)

[508] This is taken in great measure from the Coacæ Prænotiones, 189. Galen in his commentary, remarks that patients die of violent pains of the ear, owing to the brain sympathizing, which brings on delirium, and sometimes occasions sudden death. I may be allowed to remark that every experienced physician must have met with such cases.

[509] A considerable part of this section on ulcerated sore-throat is extracted from the Coacæ Prænotiones. The present sentence is from § 276. The medical reader will not fail to remark that Hippocrates displays a wonderfully accurate acquaintance with these affections.

[510] This is founded on the contents of the Coacæ Prænotiones, 363. The disease here described is evidently angina laryngæa.

[511] This is taken in part from the Coacæ Prænotiones, 364. As Dr. Ermerins remarks in his note on it, the disease here described is evidently angina pharyngæa.

[512] This is closely copied from the Coacæ Prænotiones, 365. The danger of erythematous swelling being determined inwards, is well understood nowadays.

[513] This is taken, with slight alterations, from the Coacæ Prænotiones, 365, 367. The latter clause is more fully expressed in the Coacæ Prænotiones than in the Prognostics. "In those cases in which cynanche is determined to the lungs, some die in seven days, and some escaping these get into a state of

empyema, unless they have a pituitous expectoration." This is evidently a correct description of the disease spreading to the lungs.

[514] No part of this last clause is to be found in the Coacæ Prænotiones. The operations of excising and burning the diseased uvula are minutely described by Paulus Ægineta and other of the ancient authorities. See PAULUS ÆGINETA, B. VI., 31. I need scarcely remark that both these operations have been revived of late years.

[515] This is taken with little variation from the Coacæ Prænotiones, 146.

[516] A part of what precedes is taken from the Coacæ Prænotiones, 143; all that follows, with the exception of a short sentence, is original.

[517] Our author here and elsewhere impresses it upon his readers that it is from the *tout ensemble* of the symptoms that a judgment is to be formed in every case. This is evidently a remark of the most vital importance in forming a prognosis. Galen's observations in the succeeding commentary are very interesting, and deserve an attentive perusal.

[518] That is to say, the physician ought to get speedily acquainted with the nature of the epidemics which prevail at every particular season. I need scarcely remark that this is a subject which is largely treated of in the works of our English Hippocrates, Sydenham. Hippocrates himself is very full on this head, more especially in his Epidemics and Aphorisms, as we shall see below.

[519] It has excited a great deal of discussion and difference of opinion to determine what our author means by specifying these three places; but the explanation given by Galen in his Commentary seems to me quite satisfactory. According to him, the meaning of our author is that good and bad symptoms tell the same in all places, in the hot regions of Libya, the cold of Scythia, and the temperate of Delos. It is further to be borne in mind that Odessus in Scythia, and Cyrene in Libya, were the extremities of the Grecian world, whilst Delos may be regarded as its centre. It is proper to remark, however, that by the three places mentioned, Erotian understands the three quarters of the earth—Africa, Asia, and Europe. See under Λιβύη.

[520] The meaning of this last sentence has been supposed to be somewhat ambiguous; but to me it appears evidently to be this, that the rules of prognosis, as laid down above, apply to all diseases of an acute character, whether their names happen to be mentioned in the course of this work or not, so that it should not be considered a defect in the work that any one is omitted.

[521] See Epidem., i., and iii.

[522] Empyema is treated of in the Prognostics, the first book of Prorrhetics, the Coacæ Prænotiones, and the work De Morbis. Which of these is here alluded to cannot be determined for certain; it seems probable, however, that it is to the preceding book of Prorrhetics.

[523] This important observation is thus rendered by Celsus: "Quæ in latere linguæ ulcera nascuntur diutissimè durant. Videndumque est, num contra dens aliquis acutior sit, qui sanescere sæpe ulcus eo loco non sinit, ideoque limandus est." (vi., 12.)

[524] Allusion seems to be made to herpes exedens.

[525] See PAULUS ÆGINETA, B. III., 25.

[526] Foës inclines to think that the proper reading in this place is νοῦσος φοινικίη, and not φθινικὴ, and that Galen alludes to this passage in his Exegesis under the former of these terms, where he says that by φοινικίη νοῦσος was probably meant elephantiasis. The other reading, however, would seem quite applicable, for I have known phthisis and leprosy combined in the same case.

[527] The phrenitis of Sydenham in like manner was an epidemical fever, and not an idiopathic inflammation of the brain. See Opera, p. 56; ed. Syd. Soc. That Hippocrates regarded phrenitis as a variety of causus, attended with determination to the brain, is obvious from Epidem. i. See Op. Galen., tom. v., p. 371; ed. Basil.

[528] Horace, Serm. i., 2.

[529] One mode of exercise, namely, gestation, is to be excepted, which had at least one distinguished advocate in ancient times. Celsus writing of it says, "Asclepiades etiam in recenti vehementique, præcipueque ardente febre, ad discutiendam eam, gestatione dixit utendum: sed id pericolose fit; meliusque quiete ejusmodi impetus sustinetur." (ii., 15.) A great modern authority on fever, Dr. R. Jackson, speaks favorably of this practice, although, as we see, it is so pointedly condemned by Celsus. Celsus, however, admits of gestation in that species of remittent fever which was called lethargus. (iii., 20.)

[530] Observ. Med., vi., 3, 4.

[531] The Cnidian Sentences in all probability were the results of the observations and theories made in the Temple of Health at Cnidos. We may reasonably conclude from what we know of them, that, like the Coacæ Prænotiones at Cos, the Cnidian Sentences at Cnidos were looked up to in the time of Hippocrates as the great guides to medical practice. How much, then, it is to be regretted that they have not come down to us like the other! It is clear, however, from Galen's Commentary, that the work was extant in his time, and from it, as will be seen, we are enabled to draw a few particulars respecting the theoretical and practical views of the Cnidians. Le Clerc considers it likely that Euryphon was the author of the Cnidian Sentences (Hist. Phys., i., 3, 30); but it is evident, from the terms in which Hippocrates refers to them, that they were not the work of a single author. He makes mention, it will be remarked, of more than one person being concerned in remodelling them.

[532] By this our author means that the Cnidians neglected Prorrhetics and Prognostics. This must be obvious to every person who had entered properly into the spirit of the Hippocratic system of medicine.

[533] The text of this sentence is in a very unsatisfactory state, and much difference of opinion has prevailed respecting the meaning. See the annotations of Littré, and the remarks of Galen, as quoted in the Argument.

[534] Galen, in his Commentary, mentions that the Cnidians described seven species of diseased bile, and twelve diseases of the bladder; and, again, four diseases of the kidneys; and, moreover, four species of strangury, four species of tetanus, and four of jaundice; and, again, three species of phthisis. Galen, having made this statement, remarks that they looked to the peculiarities of the body, instead of regarding the identity of the diatheses, as was done by Hippocrates. In

other words, they split diseases into endless varieties, instead of attending to the essence or general nature of each. The system of Hippocrates, then, was founded on a rational prognosis, whereas that of the Cnidians was founded on mistaken principles of diagnosis. The principles of the Hippocratic system are admirably explained and developed in Galen's great work On the Method of Cure, *or* Therapeutics.

[535] Galen, in his Commentary on this passage, states that when a disease of a mild character prevailed generally, it was called an epidemic; and when of a malignant nature, it was called the plague. (See further PAULUS ÆGINETA, Book II., 36, Syd. Soc. edition.) It will be remarked that I have included the word (*not*) in brackets. This I have done because not only the reading, as given in the common editions of Galen, is in its favor, but because the sense appears to me to require it. Surely when diseases are of an epidemic character they are similar; but when they are sporadic, they are not similar. M. Littré, however, rejects it altogether.

[536] The question here mooted is certainly one of the most important that can well be entertained, namely, whether or not a certain portion of nutriment ought to be given to persons laboring under fever. It would appear, from what is stated by Galen upon the authority of Erasistratus, that the most diametrically opposite modes of practice had been followed by different individuals—that some had starved their patients altogether for a considerable time; whereas, on the other hand, a physician of the name of Petronas allowed his patients flesh and wine. Our author, it will be remarked, does not allude to these extreme modes of practice in this place, but enters at great length into the question whether or not unstrained ptisan (*or* barley gruel) should be administered in fevers, and, if so, under what circumstances.

[537] Galen, in his Commentary, has some very interesting remarks on the differences of opinion among the diviners. This, in fact, may well be supposed, since, as will now be pretty generally acknowledged, the whole art was founded upon conjecture and deception. The comparison of medicine to divination is therefore very discreditable to the former.

[538] Our author now enters upon the consideration of one of his principal objects in the present work, namely, to describe the modes of preparing ptisan (*or* the decoction of barley), and its uses in acute diseases. He is so full on this subject that the present treatise is quoted by Athenæus (Deipnos. ii., 16), by the name of the work On the Ptisan. Galen states that, on the principle that diseases are to be cured by their contraries, as the essence of a febrile disease is combined of heat and dryness, the indication of cure is to use means of a cooling and moistening nature, and that the ptisan fulfils both these objects. I may be allowed to remark in this place, that probably there is not a more important rule in the whole practice of medicine than this, that fevers are to be treated by things of a cooling and diluent nature. I may mention further regarding the ptisan of the ancients, that it would appear to have been very little different from the decoction of barley, as now in use; that is to say, it was prepared from pearl-barley roughly pounded and boiled for a time in water. As will be seen by the text, it was given to the sick either strained or entire, according to circumstances. A similar decoction was prepared from wheat, and was called πτιαάνη πυρίνη. See Galen (De Aliment., i.) The simple term ptisan, however, is always to be understood as applying to the decoction of barley.

[539] Galen gives the following illustration of what is meant by a disease of a peculiarly dry nature. In pneumonia, pleurisy, and in all the affections about the lungs and trachea, the disease is held to be of a dry nature when there is no expectoration from the parts affected; and in any complaints about the liver, the mesentery, the stomach, the small or great intestines, or spleen, when the belly is either entirely constipated, or when the discharges brought away by artificial means are dry and scybalous; and diseases of the arteries and veins are known to be dry by the dryness of the tongue, and the parched appearance of the whole body. In the same manner external ulcers are accounted dry when there is no discharge from them. And ophthalmies are held to be dry when there is no discharge from the eyes or nose. And, in short, all diseases are recognized as being dry which are not attended with any discharge.

[540] It is curious to remark that a double charge was founded against our author on the ground of his treatment of febrile cases, as here laid down. The followers of Thessalus held that he gorged his patients with too much food, whereas Erasistratus and his followers held that he starved them. Galen, on the other hand, contends that the practice of Hippocrates is the *juste milieu* between these two extremes. (Opera, tom. v., p. 47; ed. Basil.)

[541] This sentence shows that Hippocrates understood thoroughly the proper treatment of pleurisy. When the disease did not yield to fomentations, but the pain continued, either a vein was opened or the bowels moved; for without first using these means, it was reckoned fatal practice to administer ptisan. Galen relates that it was also considered an unsafe practice to give opium, mandragora, or hyoscyamus for the purpose of alleviating the pain, instead of having recourse to venesection or purging for the removal of it. This is a practical remark well deserving of the most serious consideration.

[542] How briefly, and yet how graphically, our author has described the termination of pleurisy! It is singular that no succeeding author has written so learnedly of *râles* in affections of the breast as Hippocrates, down at least to the time of Laennec, who repeatedly acknowledges his obligations to our author.

[543] I need scarcely remark that the seasonable administration of drink, and especially of water, is one of the most important points connected with the treatment of febrile diseases. This is so much the case that, as Galen remarks in his Commentary on this passage, fevers may often be extinguished at once by a large quantity of water given in due season. This subject is fully treated of by him in his Methodus Medendi.

[544] The professional reader will not fail to remark, what is pointed out in strong language by Galen, how judiciously our author commences with the most gentle means, and gradually rises to the most powerful and dangerous; namely, bleeding and the administration of drastic purgatives. One cannot help being further struck with the rich supply of information which he has on the simple subject of fomentations.

[545] By livid (πέλιον) is here meant the colour intermediate between red and black. See Galen, h. 1.

[546] Probably the *Helleborus niger*. See PAULUS ÆGINETA, Vol. III., p. 108.

[547] The *Euphorbia peplus*. See Ibid., Vol. III., p. 294.

[548] Probably the *Seseli tortuosum*. See Ibid., Vol. III., p. 330; and Dierbach, Arzn. der Hipp. p. 186.

[549] A species of asafœtida, probably the *Laserpetium derias*. PAULUS ÆGINETA, Vol. III., p. 339.

[550] It is worthy of remark, that our author directs aromatics to be mixed with the purgatives. The reason for prescribing them, as Galen states, was to counteract the bad effects of the purgatives upon the stomach. The ancients, in my opinion, acted much more wisely in this respect than the moderns generally do, for the latter are constantly administering the most nauseous cathartics to their patients without taking any pains to obviate their bad effects upon the stomach. On the ancient modes of administering purgatives, see PAULUS ÆGINETA, B. VII., 4.

[551] Galen, in his Commentary, remarks that the common herd of physicians followed the very opposite rule to that here laid down by Hippocrates, that is to say, they administered food copiously after evacuations. According to Galen, the object of Hippocrates in proscribing food of all descriptions at that season is, because the powers of the system, being then weakened, are unable either to bear food or to digest it.

[552] See Celsus, I., 3.

[553] The *cyceon* was a mixture of various articles of food, but generally contained cheese, honey, and wine. See Athenæus (Deipnos, ii.). It is described by Homer as the potion which Circe administered to the followers of Ulysses. (Odyss. x., 235). There is frequent mention of it in the Hippocratic treatises, as at De Diæta, ii.; de Muliebribus, ii.; and in the works of the other medical authors.

[554] The meaning here is somewhat obscure, but appears to be this: that if a patient fast for the first two or three days, and take food of a heavy nature on the fourth or fifth, he will be much injured, but that the mistake will be still more fatal if the fast be continued for the first four or five days, and if he then indulge freely in food at the end of these.

[555] There is considerable difficulty as to the text at this place. See Foës in his Annotations and Œconomica, and a very lengthy note by Littré.

[556] The preternatural mode of respiration here described is several times adverted to by Galen, as at De Dyspnœa, iii.; Comment. in Aphor., iv., 68; and Comment. in h. 1. Galen seems to understand the meaning to be, that the breathing is intercepted in the inspiration. I should have rather been disposed to think that it is the expiration which is said to be interrupted. But I suppose we must bow to so great an authority as Galen! I may mention, by the way, that his Commentary on this and the collateral passages of our author is most interesting; but, as usual, too diffuse for my narrow limits. It relates to a most important point in medical practice, on which great ignorance and uncertainty prevail among us, even at the present day.

[557] Galen finds the language in this last sentence so confused, that he does not hesitate to declare that he is convinced the work must have been left by Hippocrates in an unfinished state, and not published until after his death. He decides that ἐφθότης signifies a heated state connected with humors, and not with dryness; that is to say, a condition analogous to boiling, and not to roasting.

[558] Galen, in his elaborate Commentary on this section, complains that our author's account of wines is imperfect, inasmuch as several varieties are omitted; at the same time it must be admitted that his observations on this head are very much to the purpose, and highly judicious. For the other ancient authorities on this subject, see PAULUS ÆGINETA, Book I., 95, Syd. Soc. edit.

[559] I need scarcely mention that hydromel was a drink prepared by boiling honey in a large proportion of water. It was of different degrees of strength; sometimes there were only two parts of water to one of honey, and at other times from seven to eight parts were used See PAULUS ÆGINETA, Book I., 96, Syd. Soc. edit.

[560] Galen, in explanation, mentions that hydromel is of a detergent nature; and hence it clears out the air-passages, and thus promotes expectoration. When the sputa are thick and viscid, it cuts and attenuates them. (Opera, tom. v., pp. 75, 76; ed. Basil.)

[561] Although, as we have shown in our analysis of the treatise on the Use of Liquids, Hippocrates and his followers were sufficiently liberal in the administration of water on proper occasions, it will be seen from the contents of this section that our author was by no means disposed to give water freely in febrile diseases, nor in affections of the chest. Whatever may now be thought of his observations on this point of practice, all must admit that they are deserving of high attention. Galen's Commentary is also very interesting. It appears from it that he disapproved of giving water alone, but always added a small proportion of wine to it in order to give it a flavour. That the quantity of wine which was added to the water must have been small, is obvious from an anecdote which he relates in this place. He says that a certain physician, who saw the insignificant amount of the wine which was put into the water, said, bantering him, "Your patient will have the pleasure of seeing the wine indeed, but will not be able to taste it." Galen, however, contends that, although the quantity thus added be small, it is sufficient to act as a stomachic, and to obviate the bad effects which the water would otherwise produce. (Opera, tom. v., p. 83; ed. Basil.) It will be perceived from the context, that Hippocrates intended to give a separate treatise on each particular disease, not considering the present work on general therapeutics sufficiently explicit, as Galen remarks.

[562] The smegma was an abstergent composition used by the ancients in bathing for the purpose of cleansing the skin. For a full account of the smegmata, see PAULUS ÆGINETA, Vol. III., pp. 536–41.

[563] Galen, in his Commentary, remarks that the physicians usually did not put their patients into the baths, but made use of the *douche*, or affusion of hot water. He adds, that persons in good health may leave the hot bath and plunge into the cold, but that this practice is not safe in the case of invalids. He recommends, then, that there should be at hand a good supply of baths of various temperatures, so that the patient may gradually pass from one of a high to others of a low temperature. By the way, I have often wondered that Dr. Currie, who certainly had no inconsiderable pretensions to classical scholarship, should have been so profoundly ignorant as he appears to have been of the use of the warm affusion by Hippocrates and Galen in the treatment of febrile diseases. His rival, Dr. Jackson, had a much more respectable acquaintance with the ancient authorities on medicine; and I have often thought it was to be regretted that the

profession at that period, in giving a trial to the affusion of cold and hot water in fever, put itself under the leadership of Currie instead of Jackson.

[564] Dr. Tweedie's observations agree so well with those of Hippocrates, that I will give the reader an opportunity of comparing them together. "This organ (the stomach), in convalescence, partakes of the external or muscular debility, and the convalescent may as well expect to be able to carry a heavy load on his shoulders as to digest an undue quantity of food, even of a suitable kind." (p. 215.)

[565] The directions given by that excellent authority Alexander Trallian, for the regulation of the regimen in phrenitis, are to the same effect. Wine is to be given when there is much insomnolency, when the strength is reduced, when the fever is no longer strong and ardent, and *when concoction appears already in the urine*. The author makes the acute remark, that the remedy is attended with certain evil consequences, but that it is the part of a prudent physician to balance the good and bad effects, and administer the article in question when the good preponderate. (i., 13.)

[566] This can scarcely be supposed anything else than a wilful misrepresentation of our author's rule of practice in this case. See the fourth section of the preceding part.

[567] The causes *of* ardent fever of the ancients was decidedly the same as the bilious remittent fever of modern authors. See PAULUS ÆGINETA, Vol. I., p. 262. We shall find many cases of it related in the Epidemics. In fact the causus is the ordinary fever of Greece and other countries bordering upon the Mediterranean. Galen, in his Commentary on this section, mentions that he had known it generally superinduced by drinking wine after great fatigue in summer. There can be no doubt that this was the fever of which Alexander the Great died. The description of the disease in his case, as given by Arrian from the Royal Journals (βασίλειοι ἐφημερίδες), has so much the air of truth, and withal appears to me so interesting, that I shall be excused introducing it in this place. "And the Royal Journals ran thus: that he drank at a jollification in the house of Medius; then rising up and being bathed, slept, and again supped with Medius, and again drank until the night was far advanced; that giving over drinking he bathed; and having bathed, ate a little, and slept there, because he was already feverish; that being carried on a little to the sacrifices, he performed them according to his daily practice; that the sacrifices being performed, he reclined in the dining-room (ἀνδρὼν) until the dusk of evening, and there gave orders to the commander respecting the march and voyage, that those who had to proceed on foot should be prepared for marching on the fourth day, and those who were to sail on the fifth; that he was carried hence upon a couch to the river, and being placed in a boat was taken across the river to the garden, and then being again bathed, that he rested. Next day, that he again was bathed and performed the appointed sacrifices; and going into a chamber, that he reclined and conversed with Medius, and gave orders to the commanders to meet him in the morning. That having done these things, he took a little supper; and having been carried back to the chamber, that he was in a continued state of fever during the whole night; that next day he bathed, and after the bath performed the sacrifices; that he gave orders to Nearchus and the other commanders respecting the voyage, that it should take place on the third day; that next day he bathed again, and performed the appointed sacrifices; that the religious rites being over, he did not cease to be

feverish, but that calling the commanders he gave orders for having every thing in readiness for the voyage; that he was bathed next day, and being bathed was already in a bad state. That next day being carried to the house adjoining the bath, he performed the appointed sacrifices; that he was in a bad state, but yet that he called to him the chiefs of his commanders, and again gave orders respecting the voyage; that the following day he was carried with difficulty to the religious rites and sacrificed, and that notwithstanding he gave orders to the commanders respecting the voyage. That next day, although already in a bad state, he performed the appointed sacrifices; that he gave orders that the commanders should watch in the saloon, and the chiliarchs and pentacosiarchs before the doors; and that being altogether now in a bad state, he was carried from the garden to the palace. That when the commanders came in he recognized them, but did not speak, being now speechless; that he was in a bad state of fever during that night and day, and during another night and day. Thus it is written in the Royal Journals." Thus far the report is no doubt to be strictly depended upon; the historical embellishments added to it from other sources can have no interest to the professional reader. (Appiani Exped. Alexandr., vii., 37.) It deserves to be remarked, as a remarkable feature in this case, that the mind appears to have been pretty entire during the whole course of the fever. Now, this is one of the characteristics of causus as described by Aretæus (Morb. Acut., ii., 4). It is further one of the most marked features of the yellow fever, which, from all I can learn of it, would appear decidedly to be an aggravated form of causus.

[568] Galen admits that he did not understand the exact import of this term.

[569] This is a general rule of such importance that Galen wonders our author did not embody it in one of his Aphorisms. Galen's observations on venesection in this commentary, and in his two treatises on this subject, are highly important. It will be remarked that three circumstances are held to form indications of the necessity for bleeding: first, if the disease be of a strong nature; second, if the patient be in the vigor of life; and, third, if his strength be entire.

[570] This section, as Galen remarks, contains a list of the principal cases in which venesection is to be had recourse to.

[571] I need scarcely point out to the professional reader that these symptoms are very descriptive of congestion in the brain, threatening an attack either of apoplexy or epilepsy. See the treatise on the Sacred Disease.

[572] Meaning apparently the great vessels. See Galen's Commentary.

[573] The description here given of cynanche, more especially of the variety in which the ulceration spreads down to the trachea and produces engorgement of the lungs, is most characteristic, and bespeaks a great practical acquaintance with the disease. Judged of in a becoming spirit of candor, it must be admitted that even at the present day we have scarcely made any advancement in our knowledge of this subject. What are our descriptions of ulcerous sore-throat, diptherite, œdema glottidis, croup, and laryngismus stridulus, but reproductions in a divided and (may I be allowed to suggest?) a less accurate form, of the general views here presented by our author? For an abstract of the views of the other ancient authorities in medicine, see PAULUS ÆGINETA, Book III., 27. Aretæus deserves particularly to be consulted (Morb. Acut., i., 7). It will be

remarked that our author speaks of a spontaneous determination to the skin, as being calculated to remove the urgent symptoms within. Galen, in commenting upon this clause, states that some physicians were in the practice of applying to the skin certain medicines possessed of ulcerative powers, in order to determine to the surface, and thus imitate Nature's mode of cure.

[574] Though the contents of this section are by no means devoid of interest, it must be obvious to the reader that the observations on causus are out of place here. See the Commentary of Galen.

[575] I would beg leave to direct the attention of the medical reader to the observations of our author in this and many other places on the characters of the urine in fevers. That in febrile diseases the sediment is wanting previous to the crisis, and that at and after the crisis, when favorable, the sediment becomes remarkably copious, I believe to be certain facts; and yet I question if, with all our boasted improvements in urology, they be generally known and attended to. I have called attention in the Argument to the important rule of practice which our author founds on the state of the urine at the crisis.

[576] He means by this, that the disease is not of an intermittent type.

[577] This seems the most appropriate meaning in this place, but the passage may also signify "a state of great emphysema or meteorism." See Galen.

[578] It is impossible not to recognize here a brief sketch of *delirium tremens*. The trembling hands from drinking, with the subsequent delirium, can leave no doubts on the subject. See further Littré, tom. ii., p. 382.

[579] The fruit of the *pinus pinaster*. See PAULUS ÆGINETA, Vol. III., p. 301.

[580] It will be remarked, that in this place the author directs that the bleeding should be carried to a greater extent than in the former part of this treatise. In general, the ancient authorities forbade the abstraction of blood until it induced lipothymia. This is decidedly the rule of practice laid down by Aretæus (De Curat. Morb. Acut., ii., 1).

[581] Galen, in his Commentary, remarks that this account of dysentery is vague, the species of dysentery here alluded to not being properly defined.

[582] This case is vague and undefined. I suppose the author alludes to opisthotonos in this sentence, and to emprosthotonos in the succeeding part of this section.

[583] *Bryonia dioica.* See Dierbach, etc., p. 131.

[584] Galen, in his Commentary, remarks that the modes of solution in fevers are not completely given in this place; for example, our author omits those by the uterus and the nose.

[585] The text is in a very unsettled state.

[586] The substance of this section occurs in the preceding part of this work, which certainly amounts to a strong presumption that the present treatise is not genuine. Very similar views are also laid down in the treatise On Ancient Medicine.

[587] On the Dietetics of the ancients, see the Commentary on PAULUS ÆGINATA, Vol. I., pp. 106–86.

[588] By dry cholera would seem to be meant flatulent colic. See Galen's Commentary. It is also described below, and further with great accuracy by Alexander Trallian (vii., 16).

[589] Galen, in his Commentary on this section, finds many things imperfectly stated, and therefore unworthy of his great author. For example, he remarks, only two varieties of dropsy are mentioned, namely, anasarca and tympanites; whereas there are three at least, and some even describe four varieties. By the three kinds of dropsy, Galen and the other ancient authorities meant anasarca, ascites, and tympanitis. (See PAULUS ÆGINETA, Book III., 48). That tympanites should have been ranked with dropsy need excite no wonder, when we consider the resemblance of this affection to ascites. In fact I have known cases of tympanites in which paracentesis was performed by inexperienced surgeons under the impression that they were cases of ascites. See some elaborate annotations on this head by Ermerins (Specimen Hist. Med., p. 125), and by Littré (Op. Hippocrat., tom. iv., p. 415). With regard to venesection in dropsy, Galen remarks that the rule of practice is not laid down here with sufficient precision; it is only when the dropsy is connected with the suppression of the hemorrhoidal or menstrual discharge, or when the patient is in a plethoric state, that blood can be abstracted with advantage. He also finds fault with the directions for the subsequent treatment, as not being accurately given. He justly remarks, that none but persons in the vigor of life and in good health would be able to digest dark-colored wine and pork after venesection. I may mention further that the text is faulty, that the words ἐγχειρέων γίνεσθαι ἄφυκτος should have been written ἀποκτέινει δ' ἐυθὺς ὁ ὕδερος ἐφὴν γένηται. He attributes the mistake to the first amanuensis who wrote the words in question.

[590] In reference to this practice Horace says:

"Si noles sanus curres hydropicus." (Serm. I., 1.)

[591] Galen finds many things in this section also carelessly and confusedly written, and therefore unworthy of Hippocrates. For example, the list of cases in which purging is inapplicable, Galen holds to be incomplete; and even in some of the cases specified by Hippocrates he demurs to admit his views to be correct; for example, in diseases of the spleen he contends that melanogogues are strongly indicated. Many more of the rules he considers to be vaguely and inaccurately stated. Altogether, then, he holds that it is a loss of time to devote much attention to writings of such a stamp; but, he shrewdly remarks, there is no persuading many people to study only such writings as are clear, and to leave such as are not so to the writers themselves; for it is just that, as they have paid no regard that we should understand what they have written, we should not be very anxious to find out and learn what they say.

[592] Galen correctly remarks that this rule is applicable in certain cases, but not in all.

[593] As Galen remarks in his Commentary, something appears to be wanting here in order to indicate the disease to which these directions apply. Perhaps, as he suggests afterwards, they are meant to apply to general pains.

[594] The Cantharis of the ancients was indisputably the *Mylabris cichorii*, or *M. Fusselini*. It continued to be used in ancient times as a diuretic, (see

PAULUS ÆGINETA, Vol. III., p. 153;) and is well known in the East at the present day.

[595] All the remaining part of this work evidently consists of fragments put together, without any method or arrangement. Though not devoid of interest, they decidedly have no connection with the treatise On Regimen in Acute Diseases. Indeed an impartial examination of the whole Appendix must satisfy any one that there are but too good grounds for holding with Galen, that the whole work is a disorderly compilation, which, although it may have been made up of notes written or dictated by Hippocrates, had certainly not been published by him.

[596] It most probably is the *Reseda mediterranea*. See PAULUS ÆGINETA, Vol. III., p. 331.

[597] This description has always been regarded as very obscure. According to Galen it is the operation which was afterwards named *anabrochismus*. See PAULUS ÆGINETA, Vol. III., pp. 262, 269. M. Littré gives the following interesting observations on this passage by M. Malgaigne: "Quoiqu'il semble que l'auteur emploie deux fils, cependant il n'est fait mention que d'une aiguille. Il paraît bien indiqué que l'aiguille traverse deux plis transverseaux en marchant de haut en bas. Voici comment je traduirais le passage en question: pour le trichiasis, avec une aiguille armée d'un fil, traversé de haut en bas le point le plus élevé (ou la base); de la paupière supérieure, après lui avoir fait former un pli, et repasser l'aiguille de la même manière un peu plus bas (ou près du bord libre); rapprochez les extrémités du fil, et fixez-les par un nœud: puis laissez-les tomber d'eux-mêmes. Si cela réussit, c'est bien: si non, it faudra recommencer." (Op. Hippocrat., tom. iii., p. xliv). In my Commentary on PAULUS ÆGINETA, (Vol. II., p. 163.) I have in so far fallen into the mistake of supposing this description to apply to the lower eyelid, and M. Ermerins would appear to have done the same. See Littré, l. c. The operation by the ligature on hemorrhoids will be found more circumstantially described in the treatise on that subject, of which a translation is given in this volume.

[598] For the weights and measures mentioned here, and in other parts of our author's works, see the Comment. on the last section of PAULUS ÆGINETA, Syd. Soc. edit.

[599] A mineral, consisting principally of sulphate of copper. See PAULUS ÆGINETA, Vol. III., pp. 400–2.

[600] The μηκώνιον was applied to three totally distinct substances; 1st, To a sort of opium, that is to say, the expressed juice of the poppy (see PAULUS ÆGINETA, Vol. III., p. 280); 2d, to the *Euphorbia peplus*, L., (see Appendix to Dunbar's Greek Lexicon, under the name): and, 3d, to the excrement of new-born children. It is singular that the learned Foës, in his Œconomia Hippocratica, should apply it in this place to the last of these; for if Hippocrates had used such a substance medicinally, we may be well assured that it would not have been overlooked by Dioscorides and Galen. There is every reason, however, to suppose that it is the same as the πέπλος of Dioscorides and Galen, that is to say, the *Euphorbia peplus*, which was recommended as a drastic purgative by all the

ancient authorities on the Materia Medica, and consequently would be a medicine very applicable either in coma or dropsy.

[601] All the commentators admit that the last section is obscure. It would appear to me that Galen understands the expression τὸ ἀπὸ τῶν κοπρίων as applying ἐδρικοῖς, that is to say, to affections of the anus. I have followed Littré in giving the passage a very different interpretation, but I am by no means sure that Galen may not be right.

[602] De Diebus Decretoriis, i.

[603] See the Argument of the Prognostics.

[604] Μηδὲν εἰκῇ, μηδὲν ὑπερορῇν. (Epid. vi., 2, 12). Νούσων φύσιες ἰητροί· ἀνεθρίσκει ἡ φύσις αὐτὴ ἐωυτῇ τὰς ἐφόδους· ἀπαίδευτος ἡ φύσις ἐοῦσα καὶ οὐ μαθοῦσα τὰ δέοντα ποίει. (Ibid. vi., 5, 1.)

[605] Galen, De Venesect. adv. Erasist., c. iii.

[606] One cannot help being struck with the resemblance between this description and a passage in Aretæus's chapter on Causus: Ψυχῆς κατάστασις, ἄισθησις σύμπασα καθαρὴ, διάνοια λεπτὴ, γνώμη μαντικὴ, κ. τ. λ. In the yellow fever of the West Indies, which would certainly appear to me to be a variety of the causus, the mind is said to be wonderfully entire to the last. Dr. Fergusson gives a very striking instance of this in describing the case of Sir James Leith, the British Governor of Guadaloupe.

[607] Traité des Fièvres ou Irritations Cérébro-spinales intermittentes, d'après des Observations recueillies en France, en Corse et en Afrique. Paris, 1836.

[608] Œuvres d'Hippocrate, etc., tom. ii., p. 565.

[609] Prax. Med. nova Idea, i., 31.

[610] Tom. ii., p. 565.

[611] On the Influence of Tropical Climates.

[612] Tom. vii., p. 290; ed. Kühn.

[613] Copland's Dictionary of Practical Medicine, P. iv., p. 974.

[614] Clinical Observations on the more important Diseases of Bengal. Calcutta, 1835.

[615] Epidém. d'Hippocrate.

[616] See *Ægineta*. The narrative contains the most distinct and unequivocal traces of the belief in the contagiousness of consumption.

[617] Thasus is an island in the Ægean sea, off the coast of Thrace, which bears the modern name of Thaso *or* Tasso. It was in a flourishing condition in the time of Hippocrates, and a tributary to Athens, but revolted from that power after its disasters in Sicily during the Peloponnesian war. See Herodot., vi., 47; Thucydid., i., 101; viii., 66. Galen states that it is cold, with a northerly exposure.

[618] According to Galen, in his Commentary on this passage, the setting of the Pleiades takes place fifty days after the autumnal equinox. See the Argument

to the treatise On Airs, etc.

[619] We have already stated that the ardent fevers or causi, of which repeated mention is made in the Hippocratic treatises, were fevers of the remittent type, in short that they were the same as the bilious remittent fevers of Pringle and Monro.

[620] I need scarcely say that the disease here described is *cynanche parotidæa* or *parotitis*. It is a remarkable proof of our author's talent for observation, that he has pointed out the tendency of the disease to be complicated with swelling and inflammation of the testicles. Altogether the description of the disease here given is quite applicable to the *mumps* of modern times. As stated by him, the swelling of the testicles is generally painful. See the Commentary of Galen.

[621] On reference to Galen's Commentary it will be seen that anciently the reading of this passage was reckoned equivocal. According to one of the readings, the meaning is that those who were sick did not require to come to the Iatrium for advice. See also Littré's annotations on this passage.

[622] Galen thinks our author expresses himself confusedly in this place, but Littré justly defends him from this charge. According to Littré, Hippocrates means that those who had been long affected with consumption (the term used, ὑποφθειρομένων, rather signifies had obscure symptoms of consumption), then betook themselves to bed; but those who were in a doubtful state, then first manifested signs of confirmed phthisis; and, finally, that there were some who then for the first time felt the attack of phthisis, and that these were persons who were predisposed to it. According to Galen, the phthisical constitution is marked by a narrow and shallow chest, with the scapulæ protuberant behind like wings; and hence he says chests of this construction have been named alar. He further states that there are two forms of consumption, the one originating in a defluxion from the head, and the other being connected with the rupture of a vessel in the lungs. I may be allowed to mention in this place, in confirmation of our author's accuracy of observation with regard to the connection of hemoptysis with phthisis, that Louis found hemoptysis to a greater or less extent in two thirds of his cases. (Researches on Phthisis, p. 166, Sydenham Society edition.) The same author relates several cases in which death occurred suddenly and unexpectedly, as Hippocrates states to have happened to some of his patients. (Ibid.)

[623] I am of opinion that the species of phthisis noticed in the latter part of this section was the acute form of phthisis described by Louis (p. 351). Our author, it will be remarked, states that his patients were mostly delirious when near death. Louis, in like manner, mentions delirium in, I believe, every one of the cases of acute phthisis which he relates. Galen justly remarks, that, in the ordinary forms of phthisis, delirium is not a common symptom. I would also call attention to our author's observation regarding the inflamed state of the fauces, which is also amply confirmed by the observation of Louis in this form of phthisis.

[624] The nature of the continual fevers of the ancients is fully explained in the Commentary on the twenty-seventh section of the Second Book of PAULUS ÆGINETA. Galen, in his Commentary on this passage, marks their nature very distinctly in few words. He says that such fevers as have an exacerbation of fever ending in complete apyrexia are called intermittents, whereas such as do not end in a complete remission of the fever are called continual. See further De Diff. Febr., ii., 2. In a word, the continual fevers were decidedly of the remittent type. See further Donald Monro's work on Army Diseases, in the beginning of the chapter on the Bilious Remittent Fever.

[625] The introduction of phthisis in this place has created some difficulty in the interpretation, as may be seen on reference to Galen and Littré. Galen gives a very interesting account of the way in which interpolations often took place. (Opera, tom. v., p. 356.)

[626] The text of this last sentence is in an unsettled state. The following would be a translation of it as it stands in the Basle edition of Galen's Works: "Of all the cases described under this constitution, those alone which were of a phthisical character proved fatal. But they (the phthisical affections?) did not supervene upon the other fevers." Provided this be the true meaning of the passage, it would merit great attention, as seeming to contain a declaration that intermittent fevers superinduced an immunity to phthisis. I need not say that this supposed fact has been exciting a great deal of interest lately in the profession, more especially in France.

[627] It is to be borne in mind that the autumn began with the rising of Arcturus, and ended with the setting of the Pleiades. The setting of the Pleiades then indicated the commencement of winter. The classical reader will find the different seasons, strikingly defined by the rising and setting of the stars, in Virgil's Georgics. See in particular Georg. i., 221.

[628] Galen thus explains the origin of the ophthalmies. He says, the constitution of the air being not only cold and humid, but attended also with hurricanes. The eyes were thus injured, and consequently were the first part of the body to show symptoms of disease. The dysenteric and other alvine complaints which followed, he ascribes to the constriction of the skin induced by the cold, and to the humoursæ of the system aggravated and increased by the humid state of the season. These humours being thus shut up by the occlusion of the pores of the skin, part of them were determined to the intestines, occasioning diarrhœa, tenesmus, dysentery, etc.; some to the bladder, inducing strangury; and some to the mouth of the stomach, occasioning vomiting.

[629] Galen states in his Commentary that the phrenitis is connected with inflammation of the parts about the brain. We have mentioned before that the phrenitis of the ancients was a febrile affection, and not idiopathic inflammation of the brain, as is generally supposed.

[630] According to Galen, the causi *or* ardent fevers are occasioned by yellow bile collected about the vessels of the liver and stomach, and the tertians by the same diffused over the whole body.

[631] Galen states in his Commentary that children are peculiarly subject to convulsions owing to the weakness of their nervous system. He adds, that in

their case convulsions are not attended with so much danger as in other cases. See the Hippocratic treatise On Dentition.

[632] The fever here described is evidently the semitertian. See PAULUS ÆGINETA, Book II., 34. "The true semitertian," says M. Bartels, as quoted by M. Littré, "is a real complication of an intermittent fever with another fever of a continual type. It does not show itself but rarely in our countries; but it is more frequent in the hotter countries of Europe, although the false semitertian has oftener than once been confounded with the true. In the true, the intermittent fever is tertian; the non-intermittent is quotidian." See also Galen, Opera, tom. v., p. 362; ed. Basil.

[633] The text here is in an unsatisfactory state, and, as usual in such cases, no ingenuity nor pains can do much to mend it. See Foës and Littré. I have translated the disputed words "not resolved," which seems to me to agree best with the sense. Every practical physician knows that swellings of the glands, which continue long and do not suppurate, are unfavorable in fevers.

[634] The modern physician will not fail to be struck with this observation as to the termination of certain cases of fever in determination to the kidneys. Galen remarks in his Commentary on this passage, that as the general system is often purged by the bowels, so is it also sometimes by the kidneys and bladder. This, he adds, is a protracted and painful mode of resolution in fevers. The reader will remark the characters of the urine as stated below by our author. One cannot help being struck with his statement, that all these cases recovered. I am not aware of any modern observations bearing on this point.

[635] There is considerable difficulty here in determining the reading. See Littré, whom I have followed.

[636] I need scarcely remark that this passage is of classical celebrity. Galen, in his Commentary, remarks that the first time he read it he thought it unworthy of Hippocrates to lay it down as a rule of practice, that "the physician should do good to his patient, or at least no harm;" but that, after having seen a good deal of the practice of other physicians, and observed how often they were justly exposed to censure for having bled, or applied the bath, or given medicines, or wine unseasonably, he came to recognize the propriety and importance of the rule laid down by Hippocrates. The practice of certain physicians, Galen remarks, is like playing at the dice, when what turns up may occasion the greatest mischief to their patients. The last clause of this passage is very forcibly put. Galen, however, informs us that in some of the MSS. instead of "art" he found "nature;" that is to say, that the physician is "the minister (*or* servant) of nature." Either of the readings, he remarks, will agree very well with the meaning of the passage.

[637] The reader will find it interesting to refer here to the Prognostics. See also the Commentary of Galen. Let me here impress upon the reader the necessity of making frequent comparisons of the Prognostics with this work, if he would wish rightly to apprehend the bearing and meaning of the latter. That the Epidemics are entirely founded upon the principles of prognosis there can be no doubt.

[638] It is to be recollected that the rising of Arcturus marked the beginning of autumn, and the setting of the Pleiades the end of it. See above.

[639] The season of the Dog-star was immediately after the summer solstice, namely, when the sun enters the constellation Leo. The classical reader will readily bring to his recollection the lines of Horace, which are descriptive of this season:

"Jam Procyon furit;
Et stella vesani Leonis,
Sole dies referente siccos."

[640] Galen, in his Commentary, remarks that the attacks of paraplegia (that is to say, of apoplexy) were brought on by the cold winds of the winter succeeding to a humid autumn.

[641] The causi *or* ardent fevers, it is worthy of remark, began this season in spring, but were not of a fatal character until autumn. In modern times the bilious remittent fever has uniformly been found to be most aggravated in autumn, and hence it has been named by some authorities the autumnal remittent fever. See the works of Sydenham, Pringle, Monro, and Cleghorn. Monro mentions that he seldom saw it in spring, but that it is common in the neighborhood of London towards the end of summer and beginning of autumn. All these authorities are agreed that it is of a highly bilious nature.

[642] Monro mentions epistaxis as occurring in the autumnal remittent fever; he says it did not prove a crisis in any case.

[643] The complication of the autumnal remittent fever with jaundice is noticed by Sir John Pringle (Obs. iii., 4), and by Monro (On Army Diseases, p. 161). Galen, in his Commentary, remarks that when nature is unable to evacuate the bile, it is collected in the skin, and occasions jaundice. He adds, that the occurrence of the jaundice in this case was unfavorable, owing to its taking place before the seventh day. When occurring on the seventh day, jaundice was reckoned a favorable symptom. See On Crises, 3; Aphorism, iv., 62, 64.

[644] The reader may feel interested to learn Galen's hypothesis by which he accounts for the hemorrhage in this case. He says it is produced by the redundancy of yellow bile, which, being mixed up with the blood and heating it, is carried up to the head, where it produces rupture of the vessels and hemorrhage.

[645] Modern observations have confirmed this account of the generally fatal issue of febrile diseases after parturition. In the Hippocratic work On Diseases, fever after delivery in a woman is reckoned among the cases which generally prove fatal.

[646] I would again request the attention of my contemporaries to the characters of the urine before a crisis, as given by Hippocrates; and, in confirmation of them I will venture to introduce here an extract from Donald Monro's admirable account of the autumnal remittent fever: "The urine in the beginning was commonly of a high color, though sometimes it was pale and limpid; but when the fever came to remit, there was often a small sediment after each paroxysm; and as the fever was going off, *it let fall a sediment in all*." (Army Diseases, etc., p. 159.) The absence of the sediment in the urine before the crisis is an important fact in the history of febrile diseases, which I have reason to think is not now sufficiently adverted to.

[647] Galen does not hesitate to give it as his opinion that the dysentery was owing to the bile not being properly purged off by the urine.

[648] The reader will find it interesting here to mark the alliance between the causus and phrenitis, to which we formerly adverted. Galen remarks that both arise from the same humour, that is to say, bile, which when it collects in the veins of the lower part of the body gives rise to causus; but from the beginning of autumn to the equinox, produces phrenitis by being determined to the brain.

[649] This is perhaps the most striking account of an aggravated form of causus which is anywhere to be found. Although less finished than the celebrated picture of the disease given by Aretæus, it is evidently more original. In fact, any human production which is very original cannot well be finished, and consequently a very finished work can scarcely be expected to be very original.

[650] It is impossible to overrate the importance of these observations on crises in fevers, provided they be correct and confirmed by general experience. Monro, without appearing to have our author in view, seems to give an ample confirmation of his doctrines on crises as here laid down.

[651] From Galen's Commentary it appears that the text here is in a doubtful state. See also Littré.

[652] Allusion is here made to the symptoms of delirium as described in the fourth paragraph of the Prognostics. See Galen's Commentary on this passage.

[653] What an admirable and comprehensive enumeration of all the circumstances upon which the prognosis and diagnosis of diseases are to be founded! Here we find nothing either wanting or redundant; and with what conciseness and precision the whole is stated! Galen gives an elaborate and, upon the whole, a very interesting Commentary on this section, but does not supply any new views, and there are few terms in it requiring explanation.

[654] Having already stated in this work, as well as in the Commentary on Paulus Ægineta, Book II., 27, my opinion respecting the nature of the continual fevers, I need not enlarge on the subject in this place. Whoever wishes for more information may find much to interest him in the Commentary of Galen. Respecting the septans and nonans, he remarks, that, although conversant with fevers from his youth, he had never met with any cases of these.

[655] Galen, in illustration, states that epilepsy is sometimes carried off by an attack of quartan fever.

[656] The semitertian was always looked upon as a very formidable form of fever. See Paulus Ægineta, Book II., 34. Galen gives a prolix, but not a very distinct account of it.

[657] Galen, in his Commentary, states that he had often seen persons in consumption attacked with tertian and quotidian intermittents, but admits that he had no more experience of quintans than he had of septans and nonans. Avicenna. however, is not so sceptical as to the occurrence of these rare forms of intermittents. Indeed he says, he had often met with quintans, and that a trustworthy physician of great experience had assured him that he had met with nonans. (iii., 1, 3, 67.) Rhazes also would appear to acknowledge the occurrence of all these varieties of intermittent fever. (Contin., xxx., 10, 1, 409.)

[658] The text is much improved in Littré's edition, so that the meaning is pretty intelligible without any commentary. Galen states in explanation, that the three varieties of fever are thus marked and distinguished from one another: in the first, the fever attains its height at the commencement, and gradually diminishes until the crisis; in the second, it begins mild, and gradually reaches its height at the crisis; in the third, the fever begins mild, gradually attains its height, and then gradually subsides until the crisis.

[659] These are all febrile diseases, and for the most part of the ardent type. In order to enter properly into the spirit of them, the reader will find it necessary to revert frequently to the Prognostics, and compare the parallel passages. See also the Argument.

[660] Galen, in his Commentary, remarks that the fatal issue of this case might have been anticipated after the return of the fever on the third day, with a complication of bad symptoms, such as great thirst, dry tongue, black urine, delirium, coldness of the extremities, and so forth. The modern reader will be struck with the description of the respiration, namely, that the patient seemed like a person who forgot for a time the *besoin de respirer*, and then, as it were, suddenly recollected himself. Such is the meaning of the expression as explained by Galen in his Commentary, and in his work On Difficulty of Breathing. By "rare" is always meant "few in number." The reader will remark that this is a striking case of a fever having regular exacerbations on the even days, and slight remissions on the uneven.

[661] This, it will be remarked, is a case of fever induced from obvious causes, namely, excessive fatigue and dissipation. We must take into account, however, the febrile constitution of the season. According to Galen, the fatal result could have been confidently foreseen from the seventh day. The distention in the hypochondriac region here described would appear to have been meteorism. The throbbing in this region was no doubt owing no the same cause. The rash was most probable miliary. It is described as resembling *vari* (ἴονθοι), by which was probably meant *acne*. See Paulus Ægineta, Vol. I., p. 454. Upon reference to the Prognostics, it will be remarked that the characters of the urine are all bad, that is to say, it was either suppressed, or the sediment was either wanting or black and farinaceous. See Prognost. 12. By "black," as applied to the urine, is to be understood "a dark-red color," like that of wine.

[662] There is nothing in this case very remarkable, or which stands in need of elucidation; but yet the reader may feel interested in Galen's reflections upon it. The recovery he holds to have been unexpected, as a different result might have been anticipated from the characters of the alvine discharge, and of the urine at the commencement. The favorable change he attributes to the swelling of the spleen, whereby the peccant humors were attracted to it; and he further remarks, that as the swelling of the spleen diminished, the humors are described as having passed down to the extremities, after having first affected the groin of the side on which the spleen is situated. He further calls attention to the improved characters of the urine when the swelling of the spleen and pains of the limbs supervened. Still, however, he adds, there was a remnant of the cacochymy in the system which gave rise to the relapse on the fourteenth day, so that the complete crisis did not take place until the seventeenth day.

[663] This is evidently a well-marked case of puerperal fever, or of fever complicated with the puerperal state. There is nothing particularly interesting in Galen's commentary on it. He states that the application made in order to remove the suppression of the lochial discharge may either have been a pessary or a suppository. It seems most likely to have been the former. On the composition of the ancient pessaries, see PAULUS ÆGINETA, Book VII., 24. He remarks that the symptoms first stated are unfavorable, but not necessarily fatal, until we come to the coldness of the extremities, which is an extremely mortal symptom in the beginning of a disease when combined with a very violent fever. The modern reader will be struck with the expression that "the attendants seldom put her in mind" to make water; it is very descriptive, however, of the state of stupor the patient was in when she was so insensible that she did not attend to the calls of nature.

[664] Galen remarks that it was reckoned very extraordinary for a rigor not to be followed by febrile heat. See Comment. et de Rigore; de Diff. Febr., ii.; and Foës's long annotations on this passage.

[665] It will be remarked that the characters of the urine throughout are favorable. Though darkish at first, this was reckoned not unfavorable, as being connected with the lochial discharge. (See Galen. Comment. 2, Epid. iii.) The sediments afterwards are all of good omen; but, as Galen remarks, its first characters indicated a prolonged fever.

[666] On the Critical Days, see PAULUS ÆGINETA Book II., 7.

[667] On comparing the symptoms here enumerated with the Prognostics, it will be remarked that none of them are of fatal omen. But the white sediment, and afterwards the reddish color of the urine, while they indicated recovery, at the same time prognosticated a protracted attack of fever. See Prognost., 12. The reader will further remark that there is an absence of all the decidedly fatal symptoms, such as delirium, coldness of the extremities at the commencement, and so forth.

[668] The rapid recovery in this case would seem to be partly attributable to the decided plan of treatment, namely, the copious affusion of hot water on the head. Hippocrates probably had it in view when he wrote the forty-second Aphorism of the Seventh Book: "In fever not connected with bile, if a large quantity of hot water be poured over the head, it proves a resolution of the fever." Galen points it out as a remarkable circumstance, that in this case the crisis took place without concoction of the urine, in consequence of the hemorrhage from the nose, and the sweating.

[669] In this case, as Galen remarks, the continued sweats, unfavorable condition of the hypochondriac region, and the black urine, precluded all hopes of recovery. He thinks our author related the case as an instance of sudden death in fever, this patient having died on the fourth day after the attack (the first not being counted). See his Commentary. He also makes reflections upon this case in his work On Difficulty of Breathing, where he points out the danger of meteorism of the hypochondriac region as being necessarily accompanied with dyspnœa, and connected with inflammation (2).

[670] This case, as Galen remarks, is interesting from the suddenness of the fatal result. We should not hesitate nowadays to set it down as a case of

malignant erysipelas; the pain, swelling, and bullæ of the foot and ankle must have been of this nature. By the way, these bullæ, when not followed by suppuration, are represented in the Coacæ Prænotiones, as a fatal symptom. Galen thinks it strange that this patient was not bled, but accounts for it by supposing that Hippocrates had been called in too late. He remarks on this case in the Second Book of his work On Difficulty of Breathing.

[671] Galen looks upon this patient as an example *or* paradigm of general principles in Prognostics. Thus, with regard to the characters of the urine, it is stated that on the eleventh day the urine was thin, of a good color, and having many substances floating about in it, but without sediment. Thus matters remained until the sixteenth, when the urine became somewhat thicker, and had a slight sediment. Now Galen remarks (as the reader will find on turning to the Book of Prognostics) that these characters of the urine are indicative of recovery after a protracted disease. Galen further points out that no one of the fatal symptoms are mentioned, and that swellings of the parotid glands and the dysenteric affections of the bowels indicated that the crisis would be distant. He also calls attention to the case as confirmatory of the doctrines of Critical Days. In the Second Book of his work On Difficulty of Breathing, he makes some remarks, of no great importance however, on the meteorism of the hypochondriac region, as noticed in this case.

[672] In this case, as Galen remarks, the characters of the urine from the first were such as to indicate a fatal and speedy result. On the second day the urine was turbid, and without any sediment; on the third day the same, and consequently confirming the anticipation of the disease proving mortal; on the fourth, oily urine, with epistaxis, so that it was not to be wondered at that the patient died on the sixth. Indeed, when we further take into account the state of the breathing, the coldness of the extremities, the meteorism of the hypochondriac region, and the subsultus tendinum, it is difficult to imagine a more hopeless case of fever. Having mentioned “oily urine,” it may be well to state its characters, as fully given by one of the later authorities on urology, namely Theophilus. He says, when the urine in fevers assumes the color of oil, it indicates that the fat of the body is melting down; when the appearance of the urine still more resembles oil, it shows a still greater melting; and when the urine in consistence and color exactly resembles oil of a dark color, it prognosticates a fatal collapse. (De Urinis, 17; ed. Ideler.) On this subject, see further some very interesting observations by Foës, in his annotations on this passage (p. 988). With regard to the respiration in this case, see also the remarks of Galen in the Third Book of his work On Difficulty of Breathing (tom. vii., p. 932; ed. Kühn). As Galen here remarks, Hippocrates explains the meaning of this passage in one of his Aphorisms, where he writes thus: “In fevers, when the respiration stops, it is a bad symptom, for it prognosticates convulsion.”

[673] According to Galen, this case is an instructive example of the danger of neglecting the diet at the commencement of complaints which appear unimportant. This man, having taken supper at the beginning of a fever which appeared slight, suffered therefrom as the result showed; that is to say, vomiting ensued, followed by serious symptoms, among which Galen particularizes, as indicating a fatal result, urine at first thick and without sediment, and afterwards oily. So much importance did the ancient physicians attach to observations on

the urine in fevers! Galen further calls attention to the fact, that the patient died on a critical day, that is to say, on the eleventh.

[674] Galen, in the commentary, makes a remark regarding this report, which appears more important to him than it will do to most modern readers, namely, that he wonders Hippocrates did not state the age of this patient. He adds, that it is very rare for a pregnant woman to have such a serious fever without parting with her child. He thinks the patient, in the present instance, owed her recovery to the strength of her constitution, as "urine white, and not of a good color," in combination with the other bad symptoms, indicated an unfavorable result. By the way, upon reference to the Basle edition of Galen, and to Foës's annotations on this case, it will be seen that there is a difference of reading in the words descriptive of the urine, that is to say, some read ἀχρόων, some εὐχρόων. Certainly it appears to me that Foës is right in preferring the latter. The decided crisis, it will be remarked, took place on a critical day, that is to say, the fourteenth, by a sweat.

[675] Here again Galen calls attention principally to the characters of the urine, which is first described as being "of a good color, but thin." Now, by a good color of the urine, Galen observes, was meant of a slightly yellow color. In this case, as usual, the crisis was marked by a sediment in the urine.

[676] Œuvres d'Hippocrate, tom. iii., Arg., pp. xxxvi.-xlii. tom. v., pp. 57–70.

[677] There is some doubt, however, even on this head; indeed Riolanus does not scruple to affirm, with a considerable degree of plausibility, that Ruffus must have lived after Galen, since he is nowhere mentioned by the latter. (Anthropographia, i., 5.)

[678] In illustration, consult Plutarch (Placit. Philosoph., v., 29).

[679] De Differ. Feb., i., 7; tom. vii., p. 296, ed. Kühn.

[680] Commentary on Paulus Ægineta, Book II., 16, 36; IV., 25, Syd. Soc. edition.

[681] Disquisitio Historico-Medica de Natura Morbi Atheniensium. Stuttgart, 1831.

[682] On this case Galen has left very lengthy and elaborate commentaries, containing much important and amusing matter, but not a little verbose trifling, to say the least. Our limits, as well as our tastes, dispose us to be very sparing in our extracts from them. Passing over his remarks on the solecism in syntax, with which the Report commences, and his observations on the absence of all mention of the exciting causes, as is the usual practice of our author, I shall proceed to state what Galen says on the apparent neglect of venesection in a case where it would certainly appear to have been clearly indicated. In this case, as Galen remarks, one or other of these suppositions may be made: either that bleeding was not practiced, or that the author did not think of mentioning the practice here, as supposing that it would be taken for granted that it was applied. Now, he adds, the former supposition is very improbable, considering how partial our author shows himself to this practice in his works which are unquestionably genuine, such as On the Regimen in Acute Diseases, the Aphorisms, the work On the Articulations, and even in this very book, where in

one place he mentions that he abstracted blood copiously on the eighth day. If, then, he bled so late in febrile diseases, Galen contends that he was not likely to neglect the operation in an earlier stage, when so much more demanded. He argues further, that in many of the other reports of cases he neglects to mention that the usual routine of practice was followed: and therefore he inclines to the opinion that it is omitted to be mentioned here, because the author supposed there could be no question on this point, more especially as it was his universal rule to bleed in all great complaints, when not prevented by the age or powers of the patient. He afterwards insists strongly on venesection having been indicated in this case, in order to procure revulsion from the brain. As usual with the commentator, he calls attention to the characters of the urine, and explains the meaning of the term "cloudy," as applied to the *eneorema*, or substances floating in the urine, by which he contends is to be understood a color intermediate between white and black. What follows in this very lengthy Commentary is very interesting in a general point of view as regards the views of some of the older commentators, but is not directly applicable to the present case. His observations on the characters affixed to this and many of the subsequent cases have been noticed in the Argument. The reader will further remark of this case that it is an instance of fever passing into a deposit (*or* abscess), and the latter into strangury, of which our author had made mention in the First Book of the Epidemics. I may further mention that the reader will find much interesting matter in Galen's work On Trembling, in illustration of the nature of the attack under which the patient labored.

[683] Galen, in his Commentary, communicates a singular notion which one of the earlier commentators maintained respecting the name of the place where this patient was laid, that is to say, that this new wall, having been recently washed with quicklime, had been the cause of this patient's illness. Galen, however, rejects this paltry conceit. He says on his own authority, that there being three distinct classes of fever, namely, the ephemeral, the hectic, and those connected with putrid humors, the present case belongs to the last of these.

[684] Galen compares the characters of the urine with their indications as given in the Prognostics. None of them are favorable, although not decidedly fatal.

[685] This complication cannot fail to attract attention, from its resemblance to an epidemic which prevailed in Scotland in the year 1843. In this epidemic, as in the present case, the fever was very subject to relapses and to jaundice at an early stage. Hippocrates, in one of his Aphorisms, pronounces jaundice in fevers before the seventh day to be a fatal symptom. (iv., 62, 64.) Galen justly thinks it somewhat singular that no further mention of the jaundice is made in the course of the report; but he inclines from this to draw the conclusion that it remained in the same state throughout. As there was no crisis by the stomach, the bowels, the urine, or sweat, he concludes that the jaundice could not have been carried off. From all that has been said, he adds, it is clear that the organ primarily affected was the liver. Galen, then, decidedly opposes the view taken in the Explanation of the Characters respecting the cause of this man's death, which he contends was not connected with any suppression of the alvine discharges, but with the affection of the liver. On the Scotch Epidemic, see Ed. and Lond. Med. Journal, March, 1844.

[686] Most of the ancient authorities regarded deafness as an unfavorable symptom in fevers. See PAULUS ÆGINETA, Book II., 4. The modern are divided in opinion on this point. Pringle and Huxham regard it as a favorable symptom, but Home looks upon it as unfavorable.

[687] Here again Galen mentions the absurd notion of Sabinus the commentator, that this man's disease was occasioned by the locality in which he was laid. Galen, on the other hand, thinks it likely that the patient was conveyed to the garden as being a favorable situation for a person ill of fever. He further alludes to this case in the Second Book of his work On Critical Days.

[688] Galen remarks, that as there is no mention of a single favorable symptom up to this date, the patient would certainly have died if he had not been of a vigorous constitution.

[689] Thus, as Galen remarks, after two ineffectual attempts, Nature accomplished a cure on the fortieth day.

[690] There is not much to remark in this case. A modern reader will suspect that there had been cerebral disease before the attack of the fever, and that matters had been brought to a crisis by the drinking of wine. Indeed Galen, in his Commentary, remarks that the precursory symptoms indicate a congestion of humors in the brain, which of course would be much aggravated by the wine, the brain then being, as he says, in a bad state; and the patient having inflicted an additional injury to the organ, by means of the drink, brought on the acute attack, which proved fatal in five days. The deafness, delirium, spasms, and bilious vomitings all indicate a cerebral affection. The state of the hypochondria, as described in the report, Galen would seem to attribute to a spasmodic affection of the diaphragm, from sympathy with the brain. Retraction of the hypochondrium is pronounced to be a bad symptom in the First Book of the Prorrhetics. Galen justly contends that there is no reason in this case to suspect any inflammation in that region.

[691] Galen's remarks on this case are unusually brief; he attributes the fever to a bilious plethora, and states that the result was such as might have been anticipated from a knowledge of the critical days, and of the characters of the urine. Indeed the latter appear to me well deserving of attention.

[692] This is in many respects an interesting case, and more especially, from its being stated that the disease was complicated with hereditary consumption. Galen, in his Commentary, remarks that some authorities denied that any disease is congenital, but this opinion he decidedly rejects. The phthisical affection, however, as he justly remarks, would not have occasioned so sudden an issue if it had not been complicated with a complete prostration of the natural powers. He insists strongly on the striking description here given of the total loss of the natural appetite, both in regard to food and drink. Of course, no worse state of the system can be imagined than that in which it is totally insensible to its own wants, nay, that it loathes the very articles which it stands most in need of. Galen properly remarks in another place (Comment. I., in Epid. i.), that it is an extremely unfavorable symptom when in an ardent fever there is no thirst. The small abscess about the nates would seem to have been an incidental complication. It would appear to be now settled by the best pathological authorities that there is no natural alliance between *phthisis* and *fistula in ano*, as was at one time suspected. See Andral (Cliniq. Médicale, tom. iv., p. 308), and

Louis (On Phthisis, p. 89, Sydenham Society's edition). The affection of the fauces and throat, which is described as having attacked the patient at "the commencement of the disease," would appear to have been a common complication of that epidemic. It is noticed in the First Book of the Epidemics. Foës remarks, however, that some had referred it to that redness of the fauces to which persons laboring under consumption are liable. Compare Louis, l. c. p. ii., § 12. Galen makes mention of a difference of reading in the MSS. he used in reference to the Critical Days.

[693] On this brief case Galen has left a lengthy and elaborate Commentary, abounding in most interesting matters on a variety of subjects; as, for example, the different readings and opinions of the more ancient commentators on the characters at the end of this and the other reports; on the formation of the Hippocratic Collection, and the extraordinary zeal of the Ptolemies in procuring books for their great Library at Alexandria, and so forth. There is not much in it, however, which bears directly on the present case, and therefore we shall give but a very brief abstract of it. It appears from Galen that there was a considerable diversity of readings in the latter part of it, more especially in regard to the number of days the patient lived; some of the old authorities having placed the death on the fifth, some on the seventh, and others on the eighth. Galen inclines to hold by the text as we now have it, and maintains, apparently with good reason, that under such a combination of fatal symptoms it was not likely that the patient's strength should have stood out longer than the fourth day. Another curious subject connected with this case which Galen slightly touches upon, but without throwing any light upon it, is the omission of the treatment. He justly remarks, that if Hippocrates treated the patient himself, or superintended the treatment as managed by another, it is singular that there is no mention of a clyster having been administered, nor of a cataplasm having been applied, nor of venesection having been practiced. I shall not attempt to solve the question here propounded by Galen. See the Argument. His Commentary also contains an interesting discussion on the meaning of the expression "respiration elevated." To give the sum of what has been advanced on this subject in a few words, it may signify laborious breathing so as to move the labia of the nose; or it may mean simply orthopnœa, or it may signify laborious respiration, attended with elevation of the chest. By the way, this is evidently the "sublimis anhelitus" of Horace, in his famous ode entitled "Nireus." I have often wondered that such a learned physician as Julius Cæsar Scaliger, in his celebrated critique on Horace in his Poetics, should have remarked on this expression: "Ex toto Galeno non intelligo quid sit sublimis anhelitus." Galen, in fact, treats fully of the "sublimis anhelitus" in various parts of his works. See in particular On Difficulty of Breathing.

[694] Galen has given us a lengthy Commentary on this case, but a great part of it relates to the characters and to other matters not of any very great importance in this place. As he remarks, it is a striking example of an acute fever induced by immoderate fatigue. It appears from his Commentary, moreover, that some of the older authorities had added "drinking" to the excesses which induced his affection; that is to say, they proposed to read πότων instead of πόνων. The symptoms, upon reference to the Prognostics, are all such as indicated a fatal result, namely, the blackish and thin urine, "the fumbling with

the bedclothes," the coldness and lividity of the extremities, the meteorism, and so forth.

[695] In Galen's Commentary on this case there is not much of any great interest to the professional reader of the present day. He animadverts again on the omission of all mention of the treatment, although, as he states, venesection and the other usual means had no doubt been tried; indeed the report implies as much. Hippocrates, he repeats, never thinks of mentioning the usual routine of practice, as he takes it for granted that the reader will understand that it was not neglected. It is only on special occasions, then, that he thinks of making any particular reference to the treatment. Galen remarks, that ileus being an inflammation of the upper intestines, is a particularly dangerous affection.

[696] As remarked by Galen in his Commentary, this was no doubt a case of ardent fever *or* caucus, complicated with an incidental miscarriage. There is no reason for looking upon it as being a case of puerperal fever. Galen thinks that the last word (caucus) is an addition made by the copyists, having been transferred from the Glossarium to the text in the course of transcription. Galen, as usual, directs attention to the characters of the urine, which in this case are particularly unfavorable, being defective both in quantity and quality.

[697] Galen's remarks on the circumstances of this case are sufficiently to the purpose, but there is nothing very striking in them. He states that the abortion may have been occasioned either by external causes—such as the application of pessaries for this purpose, and the like—or internal, such as hemorrhage from the neck of the uterus. and so forth. As in the former case, he pronounces the last word (phrenitis) to be an addition to the text, as Hippocrates never enters upon the diagnosis of diseases, as is done in the work On Diseases. I suppose he means that our author's real works are all founded on Prognosis; whereas the other, being derived from the Cnidian school, is founded on Diagnosis. See our observations on this subject in the Preliminary Discourse, and the Argument to the Prognostics.

[698] Galen remarks, that with such a combination of fatal symptoms, namely, coldness of the extremities, fetid vomiting, etc., it is wonderful that this patient stood out until the fourteenth day. He thinks, however, that this is to be explained from her age and constitution. He justly remarks that the occurrence of the epistaxis could not be supposed sufficient to carry of such a combination of unfavorable symptoms. He once more protests against the last word of the report (causus) being admitted as genuine. He confesses himself unable to determine whether "The Liars' Market" was in Athens or elsewhere.

[699] This is entitled the pestilential constitution by Galen. By constitution, he explains, is meant not only the preternatural state of the atmosphere, but also of everything else which influences the state of the general health.

[700] Galen remarks, that in the First Book of the Epidemics three constitutions of the year are described and also that others are described in the Second Book; but that these are not carefully drawn out for publication like those of the First and Third. He further remarks on this head, that the constitution of the season might prepare us for the putrid diseases, which are described below, as heat is the active, and humidity the material, cause of all putrefaction.

[701] Galen remarks that erysipelas is occasioned by a bilious defluxion, but that it is not always of a malignant and putrid nature; on the contrary, when the defluxion is mild, and the bile which produces it is natural, it is not attended with any considerable injury to the body, if properly managed; but that the humor which produced the erysipelas about to be described was not such, but of a malignant, corrosive, and septic nature, being engendered by the humid and calm state of the weather in such persons as were of a choleric constitution.

[702] According to Galen, aphthæ in general are superficial ulcerations in the mouth, produced by the acrimony of the nurse's milk, and which are easily removed by an astringent application. But in the present instance the aphthæ were of a malignant nature.

[703] The carbuncle (anthrax), Galen says, is always dangerous, and the product of bad humors. See PAULUS ÆGINETA, Vol. II., pp. 78, 79. Galen, in his excellent work On the Difference of Fevers, writes thus: "In constitutions of the year, similar to those which Hippocrates describes as taking place in Cranon (See Ep. ii.). I have known cases of anthrax prevailing epidemically in no few numbers, the formation and other symptoms of which were exactly as described by him." (Tom. vii., p. 293; ed. Kühn.)

[704] Galen explains under this head that the term *epidemic* is not applied to any one disease, but that when many cases of any disease occur at the same time in a place, the disease is called an epidemic; and that when it is remarkably fatal it is called a plague.

[705] The history of the epidemical erysipelas here described cannot fail to prove interesting to the modern reader. I need scarcely remark that epidemics of a similar nature are occasionally met with in Great Britain at the present day. I myself have encountered two such epidemics in the locality where I am now writing, the one in 1823, and the other in 1846. As described by Hippocrates, the disease sometimes supervened upon a slight injury, and generally terminated in gangrene. On epidemical erysipelas, see De Haen (Ratio Medendi), Bartholinus (Hist. Anatom. Rat. Hist., 56), Wells (Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge), Cooper's Surgical Dictionary; and Cyclopædia of Practical Medicine, under *Erysipelas*.

[706] Galen amply confirms this statement, that when erysipelas fixes on a particular part of the body it is more formidable in appearance than in reality, and that the disease is attended with most danger when it leaves an external member, and is determined inwardly.

[707] The classical reader will here call to his recollection a striking passage in the celebrated description of the Plague of Athens, as given by Thucydides: "For the mischief, being at first seated in the head, spread over the whole body, and if one survived the most formidable symptoms, an attack on the extremities manifested itself; for it was determined to the genital organs and to the hands and feet, and many escaped with losing them, and some with the loss of their eyes." (ii., 49.) The passage is thus rendered by Lucretius:

"tamen in nervos huic morbus et artus
Ibat et in partes genitales corporis ipsas;
Et graviter partim metuentes limina lethi
Vivebant ferro privati parte virili:
Et manibus sine nonnulli pedibusque manebant
In vita tamen et perdebant lumina partim."
(vi., 1203.)

Lucretius, it will be remarked, understands the historian to mean that the mortified parts were amputated; and this opinion, although rejected by most of our non-professional editors of Thucydides, is confirmed by what Galen says in his Commentary on this passage, namely, that in erysipelas of the genital organs "we (meaning the physicians of his own time) are often obliged to excise the putrid parts, and apply the cautery to them." I would here further point out a singular mistake into which Dr. Bloomfield falls in his note on this passage of Thucydides; he says that the words of the original (ἄκρας χεῖρας καὶ πόδας) "can only signify the ends of or lower joints of the fingers and toes." No one who is acquainted with the language of our author will require to be told that this is an entire misconception. In the works of Hippocrates χεῖρες is often put for the arms, and χεῖρες ἄκραι are always applied to the hands.

[708] Upon reference to the Glossary of Erotian, the Commentary of Galen, and the Annotations of Foës and Littré, the reader will see that there is great difficulty in determining the text in this place. After examining all that has been written on the subject, one cannot come to any satisfactory conclusion as to the true reading. I have adopted the meaning which seems to suit best with the passage. The professional reader will scarcely require to be reminded that in cases of phthisis there is often a notable impairment of the voice.

[709] Galen makes the important remark on this word, that, in febrile diseases, epistaxis is always a bad symptom.

[710] This obliviousness is a feature of the plague, as described by Thucydides: "And some, when they first left their beds, were seized with an utter forgetfulness of all things, and knew not themselves nor their relatives." (l. c.)

[711] Our author alludes to the affection called coma vigil by the later authorities. In this affection, as Galen remarks, the patient lies with his eyes shut, but can get no sound sleep. This, of course, is so much more the case provided pain be present, as it necessarily will prevent the occurrence of sleep. See Galen's tract On Coma.

[712] The low muttering delirium of typhoid fevers is here evidently alluded to. Galen, in his Commentary, guards the reader against supposing that the fever passed into lethargus.

[713] This description apparently can refer to nothing but pestilential buboes.

[714] It is impossible not to recognize this as a description of *purulent ophthalmia*. Celsus thus describes the ficus: "Est etiam ulcus quod a fici similitudine σύκωσις Græcis nominatur, ubi caro excrescit; et id quidem generale est. Sub eo vero duæ species aunt. Alterum ulcus durum et rotundum est: alterum humidum et inæquale. Ex duro exiguum quoddam et glutinosum

exit: ex humido plus, et mali odoris." See the Lexicons of Hesychius and Phavorinus, and also PAULUS ÆGINETA, Book III., 3. It will be remarked that Hippocrates also makes mention of fungous excrescences about the pudenda. Were they syphilitic? In other words, did they derive their origin from elephantiasis? See the Annotations on PAULUS ÆGINETA, Book IV., 1, Sydenham Society's edition.

[715] The meaning of this term is not precisely determined. Galen's account of it may apply both to exanthemata, and pustulæ. The description of the eruption in the Plague of Athens is likewise vague and indeterminate. (Thucyd, ii., 49.)

[716] These intestinal complaints are all mentioned in the description of the Plague at Athens. (l. c.) Upon reference to the Commentary of Galen, the reader will remark that there is a question here respecting the reading.

[717] Galen, in his Commentary, makes the remark that he observed the same symptom in the plague which raged in his time.

[718] It will readily be understood that a colliquative diabetes would prove a very unfavorable complication of these complaints.

[719] By nocturnal fevers, according to Galen, was meant quotidians, which had their paroxysms during the night. Foës inclines to think that diurnal should also be inserted in this place. These nocturnal fevers are thus described by D. Monro: "The sick were restless and uneasy *at night*; but commonly felt themselves cooler and lighter in the daytime: and although they had no cold fit, as the fever came on *at nights*, and many of them no breathing sweat, as they became cooler and freer from the fever in the morning; yet the fits were so remarkable, that many of the patients used to say that they had a regular fit of an ague *every night*, and some few that they had the fit every second *night*." (Army Diseases, etc., p. 158.)

[720] The account of the origin and progress of consumption here given is, upon the whole, wonderfully correct. Common experience seems to have decided that spring and autumn are the most fatal seasons to phthisical patients. Avicenna makes the remark, which is very important, and deserves to be kept in mind, that by phthisis, in this place, Hippocrates most probably meant hectic fever, connected with disease of the internal viscera, which had been in an inflamed state during the acute attack of the fever. (iii., 1, 3, 67.)

[721] I shall not enter into a discussion of the different readings of this interesting passage. I may mention that our great pathological authority on phthisis, Dr. Louis, agrees with Hippocrates in deciding that the lymphatic temperament constitutes a more or less marked predisposition to the development of phthisis. (p. 483.) Galen describes the phlegmatic temperament as being attended with a soft and slightly tumid skin. He attributes the disease in their case to a cacochymy, that is to say, to cachexia. I need scarcely remark that this opinion is strongly advocated by one of the highest authorities of the day, I mean Sir James Clark. See his treatise on Tubercular Phthisis. Galen gives a discussion on the color of the eyes, about which there is some difficulty, as the ancient terms which relate to colors are not very well defined. The term here used (χαροπὸς) may signify either blue or gray. Galen considers this color of the eyes as a symptom of a cold and humid temperament.

[722] There is an ambiguity in the part of the sentence which relates to women, as Galen states in his Commentary. Galen does not hesitate to declare that women are more subject to phthisis than men, an opinion upon which modern authorities are not at all agreed. See the recent publications of Louis and Clark on Phthisis.

[723] The last paragraph, and the latter clause of the preceding one, were at first attached to the end of the subsequent cases, and were transferred to their present position by Dioscorides the commentator a short time before Galen. They evidently embody a most distinct and admirable enumeration of the general facts with which the practical physician ought to make himself acquainted.

[724] We learn from the Commentary of Galen that some of the older critics supposed that the sixteen cases about to be related had been selected by Hippocrates in illustration of his doctrines, as laid down in the preceding description of what is generally entitled the Pestilential Season. Galen, however, does not incline to this opinion.

[725] This is an example of one of those protracted fevers of an intermittent type, which, as I have been informed by an intelligent physician who practiced for several years in the Ionian Islands, are so common in the climate of Greece. There is not much of any particular value in Galen's Commentary on this case. He informs us that one of the older commentators absurdly maintained the opinion that the country of this patient was given because, according to Asclepiades, the inhabitants of Paros were most especially benefited by bleeding. But, as Galen says, this remark is particularly out of place here, since no mention of venesection occurs in the report. Galen, and after him Foës, have given very lengthy and elaborate disquisitions on the nature of oily urine. The result is, that it is an unfavorable, but not necessarily a fatal, character. It is minutely described by the later authorities on urology, namely, Theophilus and Actuarius. See also the Commentary on PAULUS ÆGINETA, Book II., 14, Sydenham Society's edition.

[726] This appears clearly to be a case of fever, complicated with, but not produced by parturition. Galen, however, seems to ascribe the fever and its fatal results to the retention of the lochial discharge. The characters of the urine, he properly remarks, are unfavorable, being copious, thin, and black. He also calls attention to the want of proper concoction in the sputa, to which he attributes the fatal relapse.

[727] Galen's Commentary on this case is written in his usual light and diffuse style, but contains very little which is calculated to throw light on the text, or on the nature of the disease which is here described. If any one find difficulty in comprehending the characters of the respiration, as given in this narrative, he can turn to Galen's work, On Difficulty of Breathing, where they are explained very fully. I may just mention that by shortness of breath (βραχύπνοος) was understood, by Hippocrates and Galen, frequency of the act of respiration.

[728] This case, as Galen remarks, is an instance of the most acute form of phrenitis. He states that he himself had met with cases of phrenitis in which the patients had died on the fourth and fifth day, but that he had never seen a case which proved so suddenly fatal as the present one. He further makes some very

interesting reflections on the suddenness of the attack in such cases, which is the more wonderful, as the exciting cause of them must be gradually collecting in the system, and acquiring strength and intensity, and it is singular that it should then be developed all at once, and cut off the patient in a very short time, as if he had swallowed poison, or had been stung by a venomous animal. He compares the latency of the febrile humor in the system to that of the mad dog, which will remain for a long time in the body of a person who had been bitten, and then all at once will manifest its effects, by inducing the rage. For the ancient views on the subject of Hydrophobia, see PAULUS ÆGINETA, Book V., 4, Sydenham Society's edition.

[729] Galen, in his Commentary on this case, enters into a train of reflections how a physician ought to proceed when called in to a patient so circumstanced. He ought, in the first place, as the Commentator properly remarks, to make careful inquiry, in order to find out whether the pain in the limb be occasioned by any external cause, as persons often meet with local injuries by sudden twisting and movements of their limbs, or even by laying a limb uncomfortably in bed, without being aware of it. When no such cause of the complaint can be discovered, Galen says the physician should try to ascertain whether or not it be connected with the regimen or temperament of the patient. If it shall turn out that the body is in a plethoric state, general bleeding must be had recourse to, before any local applications are made to the part. It is then to be fomented, and liquid and heating medicines applied to it. Whether or not this was the mode of treatment which Hippocrates adopted in this case, Galen cannot take upon himself to affirm, as no mention is made in the report of venesection, nor of the particular remedies which were used. I am of opinion that this is one of the most interesting cases in the whole Collection, for I believe it to be a faithful report of a disease which on three several occasions I have met with during an active professional practice of thirty years, and which I have not seen described elsewhere. In all my cases, indeed, the patients were from twelve to sixteen years old, but in other respects the symptoms were the same as here described by Hippocrates. In every one of the cases the patient was seized with pain and swelling of the thigh, attended with high fever, great jactitation, and partial delirium. They all proved fatal in the course of three or four days. Whether the disease be connected with diffuse inflammation of the areolar substance, or with inflammation of the veins, or whether it be a general fever complicated with a local affection of the limb, or what may be the exact nature of the affection, I have not been able to determine. From what is stated above, it will be clearly seen how justly Hippocrates deserves the compliment paid to him by Galen, of having been, of all medical authorities, the most careful in observing the phenomena of disease. (Opera Galeni, tom. vii., p. 829, ed. Kühn.)

[730] Galen remarks, that this is one of those cases which appear formidable to the inexperienced, but which those who are practiced in the art judge of as being likely to come to a speedy crisis. He adverts to the slight swelling of the spleen and the characters of the urine, which soon showed a proper sediment, as being particularly favorable symptoms. The more that we study Hippocratic medicine, we shall be the more convinced that too little attention has been paid of late years to the physical characters of the urine in all febrile complaints.

[731] Galen's Commentary on this case is unusually brief. He holds it to be a case connected with general plethora, as indicated by the good color of the urine.

He once more makes the remark that a favorable issue of the case might have been anticipated, from the characters of the urine.

[732] Galen remarks in his Commentary, that of all the cases related in the First and Third Books of the Epidemics, this is the only one in which Hippocrates says that the patient was bled, not, he adds, that this was the only case in which venesection was adopted, but because, although the general rule was not to bleed after the fourth day, the patient, in the present instance, was bled on the eighth. Many others, he says, were no doubt bled on the second, third, and fourth days, but of these bleedings, and the other means used, Hippocrates in general takes no notice, except that he sometimes states, in order to render the malignity of the disease more apparent, that it was nowise benefited by the remedies applied. In other cases he adds, he would appear, from the words he uses (such as "as far as I am aware"), not to have attended the patient at the commencement. Galen further directs attention to the characters of the expectoration, the concoction of which he looks upon as having proved the means of carrying off this fever. Galen has reviewed the symptoms of this case very fully, and in a most interesting manner, in the Second Book of his work, On Difficulty of Breathing, see ed. Kühn, tom. vii., p. 854, etc. That it was a case of fever complicated with pleurisy seems clear, as Galen remarks. Galen further treats of the characters of the sputa in this case, in the First Book of his work, On Crises. Upon reference to the edition of Littré, it will be seen that unfortunately there is considerable variation in the readings of this passage.

[733] On this case Galen makes the remark that this patient must have had a strong constitution, otherwise it could not have withstood such an affection. He adds that, moreover, his pulse must have possessed strength, but that, as formerly said by him, this department of prognostics is altogether omitted by Hippocrates, in his reports of febrile cases. He further remarks that the respiration and appetite were not to complain of, and the only bad symptom was the thinness and blackness of the urine, which therefore required a long time for nature to overcome, by occasioning hemorrhage, pain of the hip-joint, and determination downwards. He adds, that great diseases require decided crises, and that even with those now mentioned, the disease was not entirely removed in this case, until concoction in the urine took place.

[734] Galen passes over this case without any remark worth mentioning. I cannot but think that the abundant sediment in the urine, which preceded the favorable crisis, is a fact in the case well deserving to be noticed. Galen, however, in the present instance, omits all notice of it, and ascribes the recovery to the profuse sweat.

[735] The only thing of importance in Galen's Commentary on this case is the remark that this woman's melancholy was most probably connected with suppression of the menses, and that to this cause the dark color of the urine in the present instance is most probably to be ascribed. To the critical evacuations by the sweat and menstruation he attributes the recovery.

[736] There were several ancient cities of this name, but there can be no doubt that the one here referred to is the celebrated city of Thessaly. See Strabo, Geograph. ix.

[737] Galen considers it a remarkable feature in this case that although the crisis occurred on the sixth day, there was no relapse. The recovery he ascribes

to the copious menstruation which then took place for the first time. He also calls attention to the characters of the urine, which, he says, are those which usually accompany delirium, although this is omitted in the Prognostics.

[738] Galen, in his Commentary, merely remarks that Hippocrates, at the conclusion of the report, briefly enumerates the more prominent symptoms from which a fatal result might have been confidently prognosticated. By enlarged viscera, in this case, we are informed by Galen in another place, that our author meant inflammation and swelling (Comment. in Rat. Vict. in Acut. c. iii.) There can be no doubt that by viscera Hippocrates meant the liver and spleen (see the work just referred to). Galen briefly remarks on this case towards the end of the Second Book of his work, On Difficulty of Breathing.

[739] Cyzicus was a flourishing city on the Propontis. See Strabo, Geogr. xii.; and Pliny, H. N. v. 32.

[740] Galen, in his Commentary, accounts for this fatal disease upon the supposition that the uterus was inflamed, and affected the brain by sympathy, hence maniacal delirium and convulsions were the consequence. Galen, both in his Commentary, and in his work On Crises, refers to this case, in confirmation of his doctrine of critical days.

[741] I will venture to affirm, without much fear of contradiction, that in all the works on medicine, both ancient and modern, there is not to be found so vivid a delineation of the symptoms of fever, complicated with effusion on the brain. Those who have added new features to the picture, have thereby detracted from the general effect. Galen, in his Commentary, insists more especially on the character of the respiration, but there does not appear to me to be any particular obscurity about it. He also touches on this case towards the end of the Second Book, On Difficulty of Breathing. After reading all his prolix disquisition on the subject, one does not feel much better instructed on the subject. Galen, at times, nay, very frequently, seems to forget a favorite saying of his own, namely. that he who would wish to lay in a copious store of knowledge during life, should trouble himself little about words, and attend principally to things.

[742] There were two Thessalian cities of this name, the one in Estiæotis, and the other in Magnesia. This would appear to be the latter. See Pliny, H. N. iv., 9; and Livy, xliv., 13.

[743] Galen's Commentary contains few observations of much interest, and which are not sufficiently obvious. Excesses in drinking and debauchery, he remarks, hurt the nerves and the origin of them, that is to say, the brain. Thus he accounts for the delirium with which this case of fever was attended. All the other prominent symptoms, such as the palpitation in the epigastric region, the swelling of the hypochondrium, and the like, were noticed previously. Galen also reviews the symptoms of this case in his work On Difficulty of Breathing, II.

[744] "Hippocrates qui tam fallere quam falli nescit." (Macrobius in Somn. Scipionis, i., 6.)

[745] Hippocratis Coi de Cap. Vuln., etc., a Francisco Vertuniano. Ejusdem textus Græcus a J. Scalig. Castigatus, etc.

[746] Comment. de Ossibus.

[747] Hist. Animal., i., 7. In reference to this description, it is stated by Vesalius, who in the course of his life had examined a great number of crania, that it is very rare indeed to meet with a skull in which the sutures are wanting. He accounts for the statement made by Herodotus (Hist. ix.) and Aristotle (1. c.), respecting skulls without sutures, upon the supposition that the observations of these authors must have been made upon those of old persons, in whom the sutures are often very indistinct. (Chirurg. Magn., i., 17.)

[748] H. N., xi., 48; ed. Hardouin.

[749] De Partib. Animal., p. 34; ed. Londin.

[750] Φοεός. The exact meaning of this term is well defined by Eustathius in his Commentary on Homer (ad Iliad., ii., 219), ὁ εἰς ὀξὺ λήγονσαν ἔχων τὴν κεφαλήν. It is excellently expressed by Damm as follows: "One whose head diminishes towards the top like a sugar-loaf." (Lexicon Homericum in voce Φοεός.)

[751] De Usu Partium, ix., 17.

[752] Surgery, v., 4.

[753] Chirurg. Mag., i., 17.

[754] It is well known that in very advanced age the sutures get nearly effaced. See the Cyclopædia of Anatomy, vol. i., p. 745.

[755] Comment. de Ossibus.

[756] Obs. Anatom.

[757] This letter was very varied in form. See Galen and Foës.

[758] The operation consisted in sawing the bone nearly through, and leaving it in this state until it exfoliated, or until the bone could be separated from the dura mater without violence. See below.

[759] It is no doubt true that a simple cut in the outer table of the bone, when accompanied with concussion or contusion, may produce fatal effects within, and this, in fact, is stated by our author; but, of itself, as he says, the simple incision or *hedra* cannot be of a dangerous nature, nor require any recourse to instruments. The cases related by M. Littré in the Argument were all evidently complicated with contusion, and are thus referable to the second class of these injuries. It is most worthy of remark, that in the very interesting account of "slicing cuts," given in Mr. Guthrie's excellent work, On Injuries of the Head, the result, without any operation, by the most simple system of treatment, was in general very favorable. (pp. 95, 96.) On these cuts and superficial injuries of the skull, see further Hennen (pp. 283, 284), Thomson (pp. 51, 52), and Chelius (vol. i., p. 388).

[760] London and Edinburgh Medical Journal, 1844.

[761] Although, as we have stated, Dr. Laurie's rule of practice now be to use the trephine on the preventive principle, it is probable that most of his cases occurred at a period when the practice of Mr. Abernethy was universally followed. His statistics therefore are no test of the results of the operation, when performed on the preventive principle.

[762] See Lawrence's Clinical Lecture in the Medical Gazette, vol. xxi., p. 345; and Guthrie's work, On Injuries of the Head, p. 113.

[763] See De Articulis, § 50; and Mochlicus, § 36.

[764] On hypertrophy and swelling of the brain after injuries, see the very interesting observations made by Mr. Guthrie, in his work on Injuries of the Head, p. 125.

[765] It is proper to mention in this place that Quesnay, with great good sense, discusses the question, whether or nor the separation of the pericrunium in this case be a sure indication of matter being collected within the cranium. He decides in the negative. (p. 17, Syd. Soc. edition of Selected Mem. of the Acad. of Surgery.)

[766] I ought to mention, however, in this place, that in simple undepressed fractures, Pott allows of the operation as a preventive; that, at least, is one of his objects in having recourse to the operation. (p. 130.)

[767] Ambrose Paré expresses very strongly the difficulty of forming a correct prognosis in injuries of the head: "Ex quo intelligere licet, multos ab exiguis vulneribus mortem oppetere, alios ex ingentibus et penitus magnis desperatisque convalescere." (Opera, ix., 9.)

[768] Injuries of the Head, p. 148.

[769] Aphor. v., 68.

[770] See the Argument to the treatise, On Regimen in Acute Diseases.

[771] Opera, ix., 10.

[772] Sir Astley Cooper mentions an instance in which 208 ounces of blood were abstracted from a patient!! In Quesnay's Memoir there is nothing more common than to find it reported that he had bled a patient three or four times in the course of a day. In one case 160 ounces were taken in nine days; "but," it is gravely added, "two years elapsed before she was quite well again."

[773] IV., 5, 3, 1.

[774] The principles upon which depletion by bleeding and purging should be regulated are fully stated and discussed by Galen, in the Fourth Book of his great work on Therapeutics. The rule is briefly given by Hippocrates in his Second Aphorism: "respect being paid to place, season, age, and the disease in which it is proper or not."

[775] See Aphor. v., 18, 22; and § 12 of this treatise. The professional authorities of the present day are not agreed as to the expediency of using poultices or cold lotions in injuries of the scalp. Guthrie and Hennen recommend the latter; but South, in the edition of Chelius, prefers the former.

[776] This is related of Philagrius in a very interesting scholium on the Aphorism just quoted. See Scholia in Hippocrat. et Galen., tom. ii., p. 457; ed. Dietz.

[777] Perhaps the meaning here is, that when the forehead is much elevated, and the occiput much depressed, if one looks down upon the skull from above, the sagittal and coronal sutures will present the appearance of the letter T.

[778] The meaning, I suppose, may be, that when the forehead is very low, and when the occiput is protuberant, if one looks down upon the skull from above, the sagittal and lambdoidal sutures will present the appearance of the letter T reversed.

[779] The meaning would appear to be, that in a square-built head, that is to say, when it is prominent both before and behind, the coronal and sagittal sutures run nearly parallel to one another, and the sagittal connects them together in the middle. In this case they would present the appearance of the letter H reversed.

[780] Perhaps this alludes to the form of the head in which the sagittal suture passes through the middle of the os frontis down to the nose, in which case we may imagine that the coronal suture intersects the lambdoidal in such a manner as to have some resemblance to the letter χ. It is to be borne in mind, that the character of this letter was very variable in ancient writing. Ruffus Ephesius describes the sagittal suture as sometimes passing down the middle of the frontal bone.

[781] This passage was considered by Scaliger as a gloss, but as interpreted by M. Littré, whom I have followed, the meaning is quite suitable. See his note, h. 1.

[782] It is difficult to say what can be meant by caruncles in this place, but still I agree with M. Littré that Scaliger was not warranted in proposing to eject the passage from the text as an interpolation. Unless the *glandulæ Pacchioni* are meant (and the description must be admitted not to be quite applicable to them), I cannot pretend to explain or account for the description.

[783] I need scarcely remark, that if by this is strictly meant that wounds in the posterior part of the head are less dangerous than those in the anterior, the statement is at variance with the experience of certain modern authorities. See, in particular, Pott and Liston, p. 46. At the same time, it is, no doubt, anatomically correct, that the occipital bone can bear more violence, without being seriously fractured, than the frontal or parietal bones, and it is worthy of remark, that the views and experience of Mr. Guthrie are very consonant with those of Hippocrates. He says: “The result of my experience on this point is, that brain is more rarely lost from the fore part of the head with impunity, than from the middle part; and that a fracture of the skull, with even a lodgment of a foreign body, and a portion of the bone in the brain, may be sometimes borne without any great inconvenience in the back part.... I have never seen a person live with a foreign body lodged in the anterior lobe of the brain, although I have seen several recover with the loss of a portion of the brain at this part. My experience, then, leads me to believe, that an injury of apparently equal extent is more dangerous on the forehead than on the side or middle of the head, and much less so on the back part than on the side. A fracture of the vertex is of infinitely less importance than one of the base of the cranium, which, although not necessarily fatal, is always attended with the utmost danger.” (On Injuries of the Head, p. 3.) I feel difficulty in reconciling these discordant results of modern experience. Perhaps the fact of the matter is, that injuries on the upper part of the occipital region are the least dangerous of any, whereas those in the lower part of it, are particularly fatal.

[784] Vidus Vidius thus explains the *hedra* or *sedes*: “Inciditur os ita ut teli vestigium remaneat, quod genus fracturæ appellatur a Hippocrate ἕδρα, id est

sedes, quum (ut ipse inquit) appareat in osse qua telum insederit; fit autem ab acuto telo, quod et ipse in sequentibus, et Galenus, in Commentario, in librum memoriæ prodidit, quum sub telo acuto incidi os dixit. Requirit autem sedes ut incisum os nullo modo ad cerebri membranam inclinatur." (Chirurg. Græc., p. 71.) Andreas à Cruce defines it thus: "Potissimum vero sedes vocatur ubi osse in suo statu remanente qua parte telum insederit apparet." (De Vulneribus, 1. 2.) By *hedra* would appear to have been understood a dint, or impression, left in a bone by a blow which has not produced fracture or depression. It was also applied to a cut or slash affecting only the outer plate of the skull. Hippocrates, it will be remarked, pronounces this sort of injury not to be dangerous of itself, but M. Littré relates a case taken from the "Journal de Médecine," in which a sabre-cut, which only penetrated through the external plate of the cranium, and did not touch the internal, proved fatal. (Op. Hippocrat. iii., p. 170.) Our author, in the latter part of this paragraph, mentions cursorily injury of the skull at a suture, and more circumstantially in the twelfth paragraph. This accident is very correctly described by the later writers, under the name of *diastasis*. See Heliodorus (ap. Chirurg. Veteres, p. 100), and Archigenes (ibid., p. 117). Pott declares that he did not remember having ever seen a single instance of recovery when there was separation of the bones at a suture. Morgagni, in like manner, represents the case as being of a particularly serious character. (De Caus. et Sed. Morb.) I once saw a strongly marked case in which there was a considerable separation of the bones at the upper part of the temporal suture, along with an extensive wound, unguardedly inflicted by the scalpel of a juvenile surgeon, in order to explore the nature of the accident. As might have been expected, under these circumstances, the case had a fatal issue. Mr. Guthrie writes thus of *diastasis*: "It is well known, that when a violent shock has been received on the head, particularly by a fall on the vertex, the sutures are often separated to a considerable extent; *these cases usually terminate fatally*." (p. 135.)

[785] The meaning here is somewhat obscure, but as Arantius states in his commentary on this tract, our author probably means that a fissure is necessarily complicated with a contusion, or, in other words, that there can be no fissure without contusion.

[786] Arantius and Porralius, in their conjoined commentary on this treatise, mention that in contusion sometimes only the outer plate of the skull is contused, but the inner is depressed upon the dura mater. This is a case of which we have examples in modern surgery; but it does not appear clearly to be alluded to in this place by our author. Mr. Guthrie, indeed, understands the ἀπήχημα of the Greek authors, and *resonitus* of the Latin, to apply to this variety of fracture; but he appears to me to be mistaken, for these terms unquestionable refer to the *contre-coup*, of which we will treat presently. Quesnay, indeed, uses the term *contre-coup* in this double sense, but, as I think, very injudiciously, as it tends to introduce confusion of ideas; for assuredly the case of a fracture on a different part of the head from that which received the blow, and a fracture on the inner plate of the skull from an injury on the outer, are quite different cases. See Quesnay, etc., p. 20, Syd. Soc. edit.

[787] The expressions in this place are somewhat confused, but the meaning evidently is, that without fracture there can be no depression.

[788] This third mode of fracture is thus defined by Celsus: "At ubi medium desedit, eandem cerebri membranam os urget; interdum etiam ex fractura

quibusdam velut aculeis pungentibus," (viii., 4.) Hippocrates, it will be remarked, makes no mention of spiculæ in his description of depression. Galen describes two varieties of depression; in the one the depressed portion retains its situation, and in the other it rises again to its former level. (De Caus. Morb.) Hippocrates does not appear to have been acquainted with the latter. Modern experience has shown that it sometimes occurs in children.

[789] It is almost impossible to know what to make of this passage, owing to the corrupt state of the text.

[790] The nature of this mode of injury is explained in the annotations on the third paragraph. It does not appear clear why our author has given two separate descriptions of this injury. He describes, it will be remarked, several varieties of it, according as it is complicated or not with contusion and fracture. Galen uses *hedra* in one place. (Meth. Med. vi.) The term *hedra* is rendered *teli sedes* by the Latin translators of the Greek medical authors. (See Asellii Comment. in Hippocrat. de Vuln. Capit.) It is used also by Ambrose Paré, Wiseman, and all our earlier writers on surgery. Wiseman thinks the term most appropriate when applied to wounds inflicted by a pole-axe, halberd, or the like. (v. 9.) Paré applies it to a kind of injury, in which the bone is not broken through, but the print of the weapon is left on the skull. (xx., 7.) Fallopius gives an interesting discussion on it. (In librum Hippocrat. de Vuln. Capit.) The term incision, borrowed from Paulus Ægineta, has been since used in its stead. See Quesnay, on the Use of the Trepan, p. 29, Syd. Soc. edition; and on simple incisions or sabre-cuts, see, in particular, Mr. Guthrie, Injuries of the Head, p. 86.

[791] This, it will readily be perceived, is the *fractura per resonitum*, that is to say, the *fracture par contre-coup*, or counter-fissure of modern authorities. Except Paulus Ægineta, I am not aware that any of the ancient authorities question the occurrence of this species of the accident, and with the exception of Vidus Vidius, Guido, Fallopius, and Dinus de Garbo, it is generally recognized by the best modern authorities, from Bertaphalia and Andreas à Cruce, down to Sir Astley Cooper and Mr. Liston. Mr. Guthrie, indeed, remarks, that in recent times there has been no well-authenticated instance of fracture on the one side of the head from a blow on the other. Such cases, however, are not wanting in the works of the earlier modern authorities. Quesnay writes thus: "We find in authors, also, many cases of fracture by *contre-coup*, from one part of the head to the part opposite: and in honor of the ancients we may cite the case related by Amatus, who applied the trepan to the part of the head opposite to the wound, when he found that the symptoms were not relieved by applying it on the side wounded, and that the patient suffered from severe pain on the other side. This second trepan proved very apropos, for it allowed the escape of pus, which had collected under the skull." (On the use of the Trepan.) All our modern authorities, including Mr. Guthrie, admit the reality of the case in which fracture of the base of the skull is produced by a blow on the upper part of the head. In imitation of our author, this case was denominated "infortunium" by the earlier authorities, such as Asellius and Porralius, being accounted an irremediable misfortune, because its seat could not be detected; and it is noticed in the following terms by Sir Astley Cooper, who did not trouble himself much about the writings of his predecessors, but formed his opinions from actual observation: "When the basis of the skull is fractured from a high fall, from the whole pressure of the body resting upon that part, on opening the brain and

tearing up the dura mater, extravasated blood is commonly observed; *this kind of fracture must inevitably prove fatal, nor can it be discovered till after death*." (Lectures, xiii.)

[792] Whatever opinion may now be formed of the rule of practice here laid down, all must admit that it is clearly stated and distinctly defined. We have seen above that our author describes five modes of injury in the skull, namely, the incision or indentation, confined to its outer table; the contusion; the direct fracture; the fracture *par contre-coup*; and the depression. He now states decidedly that it is only in the case of contusion and simple fracture, that the trepan can be applied with advantage. I have entered so fully into the *rationale* of this practice in the Argument, that I do not think it necessary to say more on the subject in this place.

[793] This passage indicates strongly our author's partiality for prognostics, or rather, I should say, for prorrhetics. It would appear to have been a primary consideration with him, in all cases, to secure the physician from blame, and to teach him how to gain the confidence of the patient and his attendants. Few who have practiced medicine for a great many years, will question the propriety of these rules of conduct, or doubt the importance of taking all honorable steps to ensure the confidence and good-will of patients and their friends.

[794] There is a remark made by Arantius and Porralius on the latter part of this paragraph, which, although it appears to be scarcely warranted by anything in the text of our author, I quote for its importance, as showing that the earlier authorities were well aware of the danger and impropriety of treating injuries of the head in children by instruments: "Sed præ ceteris illud notandum quod dixerit (*nudato osse*) quasi dicat, eo non denudato quamvis calliso aut fisso, quod raro accidit, non esse tamen sectione denudandam calvariam: nam in pueris, ubi decidunt non raro accidit ut eorum collidatur calvaria, frangaturque, cute integra, quod etsi accidat, et tactu hoc probe precipiatur, sanguisque e venis effusus sub cute fluctua, abstinendum tamen a sectione est, neminem enim servatum vidi, cui sectio adhibita sit, propterea quod eorum calor facile dissipetur, eoque magis, quum gemitu et clamore caput valdè incelescat, et ad fluxiones suscipiendas proclive reddatur," (Comm. in Hip. de Vuln. Cap.) It will be seen at § 18, that our author allowed the application of a small trepan in children when strongly indicated.

[795] This passage is rendered as follows by Celsus: "Igitur, ubi ea percussa, protinus requirendum est, num bilem is homo vomuerit; num oculi ejus obcæcati sint; num obmutuerit; num per nores auresque sanguis ei effiuxerit: num conciderit, num sine sensu quasi dormiens jacuerit. Hæc enim non nisi osse fracto eveniunt; atque, ubi inciderunt, scire licet, necessariam, sed difficilem curationem esse." (viii., 4.) Now, although it is no doubt true, as remarked by Pott (Injuries of the Head, § 4), that these symptoms sometimes take place, without there being any fracture of the skull, and that, on the other hand, as had been previously pointed out by Paré and Le Dran, fractures do sometimes take place without being accompanied by all these symptoms, still there can be no doubt that as a general rule the doctrine of Celsus is correct, and that, at all events, a case is to be treated as serious in which these symptoms occur. With regard to one of the characteristics of a fracture, thus noticed by Celsus, a modern authority of great experience, but little acquaintance with ancient learning, observes, "Blood flowing from the nose and ears is a symptom

attending fracture of the skull. It may be consequent on mere concussion, a vibration which ruptures the membranes; but oftener it is a consequence of fissure across the bone." (Institutes of Surgery, by Sir Charles Bell, vol., i, p. 173.)

[796] The separation of the bones at a suture, usually called *diastasis*, is noticed in the annotations on § 8. I have also alluded, in my analysis of the Fifth Book of the Epidemics, to the case in which the author, generally supposed by ancient authorities to be Hippocrates, mistook a suture for a fracture of the skull. See Epidem. v., 14; and Celsus, viii., 4.

[797] On the terms which occur parenthetically, the philological reader may consult the note of Stephanus, contained in the edition of Erotian by Franzius, under ἑδράιως. I may here remark, that it is difficult to account for the frequent repetition of these words in parentheses.

[798] It will be remarked that, as a general rule, Hippocrates forbids us to apply the trepan at the sutures, but, notwithstanding this prohibition, it would appear to have been departed from in two cases related in the Sixth Book of the Epidemics. (See § 27 and 28.) The rule, however, to avoid the application of the trepan at the sutures, was generally observed by nearly all the modern authorities down to Pott, and even he admits that the sutures should be avoided when the trephine may with equal utility be set on any other part. Louis, in a paper lately reprinted from the Memoirs of the Royal Academy of Surgery, by the Sydenham Society, gives an interesting examination of the doctrine of the ancient and modern authors on this rule of practice. Most of the authorities quoted by him are averse to the application of the trepan over sutures, except when very urgently required. C. Porralius, in his marginal notes on Arantius's Commentary on this work of Hippocrates, assigns three reasons for avoiding the sutures in this operation: 1st, because the bone is weak at that place; 2dly, because the membrane there being in close connection with the bone, is in danger of being injured; 3dly, because, by the contraction of the callus, the transpiration there will be stopped. The last of these reasons is based on the physiological doctrine of the ancient authorities respecting the uses of the sutures, one of which was, to permit transpiration from the brain. See Galen, de Usu Partium, ix., 1, 2.

[799] Our author, it will be remarked, forbids liquid applications, tents, cataplasms, and bandages, in wounds of the head. He seems to have approved most of things of a drying nature. The other authorities would appear to differ considerably in their views regarding the proper principles upon which wounds on the head are to be treated. Celsus directs us, after laying bare the dura mater by trepanning, to apply strong vinegar to it, and when the membrane is inflamed, he approves of tepid rose-water. (viii., 4.) Paulus Ægineta, after the operation of trepanning, directs a piece of cloth, or small ball of wool dipped in oil, to be applied to the part. I believe they all agreed in rejecting sutures. See Galen, de Med. sec. Genera III.

[800] Hippocrates would seem to hold the fanciful idea, that the forehead is environed by the rest of the head, and that afflux of blood takes place from the parts around to it. Scaliger rejects this passage as containing a doctrine wholly unworthy of our author.

[801] The danger of incisions, in the temporal region, is adverted to in several parts of the Hippocratic Collection, as in the work On the Articulations,

in the Prorrhetics, and the Coan Prænotions. Even at the present day, when the treatment of hemorrhage is better understood than in the days of the great Fathers of Grecian medicine, a large incision in that quarter is regarded with considerable apprehension. Convulsion, that is to say, tetanus, was supposed to be the frequent, if not the invariable, result of a wound in the temporal muscle. Pott, indeed, contends that lock-jaw is not necessarily produced by a wound there; he admits, however, that the application of the trepan to the temple is not often successful, but the reason of this he contends is, that in these fractures the breach generally extends to the base of the skull (§ 5). Quesnay, however, inclines to support the views of Hippocrates. (On the Use of the Trepan, p. 15, Syd. Soc. edit.) Scultet, in like manner, pronounces decidedly that a wound in the temple is a very dangerous affair. (Armam. Chirurg. Tabl. xxxi.)

[802] The *maza* was evidently a poultice prepared with barley-meal and vinegar, or water. See the Annotations on the treatise On Ancient Medicine.

[803] Celsus translates this passage as follows: "At si ne tum quidem rima manifesta est, inducendum supra os atramentum scriptorium est, deinde scalpro id deradendum; nigritiem enim continet, si quid fissum est." (viii., 4.) Arantius properly remarks, that the ancient ink must not be confounded with the modern, which is composed principally of copperas and galls. It was, no doubt, the milder kind prepared from the soot of pines with gum which was used in this case. On the writing-ink of the ancients, see Dioscorides (M. M., v., 182) and Pliny (H. N., xxxv., 6).

[804] The text in the beginning of this paragraph is in a very unsatisfactory state. It seems pretty clear, however, that in this place our author describes caries of the bone brought on by an unhealthy state of the integuments. The description —allowance being made for the corruption of the text—is sufficiently distinct, and most probably has reference to that condition of the parts which is so graphically described by Pott as forming "a puffy, circumscribed, indolent tumour of the scalp, and a spontaneous separation of the pericranium from the skull under such tumour."

[805] Our author in this place would appear to treat of incipient hernia cerebri, as immediately before he treats of fungous ulcers on the pericranium. Galen in like manner, praises powerfully dessicant medicines upon the authority of Meges the Sidonian, who, he says, had great experience in these cases. He speaks of the plaster called Isis as being a most efficacious application to the dura mater, when laid bare. Its principal ingredients are of an escharotic and detergent nature, such as squama æris, burnt copper, ammoniac salts, myrrh, aloes, and the like. See PAULUS ÆGINETA, Vol. III., p. 564. Galen concludes his remarks on this subject with stating that, before getting into an inflamed state, the dura mater, as being of a dry nature, endures the most powerful medicines. (Meth. Med., vi., at the end.)

[806] This description of a piece of bone which is going to exfoliate, is remarkably correct. Compare it with the following narrative: "A girl of ten or twelve years of age was struck on the head by an iron rod falling on her; the blow caused no wound, and the young woman was soon well, with the exception of a fixed pain of no great extent, which remained over one of the parietal bones. The pain continued for several years. M. Mareschal, who was at last consulted, considered it necessary to trepan. He exposed the bone at the painful part, and

applied one crown of a trepan; he observed, *that the bone, when sawed, appeared dry, like a skull that had been buried*." (Quesnay, on the Use of the Trepan.) This agrees excellently with the description given by Hippocrates. It is to be regretted, however, that the text here; as far as regards one word ἀποστρακὸς, is in a very unsatisfactory state. The conjectural emendation of Schneider (ἀπεσκληκὸς) seems to be a plausible emendation, but it is not adopted by Littré.

[807] Our author delivers the same doctrine in the work On the Articulations, and states that extensive fractures of the bones are often less dangerous than others which appear not so formidable. I need scarcely remark that modern experience has confirmed the truth of this position. How often has it been seen that one patient died from a slight injury to the skull, while another recovered from an extensive fracture of it? Mr. Guthrie appears in so far to agree in opinion with our author, that extensive fractures are less dangerous than they appear; he says, "Mr. Keate, who has had great opportunities for observation in St. George's Hospital, has invariably remarked that the symptoms dependent on extravasation have been less severe in the first instance, in proportion as the separation of the edges of the fracture have been greater one from the other, or when the sutures have yielded to the shock and have been separated. It has been stated from the earliest antiquity, that the greater the fracture, the less the concussion of the brain." (p. 56.) See the Argument.

[808] It will be remarked as a striking feature in our author's views of practice in injuries of the head, not to interfere with fractures attended with depression. See the Argument, where the rationale of this practice is fully discussed.

[809] Although these directions of our author regarding the treatment of children be most important, I am not aware that any other of the ancient authorities has shown his sense of their value of them by repeating them. It is well known that in children there is but one table, and that it is very thin. Our author, as remarked above, does not entirely omit the operation in the case of children, but uses a small trepan.

[810] The reader will again remark an instance of our author's fondness for prognosis, and his observance of the rule at all times to prevent the surgeon from committing himself by attempting hopeless cases. Celsus, writing in the same spirit, says, "Ante omnia scire medicum oportere, quæ vulnera insanabilia sint, quæ difficilem curationem habeant; ... non attingere, *nec subire speciem ejus, ut occisi, quem sors ipsius intermit*." (v., 26.)

[811] This is an opinion held by all the ancient authorities. Some interesting cases in point are related in the First Book of the Continens of Rhazes. It was explained on the principle that the cerebral nerves decussate. (See Aretæus, on the Causes of Disease, i., 7.) Modern experience, in the main, is in accordance with the ancient on this point. Paralysis has generally been found on the opposite side to that which has received the injury. See Thomson's Observations, etc., p. 52; Larrey's Mem. de Chirurg., iv., p. 180; Hennen's Principles, p. 301.

[812] This passage is thus translated by Celsus: "Si sub prima curatione febris intenditur, brevesque somni, et iidem per summa tumultuosi sunt, ulcus madet, neque alitur, et in cervicibus glandulæ oriuntur, magni dolores sunt,

cibique super hoc fastidium increscit, tum demum ad manum scalprumque veniendum est." (vii., 4.)

[813] The practice advocated in this paragraph is alluded to by Paulus Ægineta, in his chapter on Fractures of the Skull. (vi., 90.)

[814] The operation here described by our author is the more deserving of attention, as it appears to have been peculiar to him. It is not described by Celsus, Paulus Ægineta, Albucasis, nor any one of the ancient authorities, as far as I can find; neither am I aware of its having been attempted in modern times. The object of it, however, seems to be very rational, namely, to avoid doing serious injury to the dura mater by tearing the bone forcibly from it at once.

[815] The instrument here used is named πρίων χαρακτὸς; and, as far as I can see, was the same as the modiolus of Celsus, and the χοινικὶς of the later authorities. It would certainly appear to have been a circular saw, and consequently not unlike our modern trephine. See the figures and the Argument.

[816] The following sentence, taken from Sir Charles Bell's description of the operation, looks like a translation of this passage of Hippocrates; but it is well known that our English surgeon was not guilty of reading Greek! "Withdraw your trephine from time to time, brush it, and run the flat probe round the circular cut." The specillum of the ancient surgeons was, in most respects, not unlike our modern probe.

[817] The meaning here would seem to be, that the bone does not extend so deep as might be supposed. See Foës, Œcon. Hippoc., under ἐπιπολαιότερον ὀστέου.

Transcriber’s Notes:

1. Obvious printers’, punctuation and spelling errors have been corrected silently.

2. Where hyphenation is in doubt, it has been retained as in the original.

3. Some hyphenated and non-hyphenated versions of the same words have been retained as in the original.

4. Possible errors in Greek words or phrases have been retained as in original.

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