

# On Ancient Medicine

## Hippocrates

Translated by Francis Adams

## ON ANCIENT MEDICINE

**W**HOEVER 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; 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 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 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; and from barley they

formed cake (maza), 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.

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 is 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 were 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.

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 diarrhea, 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 the 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; 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, 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 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 confectioneries, 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 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 defluxion 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 concurrence 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 and parts below the eyes upon which they 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, coryza, 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 aeruginous 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 loose 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. 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 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, some stretched, some long, some dense, some rare and succulent, some spongy and of loose texture. 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, not 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.