AIRS, WATERS, PLACES

An essay on the influence of climate, water supply and situation on health.

1. Whoever would study medicine aright must learn of the following subjects. First he must consider the effect of each of the seasons of the year and the differences between them. Secondly he must study the warm and the cold winds, both those which are common to every country and those peculiar to a particular locality. Lastly, the effect of water on the health must not be forgotten. Just as it varies in taste and when weighed, so does its effect on the body vary as well. When, therefore, a physician comes to a district previously unknown to him, he should consider both its situation and its aspect to the winds. The effect of any town upon the health of its population varies according as it faces north or south, east or west. This is of the greatest importance. Similarly, the nature of the water supply must be considered; is it marshy and soft, hard as it is when it flows from high and rocky ground, or salty with a hardness which is permanent? Then think of the soil, whether it be bare and waterless or thickly covered with vegetation and well-watered; whether in a hollow and stilling, or exposed and cold. Lastly consider the life of the inhabitants themselves; are they heavy drinkers and eaters and consequently unable to stand fatigue or, being fond of work and exercise, eat wisely but drink sparingly?

2. Each of these subjects must be studied. A physician who understands them well, or at least as well as he can, could not fail to observe what diseases are important in a given locality as well as the nature of the inhabitants in general, when he first comes into a district which was unfamiliar to him. Thus he would not be at a loss to treat the diseases to which the inhabitants are liable, nor would he make mistakes as he would certainly do had he not thought about these things beforehand. With the passage of time and the change of the seasons, he would know what epidemics to expect, both in the summer and in the winter, and what particular disadvantages threatened an individual who changed his mode of life. Being familiar with the progress of the seasons and the dates of rising and setting of the stars, he could foretell the progress of the year. Thus he would know what changes to expect in the weather and not only would he enjoy good health himself for the most part but he would be very successful in the practice of medicine. If it should be thought that this is more the business of the meteorologist, then learn that astronomy plays a very important part in medicine since the changes of the seasons produce changes in diseases.

3. I shall explain clearly the way in which each of these subjects should be considered. Let us suppose we are dealing with a district which is sheltered from northerly winds but exposed to the warm ones, those, that is, which blow from the quarter between south-east and south-west; and that these are the prevailing winds. Water will be plentiful but it will consist chiefly of brackish surface water, warm in the summer and cold in the winter. The inhabitants of such a place will thus have moist heads full of phlegm, and this, flowing down from the head, is likely to disturb their inner organs. Their constitution will usually be flabby and they tolerate neither food nor drink well. It is a general rule that men with weak heads are not great drinkers because they are particularly liable to hangovers.

The local diseases are these. The women are sickly and liable to vaginal discharges; many of them are sterile, not by nature, but as the result of disease. Miscarriages are common. Children are liable to convulsions and asthma which are regarded as divine visitations and the disease itself as ‘sacred’. The men suffer from diarrhoea, dysentery, ague and, in the winter especially, from prolonged fevers. They are also subject to pustular diseases of the skin which are particularly painful at night and also from haemorrhoids. Pleurisy, pneumonia and other acute diseases are rare since such diseases do not flourish in a watery constitution. Moist ophthalmia is not uncommon, but it is neither serious nor of long
duration unless an epidemic breaks out owing to some great change in the weather. Catarrh of the head makes those over fifty liable to hemiplegia. They suddenly become 'sunstruck' or cold. Such then are the diseases of the country, except that changes in the weather may produce epidemics in addition.

4. Let us now take the case of a district with the opposite situation, one sheltered from the south but with cold prevailing winds from the quarter between north-west and north-east. The water supply is hard and cold and usually brackish. The inhabitants will therefore be sturdy and lean, tend to constipation, their bowels being intractable, but their chests will move easily. They will be more troubled with bile than with phlegm; they will have sound and hard heads but suffer frequently from abscesses. The special diseases of the locality will be pleurisy and the acute diseases. This is always the case when bellies are hard. Because of this too, and because they are sinewy, abscesses commonly appear on the slightest pretext. This is also due to their dryness and the coldness of the water. Such men eat with good appetites but they drink little; one cannot both eat and drink a great deal at the same time. Ophthalmia occurs and is of long duration tending to become both serious and chronic, and the eyes suppurate at an early stage. Those under thirty suffer from epistaxis which is serious in summer. Cases of the 'sacred disease' are few but grave. These men live longer than those I described before. Ulcers do not suppurate nor do they spread wildly. Characters are fierce rather than tame. These then are the diseases to which the men of such a district are liable; others only if some change in the weather provokes an epidemic.

The women suffer largely from barrenness owing to the nature of the water; this is hard, permanently so, and cold. Menstruation, too, does not occur satisfactorily but the periods are small and painful. They give birth with difficulty but, nevertheless, miscarriages are rare. After parturition they are unable to feed their babies because the flow of milk is dried up by the intractable hardness of the water. As a result of difficult labour, abscesses and convulsions commonly occur and wasting disease follows. The children suffer from dropsy of the testicles while they are young, but this disappears as they grow up. Puberty is attained late in such a district.

5. So much for the influence of the warm and cold winds. Let us now consider districts which are exposed to winds from the quarter between north-east and south-east, and then those from the west. Those that face east are likely to be healthier than those facing north or south even if such places are only a furlong apart. These districts do not experience such extremes of heat and cold. The water, to the easterly side, must necessarily be clean, sweet-smelling, soft and pleasant. This is because the early morning sunshine distills dew from the morning mist. The inhabitants are generally of good and healthy complexion unless they are subject to disease. They have loud and clear voices and if, as is probable, local conditions generally are better, they are of better temperament and intelligence than those exposed to the north. The climate in such a district may be compared with the spring in that there are no extremes of heat and cold. As a consequence, diseases in such a district are few and not severe. In general, it may be said that they resemble districts of southern aspect except that the women are prolific and give birth easily.

6. Towns that face west and are thus sheltered from easterly winds while the warm winds and those from the south pass them by, must necessarily have a most unhealthy situation. First, the water is not clear. This is because the air holds the early morning mist and such air, mixing with water, takes away its sparkle, for it does not get the sun on it until late in the day. In summer damp breezes blow and cause dew to fall in the early morning, but for the rest of the day the sun, as it declines, burns up the inhabitants. This tends to make them of poor complexion and sickly and they suffer from all the diseases previously mentioned without exception. Their voices are thick and somewhat hoarse on account of the air which tends to be impure and unhealthy. Not even the northerly gales reach such districts to dispel these characteristics. All the winds that blow are from the west and therefore very wet.
The weather of such a district can be compared with the autumn when there is so great a difference between morning and evening.

7. So much then for the effects, both good and ill, of the various winds. Now I should like to explain what is the effect of different kinds of water, to indicate which are healthy and which unhealthy, and what effects, both good and bad, they may be expected to produce. Water plays a most important part in health. Stagnant water from marshes and lakes will necessarily be warm, thick and of an unpleasant smell in summer. Because such water is still and fed by rains, it is evaporated by the hot sun. Thus it is coloured, harmful and productive of biliousness. In winter it will be cold, icy and muddied by melting snow and ice. This makes it productive of phlegm and hoarseness. Those who drink it also have large and firm spleens while their bellies are hard, warm and thin. Their shoulders, the parts about the clavicles and their faces are thin too because their spleens dissolve their flesh. Such men have a great appetite for food and drink. Their viscera will be very dry and warm and thus require the stronger drugs. Their spleens remain enlarged summer and winter and, in addition, cases of dropsy are frequent and fatal to a high degree. The reason for this is the occurrence, during the summer, of much dysentery and diarrhoea together with prolonged quartan fevers. Such diseases, when they are of long standing, cause dropsy in people of this type and this proves fatal. These, then, are the summer ailments. In winter, the younger men are liable to pneumonia and to madness. The older men suffer from a fever called caninus on account of the hardness of their bellies, the women from tumours and leucorrhoea. The latter are weak in the belly and give birth with difficulty. The foetus is large and swollen. During lactation, wasting and pains occur and menstruation does not become properly re-established. The children are specially liable to rupture and the men to varicose veins and ulcers of the legs. People of such nature cannot be long-lived and they become prematurely aged. Moreover, sometimes the women appear to have conceived but, when the time of birth approaches, the contents of

the belly disappear. This happens when the womb suffers from dropsy. Water which produces these things, I consider harmful in every respect.

We now come to the consideration of water from rock springs. It is hard; either from the soil containing hot waters, or from iron, copper, silver, gold, sulphur, alum, bitumen or nitre. All these substances are formed by the influence of heat. The water from such ground is bad since it is hard, heating in its effect, difficult to pass and causes constipation.

The best water comes from high ground and hills covered with earth. This is sweet and clean and, when taken with wine, but little wine is needed to make a palatable drink. Moreover, it is cool in summer and warm in winter because it comes from very deep springs. I particularly recommend water which flows towards the east, and even more that which flows towards the north-east, since it is very sparkling, sweet-smelling and light. Water that is salty, hard and cannot be softened, is not always good to drink. But there are some constitutions and some diseases which benefit by drinking such water and these I shall proceed to detail. The best type of this water is that which comes from springs facing the east. The second best from springs facing the quarter between north-east and north-west, especially the more easterly, and the third from springs between north-west and south-west. The worst is the southern variety, the springs facing between south-west and south-east. These water supplies are worse when the winds are southerly than when they are northerly.

Waters should be used in the following way. A man who is in good and robust health need not distinguish between them, but he may drink whatever is to hand at the moment. But if a sick man wishes to drink what is best for him, he would best regain his health by observing the following rule. If his stomach is hard and liable to become inflamed, the sweetest, lightest and most sparkling water is best for him; but if his stomach is soft, moist and full of phlegm, the hardest and saltiest are best since these will best dry it up. The water that is best for cooking and softest is likely to relax and soften the stomach. Hard water that is not softened by boiling tends
to make the stomach contract and dries it up. Owing to ignorance, there is a general fallacy about brackish water. Salty water is thought to be a laxative; actually the opposite is the case and permanently hard water tends to make the bowels costive.

8. We now pass from spring water to a consideration of rain water and water from snow. Rain water is very sweet, very light and also very fine and sparkling, since the sun, drawing it up, naturally seizes upon the finest and lightest water, as is proved by the salt which is left behind. The brine is left on account of its thickness and heaviness and becomes salt, but the sun draws up the finest elements because of their lightness. It draws it up not only from ponds, but also from the sea and in fact from any source which contains moisture; and there is nothing that does not contain some. Even from human beings, it draws off the finest and lightest part of the body’s humours. A very good proof of this is seen when a man goes and sits in the sun wearing a cloak. Where sunlight falls on the body, no sweat will be seen, but the part which is shaded or protected by something becomes damp with sweat. This is because the sun draws up the sweat and makes away with it; but where the body is shaded, the sweat remains because the sunlight cannot get at it. If the man goes in the shade, the whole body sweats alike because the sun is no longer on him. Rain water, being composed of a mixture of so many elements, quickly becomes rotten on standing and exhales a foul smell. But when it has been drawn up into the air, it travels round and mixes with the air; the dark and cloudy part is separated and becomes cloud and mist, while the clearest and lightest part is left, sweetened by the sun heating and boiling it. Everything is sweetened by boiling. So long as it is scattered and does not mass together, it remains floating in the air. But when it is gathered and collected suddenly by the assault of contrary winds, then it falls wherever there happens to be the densest cloud. This is most likely to happen when a wind has gathered some clouds together and is driving them along and then another wind suddenly confronts it with another mass of clouds. Then the first cloud is stopped and the following ones pile up on it till it becomes thick and black and dense, and its weight causes it to turn to rain and fall. Rain water, therefore, is likely to be the best of all water, but it needs to be boiled and purified. If not, it has a foul smell and causes hoarseness and deepness of the voice in those that drink it.

Water from snow and ice is always harmful because, once it has been frozen, it never regains its previous quality. The light, sweet and sparkling part of it is separated and vanishes leaving only the muddiest and heaviest part. You may prove this, if you wish, by measuring some water into a jar and then leaving it out in the open air on a winter’s night in the coldest spot you can find. Next morning bring it back into the warmth again and, when it has thawed, measure it a second time. You will find the quantity considerably less. This shows that in the process of freezing, the lightest and finest part has been dried up and lost, for the heaviest and densest part could not disappear thus. For this reason I consider such water to be the most harmful for all purposes.

9. The effect of drinking water collected from many different sources, that is, from large rivers fed by smaller streams and from lakes into which many streams flow from different directions, is to cause a propensity to stone, gravel in the kidneys, strangury, pain in the loins and rupture. The same is true of water brought long distances from its source. The reason for this is that no two sorts of water can be alike but some will be sweet, some salt and astringent and some from warm springs. When they are all mixed they quarrel with one another and the strongest is always the dominant. But each one has not always the same strength and sometimes one is dominant, sometimes another according to which wind is blowing. One will be made strong by the north wind, another by the south and so on. Such water will leave a sediment of sand and slime at the bottom of the jar and it is by drinking this that the diseases mentioned above are caused. There are, however, certain exceptions and these I shall detail.

Those whose stomachs are healthy and regular, and whose bladders are not subject to inflammation, nor in whom the
neck of the bladder is overmuch obstructed, pass water easily and nothing collects in the bladder. But if the belly is liable to fever the same must be true of the bladder, and when this organ is heated with fever, the neck of the bladder becomes inflamed and does not allow the urine to pass which instead becomes heated and condensed. The finest and clearest part is separated, passes through and is voided. The densest and cloudiest part is gathered together and precipitates in small pieces at first and then in larger ones. The gravel formed is rolled round by the urine and coalesces to form a stone. When water is passed this falls over the neck of the bladder, and being pressed down by the pressure of the urine, prevents the urine from being passed. Great pain is thus caused. As a result, children suffering from stone rub or pull at their private parts because they think that in them lies the cause why they cannot make water. The fact that people who suffer from stone have very clear urine is proof that the densest and muddiest part remains in the bladder and collects there. This is the explanation of most cases of this disease but, in children, stones may also be caused by milk. If milk is not healthy but too warm and bilious-looking, it heats the stomach and the bladder and the urine is heated and a similar result is produced to that already described. Indeed, I assert that it is better to give children wine watered down as much as possible for this neither burns the veins nor dries them up too much. Female children are less liable to stone because the urethra is short and wide and the urine is passed easily. Neither do they masturbate as the males do, nor touch the urethra. In the female the urethra is short; in males it is not straight and it is narrow as well. Moreover, girls drink more than boys.

10. Now let us consider the seasons and the way we can predict whether it is going to be a healthy or an unhealthy year. It is most likely to be healthy if the signs observed at the rising and the setting of the stars occur normally, when there is rain in the autumn, when the winter is moderate being neither too mild nor excessively cold, and when rain falls seasonably in spring and in summer. But if the winter be dry with northerly winds prevailing and the spring wet with southerly

winds, the summer will be feverish and productive of ophthalmia and dysentery. For when stifling heat succeeds while the ground is still wet from the spring rains and southerly winds, the heat will be twice as great. Firstly because of the soaked warm earth and secondly because of the blazing sun; and, moreover, men’s stomachs will not be toughened nor the brain firm. In such a spring the flesh cannot but become flabby and this predisposes to acute fevers, especially in those of phlegmatic constitution. Dysentery is likely to attack women and those of watery constitution. Should the etesian winds blow and there is bad weather and rain at the rising of the Dog Star, then it may be hoped that these bad conditions will come to an end and that the autumn will be a healthy one. But if there is no amelioration in the conditions there is a danger of fatalities among women and children; the elderly are in the least danger. Those who recover are liable to quartan fevers in which dropsy may supervene.

If the winter is wet and mild with southerly winds and this is followed by a wintry dry spring with the wind in the north, the effect will be as follows. First, women who happen to be pregnant and approaching term in the spring are likely to have miscarriages. Or, if they do give birth, the babies are so weak and sickly that either they die at once or, if they survive, they are frail and weak and very liable to disease. The men are liable to dysentery and dry ophthalmia, while some will suffer from catarrh of the head which may spread to the lungs. It is those who are full of phlegm, as well as the women, who are likely to suffer from dysentery since the phlegm flows down from the brain on account of their moist constitutions. On the other hand, those who are full of bile suffer from dry ophthalmia on account of the warmth and dryness of the flesh, while the old, owing to the permeability and exhaustion of the blood-vessels, suffer from catarrh. This last illness may prove suddenly fatal to some, while others are afflicted with a right-or left-sided hemiplegia. The explanation of these diseases is this. When the winter is warm with wet south winds neither the brain nor the blood-vessels become consolidated. Thus, when spring comes with dry cold northerly winds, the brain
becomes stiff and cold just when it ought to thaw and become purified by running of the nose and hoarseness. It is the sudden change when the heat of summer comes that is responsible for these diseases.

Districts which are well situated with regard to the sun and the winds and which have a good water supply are the least affected by such changes in the weather; those badly situated with regard to the sun and the winds and which draw their water from marsh or lake, the most. If the summer be dry, diseases are short lived, but if it is wet they last long and there is the danger of a sore appearing on the slightest pretext if the skin is broken. Diarrhoea and dropsy occur towards the termination of illnesses under such conditions because the bowels do not dry.

If the summer is rainy with southerly winds and the autumn similar, the winter will necessarily be unhealthy. Those of phlegmatic constitution and those over forty years old may suffer from causus, while those who are full of bile suffer from pleurisy and pneumonia. If the summer is dry with northerly winds and the autumn wet with the wind in the south, the winter brings a danger of headache and gangrene of the brain. Further, there is likely to be hoarseness, running at the nose and cough and, in some cases, consumption. If the autumn is rainless with northerly winds and there is rain neither under the Dog Star nor at Arcturus, this weather suits best those who are naturally phlegmatic and of a watery constitution and also women. But it is most inimical to those of a bilious disposition because they become dried up too much. This produces dry ophthamia and sharp fevers which last a long time and also, in some cases, ‘black bile’ or melancholy. The reason for this is found in the drying up of the more fluid part of the bile while the denser and more bitter part is left behind. The same is true of the blood. But these changes are beneficial to those of phlegmatic habit so that they become dried up and start the winter braced up instead of relaxed.

11. Anyone making observations and drawing deductions on these lines can foretell most of the effects which follow changes in the weather. It is particularly necessary to take precautions against great changes and it is inadvisable to give a purge, to cauterize or to cut any part of the belly until at least ten days have passed after such a change. The most dangerous times are the two solstices, especially mid-summer, and the equinoxes. Both of these latter times are considered dangerous but more especially the autumnal one. Care must also be taken at the rising of certain stars, particularly the Dog Star and Arcturus. Similarly, discretion must be exercised at the setting of the Pleiads. It is at such times that the crisis is reached in the course of diseases; some prove fatal and some are cured, but all show some kind of change and enter a new phase.

12. I now want to show how different in all respects are Asia and Europe, and why races are dissimilar, showing individual physical characteristics. It would take too long to discuss this subject in its entirety but I will take what seem to me to be the most important points of difference.

Asia differs very much from Europe in the nature of everything that grows there, vegetable or human. Everything grows much bigger and finer in Asia, and the nature of the land is tamer, while the character of the inhabitants is milder and less passionate. The reason for this is the equable blending of the climate, for it lies in the midst of the sunrise facing the dawn. It is thus removed from extremes of heat and cold. Luxuriance and ease of cultivation are to be found most often when there are no violent extremes, but when a temperate climate prevails. All parts of Asia are not alike, but that which is centrally placed between the hot and the cold parts is the most fertile and well wooded; it has the best weather and the best water, both rain water and water from springs. It is not too much burnt up by the heat nor desiccated by parching drought; it is neither racked by cold nor drenched by frequent rains from the south or by snow. Crops are likely to be large, both those which are from seed and those which the earth produces of her own accord. But as the fruits of the latter are eaten by man, they have cultivated them by transplanting. The cattle raised there are most likely to do well, being most prolific and best at rearing their young. Likewise, the men are well
made, large and with good physique. They differ little among themselves in size and physical development. Such a land resembles the spring time in its character and the mildness of the climate.

16.* So much for the differences of constitution between the inhabitants of Asia and of Europe. The small variations of climate to which the Asiatics are subject, extremes both of heat and cold being avoided, account for their mental flabbiness and cowardice as well. They are less warlike than Europeans and tamer of spirit, for they are not subject to those physical changes and the mental stimulation which sharpen tempers and induce recklessness and hot-headedness. Instead they live under unvarying conditions. Where there are always changes, men's minds are roused so that they cannot stagnate. Such things appear to me to be the cause of the feebleness of the Asiatic race, but a contributory cause lies in their customs; for the greater part is under monarchical rule. When men do not govern themselves and are not their own masters they do not worry so much about warlike exercises as about not appearing warlike, for they do not run the same risks. The subjects of a monarchy are compelled to fight and to suffer and die for their masters, far from their wives, their children and friends. Deeds of prowess and valour redound to the advantage and advancement of their masters, while their own reward is danger and death. Moreover, such men lose their high-spiritedness through unfamiliarity with war and through sloth, so that even if a man be born brave and of stout heart, his character is ruined by this form of government. A good proof of this is that the most warlike men in Asia, whether Greeks or barbarians, are those who are not subject races but rule themselves and labour on their own behalf. Running risks only for themselves, they reap for themselves the rewards of bravery or the penalties of cowardice. You will also find that the Asiatics differ greatly among themselves, some being better

and some worse. This follows from the variations of climate to which they are subject, as I explained before.

13. Such then is my opinion of Egypt and Libya. I will now discuss the area to the east-north-east as far as Lake Maeotis,* for this is the boundary between Europe and Asia. The people inhabiting these regions differ more among themselves than those discussed previously on account of the changeability of the weather and the nature of the terrain. And what is true of the soil is true of the men. Where the weather shows the greatest and the most frequent variations, there the land is wildest and most uneven. You will find mountains, forests, plains and meadows. But where there is not much difference in the weather throughout the year, the ground will be all very level. Reflection will show that this is true of the inhabitants too. Some men's characters resemble well-wooded and watered mountains, others a thin and waterless soil, others plains or dry bare earth. Climates differ and cause differences in character; the greater the variations in climate, so much the greater will be differences in character.

14. I will leave out the minor distinctions of the various races and confine myself to the major differences in character and custom which obtain among them. First the Macrocephali; no other race has heads like theirs. The chief cause of the length of their heads was at first found to be in their customs, but nowadays nature collaborates with tradition and they consider those with the longest heads the most nobly born. The custom was to mould the head of the newly-born children with their hands and to force it to increase in length by the application of bandages and other devices which destroy the spherical shape of the head and produce elongation instead. The characteristic was thus acquired at first by artificial means, but, as time passed, it became an inherited characteristic and the practice was no longer necessary. The seed comes from all parts of the body, healthy from the healthy parts and sickly from the sickly. If therefore bald parents usually have bald

* At this point some paragraphs have been lost, and the order of what remains is uncertain.

*The Sea of Azov.
children, grey-eyed parents grey-eyed children, if squinting parents have squinting children, why should not long-headed parents have long-headed children? But in fact this does not happen as often as before, because the custom of binding the head has also become obsolete through intercourse with other peoples.

15. I pass now to consider the people who live near the river Phasis.* Their land is marshy, warm, wet and thickly covered with vegetation. Violent rainstorms occur there frequently at all seasons of the year and the inhabitants live in the marshes. Their houses are built on the water of wood and reeds and they do very little walking to go to town or to market, but sail up and down along the many canals in dug-out canoes. They drink warm stagnant water which has been rotted by the sun and swollen by the rains, and the Phasis itself is the most sluggish and stagnant of all rivers. The crops that grow there are all poor, feeble and do not ripen well owing to the superabundance of water which interferes with the ripening process. The ground is often covered with mist. As a result of this the Phasians have peculiar constitutions. They are big and stout and their joints and veins are obscured by flesh. Their skin is yellowish as if they had jaundice and their voices, because they breathe the air which is moist and damp and not clean, are the deepest known. They have little stamina but become quickly tired. The climate varies very little and the prevailing winds are southerly, except for one local breeze which sometimes blows a stiff warm gale. They call this wind the Kenkhron. The north wind never blows hard even when it does blow.

17.† In Europe, on the other hand, and living round Lake Maeotis, there is a special race of Scythians which differs from all other peoples. They go by the name of Sauromatae. Their women ride horses and shoot arrows and hurl javelins from horseback and they fight in campaigns as long as they remain virgins. Nor do they lose their virginity until they have killed three of their enemies and have offered such sacrifices as are prescribed by ritual law. But once a woman has taken to herself a husband she does not ride again unless military necessity

*See note on p. 160.

should require their total forces to take to the field. The women have no right breast since their mothers heat a specially made iron and apply it to the breast while they are still children. This prevents the breast from growing and all the strength and size of it go into the right arm and shoulder instead.

18. As regards the appearances of other tribes of Scythians, the same is true of them as is true of the Egyptians, namely, that they have certain racial characteristics, but differ little among themselves. They differ, however, from the Egyptians in that their peculiarities are due to cold instead of to heat. The so-called Scythian desert is a grassy plain devoid of trees and moderately watered, for there are large rivers there which drain the water from the plains. Here live the Scythians who are called nomads because they do not live in houses but in wagons. The lighter wagons have four wheels but some have six, and they are fenced about with felt. They are built like houses, some with two divisions and some with three, and they are proof against rain, snow and wind. The wagons are drawn by two or three yokes of hornless oxen; hornless because of the cold. The women live in these wagons while the men ride on horseback, and they are followed by what herds they have, oxen and horses. They stay in the same place as long as there is enough grass for the animals but as soon as it fails they move to fresh ground. They eat boiled meat and drink the milk of mares, from which they also make a cheese.

19. So much then for their mode of life and customs. As regards their physical peculiarities and the climate of their lands, the Scythian race is as far removed from the rest of mankind as can be imagined and, like the Egyptians, they are all similar to one another. They are the least prolific of all peoples and the country contains very few wild animals and what there are are very small. The reason for this is their situation in the far north under the Rhipeani mountains from which the north wind blows. The sun shines most brightly towards its setting in the summer and then it warms them only for a very short time and not very much. In addition, the winds from warm lands do not reach as far, as a rule, or, if they do,
they are weak. Instead, northerly winds, chilled with snow and ice and charged with great rains, blow continuously and never leave the mountains which makes them most inhospitable. During the daytime mist often covers the plains where the people live and, in fact, winter is nearly continuous all the year round. The summer lasts only a few days and these are not very summery for the plains are highly situated, bare of trees and are not engirdled by mountains, but slope from the north. The only wild animals found there are those small enough to shelter underground. The cold weather together with the barrenness of the ground, which affords neither warmth nor shelter, prevents their growth. There are no great nor violent changes with the seasons, the climate remaining very much the same all the year round. The people differ little in physique as they always eat similar food, wear the same clothes winter and summer, breathe moist thick air, drink water from snow and ice and do no hard work. The body cannot become hardened where there are such small variations in climate; the mind, too, becomes sluggish. For these reasons their bodies are heavy and fleshy, their joints are covered, they are watery and relaxed. The cavities of their bodies are extremely moist, especially the belly, since, in a country of such a nature and under such climatic conditions, the bowels cannot be dry. All the men are fat and hairless and likewise all the women, and the two sexes resemble one another. Owing to the lack of variation in the weather, the coagulation of the seed is not prevented or impeded unless there is some violent injury or inter-current disease.

20. As a proof of this moistness of the constitution, I may instance the following. You will find that the majority of the Scythians, especially those who are nomads, are cauterized on the shoulders, arms, wrists, chests, hips and loins. This is done simply for the softness and moistness of their constitutions because otherwise they could neither bend their bows nor put any weight into throwing the javelin. But when they have been cauterized the moisture is dried out of their joints and their bodies become more sinewy and stronger and their joints may then be seen. They grow up flabby and stout for two

reasons. First because they are not wrapped in swaddling clothes, as in Egypt, nor are they accustomed to horse-riding as children which makes for a good figure. Secondly, they sit about too much. The male children, until they are old enough to ride, spend most of their time sitting in the wagons and they walk very little since they are so often changing their place of residence. The girls get amazingly flabby and pudgy. The Scythians have ruddy complexions on account of the cold, for the sun does not burn fiercely there. But the cold causes their fair skins to be burnt and reddened.

21. People of such constitution cannot be prolific. The men lack sexual desire because of the moistness of their constitution and the softness and coldness of their bellies, a condition which least inclines men to intercourse. Moreover, being perpetually worn out with riding they are weak in the sexual act when they do have intercourse. These reasons suffice as far as the men are concerned. In the case of the women, fatness and flabbiness are also to blame. The womb is unable to receive the semen and they menstruate infrequently and little. The opening of the womb is sealed by fat and does not permit insemination. The women, being fat, are easily tired and their bellies are cold and soft. Under such conditions it is impossible for the Scythians to be a prolific race. As a good proof of the sort of physical characteristics which are favourable to conception, consider the case of serving wenches. No sooner do they have intercourse with a man than they become pregnant, on account of their sturdy physique and their leanness of flesh.

22. Further, the rich Scythians become impotent and perform women's tasks on an equal footing with them and talk in the same way. Such men they call Anarkeis. The Scythians themselves attribute this to a divine visitation and hold such men in awe and reverence, because they fear for themselves. Indeed, I myself hold that this and all other diseases are equally of divine origin and none more divine nor more earthly than another. Each disease has a natural cause and nothing happens without a natural cause. My own explanation of this disability of the Scythians is this. As a result of horse-riding they are afflicted with varicosity of the veins because
their feet are always hanging down from their mounts. This is followed by lameness and, in severe cases, those affected drag their hips. They treat themselves by their own remedy which is to cut the vein which runs behind each ear. The haemorrhage which follows causes weakness and sleep and after this some, but not all, awake cured. My own opinion is that such treatment is destructive of the semen owing to the existence of vessels behind the ears which, if cut, cause impotence and it seems to me that these are the vessels they divide. Consequently when they come into the presence of their wives and find themselves impotent, they do not perhaps worry about it at first, but when after the second and third and more attempts the same thing happens, they conclude that they have sinned against the divinity whom they hold responsible for these things. They then accept their unmanliness and dress as women, act as women and join with women in their toil.

That it is the rich Scythians, those of the noblest blood and the greatest wealth, and not their inferiors, who suffer from this disease is due to horse-riding. The poor suffer less because they do not ride. Yet, surely, if this disease is more to be considered a divine visitation than any other, it ought to affect not only the rich but everyone equally. Rather, the poor should be specially liable to it if the gods really do delight in honours and the admiration of men and bestow favours in return. It is the rich who make frequent sacrifice and dedication to the gods because they have the means. The poor, being less well provided with goods, sacrifice less and accompany their prayers with complaint. Surely it is the poor and not the rich who should be punished for such sins. Really, of course, this disease is no more of ‘divine’ origin than any other. All diseases have a natural origin and this peculiar malady of the Scythians is no exception. The same thing happens in other races. Those who ride the most suffer most from varicose veins, pain in the hips and gout and they are the less able to perform their sexual functions. This is the fate of the Scythians. They are the most effeminate race of all mankind for the reasons I have given, and because they always wear trousers and spend so much of their time on horseback so that they do not

handle their private parts, and, through cold and exhaustion, never have even the desire for sexual intercourse. Thus they have no sexual impulses in the period before they lose their virility.

23. The remaining peoples of Europe differ widely among themselves both in size and appearance owing to the great and frequent climatic changes to which they are subject. Hot summers and hard winters, heavy rains followed by long periods of drought, all these occasion variations of every kind. It is reasonable that these changes should affect reproduction by variations in the coagulability of the semen so that its nature is different in summer and winter, in rainy weather and times of drought. I believe this to be the reason for the greater variation among individuals of the European races, even among the inhabitants of a single city, than is seen among Asians and also why they vary so much in size. When the weather changes often, abnormalities in the coagulation of the semen are more frequent than when the weather is constant. A variable climate produces a nature which is coupled with a fierce, hot-headed and discordant temperament, for frequent fears cause a fierce attitude of mind whereas quietness and calm dull the wits. Indeed, this is the reason why the inhabitants of Europe are more courageous than those of Asia. Conditions which change little lead to easy-going ways; variations to distress of body and mind. Calm and an easy-going way of living increase cowardice; distress and pain increase courage. That is one reason for the more warlike nature of Europeans. But another cause lies in their customs. They are not subjects of a monarchy as the Asians are and, as I have said before, men who are ruled by princes are the most cowardly. Their souls are enslaved and they are unwilling to risk their own lives for another’s aggrandisement. On the other hand, those who govern themselves will willingly take risks because they do it for themselves. They are eager and willing to face even the worst of fates when theirs are the rewards of victory. It is clear, then, that the tradition of rule has no small influence on the courage of a people.

24. In general it may be said that these are the differences
between Europe and Asia. There exist in Europe, then, people differing among themselves in size, appearance and courage, and the factors controlling those differences are those I have described. Let me summarize this plainly. When a race lives in a rough mountainous country, at a high elevation, and well watered, where great differences of climate accompany the various seasons, there the people will be of large physique, well-acquainted to hardiness and bravery, and with no small degree of fierceness and wildness in their character. On the other hand, in low-lying, stifling lands, full of meadows, getting a larger share of warm than cold winds, and where the water is warm, the people will be neither large nor slight, but rather broad in build, fleshy and black-haired. Their complexions are dark rather than fair and they are phlegmatic rather than bilious. Bravery and hardiness are not an integral part of their natural characters although these traits can be created by training. The people of a country where rivers drain the surface water and rain water have clear complexions and good health. But where there are no rivers and the drinking water is taken from lakes or marshes, the people will necessarily be more pot-bellied and spleenetic. People who live in countries which are high, level, windswept and rainy tend to be of large stature and to show little variation among themselves. They are also of a less courageous and less wild disposition. In countries where there is a light waterless soil devoid of trees and where the seasons occasion but small changes in climate, the people usually have hard sinewy bodies, they are fair rather than dark and they are strong-willed and headstrong in temperament. Places where changes of weather are most frequent and of the greatest degree show the greatest individual differences in physique, temperament and disposition among the inhabitants.

The chief controlling factors, then, are the variability of the weather, the type of country and the sort of water which is drunk. You will find, as a general rule, that the constitutions and the habits of a people follow the nature of the land where they live. Where the soil is rich, soft and well-watered and where surface water is drunk, which is warm in summer and
cold in winter, and where the seasons are favourable, you will find the people fleshy, their joints obscured, and they have watery constitutions. Such people are incapable of great effort. In addition, such a people are, for the most part, cowards. They are easy-going and sleepy, clumsy craftsmen and never keen or delicate. But if the land is bare, waterless and rough, swept by the winter gales and burnt by the summer sun, you will find there a people hard and spare, their joints showing, sinewy and hairy. They are by nature keen and fond of work, they are wakeful, headstrong and self-willed and inclined to fierceness rather than tame. They are keener at their crafts, more intelligent and better warriors. Other living things in such a land show a similar nature. These, then, are the most radically opposed types of character and physique. If you draw your deductions according to these principles, you will not go wrong.

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