SECTION III.

ON THE NATURE OF MAN.

De Natura Hominis, De Natura Hominis, De la Nature de l'Homme, Fœsius, Treat. i. p. 224, Fœsius, i. p. 33, Gardeil, i. p. 113.

The first portion of this book is, by Mercurialis, regarded as a genuine work of Hippocrates, and is frequently quoted by Galen and the ancients. Yet Galen, who comments upon it, has some doubts as to the latter part of it, which treats of the origin of the four great vessels,—and in this Haller seems to agree. It is, says Haller, a congeries of things the most diversified. It first notices the four humours, and their alternate predominance; and which by a species of affinity, are evacuated by medicines. It then adverts to the origin of epidemic diseases, which is attributed to the air, rather than to the mode of living. Correct as this may be in some respects, it is not wholly so, since by a similar diet of salted provisions, scurvy is found to arise in climates altogether different.

Among the various topics noticed is to be found the statement of four pair of vessels, which Haller says, smacks strongly of the Chinese writings. The account, moreover, erroneous as it is, differs greatly from the doctrine of Hippocrates, as it is laid down in his treatise "De locis in homine." It is at this part that Galen stops; observing, however, that in what follows, excepting what relates to the four great vessels, the greater part is not unworthy of Hippocrates. In speaking of fevers and of various diseases, they are mostly ascribed to a diversity of the bile, either in quantity or quality;—thus a quartan is attributed to atra bilis, &c.

Fœsius, at p. 312, note 69, on the origin of the vessels from the

* This section consists of fourteen treatises in the order of arrangement by Fœsius, under the general head of τὰ φύσικα καὶ αἰτιολογία—i. e. physics and etiology—or what has reference to natural causes.
head, refers to Galen, lib. 6, De Placitis; also to Hippocrates, ἀγγεῖα στενὰς φαίνεις, and to Aristotle, Hist. Animal. lib. 3, cap. 3.—The views of the blood-vessels are attributed to Polybius, although this is not the opinion of Galen. And Gardeil, in referring to the other treatises, in which the vessels are spoken of in nearly the same way as in the present one, remarks, that in the one entitled "De Natura Ossium," although the title would indicate a principal attention to the bones, yet it is devoted almost entirely to the blood-vessels; and he adds, that although the whole is embarrassing, it appears to him infinitely more surprising to find so many angiological details, discovered without the aid of injections, than to meet with so many mistakes.—Ed.

Whoever is accustomed to hear the nature of man spoken of by persons who pretend to be acquainted with it, by any means distinct from medicine, will find nothing satisfactory to them in this treatise. I shall not tell them that man is altogether constituted of air, or of fire, or of water, or earth, nor of any other individual thing, since I am persuaded man is not formed of one single element; nevertheless, I leave such opinions willingly to those who maintain them, although they appear to me not clearly to understand what they profess to teach. They all agree in one proposition, but differ entirely in the deductions they derive from it. They first advance the assertion that every thing existing is a unit, and that this unity is the universal whole; but then they disagree as to what this universal unit is. One affirms it to be air, another that it is fire, a third that it is water, and a fourth that it is earth; and each one grounds his assertion on reasoning and testimony of no value. Now, that they should agree at setting off, in one opinion, and then differ in what they say, is an evidence of their ignorance of the whole subject. This is soon discovered in their discourse. If they address the same audience, that audience will readily perceive that none of these philosophers is victorious thrice in succession. Now, it is one, then another, subsequently a third one; and he, the one that has the greatest volubility, and is best exercised in public speaking. If we profess to be fully masters of our subject, we ought undoubtedly to be always victorious in debate; and if we know it in fact, we can conclusively prove it. These philosophers appear to me to disagree, merely from a misapprehension of terms.
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They become, like Melissus: inconsistent; and this is all I shall say upon the subject of these philosophical reveries as to the nature of man. In respect to the opinions of physicians on this particular, some maintain that man consists altogether of blood; some that he is only bile; and others constitute him of pituita. All reason in the same manner: they say that the individual is a unit by whatsoever name it may be termed, and that this unit changes its form and power, according as it is compelled thereto, by cold or heat; that it is capable of becoming sweet or bitter, white or black, or of assuming any other quality;—now none of this do I accredit. The greater number advocate other principles of a similar description. As to my own views, I affirm, that if man was constituted of only one species of matter, he could never feel pain; for how could pain be excited in him, if simple and uncompounded! Admit even that he did feel pain, the remedy applied is equally supposed to be one; but we know that remedies are various and distinct; and this because many things are combined in the body, from which, when becoming, inter se, preternaturally heated or cooled, or dry or humid, different diseases ensue, and under different forms, requiring for their cure an equal difference in treatment. I therefore think, that whoever says man is constituted of blood and nothing else, should be able to prove that he is at all times the same, and incapable of changing!—or at least he should be able to assign some period of the year, or of his life, in which blood only was to be found in him; since, in order to be assured of the real foundation of his opinion, there ought to be at least one period, in which should be alone seen, that of which alone he is constituted. This reasoning applies equally to those who maintain that man consists only of bile, or of pituita. I shall however demonstrate, that the things which constitute the composition of man remain always the same, from their very nature, and the laws by which they are governed; and that this is the case in youth and age, and under every variety of temperature and season. I will likewise point out the signs by which these compounds are recognised, and the causes by which they are individually augmented or decreased in quantity.

The incipient formation or generation of man, cannot possibly arise from one thing only—for how can a single simple substance

* Melissus, according to Galen, affirmed that only one element existed, which, nevertheless, he divided into four others.
engender another without admixture with something else? Now, if what is mingled be not the product of different beings, of the same nature and of similar faculties, no generation can ensue of a being of a like character to them. Moreover, if heat and cold, dry and humid, do not appropriately temper each other, or if either predominates unduly, generation cannot take place. How then can one thing alone engender, when a greater number cannot, unless their natural commixture is properly attempered? Since then such is the nature of generation, there must be, both in respect to man and of all other beings, more than a single thing, each of which is alike essential to the process, and gives to the body the power of accomplishing it. So also, when death takes place, each thing separates and passes off in conformity to its nature: the moist, joins itself to moisture; the dry returns to the dry; hot passes to heat, and the cold to cold. Such is the nature of animals, and of all other beings. All proceed from their like; all return to their like again, since they are compounded of the same things; and each, after serving in the composition, returns to those from which they were derived. Now the body of man contains blood, pituita, and two kinds of bile—yellow and black; and his nature is such that it is through them that he enjoys health, or suffers from disease. He enjoys the former when each is in due proportion of quantity and force, but especially when properly commingled. Disease takes place if either is in excess or deficient, or if not duly united. For when separate, not only the part in which there is a deficiency must be affected, but the part to which it goes being surcharged, will experience pain and uneasiness. When more than a mere superfluity is discharged from the system, the void occasioned thereby is productive of pain; but if this void is caused by the separation of the humours in one part, and being carried by metastasis to another, the pain is twofold, viz.: that induced by the vacuity of the part it leaves, and the repletion of that to which it is conveyed. I have stated that I would show, that those things of which man is composed remain always the same, both from their nature, and their true intent. Now I say that blood, pituita, and yellow and black bile are invariably the same and at all times so considered, since none of those

* The early credence of the necessity of an admixture of the seed of both sexes is here evinced—as also in the treatise on Generation,—without recurrence to the absurd doctrine of sympathy, &c.
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terms are at all equivocal, or liable to any obscurity; and moreover, the things themselves are in their nature entirely distinct—for pituita in no respect resembles blood, nor does blood resemble bile, nor bile pituita. How then can they possibly be confounded, whilst to the eye their colour is different, and also to the touch there is no similarity? In warmth and coldness, in tenuity and consistence, they alike differ. Distinct therefore they must needs be, for they are not one and the same thing; they are not constituted alone of either fire, or water; and we at once distinguish that they are not, individually, one and the same, unless we can pronounce that fire and water are one and the same; but each one has its own peculiar nature and powers. If a medicine is administered that acts on the pituita, that alone is evacuated; if it acts upon the bile, bile is discharged; or black bile, if the remedy acts on the atrabilis. If the body is wounded in any part, blood flows from the wound. All this is the same, by day or night, in winter or summer, so long as man continues to respire; and this he can accomplish so long as he is not deprived of one of these, his constituent parts—for such they unequivocally must be; for they are found within him during the whole of his existence. Besides, the individual was generated by a being who possessed the same principles; and he was nourished by one who also had them. They in fact evince their presence, without the necessity of any reasoning on the subject.

They who affirm that man is constituted of only one principle, seem to found their opinion on reasons to this effect. Persons who have taken purgatives, have been known to die of super-purgation; some of whom have vomited bile, others pituita. Hence they supposed that man consisted of that humour which they saw him discharge in death. They who say he consists of blood only, reason in like manner, from having seen persons whose throats were cut, discharging blood alone, and they employ proof of a like character. Yet no one ever died from super-purgation, by voiding bile alone. If a medicine is taken that acts upon the bile, that humour is first evacuated, and then pituita, which is followed by atrabilis; and if death ensues, blood is also discharged. Such is the case also, when remedies which act on the pituita are too largely taken. Pituita is first vomited, then yellow bile, next black bile, and lastly, before death, he vomits blood. The medicine taken, acts primarily on the humour to which it is most allied in its nature,
and then attacks and evacuates the others. It is precisely as with plants, or seeds, which thrown upon the earth, attract or draw from thence, that which is most accordant to their nature. Now, there they find an acid, bitter, sweet, or saline. Each attracts at first that which is most congenial, and then takes a portion of the rest. So remedies act on the body; such as drive out bile, first purge off pure bile, and then a mixed congeries. If a man's throat is cut, the blood first flows out very warm and red, then mixed with pituita, and lastly with much bile.

Pituita abounds in man more largely in the winter, since it is the humour that has naturally the greatest analogy with that season; for of all the humours it is the coldest, of which we can easily satisfy ourselves. If you successively touch pituita, bile, and blood, the first will be found the coldest; it is more viscid, and combines with difficulty with atrabilis. It may be said, that every thing that is viscid and yields with difficulty, is, by the force employed for such a purpose, rendered hotter, although this is no argument against the actual frigidity of pituita. That it does augment in winter is very clear, for we cough up and discharge it largely at that season; besides which, it is during this season that oedemas and other pituitous swellings chiefly make their appearance. In spring, although pituita is still abundant, yet the blood increases, the cold recedes, and showers occur. The blood therefore ought to increase, both from the augmented humidity and from the increasing temperature, which are the natural concomitants of this season; and a proof of my position is, that men are more liable to dysenteries and epistaxis, and are hotter and higher coloured at those seasons. In the summer, the blood still abounds, but bile augments and extends into the autumn, the blood diminishing, since summer is contrary to its nature. The bile evinces its existence in the summer and in autumn, both by its spontaneous vomition, and by its copious discharge through the means of purgatives. It is equally shown, by the character of autumnal fevers, and by the colour of the skin. Pituita in summer is greatly weakened, for that season being hot and dry, it is naturally opposed to its presence. The blood is smallest in production in the autumn, for this is the dryest season, and already is the system becoming colder. And now the atrabilis predominates, both in power and in quantity. As winter approaches, the atrabilis is refrigerated, and is less abundant; whilst pituita resumes its station and extent, in consequence of abundant
The human body has, therefore, constantly, all the above humours; but they increase or diminish, each according to the season, as it may be conformable or otherwise to their nature respectively. As, throughout the year, there is always present both heat and cold, dryness and moisture, and as nothing in nature could for an instant subsist without their presence; if one alone was wanting, universal destruction would be the result; for the same law that subserved the creation of all things, is equally required for their preservation. It is the same with man; if one of those things that are essential to his constitution, were destroyed, he could not possibly exist. During the year, winter, spring, summer, and autumn, alternately predominate. In man, it is the pituita, or blood, or bile, or atrabilis, that successively hold the sway, as is evident from the operation of the same remedy on the same individual in the four different seasons of the year. In winter the evacuations are most abundant in pituita; in spring they are more diluted; bile predominates in them in summer, and atrabilis in the autumn. Now, this being the case, the diseases which increase in winter, ought to end in summer, as those that arise in summer should be arrested by winter, unless checked by a certain determinate periodicity. This regularity in their termination is elsewhere discussed. In regard to vernal diseases, we must await their final termination in the autumn; as those of autumn may be expected to disappear in spring. Should they extend beyond the season of their usual termination, they will be continued through the year. The physician, therefore, in attending the sick, ought to observe what is predominant in the system, as it regards the body, and also the season of the year.

Here, Galen thinks the genuine character of the treatise ceases, and that what follows is incorrectly added to it; and he here closes his commentary on it.—Ed.

The physician should likewise know what diseases are caused by repletion, and which are cured by evacuations; as also such as arise from evacuations, and are removed by re-integration. So those that spring from fatigue, yield to rest, and if originating in rest, they give way to exercise. In general, he should be acquainted
with the means of fortifying the body against the diseases that threaten it, whether depending on temperament, season, or age. He should be able to strengthen what is relaxed, and to relax what is in a state of tension;—this is the true means of removing the evil, and to this principle, in my opinion, the whole of medicine is reducible.

Some diseases arise from the diet or regimen employed; some from the air we breathe. Whenever, in the same place, many persons are attacked with the same disease, at the same time, we must attribute this to some common cause. Now this is the air. It is evident it cannot be the diet, because the disease attacks all, indiscriminately, men and women, great drinkers and such as drink water only, those who eat cakes alike with such as live on bread, labourers and the idle. Diet is therefore by no means the cause of the evil, since persons living in a way so opposite to each other are equally attacked by the same disease. But when, at the same time, diseases are altogether different, it is obvious that the diet of each must be the source of the disease of each individual. The cure must then be effected by opposing to each, the reverse of that which tended to excite his disease, as I have elsewhere explained. The mode of living must be changed. It is clear that the one pursued is bad, either wholly or in a great degree, in some particular. In order to know what change to make, we must have regard to the temperament and age of the patient, as well as to the constitution and season of the year and the nature of the disease; then fix upon the plan of treatment, either by addition or subtraction, as I have elsewhere stated; always paying attention to age, season, constitution, and the nature of the disease, before prescribing either medicine or diet.

When an epidemic disease prevails, the cause of it assuredly is not in the food we take, but in the air respired, in which something noxious is to be found. In such a state of things it is useless to change the mode of living (diet), since it is not from thence the evil originates. Endeavour by all means to reduce the vigour and embonpoint of the body; retrench slowly in the usual amount of food and drink, for if suddenly changed it is hazardous. Your diet ought in general to be such as is altogether innoxious. Exposure

* This seems to be the origin of the doctrine of the "strictum et laxum," about two centuries ago.

* πνεῦμα, spiritus, Hal.—Souffle, Gard.—Something contained in it, in order to sustain life.
to the air should be avoided as much as possible; or, if it can be done, remove from the place, or at least time live as separate as possible; for by such measures the least injury will be sustained from the noxious quality of the air respired. Diseases arising in the strongest parts of the body are much the most dangerous. If they continue in their original situation, the whole system must sympathize, inasmuch as it is the most vigorous part that is affected. If they leave that stronger part for one that is weaker, it will with difficulty be made to quit this latter situation; but if they quit a weak for a stronger part, the cure is much easier, the strength of the part enabling it to repel the fluxion.

I am now to advert to the vessels of the largest size. Of these there are four pair in the body. The first pair, proceeding from the head, pass down behind the neck, along the spine on both sides exteriorly, and reach the ischium and thighs, proceeding to the legs and external malleoli, and thence to the feet. In diseases of the back and the ischia, venesection should be made at the ham and external ankle. The second pair of vessels arise also from the head, near the ears; they pass down the neck, and are called jugulars. They proceed internally, along each side of the spine, to the loins, the testes, and thighs, along the inner side of the ham, thence along the tibiae to the internal malleoli and feet. In diseases of the loins and testes, we should bleed from the vessels of the inner ham and ankles. The third pair come from the temples, pass along the neck below the scapulae, and thence to the lungs; that of the right side going to the left side of the lungs, that of the left to the right side. The right one passes out from the lungs under the breast, and proceeds to the spleen and kidneys; the left, leaving the right lobe, passes to the breast, to the liver, and the kidneys. The two vessels of this pair terminate in the rectum. The fourth pair parts from the forepart of the head and eyes, down the neck and under the clavicles, thence to the upper part of the arm, and down to its junction with the forearm, from whence it passes along the cubit to the junction of the carpus, and to the fingers; returning from the fingers along the upper part of the hand to the forearm, the elbow and axilla and the superior ribs, a branch proceeds to the spleen, and another to the liver; and both then, spreading over the belly,

* Vene crassissimae, Fax., Hal.; —ϕλυρ χεροτ, Hipp.; —φλυρ, vena animalis, item aurum et similum, Dict.
terminate in the pudenda. Such is the route of the largest vessels. Besides these, a great many different vessels arise from the stomach, by which nourishment is conveyed to the body; and others arise from the large vessels, both external and internal, and pass to every part of the body, having mutual intercommunication with each other in every part. And this should be recollected in our choice of a part in which to bleed. We should remember also to bleed in a part the most distant from that in which pain occurs, or an accumulation of blood. By this means there will be less immediate and sudden change; and by thus diverting the blood from its accustomed course, we shall guard against its accumulation in the part to which its tendency is too great.

They who expectorate much pus without any fever, or whose urine deposits a large quantity of purulent sediment unaccompanied with pain; such as have bloody stools, as in dysentery, or long-continued diarrhoea, as young people of about thirty-five years of age; all such are in a diseased condition, dependent on the same cause. They must have laboured hard and worked much in early life; and then, suddenly ceasing from their active exertions, eating largely and of a quality different from what they have been used to, corpulence ensued, and a great change of their system must have resulted, so that no correspondence exists between their present and their former state. When any disease attacks them, as now constituted, they at first resist it, but they are slowly undermined. The evil penetrates the vessels, and a sanious and unhealthy fluid is discharged wherever opportunity presents. Should it occur in the intestines, a diarrhoea is induced, of a character, as to the discharges, nearly similar to the humour existing in the body. Finding a ready passage, it is not long confined to the intestines. Should the collection tend to the thorax, suppuration ensues, and if the purgation is impeded, the matter in the chest putrefies, and is discharged as pus. When thrown upon the bladder, the heat of the part warms and blanches it, a separation of its parts takes place, the lighter parts float above, and the thicker purulent parts fall to the bottom. It is on this account that in children we find the stone or calculus forming in the bladder, to the heat of which is superadded that of the whole body. In man its formation is less common, in consequence of their greater coldness. It is necessary that the heat of the body should be greatest in the growing state, and we find it coldest as an advance of life takes place,
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when the body shrinks, and it is about to fall into ruin. The heat, during our life, is in exact correspondence with this progression; the faster the growth, in early life, so in proportion is this heat increased; the more we diminish, as life declines, the colder does the body become.

Those affected as above generally recover spontaneously in forty-five days of the same season in which they began to decline; as to those who survive that period, they are usually restored spontaneously in the course of the year, unless some new disease assails them. If the disease is not of long standing, and its cause is well known, a ready cure may be predicted. It must be commenced by prescribing what is the direct opposite to its exciting cause, by which means we destroy it, together with its cause. In cases where sand or gravel is deposited in the urine, there must have been originally some tumour of the great vein, which has ended in suppuration. Subsequently, since an abscess is not so immediately broken, portions of the pus coalesce, and are discharged through the vein, and pass off with the urine from the bladder. Whenever the urine is bloody, there is some affection of the vein [Query: ureter.—Ed]. When we see in a turbid urine small fleshy filaments resembling hair, we must presume that they are produced in the kidneys, and such occur in gouty cases. If in urine that is perfectly clear, we perceive from time to time something on its surface resembling bran, we may conclude that the inner coat of the bladder is affected with scabies. (μαραί erosion.)

Fevers most commonly proceed from bile. There are four species, independently of such as have their origin in pain, and differ from them. These four species are denominated, synocha or continued, quotidian, tertian, and quartan. The first arises from a superabundance of unmixed bile, and its crisis is rapid; inasmuch as the body is not refreshed by intervals of calm, but on the contrary, is heated by an excessive warmth, it must necessarily soon come to an end. The quotidian also proceeds like the continued, from too much bile, though of less amount than in it: it ends in a shorter time than the two last, but continues longer than the first, because there is less bile, and also because during the intermission the body enjoys rest, which in the synocha it does not. The tertian

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* Query: if something is not here lost; can this apply to persons affected as detailed above?—Ed.

* Query: the ureter, which is elsewhere so denominated, as likewise by Celsus.—Ed
is longer than the quotidian, being produced from a smaller amount of bile; and inasmuch as the intermission is longer than in the quotidian, so is the disease itself of longer duration. It is the same with the quartan, which is longer than the tertian, owing to its having less bile, which causes the heat; consequently the period of repose is longer, during which the body is cooled. The quartan, however, is peculiar, in having an excess of atrabilis, which renders its cure difficult; for atrabilis is the most tenacious of all the humours of the body, and that which is with the greatest difficulty evacuated. Now the proof that quartan fever proceeds from or partakes of atrabilis, is, that it is chiefly produced in autumn, and attacks principally those between twenty-five and forty-five years, the period of life in which atrabilis most abounds, and autumn is the season of the year best adapted for its production. If a quartan attacks at any other season and time of life, you may rest assured that it will be of short duration, unless some accidental circumstance should be conjoined with it.