**Pliny the Elder, *Natural History* (Selections)**

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***Introduction:***

*Gaius Plinius Secundus or Pliny the Elder, as he is more usually known was born c.24 CE near Lake Como in the North of Italy to a well-off noble family; like most ambitious members of the provincial elite he came or was sent to Rome to improve his education and career prospects. He studied rhetoric in Rome before starting a military career at c. 21 years of age. His military experience took him all over the Roman world, but especially Germania, and along the Rhine and Danube; he even travelled to the source of the Danube. He wrote extensively throughout his life on a huge variety of topics (his first book was on throwing the spear), but the* Natural History *(sometimes called the* Encyclopaedia*) is all that remains out of his massive output. He served under a number of emperors including Claudius and Nero (though he seems to have been not very successful under Nero and instead spent most of his time writing). Before Titus’ father, Vespasian, took the throne in 69 CE, he served with Vespasian’s son Titus in the army. After Vespasian became emperor after a civil war after the death of Nero, Pliny’s career took off and he served in increasingly important positions in Africa, Spain, Belgium and Gaul. When he returned to Rome he started work on his* Natural History*, which was most likely published in 77 CE. He died in 79 CE in the eruption of Vesuvius, which wiped out Pompeii and Herculaneum, after landed near the eruption to take notes and learn more about the phenomenon. He also commanded the rescue mission as well, as Admiral of the fleet at Misenum (Cape Miseno) near Neapolis (Naples).[[1]](#footnote-1)*

*We know a great deal about his working habits thanks to his nephew and adopted son, Pliny the Younger, who wrote that:*

He would rise halfway through the night; in winter it would often be at midnight or an hour later, and two at the latest. Admittedly, he fell asleep very easily, and would often doze and wake up again during his work. Before daybreak he would visit the emperor Vespasian, who also made use of his nights, and then go to attend to his official duties. On returning home, he devoted his spare time to his work. After something to eat (his meals during the day were light and simple in the old-fashioned way), in summer when he was not too busy he would often lie in the sun, and a book was read aloud while he made notes and extracts.[[2]](#footnote-2) He made extracts of everything he read, and always said that there was no book so bad that some good could not be got out of it. After his rest in the sun he generally took a cold bath, and then ate something and had a short sleep; after which he worked till dinner time as if he started on a new day. A book was read aloud during the meal and he took rapid notes. (*Letters* 3.508-12)

*The Natural History contains what was for the time cutting edge knowledge, all flavoured with Pliny the Elder’s gripes about people who weren’t Roman and the declining moral values of Rome itself. The work became a central source of scientific and other information for the Middle Ages and was extremely influential. Some of its ‘facts’ were circulating in a cheap book called* Aristotle’s Masterpiece *into the 1920s and still reappear in various forms.*

**Preface**

Gaius Plinius Secundus[[3]](#footnote-3) to his friend Titus Vespasian.

I have taken the liberty to dedicate to you this work on natural history, a novel work in Roman literature, which I have just completed, most Generous Emperor, an adjective peculiarly suitable to you, while, on account of his age, that of Greatest is more appropriate to your Father: “For you were always accustomed to think my little trifles worth something.”[[4]](#footnote-4) If I may be allowed to shelter myself (a military term, which you well understand) under the example of Catullus, my fellow-countryman. For he, as you know, when his napkins had been stolen, expressed himself a little harshly, from his anxiety to show his friendship for his dear little Veranius and Fabius. At the same time my importunity may achieve what you complained of my not having done in another too forward epistle of mine: namely, it will put upon record, and let all the world know, with what kindness you act. You, who have had the honour of a triumph,[[5]](#footnote-5) and of the censorship, have been six times consul,[[6]](#footnote-6) and have been a Tribune of the Plebs[[7]](#footnote-7) and, what is still more honourable, been the Prefect of the Praetorians,[[8]](#footnote-8) serving equally your father and the Equestrian Order.[[9]](#footnote-9) All this you have done for the service of the Republic, and, at the same time, you have been a fellow-soldier and a messmate to us. Nor has the extent of your prosperity produced any change in you, except that it has given you the power of doing good as much as you wish. And while all these circumstances increase the veneration which other people feel for you, with respect to myself, they have made me so bold, as to wish to become closer. You must, therefore, take responsibility and blame yourself for any fault of this kind that I may commit.

But although I have tossed aside my shame, I have not gained what I want: you still awe me and keep me at a distance by the majesty of your understanding. In no one does the force of eloquence and of tribunician oratory blaze out more powerfully! With what glowing language do you thunder forth the praises of your Father! How dearly do you love your Brother![[10]](#footnote-10) How admirable is your talent for poetry! What a fertility of genius do you possess, so as to enable you to imitate your Brother! But who is there that is bold enough to form an estimate on these points, if he is to be judged by you, and, more especially, if you are challenged to do so? For the case of those who merely publish their works is very different from that of those who expressly dedicate them to you. In the former case I might ask you, emperor, why do you read these things? They are written only for the common people, for farmers or craftspeople, or for those who have nothing else to do; why do you trouble yourself with them? Indeed, when I undertook this work, I did not expect that you would sit in judgement upon me; I considered your situation much too elevated for you to descend to that. Besides, we possess the right of openly rejecting the opinion of men of learning. Marcus Tullius [Cicero] himself,[[11]](#footnote-11) whose genius is beyond all competition, uses this privilege; and, remarkable as it may appear, employs an advocate in his own defence: "I do not write for very learned people; I do not wish my works to be read by Manius Persius, but by Junius Congus." And if Lucilius,[[12]](#footnote-12) who first introduced the satirical style, thought this was worth saying about his own writing, and if Cicero thought it fine to borrow it even in his treatise the *Republic[[13]](#footnote-13)* how much reason have I to do so, who have such a judge to defend myself against! And by this dedication I have deprived myself of the benefit of challenge for it is a very different thing whether a person has a judge given him by lot, or whether he voluntarily selects one; and we always make more preparation for an invited guest, than for one that comes in unexpectedly.

When the candidates for office, during a heated election campaign, deposited a deposit[[14]](#footnote-14) in the hands of Cato,[[15]](#footnote-15) that determined opponent of bribery, who rejoiced in being rejected at the polls as a free gift, they professed to do this out of respect to his integrity; the greatest glory which a man could attain. It was on this occasion that Cicero uttered the noble line, "How happy are you, Marcus Porcius [Cato], of whom no one dares to ask what is dishonourable! When Lucius Scipio Asiaticus[[16]](#footnote-16) appealed to the tribunes, among whom was Gracchus, he expressed full confidence that he should obtain an acquittal, even from a judge who was his enemy. Hence it follows, that he who appoints his own judge must absolutely submit to the decision; this choice is therefore termed an appeal.

I am well aware that, placed as you are in the highest station in life and gifted with the most splendid eloquence and the most accomplished mind, even those who come to pay their respects to you, do it with a kind of veneration: for this reason I ought to be careful that what is dedicated to you should be worthy of you. But country people, and, indeed, some whole nations offer milk to the gods, and those who cannot procure frankincense substitute in its place salted cakes; for the gods are not dissatisfied when everyone worships them to the best of their ability.[[17]](#footnote-17) But my impudence will appear the greater because these volumes, which I dedicate to you, are of such inferior importance. For they do not allow the display of genius, nor, indeed, is mine one of the highest order; they admit of no purple passages, nor orations, nor discussions, nor of any wonderful adventures, nor any variety of events, nor, from the dryness of the matter, of anything particularly pleasant in the narration, or agreeable to the reader.[[18]](#footnote-18) They describe the nature of things and life as it actually exists; and often the lowest areas of it; so that, in very many cases, I am obliged to use rough, foreign [i.e. Greek], or even barbarous[[19]](#footnote-19) terms, and these often require to be introduced by a kind of preface. And, besides this, my road is not a beaten track, nor one which the mind is much disposed to travel over. There is no one among us who has ever attempted it, nor is there any one individual among the Greeks[[20]](#footnote-20) who has discussed all the topics. Most of us seek for nothing but amusement in our studies, while others are fond of subjects that are of excessive subtlety and completely wrapped in obscurity. My object is to write of all those things which the Greeks include under the rubric of natural history, which, however, are either not generally known, cannot be understood from their style. There are other matters which many writers have given so much in detail that we quite loathe them. It is, indeed, no easy task to give novelty to what is old, and authority to what is new; brightness to what is become tarnished, and light to what is obscure; to render what is slighted acceptable, and what is doubtful worthy of our confidence; to give to all a natural manner, and to each its peculiar nature. It is sufficiently honourable and glorious to have been willing even to make the attempt, although it should prove unsuccessful. And, indeed, I am of opinion, that the studies of those are more especially worthy of our regard, who, after having overcome all difficulties, prefer the useful office of assisting others to the mere gratification of giving pleasure; and this is what I have already done in some of my former works. I confess it surprises me, that Titus Livy,[[21]](#footnote-21) so celebrated an author as he is, in one of the books of *From the Founding of Rome*, should begin with this remark, "I have now obtained a sufficient reputation, so that I might put an end to my work, did not my restless mind require to be supported by employment." Certainly he ought to have composed this work, not for his own glory, but for that of the Roman name, and of the people who were the conquerors of all other nations. It would have been more meritorious to have persevered in his labours from his love of the work, than from the gratification which it afforded himself, and to have accomplished it, not for his own sake, but for that of the Roman people.

I have included in [these] thirty-six books[[22]](#footnote-22) 20,000 topics, all worthy of attention, (for, as Domitius Piso says, we ought to make not merely books, but treasuries of knowledge), gained by reading about 2,000 volumes, of which a few only are in the hands of the studious, on account of the obscurity of the subjects, procured by the careful reading of 100 select authors; and to these I have made considerable additions, which were either not known to my predecessors or which have been recently discovered. Nor can I doubt but that there still remain many things I have omitted, for I am only human, and a very busy man. I have, therefore, been obliged to compose this work at interrupted intervals, indeed during the night, so that you will find that I have not been idle even during this period. The day I devote to you, exactly portioning out my sleep so I keep healthy, and contenting myself with this reward, that while we are thinking about these subjects (as Varro remarks),[[23]](#footnote-23) we are adding to the length of our lives; for life properly consists in being awake.

In consideration of these circumstances and these difficulties, I cannot promise anything; but you have done me the most essential service in permitting me to dedicate my work to you. Nor does this merely give a sanction to it, but it determines its value; for things are often conceived to be of great value solely because they are consecrated in temples. I have given a full account of all your family—your Father, yourself, and your Brother, in a history of our own times, beginning where Aufidius Bassus concludes.[[24]](#footnote-24) You will ask where is it? It has been long completed and its accuracy confirmed; but I have decided to entrust it to my heirs, lest I should have been suspected, during my lifetime, of having been unduly influenced by ambition. By this means I confer an obligation on those who occupy the same ground with myself; and also on posterity, who, I am aware, will contend with me, as I have done with my predecessors.

You may judge my taste from my having inserted in the beginning of the *Natural History* the names of the authors that I have consulted. For I consider it to be courteous and to indicate a plain modesty, to acknowledge the sources whence we have derived assistance, and not to act as most of those have done whom I have examined. For I must inform you that in comparing various authors with each other, I have discovered that some of the most serious and of the latest writers have transcribed, word for word, from former works, without making any acknowledgement; not openly rivalling them, in the manner of Virgil, or with the honesty of Cicero, who, in his treatise the *Republic[[25]](#footnote-25)* professes to coincide in opinion with Plato, and in his *Essay on Consolation for his Daughter*,[[26]](#footnote-26) says that he follows Crantor,[[27]](#footnote-27) and that he follows Panaecius[[28]](#footnote-28) in his *On Moral Duties[[29]](#footnote-29)* - volumes, which, as you well know, ought not merely to be always in our hands, but to be learned by heart. For it is indeed the mark of a perverted mind and a bad disposition to prefer being caught in a theft to returning what we have borrowed, especially when we have acquired capital by interest.

The Greeks have quite marvellous titles for their books. One work they called *Kerion*, *Honeycomb*, another *Keras Amaltheias*, or *Horn of Plenty*, so that you might expect to get even a draught of pigeon's milk[[30]](#footnote-30) from it. Then they have their *Violets*, *Muses, All-encompassing, Manuals, Meadows, Pictures,* and *Offhand [Sketches]*, all of them titles for which a man might even be tempted to forfeit his bail. But when you open their works, gods and goddesses, you find nothing within! Being more serious, Roman writers use [titles like] *Antiquities*, *Examples*, or *Arts*. I think one of the most humorous of them has his *Nocturnal Studies,* a term employed by an author who was Drinker[[31]](#footnote-31) by name and by lifestyle. Varro, indeed, is not much behind him, when he calls one of his satires *Ulysses and a Half*,[[32]](#footnote-32) and *Folding Tablet.* Diodorus was the first among the Greeks who laid aside this silliness and named his history *The Library*.[[33]](#footnote-33) Apion, the grammarian —he whom Tiberius Caesar called the World’s Publicist, but would rather seem to be his own - said that every one to whom he dedicated any work would acquire immortality.

I do not regret not having given my work a more fanciful title.

That I may not, however, seems to always be attacking the Greeks, I should wish to be considered under the same point of view with those inventors of the arts of painting and sculpture, of whom you will find an account in these volumes, whose works, although they are so perfect that we are never satisfied with admiring them, are inscribed with a temporary title, such as "Apelles or Polycletus was making this;" [[34]](#footnote-34) implying that the work was only in progress and still imperfect, and that the artist might benefit by the criticisms that were made on it and alter any part that required it, if he had not been prevented by death. It is also a great mark of their modesty, that they inscribed their works as if they were the last which they had executed, and as still in progress at the time of their death. I think there are but three works of art which are inscribed positively with the words "so-and-so made this;" of these I shall give an account in the proper place. In these cases it appears, that the artist felt the most perfect satisfaction with his work, and hence these pieces have attracted great unpopularity.

I freely admit that much may be added to my works; not only to this one, but to all which I have published. By this admission I hope to escape from petty critics[[35]](#footnote-35) – for I hear that there are certain Stoics and Logicians [*Dialectici*] and also Epicureans (from the Grammarians I expected as much), who are pregnant with a work attacking the little book I published on grammar;[[36]](#footnote-36) and that they have been carrying these abortions for ten years together—a longer pregnancy than the elephant's. But I well know that even a woman once wrote against Theophrastus, a man so eminent for his eloquence that he was called ‘Divine Speaker’ and that from this event we get the proverb of ‘choosing a tree to hang yourself’.

I cannot refrain from quoting the words of Cato the Censor[[37]](#footnote-37) which are so pertinent to this point. It appears from them, that even Cato, who wrote commentaries on military discipline, and who had learned the military art under Africanus,[[38]](#footnote-38) or rather under Hannibal (for he could not even endure Africanus,who, when he was general had a triumph), that Cato, I say, was attacked by others who tried to gain a reputation for themselves by detracting from the merits of others. And what does he say in his book? "I know, that when I shall publish what I have written, there will be many who will do all they can to depreciate it, and, especially, such as are themselves void of all merit; but I let their rants glide by me." Nor was the remark of Plancus a bad one, when Asinius Pollio was said to be preparing an oration against him, which was to be published either by himself or his children, after the death of Plancus, in order that he might not be able to answer it: "It is only ghosts that fight with the dead." This gave such a blow to the oration that nothing was ever thought more scandalous in the general opinion of the learned. Feeling myself, therefore, secure against these vile slanderers, a name elegantly composed by Cato, to express their slanderous and vile disposition (for what other object have they, but to wrangle and breed quarrels?), I will proceed with my projected work.

Because the public good requires that you should be spared as much as possible from all trouble, I have appended to this letter the contents of each of the following books and have used my best endeavours to prevent your being obliged to read them all through. And this, which was done for your benefit, will also serve the same purpose for others, so that any one may search for what he wishes, and may know where to find it. This has been already done among us by Valerius Soranus,[[39]](#footnote-39) in his work *On Mysteries*.

*[Pliny then lists the contents of each of the books in great detail; these have been cut, but they do provide an excellent summary of the extent and reach of the work. The inclusion of tables of contents was very unsual in antiquity.]*

**Book II: the World, the Elements, and the Heavenly Bodies**

#### I. WHETHER THE WORLD IS FINITE, AND WHETHER THERE BE MORE THAN ONE WORLD.

The world and whatever exists which we call the heavens which encloses all things with its vault, we must believe to be: a deity; to be eternal; unmeasurable; neither created, nor ever subject to destruction. To inquire what is beyond it is no concern of man, nor can the human mind form any conjecture respecting it. It is sacred, eternal, and without bounds, all in all; indeed including everything in itself; finite, yet like what is infinite; the most certain of all things, yet like what is uncertain, externally and internally embracing all things in itself; it is the work of nature, and itself constitutes nature. It is madness to harass the mind, as some have done, with attempts to measure the world and to publish these attempts; or, like others, to argue from what they have made out, that there are innumerable other worlds, and that we must believe there to be so many other natures, or that, if only one nature produced the whole, there will be so many suns and so many moons, and that each of them will have immense trains of other heavenly bodies. As if the same question would not recur at every step of our inquiry, anxious as we must be to arrive at some termination; or, as if this infinity, which we ascribe to nature, which shapes all things, cannot be more easily comprehended by one single formation, especially when that is so extensive. It is madness, perfect madness, to go out of this world and to search for what is beyond it, as if one who is ignorant of his own dimensions could ascertain the measure of any thing else, or as if the human mind could see what the world itself cannot contain.

#### II. That it has the form of a perfect orb, we learn from the fact that it is called an orb by everyone’s general consensus, as well as from the facts. For not only does a figure of this kind return everywhere into itself and sustain itself, also including itself, requiring no adjustments, not sensible of either end or beginning in any of its parts, and is best fitted for that motion, with which, as will appear hereafter, it is continually turning round; but still more, because we perceive it by the evidence of the sight, to be, in every part, convex and central, which could not be the case were it of any other figure.

#### III. The rising and the setting of the sun clearly prove that this globe is carried round in the space of twenty-four hours, in an eternal and never-ceasing circuit and with incredible swiftness[.](http://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+2.3&fromdoc=Perseus%3Atext%3A1999.02.0137#note1). I am not able to say whether the sound caused by the whirling about of so great a mass is excessive, and, therefore, far beyond what our ears can perceive, nor, indeed, whether the resounding of so many stars, all carried along at the same time and revolving in their orbits, may not produce a kind of delightful harmony of incredible sweetness.[[40]](#footnote-40) To us, who are in the interior, the world appears to glide silently along both by day and by night. Various circumstances in nature prove to us that there are impressed on the heavens innumerable figures of animals and of all kinds of objects,[[41]](#footnote-41) and that its surface is not perfectly polished like the eggs of birds, as some celebrated authors assert. For we find that the seeds of all bodies fall down from it, principally into the ocean, and, being mixed together, that a variety of monstrous forms are in this way frequently produced. And, indeed, this is evident to the eye; for, in one part, we have the figure of a cart, in another of a bear, of a bull, and of a letter; while, in the middle of them, over our heads, there is a white circle[5](http://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+2.3&fromdoc=Perseus%3Atext%3A1999.02.0137#note5).

#### IV. With respect to the name, I am influenced by the unanimous opinions of all nations. For the Greeks call it [the universe] *cosmos,* because it is ornamented; [[42]](#footnote-42) but we call it *mundus* because it is perfect and complete elegance*.* The name *caelum* [sky]*,* no doubt, refers to its being engraven,[[43]](#footnote-43) as it were, with the stars, as Varro suggests. In proof of this, the Zodiac has twelve figures of animals and the sun has driven its course through them for many, many ages.

#### V. I do not find that any one has doubted that there are four elements. The highest of these is supposed to be fire, and hence proceed the eyes of so many glittering stars. The next is that spirit, which both the Greeks and ourselves call by the same name, air. It is by the force of this vital principle, pervading all things and mingling with all, that the earth, together with the fourth element, water, is balanced in the middle of space. These are mutually bound together, the lighter being restrained by the heavier, so that they cannot fly off; while, on the contrary, from the lighter tending upwards, the heavier are so suspended, that they cannot fall down. Thus, by an equal tendency in an opposite direction, each of them remains in its appropriate place, bound together by the never-ceasing revolution of the world, which always turning on itself, the earth falls to the lowest part and is in the middle of the whole, while it remains suspended in the centre and, as it were, balancing this centre, in which it is suspended. So that it alone remains immoveable, while all things revolve round it, being connected with every other part, while they all rest upon it. VI. Between this body and the heavens there are suspended, in this aerial spirit, seven stars,[[44]](#footnote-44) separated by determinate spaces, which, on account of their motion we call wandering, although, in reality, none are less so. The sun is carried along in the midst of these, a body of great size and power, the ruler, not only of the seasons and of the different climates, but also of the stars themselves and of the heavens. When we consider his operations, we must regard him as the life, or rather the mind of the universe, the chief regulator and the god of nature; he also lends his light to the other stars. He is most illustrious and excellent, beholding all things and hearing all things, which, I perceive, is ascribed to him exclusively by the prince of poets, Homer.

V. I consider it, therefore, an indication of human weakness to inquire into the physical form of God. For whatever God be, if there be any other God, and wherever he exists, he is all sense, all sight, all hearing, all life, all mind, and all within himself. To believe that there are a number of gods, derived from the virtues and vices of man, as Chastity, Concord, Understanding, Hope, Honour, Clemency, and Fidelity; or, according to the opinion of Democritus, that there are only two, Punishment and Reward, indicates still greater folly. Human nature, weak and frail as it is, mindful of its own infirmity, has made these divisions, so that every one might have recourse to that which that which they thought they particular need of. Hence we find different names employed by different nations; the inferior deities are arranged in classes, and diseases and plagues are deified in consequence of our anxious wish to propitiate them. It was from this cause that a temple was dedicated to Fever, at the public expense, on the Palatine Hill,[[45]](#footnote-45) and to Orbona,[[46]](#footnote-46) near the Temple of the Lares, and that an altar was elected to Good Fortune [*Fortuna*] on the Esquiline Hill.[[47]](#footnote-47) Hence we may understand how it comes to pass that there is a greater population of the Celestials than of human beings, since each individual makes a separate god for themselves, adopting her own Juno or his own Genius.[[48]](#footnote-48) There are even peoples who make gods of certain animals, and even certain obscene things, which are not to be spoken of, swearing by stinking meats and the like. To suppose that marriages are contracted between the gods, and that, during so long a period, there should have been no children from them, that some of them should be old and always grey-headed and others young and like children, some of a dark complexion, winged, lame, produced from eggs, living and dying on alternate days, is puerile and nearly demented. But it is the height of impudence to imagine that adultery takes place between them, that they have contests and quarrels, and that there are gods of theft and of various crimes. To assist man is to be a god; this is the path to eternal glory. This is the path which Roman nobles formerly pursued, and this is the path which is now pursued by the greatest ruler of our age, Vespasian Augustus,[[49]](#footnote-49) he who has come to the relief of an exhausted empire, as well as by his sons. This was the ancient mode of remunerating those who deserved it, to regard them as gods. For the names of all the gods, as well as of the stars that I have mentioned above, have been derived from their services to mankind. And with respect to Jupiter and Mercury, and the rest of the celestial nomenclature, who does not admit that they have reference to certain natural phenomena? But it is ridiculous to suppose, that the great head of all things, whatever it be, pays any regard to human affairs. Can we believe, or rather can there be any doubt, that it is not polluted by such a disagreeable and complicated office? It is not easy to determine which opinion would be most advantageous for mankind, since we observe some who have no respect for the gods, and others who carry it to a scandalous excess. They are slaves to foreign ceremonies; they carry on their fingers the gods and the monsters whom they worship;[[50]](#footnote-50) they condemn and they lay great stress on certain kinds of food; they impose on themselves dreadful ordinances, not even sleeping quietly. They do not marry or adopt children, or indeed do anything else, without the sanction of their sacred rites. There are others, on the contrary, who will cheat in the very Capitol, and will forswear themselves even by Jupiter Tonans,[[51]](#footnote-51) and while these thrive in their crimes, the others torment themselves with their superstitions to no purpose.

VI. Among these conflicting opinions humans have discovered for themselves a kind of intermediate deity, by which our scepticism concerning God is still increased. For all over the world, in all places, and at all times, Fortune is the only god whom every one invokes; she alone is spoken of, she alone is accused and is supposed to be guilty; she alone is in our thoughts, is praised and blamed, and is loaded with reproaches; wavering as she is, conceived by the generality of humans to be blind, wandering, inconstant, uncertain, variable, and often favouring the unworthy. To her are referred all our losses and all our gains, and in casting up the accounts of mortals she alone balances the two pages of our sheet. We are so much in the power of chance that Change itself is considered as a god, and the existence of God becomes doubtful. But there are others who reject this principle and assign events to the influence of the stars, and to the laws of our nativity;[[52]](#footnote-52) they suppose that God, once for all, issues his decrees and never afterwards interferes. This opinion begins to gain ground, and both the learned and the unlearned vulgar are falling into it. Hence we have the warnings of thunder, the warnings of oracles, the predictions of soothsayers, and things too trifling to be mentioned, as sneezing and stumbling with the feet reckoned among omens. The Divine Augustus[[53]](#footnote-53) relates, that he put the left shoe on the wrong foot, the day when he was near being assaulted by his soldiers. And such things as these so embarrass improvident mortals, that among all of them this alone is certain, that there is nothing certain, and that there is nothing more proud or more wretched than man. For other animals have no care but to provide for their subsistence, for which the spontaneous kindness of nature is all-sufficient; and this one circumstance renders their lot more especially preferable, that they never think about glory, or money, or ambition, and, above all, that they never reflect on death.

VII. The belief, however, that on these points the gods overlook human affairs is useful to us, as well as that the punishment of crimes - although it is sometimes tardy as god being occupied with such a mass of business - is never entirely overlooked, and that the human race was not made the next in rank to himself, in order that they might be degraded like brutes. And indeed this constitutes the great comfort in this imperfect state of man, that even god cannot do everything. For he cannot procure death for himself, even if he wished it, which, so numerous are the evils of life, has been granted to man as our chief good. Nor can he make mortals immortal, or recall to life those who are dead; nor can he ensure, that he who has once lived shall not have lived, or that he who has enjoyed honours shall not have enjoyed them; nor has he any influence over past events but to cause them to be forgotten. And, if we illustrate the nature of our connexion with God by a less serious argument, he cannot make twice ten not be twenty, and many other things of this kind. By these considerations the power of Nature is clearly proved, and is shown to be what we call God. It is not foreign to the subject to have digressed into these matters, familiar as they are to every one, from the continual discussions that take place respecting God.

[*Pliny then discusses the heavens and the heavenly bodies, before concluding with a summary of the book’s contents and all the authors he has cited.*]

Summary.—The facts, statements, and observations contained in this Book amount in number to 417.

Roman Authors Quoted: Marcus Varro, Sulpicius Gallus, Titus Caesar the Emperor, Quintus Tubero, Tullius Tiro, Lucius Piso, T. Livy, Cornelius Nepos, Sebosus, Celius Antipater, Fabianus, Antias, Mucianus, [Lucius] Caecina, who wrote on the Etruscan art,[[54]](#footnote-54) Tarquitius, who did the same, Julius Aquila, who also did the same, and Sergius.

Foreign Authors Quoted: Plato, Hipparchus, Timaeus, Sosigenes, Petosiris, Necepsos, the Pythagorean philosophers, Posidonius, Anaximander, Epigenes the philosopher who wrote on Gnomonics, Euclid, Coeranus the philosopher, Eudoxus, Democritus, Critodemus, Thrasyllus, Serapion, Dicæarchus, Archimedes, Onesicritus, Eratosthenes, Pytheas, Herodotus, Aristotle, Ctesias, Artemidorus of Ephesus, Isidorus of Charax, and Theopompus.

**Book VII: Man, and the Inventions of Man**

#### I. Such then is the present state of the world, and of the countries, nations, more remarkable seas, islands, and cities which it contains.[[55]](#footnote-55) The nature of the animated beings which exist upon it, is hardly in any degree less worthy of our contemplation than its other features; if, indeed, the human mind is able to embrace the whole of so diversified a subject. Our first attention is justly due to Man, for whose sake all other things appear to have been produced by Nature; though, on the other hand, with so great and so severe penalties for the enjoyment of her bounteous gifts, that it is far from easy to determine, whether she has proved to him a kind parent, or a merciless step-mother.[[56]](#footnote-56) In the first place, she obliges him alone, of all animated beings, to clothe himself with the spoils of the others; while, to all the rest, she has given various kinds of coverings, such as shells, crusts, spines, hides, furs, bristles, hair, down, feathers, scales, and fleeces. She has protected even the trunks of trees against the effects of heat and cold by a bark, which is, in some cases, twofold. She abandons humans alone, at the very moment of their birth cast naked upon the naked earth, to cries, to lamentations, and, a thing that is the case with no other animal whatever, to tears: this, too, from the very moment that he is born. But as for laughter, why, by Hercules!—to laugh, if but for an instant only, has never been granted to humans before the fortieth day from their birth, and then it is looked upon as a miracle of precocity. Introduced thus to the light, man has fetters and swathings instantly put upon all his limbs, a thing that falls to the lot of none of the animals, even domestic ones. Born to such singular good fortune, there lies the animal, which is destined to command all the others, lying fast bound hand and foot, and weeping aloud! Such is the penalty he has to pay on beginning life, and that for the sole fault of having been born. Alas for the folly of those who can think after such a beginning as this, that they have been born for the display of vanity!

The earliest presage of future strength, the earliest bounty of time, confers upon him nothing but a resemblance to a quadruped. How soon does man gain the power of walking? How soon does he gain the faculty of speech? How soon can he chew? How long are the pulsations of the crown of his head to proclaim him the weakest of all animated beings? And then, the diseases to which he is subject, the numerous remedies which he is obliged to devise against his maladies, and those thwarted every now and then by new forms and features of disease. While other animals have an instinctive knowledge of their natural powers; some, of their swiftness of pace, some of their rapidity of flight, and some again of their power of swimming; man is the only one that knows nothing, that can learn nothing without being taught; he can neither speak, nor walk, nor eat, and, in short, he can do nothing, at the prompting of nature only, but weep. For this it is, that many have been of opinion, that it were better not to have been born, or if born, to have been annihilated at the earliest possible moment. To man alone, of all animated beings, has it been given, to grieve, to him alone to be guilty of luxury and excess; and that in innumerable ways, and in every part of his body. Man is the only being that is a prey to ambition, to avarice, to an immoderate desire for life, to superstition, he is the only one that troubles himself about his burial, and even what is to become of him after death. But no [other animal] has such a frail hold on life, nor is as influenced by unbridled desires for all things, nor feels more bewildering fears; none are actuated by rage more frantic and violent. In short, other animals live at peace with those of their own kind; we only see them unite to make a stand against those of a different species. The fierceness of the lion is not wasted fighting with its own kind; the bite of the serpent is not aimed at serpents; and the monsters of the sea even, and the fishes, vent their rage only on those of a different species. But with man - by Hercules - most of his misfortunes are caused by man.

I have already given a general description of the human race in my account of the different nations.[[57]](#footnote-57) Nor, indeed, do I now propose discuss their manners and customs, which are of infinite variety and almost as numerous as the various groups into which mankind is divided; but yet there are some things, which, I think, ought not to be omitted; and more particularly, in relation to those peoples which dwell at a considerable distance from the sea; among which, I have no doubt, that some facts will appear of an astounding nature, and, indeed, incredible to many. Who, for instance, could ever believe in the existence of the Ethiopians, who had not first seen them? Indeed what is there that does not appear marvellous, when it comes to our knowledge for the first time? How many things, too, are looked upon as quite impossible, until they have been actually done? But it is the fact, that every moment of our existence we are distrusting the power and the majesty of Nature, if the mind, instead of grasping her in her entirety, considers her only in detail. Not to speak of peacocks, the spotted skins of tigers and panthers, and the rich colours of so many animals, a trifling thing apparently to speak of, but of inestimable importance, when we give it due consideration, is the existence of so many languages among the various nations, so many modes of speech, so great a variety of expressions; that to another, a man who is of a different country, is almost the same as no man at all. And then, too, the human features and appearance, although composed of but some ten parts or little more, are so fashioned, that among so many thousands of men, there are no two in existence who cannot be distinguished from one another, a result which no art could possibly have produced, when confined to so limited a number of combinations. In most points, however, of this nature, I shall not be content to pledge my own credit only, but shall confirm it in preference by referring to my authorities, which shall be given on all subjects of a nature to inspire doubt. My readers, however, must make no objection to following the Greeks, who have proved themselves the most careful observers, as well as of the longest standing.

[*The rest of the book covers various nations and peoples, starting with man-eating Scythians and getting stranger as it goes along.]*

**BOOK XXVIII: Remedies from living creatures**

I. All would have been said about the character of all things growing between heaven and earth, leaving only whatever is dug out of the ground itself, if dealing with remedies derived from plants and shrubs did not make me digress to the wider sphere of medicines obtained from the very living creatures that themselves are healed. Well then, shall I, who have described plants and forms of flowers, including many rare things that are difficult to find, say nothing about the benefits to man that are to be found in man himself, nothing about the other kinds of remedies that live among us, especially as life itself becomes a punishment for those who are not free from pains and diseases? Surely I must, and I shall devote all my care to the task although I realize the risk of causing disgust, since it is my fixed determination to have less regard for popularity than for benefiting human life. Furthermore, my investigations will include foreign things and even outlandish customs; belief here can appeal only to authority, although I myself also, when choosing my detail have striven to find views almost universally believed, and I have stressed careful research rather than abundance of sources. One thing it is very necessary to point out: I have already described the natures of living creatures and the discoveries we owe to each (for they did no less good by discovering medicines than they do by supplying them).[[58]](#footnote-58) I am now showing what help is to be found in the creatures themselves. I did not entirely leave out this then; so although the new matter is different, it is yet intimately connected with the old.

II. But I shall begin with man seeking aid for himself out of himself, and at the outset there we find a most baffling puzzle. Epileptics drink the blood of gladiators as though it were a draught of life, though we shudder with horror when in the same arena we look at even animals doing the same thing. But, by Heaven, the patients think it most effectual to suck from a man himself warm, living blood, and putting their lips to the wound to drain the very life, although it is not the custom of men to apply their mouths at all to the wounds even of wild beasts. Others seek to secure the leg-marrow and the brain of infants. Several Greeks have even spoken of the flavour of each organ and limb, going into all details, not excluding nail parings; just as though it could be thought health for a man to become a beast and to deserve disease as punishment in the very process of healing. And, by Heaven, well deserved is the disappointment if these remedies prove of no avail. To look at human entrails is considered sin; what must it be to eat them? Who was the first, Osthanes,[[59]](#footnote-59) to think of such devices as yours? For it is you who must bear the blame, you destroyer of human rights and worker of horrors; you were their first founder, in order, I suppose, to perpetuate your memory. Who first thought of chewing human limbs one-by-one? What soothsaying guided him? What origin could your medical practices have had? Who made magic potions more innocent than their remedies? Granted that foreigners and barbarians had discovered the rites, did the Greeks also make these arts their own? There is extant a treatise of Democritus stating that one complaint is more benefited by bones from the head of a criminal, and other complaints by those of a friend or guest. Moreover, Apollonius put in writing that to scrape sore gums with the tooth of a man killed by violence is most efficacious, and Meletos that the gall of a human being cures cataract. Artemon treated epilepsy with draughts of water drawn from a spring by night and drunk out of the skull of a man killed but not cremated. From the skull of a man hanged Antaeus made pills to cure the bites of a mad dog. Even quadrupeds too have been cured by remedies taken from a man; to cure flatulence in oxen their horns have been pierced and human bones inserted; for sick pigs wheat has been given which had remained for a whole night where a man had been killed or cremated. Far from me and my writings be such horrors. I shall speak not of sins but of aids, such as when the milk of nursing women, or human saliva, or contact with a human body, and the like will prove an effective remedy. I do not indeed hold that life ought to be so prized that by any and every means it should be prolonged. You holding this view, whoever you are, will none the less die, even though you may have lived longer through foulness or sin. And so let every man consider that first among the remedies for his soul is this: that of all the blessings given to man by Nature none is greater than a timely death, and in this the brightest feature is that each man can have the power to bestow it on himself.[[60]](#footnote-60)

III. Of the remedies derived from man, the first raises a most important question, and one never settled: have words, chants, and incantations any effect? If they have, it would be right and proper to give the credit to mankind. As individuals, however, all our wisest men reject belief in them, although everyone at all times believes in them without thinking about it. In fact the sacrifice of victims without a prayer is supposed to be of no effect; without it the gods are not thought to be properly consulted. Moreover, there is one form of words for getting favourable omens, another for averting evil, and yet another for a commendation. We see also that our chief magistrates have adopted fixed formulas for their prayers; that to prevent a word being omitted or out of place a reader dictates beforehand the prayer from a script; that another attendant is appointed as a guard to keep watch, and yet another is put in charge to maintain a strict silence; that a piper plays so that nothing but the prayer is heard. Remarkable instances of both kinds of interference are on record: cases when the noise of actual ill omens has ruined the prayer, or when a mis­take has been made in the prayer itself; then suddenly the head of the liver, or the heart, has disappeared from the entrails, or these have been doubled, while the victim was standing. There has come down to us a striking example of ritual in that with which the Decii, father and son, devoted[[61]](#footnote-61) themselves; extant too is the plea of innocence uttered by the Vestal Virgin Tuccia when, accused of unchastity, she carried water in a sieve, in the year of the City 609.[[62]](#footnote-62) Our own period indeed even saw buried alive in the Cattle Market a Greek man and a Greek woman, and victims from other peoples with whom at the time we were at war.[[63]](#footnote-63) The prayer used at this ceremony is usually be dictated by the Chief of the College of the Quindecimviri,[[64]](#footnote-64) and if one reads it one is forced to admit that there is power in ritual formulas, the events of eight hundred and thirty years showing this for all of them. It is believed today that our Vestal Virgins by a spell root to the spot runaway slaves, provided they have not left Rome, and yet, if this view is once admitted, that the gods hear certain prayers, or are moved by any form of words, the whole question must be answered in the affirmative. Our ancestors, indeed, reported such wonders again and again, and that, most impossible of all, even lightning can be brought by charms from the sky, as I have mentioned on the proper occasion.

IV. Lucius Piso[[65]](#footnote-65) in the first book of his *Annals* tells us that King Tullus Hostilius[[66]](#footnote-66) used the same sacrificial ritual as Numa, which he found in Numa's books,[[67]](#footnote-67) in an attempt to draw Jupiter down from the sky, and was struck by lightning because he made certain mistakes in the ceremony; many indeed assure us that by words the destinies and omens of mighty events are changed. During the digging of foundations for a shrine on the Tarpeian Hill there was discovered a human head. For an interpretation envoys were sent to Olenus of Cales, the most distinguished seer of Etruria.[[68]](#footnote-68) Perceiving that the sign portended glory and success, Olenus tried by questioning to divert the blessing to his own people. He first traced with his staff the outline of a temple on the ground in front of him, and then asked: 'Is this then, Romans, what you say? "Here will be the temple of Jupiter, All-good and Almighty; here we found the head?"' The *Annals* most firmly insists that the destiny of Rome would have passed to Etruria, had not the Roman envoys, forewarned by the seer's son, replied: 'Not exactly here, but it was in Rome that we say the head was found.' It is said that the same thing happened again when a clay four-horse chariot, designed for the roof of the same shrine, grew larger in the furnace, and once more in a similar way was the happy augury retained. Let these instances suffice to show that the power of omens is really in our own control, and that their influence is conditional upon the way we receive each. At any rate, in the teaching of the augurs it is a fundamental principle that neither evil omens nor any auspices affect those who at the outset of any undertaking declare that they take no notice of them; no greater instance of the divine mercy could be found than this boon. Again, in the actual laws of the Twelve Tables[[69]](#footnote-69) we find also these words: 'Whoever shall have bewitched the crops,' and in another place: 'whoever shall have cast an evil spell.' Verrius Flaccus cites trustworthy authorities to show that it was the custom at the very beginning of a siege for the Roman priests to call forth the divinity under whose protection the besieged town was, and to promise him the same or even more splendid worship among the Roman people.[[70]](#footnote-70) Down to the present day this ritual has remained part of the doctrine of the Pontiffs, and it is certain that the reason why the tutelary deity of Rome has been kept a secret is to prevent any enemy from acting in a similar way. There is indeed nobody who does not fear to be spellbound by a curse. A similar feeling makes everybody break the shells of eggs or snails immediately after eating them, or else pierce them with the spoon that they have used. And so Theocritus among the Greeks, Catullus and quite recently Virgil among ourselves, have represented love charms in their poems. Many believe that by charms pottery can be crushed, and many believe the same of snakes, that these themselves can break the spell, this being the only kind of intelligence they possess; and by the charms of the Marsi[[71]](#footnote-71) they are gathered together even when asleep at night. On walls too are written prayers to avert fires. It is not easy to say whether our faith is more violently shaken by the foreign, unpronounceable words, or by the unexpected Latin ones, which our mind forces us to consider absurd, being always on the look-out for something big, something adequate to move a god, or rather to impose its will on his divinity. Homer said that by a magic formula Ulysses stayed the haemorrhage from his wounded thigh; Theophrastus that there is a formula to cure sciatica; Cato handed down one to set dislocated limbs, Marcus Varro one for gout. The dictator [Julius] Caesar, after one serious accident to his carriage, is said always, as soon as he was seated, to have been in the habit of repeating three times a formula of prayer for a safe journey, a thing we know that most people do today.

**V**. I should like to reinforce this part of my argument by adding an appeal to the personal feeling of the individual. Why on the first day of the year do we wish one another cheerfully a happy and prosperous New Year? Why do we also, on days of general purification, choose people with lucky names to lead the victims? Why do we meet the evil eye by a special attitude of prayer, some invoking the Greek goddess Nemesis, for which purpose there is at Rome an image of the goddess on the Capitol, although she has no Latin name? Why on mentioning the dead do we protest that their memory is not being attacked by us? Why do we believe that in all matters the odd numbers are more powerful, as is implied by the attention paid to critical days in fevers? Why at the harvest of the first-fruits do we say: 'These are old,' and pray for new ones to take their place? Why do we say 'Good health' to those who sneeze? This custom according to report even Tiberius Caesar,[[72]](#footnote-72) admittedly the most gloomy of men, insisted on even in a carriage, and some think it more effective to add to the salutation the name of the sneezer. Moreover, according to an accepted belief absent people can divine by the ringing in their ears that they are the object of talk. Attalus[[73]](#footnote-73) assures us that if on seeing a scorpion one says 'Two,' it is checked and does not strike. The mention of scorpions reminds me that in Africa nobody decides on anything without first saying 'Africa,' whereas among all other peoples a man prays first for the approval of the gods. But a when a table is ready it is a universal custom, we see, to take off one's ring, since it is clear that scrupulous actions, even without words, have their powers. Some people, to calm mental anxiety, carry saliva with the finger to behind the ear. There is even a proverb that bids us turn down our thumbs to show approval. In worshipping we raise our right hand to our lips and turn round our whole body, the Gauls considering it more effective to make the turn to the left. All peoples agree in worshipping lightning by clucking with the tongue. If during a banquet fires have been mentioned we avert the omen by pouring water under the table. It is supposed to be a most unlucky sign for the floor to be swept while a diner is leaving the banquet, or for a table or dumbwaiter to be removed while a guest is drinking. Servius Sulpicius, a noble Roman, has left an essay on why we should not leave the table; for in his day it was not the custom to have more tables than there were guests; for if a course or a table is recalled by a sneeze and nothing of it tasted afterwards, it is considered an evil portent, as is to eat nothing at all. These customs were established by those of old, who believed that gods are present on all occasions and at all times, and therefore left them to us reconciled even in our faults. Moreover, it has been remarked that a sudden silence falls on a banquet only when the number of those present is even, and that it portends danger to the reputation of each of them. Food also that fell from the hand used to be put back at least during courses, and it was forbidden to blow off any dirt for tidiness; auguries have been recorded from the words or thoughts of the diner who dropped food, a very dreadful omen being if the Pontiff should do so at a formal dinner. In any case putting it back on the table and burning it before the Lar[[74]](#footnote-74) counts as expiation. Medicines set down by chance on a table before being used are said to lose their efficacy.

To cut the nails on the market days at Rome in silence, beginning with the forefinger, is a custom many people feel they must perform; while to cut the hair on the seventeenth day of the month and on the twenty-ninth prevents its falling out as well as headaches. A country rule observed on most Italian farms forbids women to twirl their spindles while walking along the road, or even to carry them uncovered, on the ground that such action blights the hopes of everything, especially the hope of a good harvest. Marcus Servilius Nonianus, a leading citizen of Rome, who was not so long ago afraid of ophthalmia, used to tie round his neck a sheet of paper fastened with thread, on which were written the two Greek letters *rho* and *alpha*, before he mentioned the disease himself or any one else spoke to him about it; Mucianus, three times consul, following the same observance used a living fly in a white linen bag. Both swore that by these remedies they kept themselves free from ophthalmia. We certainly still have formulas to charm away hail, various diseases, and burns, some actually tested by experience, but I am very shy of quoting them, because of the widely different feel­ings they arouse. And so everyone must form his own opinion about them as he pleases.

VI. I have spoken of people possessed of powers of witchcraft and of the evil eye, along with many peculiar characteristics of animals when dealing with marvels of the nations; it is superfluous to go over the ground again. Some men have very beneficial bodies, for example the members of those families that frighten serpents. These by a mere touch or by wet suction relieve bitten victims. In this class are the Psylli,[[75]](#footnote-75) the Marsi, and the Ophiogenes, as they are called, in the island of Cyprus. An envoy from this family, Evagon, was thrown by the consuls as a test into a cask of serpents at Rome: these licked him all over to everyone’s amazement. A feature of this family (if it still survives) is the foul smell of its members in spring. Their sweat also, not only their saliva, had curative powers. But the natives of Tentyris, an island on the Nile, are such a terror to the crocodiles that these run away at the mere sound of their voice. All these peoples, so strong their natural antipathy, can, as is well known, effect a cure by their very arrival, just as wounds grow worse on the entry of those who have ever been bitten by the tooth of snake or dog. The latter also addle the eggs of a sitting hen, and make cattle miscarry; so much venom remains from the injury once received that the poisoned are turned into poisoners. The remedy is for their hands to be first washed in water, which is then used to sprinkle on the patients. On the other hand, those who have once been stung by a scorpion are never afterwards attacked by hornets, wasps or bees. He may be less surprised at this who knows that moths do not touch a garment that has been worn at a funeral, and that snakes are with difficulty pulled out of their holes except with the left hand. One of the discoveries of Pythagoras[[76]](#footnote-76) will not readily deceive you: that an uneven number of vowels in given names portends lameness, blindness, or similar disability, on the right side, an even number of vowels the same disabilities on the left. It is said that difficult labour ends in delivery at once, if over the house where is the lying-in woman there be thrown a stone or missile that has killed with one stroke each three living creatures—a human being, a boar, and a bear. A successful result is more likely if a light-cavalry spear, which has been pulled out from a human body without the ground being touched, is used. The result indeed is the same if the spear is carried indoors. So too, as Orpheus and Archelaus write,[[77]](#footnote-77) arrows drawn out of a body and not allowed to touch the ground act as a love-charm upon those under whom they have been placed while they are in bed. Moreover, add these authorities, epilepsy is cured by food taken from the flesh of a wild beast killed by the same iron weapon that has killed a human being. Some men have healing powers con­fined to parts of their body. We have mentioned the thumb of King Pyrrhus[[78]](#footnote-78) and at Elis there used to be shown a shoulder blade of Pelops, which was stated to be of ivory.[[79]](#footnote-79) Many men even today have scruples about cutting hair from moles on the face.

**VII**. I have however pointed out that the best of all safeguards against snakes is the saliva of a fasting human being, but our daily experience may teach us yet other values of its use. We spit on epileptics in a fit, that is, we throw back infections. In a similar way we ward off witchcraft and the bad luck that follows meeting a person lame in the right leg. We also ask forgiveness of the gods for a too presumptuous hope by spitting into our bosom; the same reason again accounts for the custom, in using any remedy, of spitting on the ground three times by way of ritual thus increasing its efficacy, and of marking early incipient boils three times with fasting saliva. It is surprising, but easily tested, that if one is sorry for a blow, whether inflicted by hand or by a missile, and at once spits into the palm of the hand that gave the wound, the resentment of the victim is immediately softened. Corroborative evidence is often seen in draught animals; when the animal has been flogged to lameness, after the remedy of spitting has been tried, it at once resumes its pace. Some people indeed add force to their blows in a similar way by spitting into the hand before making their effort. Let us therefore believe that lichens[[80]](#footnote-80) too and leprous sores are kept in check by continual application of fast­ing saliva, as is also ophthalmia by using saliva every morning as eye ointment, carcinoma by kneading earth apple[[81]](#footnote-81) with saliva, and pains in the neck by applying fasting saliva with the right hand to the right knee and with the left hand to the left knee; let us also believe that any insect that has entered the ear, if spat upon, comes out. It acts as a charm for a man to spit on the urine he has voided; similarly to spit into the right shoe before putting it on, also when passing a place where one has run into some danger. Marcion of Smyrna, who wrote on the virtues of simples, tells us that the sea scolopendra bursts if spat upon, as do also bramble and other toads. Offlius says that serpents too burst if one spits into their open mouths, and Salpe[[82]](#footnote-82) that sensation in any numbed limb is restored by spitting into the bosom, or if the upper eyelids are touched with saliva. If we hold these beliefs, we should also believe that the right course, on the arrival of a stranger, or if a sleeping baby is looked at, is for the nurse to spit three times at her charge. And yet the baby is further under the divine protection of Fascinus,[[83]](#footnote-83) guardian not only of babies but of generals, a deity whose worship, part of the Roman religion, is entrusted to the Vestals; hanging under the chariots of generals at their triumphs he defends them as a physician from jealousy, and the similar physic of the tongue bids them look back, so that at the back Fortune, destroyer of fame, may be won over.

VIII. The bite of a human being is considered to be a most serious one. It is treated with ear wax, and (let no one be surprised) this, if applied locally at once, is also good for the stings of scorpions and for the bites of snakes, being more effective if taken from the ears of the sufferer. Hangnails too are said to be cured in this way; the bite of serpents by a human tooth ground to powder.

IX. The hair cut off first from a child's head, if tied round the affected part, is said to relieve attacks of gout, as does the application of the hair of all, generally speaking, who have not arrived at puberty. The hair of adult men also, applied with vinegar, is good for dog bites, with oil or wine for wounds on the head. If we believe it, the hair of a man torn from the cross is good for quartan fever;[[84]](#footnote-84) burnt hair is certainly good for carcinoma. The first tooth of a child to fall out, provided that it does not touch the ground, if set in a bracelet and worn constantly on a woman's arm, keeps pain away from her genitals. If the big toe is tied to the one next to it, swellings in the groin are relieved; if the two middle fingers of the right hand are lightly tied together with a linen thread, catarrhs and ophthalmia are kept away. Again, a stone voided by a sufferer from bladder trouble, if attached above the pubes, is said to relieve other similar patients as well as pains in the liver, and also to hasten childbirth. Granius adds that the stone is more effective for the last purpose if it has been cut out by an iron knife. If the man by whom a woman has conceived unties his girdle and puts it round her waist, and then unties it with the ritual formula: 'I bound, and I too will unloose,' and then leaves, childbirth is made more rapid.

X. The blood let from any part of the patient himself makes, we are told by Orpheus and Archelaus, a very efficacious application for quinsy;[[85]](#footnote-85) it works too if applied to the mouth of those who have fainted in an epileptic fit, for they rise up immediately. Some say the big toes should be pricked and the drops of blood applied to the face, or that a virgin should touch it with her right thumb; hence their conclusion that epileptics should eat virgin meat. Aeschines the Athenian used the ash of excrements for quinsy, sore tonsils, sore uvula, and carcinomata. This medicament he called botryon. Many kinds of illness are cleared up by the first sexual intercourse, or by the first menstruation; if they do not, they become chronic, especially epilepsy. Moreover, it is held that snake bites and scorpion stings are relieved by intercourse, but that the act does harm to the woman. They say that neither ophthalmia nor other eye troubles afflict those who, when they wash their feet, touch the eyes three times with the water they have used.

XI. We are assured that the hand of a person carried off by premature death cures by a touch scrofulous sores, diseased parotid glands, and throat affections; some however say that the back of any dead person's left hand will do this if the patient is of the same sex. A piece bitten off from wood struck by lightning by a person with hands thrown behind his back, if it is applied to an aching tooth, is a remedy we are told for the pain. Some prescribe fumigation of the tooth with a human tooth from one of the same sex, and to use as an amulet a canine tooth taken from an unburied corpse. Earth taken out of a skull acts, it is said, as a depilator for the eyelashes, while any plant that has grown in the skull makes, when chewed, the teeth fall out, and ulcers marked round with a human bone do not spread. Some mix in equal quantities water from three wells, pour a libation from new earthenware, and give the rest to be drunk, at the rise of temperature, by sufferers from malaria. These also wrap up in wool and tie round the neck of quartan patients a piece of a nail taken from a cross, or else a cord taken from a crucifixion, and after the patient's neck has been freed they hide it in a hole where the sunlight cannot reach.

XII. Here are some lies of the Magi,[[86]](#footnote-86) who say that a whetstone on which iron tools have been often sharpened, if placed without his knowledge under the pillows of a man sinking from the effects of poisoning, actually makes him give evidence about what has been given him, where and when, but not the name of the criminal. It is certainly a fact that the victim of lightning, if turned upon the wounded side, at once begins to speak.[[87]](#footnote-87) Some treat affections of the groin by tying with nine or seven knots a thread taken from a web, at each knot naming some widow, and so attach it to the groin as an amulet. To prevent a wound's being painful they prescribe wearing as an amulet, tied on the person with a thread, the nail or other object that he has trodden on. Warts are removed by those who, after the twentieth day of the, month, lie face upwards on a path, gaze at the moon with hands stretched over their head, and rub the wart with whatever they have grasped. If a corn or callus is cut when a star is falling, they say that it is very quickly cured, and that applying to the forehead the mud obtained by pouring vinegar over a front door's hinges relieves headaches, as does also the rope used by a suicide if tied round the temples. Should a fish bone stick in the throat, they say that it comes out if the feet are plunged into cold water; if however it is another kind of bone, bits of bone from the same pot should be applied to the head; if it is a piece of bread that sticks, pieces from the same loaf must be placed in either ear.

XIII Moreover, important remedies have been made by the profit-seeking Greeks even with the scrapings from athletes from the gymnasia;[[88]](#footnote-88) for the scrapings from the bodies soften, warm, disperse, and make flesh, sweat and oil forming an ointment. This is used as a pessary for inflammation and contraction of the uterus. So used it is also an emmenagogue;[[89]](#footnote-89) it soothes inflammations of the anus and condylomata, likewise pains of the sinews, dislocations, and knotty joints. More efficacious for the same purposes are scrapings from the bath, and so these are ingredients of ointments for suppurations. But those that have wax salve in them, and are mixed with mud, are more efficacious only for softening joints, for warming and for dispersing, but for all other purposes they are less powerful. Shameless beyond belief is the treatment prescribed by very famous authorities, who proclaim that male semen is an excellent antidote to scorpion stings, holding on the other hand that a pessary for women made from the faeces of babies voided in the uterus itself is a cure for barrenness; they call it meconium. Moreover, they have scraped the very walls of the gymnasia, and these off-scourings are said to have great warming properties; they disperse superficial abscesses, and are applied as ointment to the sores of old people and children as well as to abrasions and burns.

XLV It would be all the less seemly to pass over the remedies that are in the control of a man's will. To fast from all food and drink, sometimes only from wine or meat, sometimes from baths, when health demands such abstinence, is held to be one of the best remedies. Among the others are physical exercise, voice exercises, anointing, and massage if carried out with skilled care; for violent massage hardens, gentle softens, too much reduces flesh and a moderate amount makes it. Especially beneficial however are walking, carriage rides of various kinds, horse riding, which is very good for the stomach and hips, a sea voyage for consumption, change of locality for chronic diseases, and self-treatment by sleep, lying down, and occasional emetics. Lying on the back is good for the eyes, on the face for coughs, and on either side for catarrhs. Aristotle and Fabianus tell us that dreaming is most common around spring and autumn, and especially when we lie on the back; when we lie on the face there are no dreams at all. Theophrastus says that quicker digestion results from lying on the right side, more difficult digestion from lying on the back. Sunshine too, best of remedies, we can administer to ourselves, violent friction, too, is useful by the agency of linen towels and body-scrapers. To bathe the head with hot water before the hot steam of the bath, and with cold water after it, is understood to be very healthful; so it is to drink cold water before a meal and at intervals during it, and to take a draught of the same before going to sleep, breaking your sleep, if you like, in order to drink. It should be observed that no animal except man likes hot drinks, which is evidence that they are unnatural. Experience plainly shows that it is good before sleeping to rinse the mouth with neat wine as a safeguard against offensive breath, and with cold water an uneven number of times in the morning to keep off toothache; that to bathe the eyes in vinegar and water prevents ophthalmia, and that general health is promoted by an unstudied variety of regimen. Hippocrates teaches that the habit of not taking lunch makes the internal organs age more rapidly; in this aphorism, however, he is thinking of remedies, not encouraging gluttony, for by far the greatest aid to health is moderation in food. Lucius Lucullus told a slave to control his eating, and he, an old man who had celebrated a triumph, suffered the very deep disgrace of having his hand kept away from the food even when feasting in the Capitol, with the added shame of obeying his own slave more readily than himself.

XV. Sneezing caused by a feather relieves a cold in the head, and people say that sneezing and hiccough are relieved by kissing the muzzle of a mule. For sneezing Varro advises us to scratch the palm of each hand with the other; most people advise us to transfer the ring from the left hand to the longest finger of the right, and to dip the hands into very hot water. Theophrastus says that old people sneeze with greater difficulty than others.

XVI Democritus disapproved of sex as being merely the act whereby one human being springs from another. Heaven knows, the less indulgence in this respect the better. Athletes, however, when sluggish regain by it this activity, and it restores the voice when it has lost its clearness and become husky. It cures pain in the loins, dullness of vision, unsoundness of mind and melancholia.

XVII To sit in the presence of pregnant women, or when medicine is being given to patients, with the fingers interlaced is to be guilty of sorcery, a discovery made, it is said, when Alcmena was giving birth to Hercules.[[90]](#footnote-90) The sorcery is worse if the hands are clasped round one knee or both, or if someone crosses the knees first in one way and then in the other. For this reason our ancestors forbade such postures at councils of war or by officials, on the grounds that they were an obstacle to the transaction of all business. They also forbade them to those attending sacred rites and prayers; but to uncover the head at the sight of magistrates they ordered, not as a mark of respect, but (our authority is Varro) for the sake of health, for the habit of baring the head gives it greater strength. When something has fallen into the eye, it does good to press down the other; when water gets into the right ear, to jump with the left leg, leaning the head towards the right shoulder; if into the left ear, to jump in the contrary way; if saliva provokes a cough, for another person to blow on the forehead; if the uvula is relaxed, for another to hold the crown of his head with his teeth; if there is pain in the neck, to rub the back of the knees, and to rub the neck for pain in the back of the knees; to plant the feet on the ground for cramp in feet or legs when in bed; or if the cramp is on the left side to seize with the right hand the big toe of the left foot and vice versa; to rub the extremities with pieces of fleece to step shivers or violent nose-bleeding; with linen or papyrus the tip of the genitals and the middle of the thigh to check incontinence of urine; for weakness of the stomach to press together the feet or dip the hands into very hot water. Moreover, to refrain from talking is healthful for many reasons. Maecenas Melissus,[[91]](#footnote-91) we are told, imposed a three-year silence on himself because of spitting of blood after convulsions. But to hold the breath is an excellent protection if any danger threatens those thrown down, climbing, or prostrate, and as a guard against blows, a discovery which, I have stated, we owe to an animal. To drive an iron nail into the place first struck by the head of an epileptic in his fall is said to be deliverance from that malady. For severe pain in the kidneys, loins or bladder, it is supposed to be soothing if the patient voids his urine while lying on his face in the tub of the bath. To tie up wounds with the Hercules knot[[92]](#footnote-92) makes the healing wonderfully more rapid, and even to tie daily the girdle with this knot is said to have a certain usefulness, for Demetrius wrote a treatise in which he states that the number four is one of the prerogatives of Hercules, giving reasons why four cyathi[[93]](#footnote-93) or sextarii at a time should not be drunk. For ophthalmia it is good to rub behind the ears, and for watery eyes the forehead. From the patient himself it is a reliable omen that as long as the pupils of his eyes reflect an image, he should not fear a fatal end to an illness.

**XVIII**. Our authorities attribute to urine also great natural and supernatural; they divide it into kinds, using even that of eunuchs to counteract the sorcery that prevents fertility. But of the properties it would be proper to speak of I may mention the following:—the urine of children not yet arrived at puberty is used to counteract the spittle of the ptyas, an asp so called because it spits venom into men's eyes; for albugo,[[94]](#footnote-94) dimness, scars, argema,[[95]](#footnote-95) and affections of the eyelids; with flour of vetch for burns; and for pus or worms in the ear if boiled down to one half with a headed leek in new earthenware. Its steam too is an emmenagogue. Salpe would foment the eyes with urine to strengthen them, and would apply it for two hours at a time to sunburn, adding the white of an egg, by preference that of an ostrich. Urine also takes out ink blots. Men's urine relieves gout, as is shown by the testimony of fullers, who for that reason never, they say, suffer from this malady. Old urine is added to the ash of burnt oyster-shells to treat rashes on the bodies of babies, and for all running ulcers. Pitted sores, burns, affections of the anus, chaps, and scorpion stings, are treated by applications of urine. The most celebrated midwives have declared that no other lotion is better treatment for irritation of the skin, and with soda added for sores on the head, dandruff, and spreading ulcers, especially on the genitals. Each person's own urine, if it be proper for me to say so, does him the most good, if a dog-bite is immediately bathed in it, if it is applied on a sponge or wool to the quills of an urchin that are sticking in the flesh, or if ash kneaded with it is used to treat the bite of a mad dog, or a serpent's bite. Moreover, for scolopendra[[96]](#footnote-96) bite a wonderful remedy is said to be for the wounded person to touch the top of his head with a drop of his own urine, which heals his wound instantly.

**XIX**. Urine gives us symptoms of general health: if in the morning it is clear, becoming tawny later, the former means that coction is still going on, the latter that it is complete. A bad symptom is red urine, a bad one also when it bubbles, and the worst of all when it is very dark. Thick urine, in which what sinks to the bottom is white, means that there is pain coming on about the joints or in the region of the bowels; if it is green, that the bowels are diseased. Pale urine means diseased bile, red urine diseased blood. Bad urine also is that in which is to be seen as it were bran, and cloudiness. Watery, pale, urine also is unhealthy, but thick, foul-smelling urine indicates death, as does thin, watery urine from children. The Magi say that when making urine one must not expose one's person to the face of the sun or moon, or let drops fall on anyone's shadow. Hesiod[[97]](#footnote-97) advises us to urinate facing an object that screens, lest our nakedness should offend some deity. Osthanes assured people that protection against all sorcerers' potions is secured by letting one's own morning urine drip upon the foot.

**XX**. Some reported products of women's bodies should be added to the class of marvels, to say nothing of that from men; of tearing to pieces for sinful practices the limbs of stillborn babies, the undoing of spells by menstrual fluid, and the other accounts given not only by midwives but by harlots. For example: that the smell of burnt woman's hair keeps away serpents, and the fumes of it make women breathe naturally who are choking with hysteria; this same ash indeed, from hair burnt in a jar, or used with litharge,[[98]](#footnote-98) cures roughness and itch of the eyes, as well as warts and sores on babies; that with honey it cures also wounds on the head and the cavities made by any kind of ulcer, with honey and frankincense, superficial abscesses and gout; that with lard it cures erysipelas[[99]](#footnote-99) and checks haemorrhage, and that when applied it cures also irritating rashes on the body.

**XXI**. As to the use of woman's milk, it is agreed that it is the sweetest and most delicate of all, very useful in long fevers and coeliac disease, especially the milk of a woman who has already weaned her baby. For nausea of the stomach, in fevers, and for gnawing pains, it is found most efficacious, also with frankincense for abscesses on the breasts. It is very beneficial to an eye that is bloodshot from a blow, in pain, or suffering from a flux, if it is milked straight into it, more beneficial still if honey is added and juice of narcissus a or powdered incense. For all purposes, moreover, a woman's milk is more useful if she has given birth to a boy, and much the most useful is that of a woman who has given birth to twin boys and who abstains from wine and the more acrid foods. Moreover mixed with liquid egg whites, and applied to the forehead on wool soaked in it, it checks fluxes of the eyes. But it is a splendid remedy if a toad has squirted its fluid into the eye; for the bite also of the toad it is drunk and poured in drops into the wound. It is asserted that one who has been rubbed with the milk of mother and daughter together never needs to fear eye trouble for the rest of his life. Affections of the ears also are successfully treated by the milk mixed with a little oil, or, if there is any pain from a blow, warmed with goose grease. If there is an offensive smell from the ears, as usually happens in illnesses of long standing, wool is put into them soaked in milk in which honey has been dissolved. When jaundice has left traces remaining in the eyes, the milk together with elaterium[[100]](#footnote-100) is dropped into them. A draught of woman's milk is especially efficacious against the poison of the sea-hare,[[101]](#footnote-101) of the buprestis, or, as Aristotle tells us, of dorycnium,[[102]](#footnote-102) and for the madness caused by drinking henbane. Combined with hemlock it is also prescribed as a liniment for gout; others make it up with wool grease and goose grease, in the form that is also used as an application for pains of the uterus. A draught also acts astringently upon the bowels, as Rabirius writes, and is an emmenagogue. The milk of a woman, however, who has borne a girl is excellent, but only for curing spots on the face. Lung affections also are cured by woman's milk, and if Attic honey is mixed with it and the urine of a child before puberty, a single spoonful of each, I find that worms too are driven from the ears. They say that the mother of a boy gives us milk a taste of which prevents dogs from going mad.

**XXII**. The saliva too of a fasting woman is judged to be powerful medicine for bloodshot eyes and fluxes, if the inflamed corners are occasionally moistened with it, the efficacy being greater if she has fasted from food and wine the day before. I find that a woman's bra tied round the head relieves headache.

**XXIII**. Over and above all this there is no limit to woman's power. First of all, they say that hailstorms and whirlwinds are driven away by a woman stipping herself while she is menstruating. The same works with all other kinds of tempestuous weather; and out at sea, a storm may be lulled by a woman stripping, even though she is not menstruating at the time. As to the menstrual discharge itself, a thing that in other respects, as already stated on a more appropriate occasion, is productive of the most monstrous effects, there are some ravings about it of a most dreadful and unutterable nature. Of these particulars, however, I do not feel so much shocked at mentioning the following. If the menstrual discharge coincides with an eclipse of the moon or sun, the evils resulting from it are irremediable; and no less so, when it happens while the moon is in conjunction with the sun; the congress with a woman at such a period being noxious, and attended with fatal effects to the man. At this period also, the lustre of purple is tarnished by the touch of a woman: so much more baneful is her influence at this time than at any other. At any other time, also, if a woman strips herself naked while she is menstruating, and walks round a field of wheat, the caterpillars, worms, beetles, and other vermin, will fall from off the ears of corn. Metrodorus of Scepsos states that the discovery was made in Cappadocia owing to the plague there of Spanish fly, so that women walk, he says, through the middle of the fields with their clothes pulled up above the buttocks. In other places the custom is kept up for them to walk barefoot, with hair dishevelled and with girdle loose. Care must he taken that they do not do so at sunrise, for the crop dries up, they say, the young vines are irremediably harmed by the touch, and rue and ivy, plants of the highest medicinal power, die at once. I have said much about this virulent discharge, but besides it is certain that when their hives are touched by women in this state bees fly away, at their touch linen they are boiling turns black, the edge of razors is blunted, brass contracts copper rust and a foul smell, especially if the moon is waning at the time, mares in foal if touched miscarry, nay the mere sight at however great a distance is enough, if the menstruation is the first after losing her virginity, or that of a virgin who on account of age is menstruating naturally for the first time. But the bitumen also that is found in Judea can be mastered only by the power of this fluid, as I have already stated, a thread from a fluid infected dress is sufficient. Not even fire, the all-conquering, overcomes it; even when reduced to ash, if sprinkled on clothes in the wash, it changes purples and robs colours of their brightness. Nor are women themselves immune to the effect of this plague of their sex; a miscarriage is caused by a smear, or even if a woman with child steps over it. Lais and Elephantis[[103]](#footnote-103) do not agree in their statements about abortives, the burning root of cabbage, myrtle, or tamarisk extinguished by the menstrual blood, about asses' not conceiving for as many years as they have eaten grains of barley contaminated with it, or in their other portentous or contradictory pronouncements, one saying that fertility, the other that barrenness is caused by the same measures. It is better not to believe them.

Bithus of Dyrrhachium says that a mirror which has been tarnished by the glance of a menstruating woman recovers its brightness if it is turned round for her to look at the back, and that all this sinister power is counteracted if she carries on her person the fish called red mullet. Many however say that even this great plague is remedial; that it makes a liniment for gout, and that by her touch a woman in this state relieves scrofula, parotid tumours, superficial abscesses, erysipelas, boils and eye-fluxes. Lais and Salpe write that the flux on wool from a black ram enclosed in a silver bracelet cures the bite of a mad dog, tertians, and quartans. Diotimus of Thebes says that even a bit, nay a mere thread, of a garment contaminated in this way and enclosed in the bracelet, is sufficient. The midwife Sotira[[104]](#footnote-104) has said that it is a very efficacious remedy for tertians and quartans to smear with the flux the soles of the patient's feet, much more so if the operation is performed by the woman herself without the patient's knowledge, adding that this remedy also revives an epileptic who has fainted. Icatidas the physician assures us that quartans are ended by sexual intercourse, provided that the woman is beginning to menstruate. All are agreed that, if water or drink is dreaded after a dog-bite, if only a contaminated cloth be placed beneath the cup, that fear disappears at once, since of course that sympathy, as Greeks call it, has an all-powerful effect, for I have said that dogs begin to go mad on tasting that blood. It is a fact that, added to soot and wax, the ash of the flux when burnt heals the sores of all draught-animals, but menstrual stains on a dress can be taken out only by the urine of the same woman, that the ash, mixed with nothing but rose oil, if applied to the forehead, relieves headache, especially that of women, and that the power of the flux is most virulent when virginity has been lost solely through lapse of time. This also is agreed, and there is nothing I would more willingly believe, that if doorposts are merely touched by the menstrual discharge, the tricks are rendered vain of the Magi, a lying crowd, as is easily ascertained. I will give the most moderate of their promises: take the parings of a patient's finger nails and toe nails, mix with wax, say that a cure is sought for tertian, quartan or quotidian fever, and fasten them before sunrise on another man's door as a cure for these diseases. What a fraud if they lie! What wickedness if they pass the disease on! Less guilty are those of them who tell us to cut all the nails, throw the parings near ant holes, catch the first ant that begins to drag a paring away, tie it round the neck, and in this way the disease is cured.

**XXIV**. This is all the information it would be right for me to repeat, most of which also needs an apology from me. As the rest of it is detestable and unspeakable, let me hasten to leave the subject of remedies from man. Taking the other animals I shall try to find what is striking either in them or in their effects. The blood of an elephant, particularly that of the male, checks all the fluxes that are called rheumatismi; ivory shavings with Attic honey are said to remove dark spots on the face, and ivory dust [clears up] hangnails. Headaches are relieved by the touch of the trunk, more successfully if the animal also sneezes. The right side of the trunk used as an amulet with the red earth of Lemnos is aphrodisiac. The blood too is good for consumption, and the liver for epilepsy.

**XXV**. Lion fat with rose oil preserves fairness of complexion and keeps the face free from spots; it also cures frostbite and swollen joints. The lying Magi promise those rubbed with this fat a readier popularity with peoples and with kings, especially when the fat is that between the brows, where no fat can be. Similar promises are made about the possession of a tooth, especially one from the right side, and of the tuft beneath the muzzle. The gall, used with the addition of water as a salve, improves vision, and if lion fat is added a slight taste cures epilepsy, provided that those who have taken it at once aid its digestion by running. The heart taken as a food cures quartans; the fat with rose oil cures quotidians. Wild beasts run away from those smeared with it, and it is supposed to protect even from treachery.

**XXVI**. They say that a camel's brain, dried and taken in vinegar, cures epilepsy, as does the gall taken with honey, this being also a remedy for quinsy; that the tail when dried is laxative, and that the ash of the burnt dung makes the hair curl. This ash applied with oil is also good for dysentery, as is a three-finger pinch taken in drink, and also for epilepsy. They say that the urine is very useful to the fullers, and for running ulcers—it is a fact that foreigners keep it for five years, and use hemina[[105]](#footnote-105)­ doses as a purgative—and that the tail hairs plaited into an amulet for the left arm cure quartan fevers.

**XXVII**. The Magi have held in the highest admiration of all animals the hyena, seeing that they have attributed even to an animal magical skill and power, by which it takes away the senses and entices men to itself. I have spoken of its yearly change of sex and its other weird characteristics;[[106]](#footnote-106) now I am going to speak of all that is reported about its medicinal properties. It is said to be a terror to panthers in particular, so that a panther does not even attempt to resist an hyena; that a person carrying anything made of hyena leather is not attacked, and, marvellous to relate, if the skins of each are hung up opposite to one another the hairs of the panther fall off. When the hyaena flies before the hunter, it turns off on the right, and letting the man get before it, follows in his track: if it succeeds in doing which, the man is sure to lose his senses and even fall from his horse. But if, on the other hand, it turns off to the left, it is a sign that the animal is losing strength, and that it will soon be taken. The easiest method, however, of taking it, they say, is for the hunter to tie his girdle with seven knots, and to make the same number of knots in the whip he is using on his horse. The Magi go on to recommend, so cunning are the evasions of the fraudulent charlatans, that the hyena should be captured when the moon is passing through the constellation of the Twins, without, if possible, the loss of a single hair. They add that the skin of its head if tied on relieves headache; that the gall if applied to the forehead cures ophthalmia, preventing it altogether if an ointment is made of gall boiled down with three cyathi of Attic honey and one ounce of saffron, and that the same prescription disperses film and cataract. They say that clear vision is secured better if the medicament is kept till old, but it must be in a box of copper; the same is a cure for argema, scabbiness, excrescences and scars on the eyes, but opaqueness needs an ointment made with gravy from fresh roasted liver added to skimmed honey. They add that hyena's teeth relieve toothache by the touch of the corresponding tooth, or by using it as an amulet, and the shoulders relieve pains of the shoulders and arm muscles; that the animal's teeth (but they must be from the left side of the muzzle), wrapped in sheep skin or goat skin, are good for severe pains in the stomach, the lungs taken as food for coeliac disease, and their ash, applied with oil, for pain in the belly; that sinews are soothed by its spinal marrow with its gall and old oil, quartan fevers relieved by three tastes of the liver before the attacks, gout by the ash of the spine, with the tongue and right foot of a seal added to bull's gall, all being boiled together and applied on hyena skin. In the same disease the gall of the hyena (so they say) with the stone found in Assos is beneficial; adding that those afflicted with tremors, spasms, jumpiness, and palpitation, should eat a piece of the heart boiled, but the rest must be reduced to ash and hyena's brain added to make an ointment; that an application of this mixture or of the gall by itself removes hairs, those not wanted to grow again must first be pulled out; by this method unwanted eyelashes are removed; that for pains in the loins flesh of an hyena's loins should be eaten and used us an ointment with oil; that barrenness in women is cured by an eye taken in food with liquorice and dill, conception being guaranteed within three days. For night terrors and fear of ghosts one of the large teeth tied on with thread as an amulet is said to be a help. They recommend fumigation with such a tooth for delirium, and to tie one round in front of the patient's chest, adding fat from the kidneys, or a piece of liver, or of skin. A woman is guaranteed never to miscarry if, tied round her neck in gazelle leather, she wears white flesh from a hyena's breast, seven hyena's hairs, and the genital organ of a stag. A hyena's genitals taken in honey stimulate desire for their own sex, even when men hate intercourse with women; nay the peace of the whole household is assured by keeping in the home these genitals and a vertebra with the hide still adhering to them. This vertebra or joint they call the Atlas joint; it is the first. They consider it too to be one of the remedies for epilepsy. They add that burning hyena fat keeps serpents away; that the jawbone, pounded in anise and taken in food, relieves fits of shivering, and that fumigation with it is an emmenagogue. They lie so grossly as to declare that, if an upper tooth from the right side of the muzzle is tied to the arm of a man, his javelin will never miss its mark. They say too that the palate of a hyena, dried, and warmed with Egyptian alum, cures foul breath and ulcers in the month, if the mixture is renewed three times; that those however who carry a hyena's tongue in their shoe under the foot never have dogs bark at them; that if a part of the left side of the brain is smeared on patients' nostrils dangerous diseases are relieved, whether of man or quadruped; that the hide of the forehead averts the evil eye, and the flesh of the neck, whether eaten, or dried and taken in drink, is good for lumbago; that sinews from the back and shoulders should be used for fumigating painful sinews; that hairs from the muzzle, applied to a woman's lips, act as a love-charm; that the liver given in drink cures colic and stone in the bladder. But they add that the heart, taken either in food or in drink, gives relief from all pains of the body, the spleen from those of the spleen, the caul with oil from inflamed ulcers, and the marrow from pains of the spine and of tired sinews; that the kidney sinews taken with frankincense in wine restore fertility lost through sorcery; that the uterus with the rind of a sweet pomegranate given in drink is good for the uterus of women; that the fat from the loins, used in fumigation, gives immediate delivery to women in difficult labour; that the spinal marrow used as an amulet is a help against hallucinations, and fumigation with the male organ against spasms, as well as ophthalmia; that the touch of an hyena's feet (kept for the purpose) is a help for ruptures and inflammations, of the left foot for diseases on the right side, and of the right foot for those on the left side; that the left foot, drawn across a woman in labour, causes death, but the right foot laid one her easy delivery. The Magi say that the membrane enclosing the gall, taken in wine or in the food, is of use in cardiac ailments; that the bladder taken in wine relieves incontinence of urine, and the urine found in the bladder, drunk with oil, sesame, and honey added, relieves chronic acidity of the stomach; that the first or eighth rib, used in fumigation, is curative for ruptures, but the spinal bones are so for women in labour; the blood taken with pearl barley is good for colic, and if the doorposts are everywhere touched with this blood, the tricks of the Magi are made ineffective, for they can neither call down the gods nor speak with them, whether they try lamps, bowl, water, globe, or any other means; that to eat the flesh neutralizes the bites of a mad dog, the liver being still more efficacious. They add that the flesh or bones of a man found in the stomach of an hyena when killed relieve gout by fumigation; that if fingernails are found in them it is a sign of death for one of the hunters; that excrement or bones, voided when the beast is being killed, can prevail against the insidious attacks of sorcerers; that dung found in the intestines is, when dried, excellent for dysentery, and, taken in drink and applied with goose grease, gives relief anywhere in the body to the victims of noxious drugs; that for dog-bites, however, rubbing with the fat as ointment, and lying on the skin, are helpful; that on the other hand those rubbed with the ash of the left pastern bone, boiled down with weasel's blood, incur universal hatred, the same effect being produced by a decoction of the eye. Over and above all these things they assert that the extreme end of the intestine prevails against the injustices of leaders and potentates, bringing success to petitions and a happy result to trials and lawsuits if it is merely kept on the person; that the anus, worn as an amulet on the left arm, is so powerful a love-charm that, if a man but looks at a woman, she at once follows him; that the hairs also of this part, reduced to ashes, mixed with oil, and used as ointment on men guilty of shocking effeminacy, make them assume, not only a modest character, but one of the strictest morality.

XXVIII. Almost as legendary is the crocodile, in its nature also—I mean the famous one, which is amphibious; for there are two kinds of crocodile. His teeth from the right jaw, worn as an amulet on the right arm, are (if we believe it) aphrodisiac, while the dog teeth, stuffed with frankincense (for they are hollow), drive away the intermittent fevers if the sick man can be kept for five days from seeing the person who fastened them on. It is said that pebbles taken from his belly have a similar power to check feverish shivers as they come on. For the same reason the Egyptians rub their sick with its fat. The other kind of crocodile is similar to this, though much smaller in size, living only on land[[107]](#footnote-107) and eating very sweet-scented flowers. Its intestines therefore are much in demand, being hued with fragrant stuff called *crocodilea*, which with leek juice makes a very useful salve for diseases of the eyes, and to treat cataract or films. When applied with cyprus oil it removes blotches on the face, and with water all those diseases the nature of which is to spread over the face, and it also clears the complexion. It removes freckles, pimples, and all spots; two-oboli doses are taken in oxymel for epilepsy, and a pessary made of it acts as an emmenagogue. The best kind is very shiny, friable, and extremely light, fermenting when rubbed between the fingers. It is washed in the same way as white lead. They adulterate it with starch or Cimoliau chalk, but mostly with the dung of starlings, which they catch and feed on nothing but rice. We are assured that there is no more useful remedy for cataract than to anoint the eyes with crocodile's gall and honey. They say that fumigation with the intestines and the rest of its body is of benefit to women with uterine trouble, as it is to wrap them up in a fleece impregnated with its steam. Ashes from burning the skin of either kind of crocodile, applied in vinegar to the parts in need of surgery, or even the fumes, cause no pain to be felt from the lancet. The blood of either kind, if the eyes are anointed with it, improves the vision and removes eye scars. The body itself, boiled without the head and feet, is eaten for sciatica and cures chronic cough, especially that of children, as well as lumbago. Crocodiles also have a fat, a touch of which makes hair fall out. Used as embrocation this protects from crocodiles, and is poured by drops into their bites. The heart, tied on in the wool of a black sheep, the firstborn of its mother, the wool having no other colour intermixed, is said to drive away quartan fevers.

**XXIX**. To these animals I will add others very like them and equally foreign, taking first the chameleon, thought by Democritus worthy of a volume to itself, each part of the body receiving separate attention. It afforded me great amusement to read an exposure of Greek lies and fraud. The chameleon is also as big as the crocodile just mentioned, differing only in the greater curve of the spine and in the size of its tail. People think it the most timid of animals, and that it is for this reason it continually changes its colour. Over the hawk family it has very great power, for as a hawk flies overhead, it is brought down to the chameleon, they say, and made an unresisting prey for other animals to tear. Democritus relates that its head and throat, if burnt on logs of oak, cause storms of rain and thunder, as does the liver if burnt on tiles. The rest of what he says is of the nature of sorcery, and although I think that it is untrue. I shall omit all, except where something must be refuted by being laughed at; examples are as follow. The right eye, plucked from the living animal and added to goat's milk, removes white ulcers on the eyes; the tongue, worn as an amulet, the perils of childbirth. The same eye, if in the house, is favourable to childbirth; if brought in, very dangerous. The tongue, taken from the living animal, controls the results of cases in the courts; the heart, tied on with black wool of the first shearing, overcomes quartan fevers. The right front foot, tied as an amulet to the left arm by hyena skin, is powerful protection against robbery and tenors of the night, and the right teat against fears and panic. The left foot however is roasted in a furnace with the plant that also is called *chamaeleon*, an unguent is added, and the lozenges thus made are stored away in a wooden vessel and, if we believe it, make the owner invisible to others. The right shoulder has power to overcome adversaries and public enemies, especially if a person throws away sinews of the same animal and treads on them. But as to the left shoulder, I am ashamed to repeat the grotesque magic that Democritus assigns to it; how any dreams you like be may sent to any person you like; how these dreams are dispelled by the right foot, just as the torpor caused by the right foot is dispelled by the left flank. In this way headache is cured by sprinkling on the head wine in which either side of a chameleon has been soaked. If sow's milk is mixed with the ash of the left thigh or foot, gout is caused by rubbing the feet with the mixture. It is practically a current belief that anointing the eyes for three days with the gall is a cure for opaqueness of the eye and cataract, that serpents run away if the gall is dropped into fire, that weasels run together when it is thrown into water, while hairs are removed from the body when it is rubbed with it. Democritus relates that the same result comes from applying the liver with the lung of the bramble toad; that moreover the liver makes of no effect love charms and philtres, curing melancholy also if the juice of the herb helenium is drunk in a chameleon’s skin; that the intestines and their content (although the animal lives without food) with the urine of apes, if smeared on the door of an enemy, brings on him the hatred of all men; that by its tail rivers and rushing waters are stayed and serpents put to sleep; that the tail also, if treated with cedar and myrrh and tied on to a twin palm-branch, divides the water struck with it, so that all within becomes plain. Would that Democritus had been touched with such a branch, seeing that he assures us that by it wild talk is restrained! It is clear that a man, in other respects of sound judgement and of great service to humanity, fell very low through his over-keenness to help mankind.

**XXX**. A similar animal is the scincos—and indeed it has been styled the land crocodile—but it is paler, and with a thinner skin. The chief difference, however, between it and the crocodile is in the arrangement of the scales, which are turned from the tail towards the head. The Indian is the biggest scincos, next coming the Arabian. They import them salted. Its muzzle and feet, taken in white wine, are aphrodisiac, especially with the addition of ragwort and rocket seed, compounding a single drachma of all three and two drachmae of pepper. One-drachma lozenges of the compound should be taken in drink. Two oboli of the flesh of the flanks by itself, taken in drink with myrrh and pepper in similar proportions, are believed to be more efficacious for the same purpose. It is also good for the poison of arrows, as Apelles informs us, if taken before and after the wound. It is also an ingredient of the more celebrated antidotes. Sextius says that more than a drachma by weight, taken in a hemina[[108]](#footnote-108) of wine, is a fatal dose, and that moreover the broth of a scincos taken with honey is antaphrodisiac.

**XXXI**. There is a kind of relationship between the crocodile and the hippopotamus, for they both live in the same river and both are amphibious. The hippopotamus, as I have related,[[109]](#footnote-109) was the discoverer of bleeding, and is most numerous above the prefecture of Sais. His hide, reduced to ash and applied with water, cures superficial abscesses; the fat and likewise the dung chilly agues by fumigation, and the teeth on the left side, if the gums are scraped with them, aching teeth. The hide from the left side of his forehead, worn as an amulet on the groin, is an antaphrodisiac; the same reduced to ash restores hair lost through mange. A drachma of a testicle is taken in water for snake bite. The blood is used by painters.

**XXXII**. The lynx too is a foreign animal, and has keener sight than any other quadruped. On the island of Carpathus[[110]](#footnote-110) all their nails, with the hide, make, it is said, a very efficacious medicine when reduced to ash by burning. They say that these ashes taken in drink by men check shameful conduct, and sprinkled on women lustful desire; that they also cure irritation of the skin and that the urine cures strangury. And so, as is said, the animal at once covers its urine with earth by scratching with his paws. This urine is also prescribed for pain in the throat. That is it for foreign animals.

**XXXIII**. Hitherto I have dealt with things foreign, but will now turn to the Roman world speaking first of remedies common to all animals and excellent in quality, such as milk and its uses. Mothers milk is for everybody the most beneficial. It is very bad for women to conceive while nursing; their nurselings are called *colostrati*, the milk being thick like cheese. But colostra is the first milk given after delivery, and is thick and spongy. But any woman's milk is more nourishing than other, the next being that of the goat; this perhaps is the origin of the story that Jupiter was nursed in this way. The sweetest milk after woman's is that of the camel, the most efficacious that of the ass. A big species or a big individual yields its milk more readily. Goat's milk is the most suited to the stomach, as the animal browses rather than grazes. Cow's milk is more medicinal, sheep's sweeter and more nourishing, although less useful for the stomach because of its greater richness. All spring milk, however, is more watery than that of summer, as is that from new pastures. The highest grade, however, is that of which a drop stays on the nail without falling off. Milk is less harmful when boiled, especially with sea pebbles. Cow's milk is the most relaxing, and any milk causes less flatulence when boiled. Milk is used for all internal ulcers, especially those of the kidneys, bladder, intestines, throat, and lungs, externally for irritation of the skin, and for outbursts of phlegm, but it must be drunk after fasting. And I have mentioned in my account of herbs, how in Arcadia cow's milk is drunk by consumptives, and by those in a decline or poor state of health. Cases too are quoted of patients who by drinking ass's milk have been freed from gout in feet or hands. To the various kinds of milk physicians have added another, named *schiston*, that is, divided. It is made in this way: milk, by preference goats milk, is boiled in new earthenware and stirred with fresh branches of a fig-tree, after adding as many cyathi of honey wine as there are heminae of milk. When it boils, to prevent its boiling over a silver cyathus[[111]](#footnote-111) of cold water is lowered into it so that none is spilled. Then taken off the fire it divides as it cools, and the whey separates from the milk. Some also boil down to one-third the whey itself, which is now very vinous indeed, and cool it in the open air. But the most efficacious way to drink it is a hemina at a time at intervals, five heminae in all on fixed days; it is better to take a drive afterwards. It is given for epilepsy, melancholia, paralysis, leprous sores, leprosy, and diseases of the joints. Milk is also injected for smarting caused by purges, or, for the chafing of dysentery, milk boiled down with sea pebbles or with barley gruel. For smarting intestines also cow's milk or sheep's is the more effective. Fresh milk too is injected for dysentery, and raw milk for colitis, uterus trouble, snake bite, swallowing pine-caterpillars, buprestis,[[112]](#footnote-112) the poison of Spanish fly or salamander, and cow's milk is specific when there has been taken in drink Colchicum, hemlock, doryenium, or sea hare, as ass's milk is for gypsum, white lead, sulphur, quicksilver, and constipation in fever. It also makes a very useful gargle for ulcerated throats, is drank by convalescents from weakening illness, said to be 'in a decline,' and also for fever which is without headache. To give to children before food a hemina of ass's milk, or failing that of goat's milk, and if the rectum smarted at stool, the ancients held to be one of their secrets. Better for orthopnoea than other remedies is whey of cow's milk with the addition of cress. The eyes also are bathed for ophthalmia with a hemina of milk to which have been added four drachmae of pounded sesame. Splenic diseases are cured by drinking goat's milk for three days without any other food, but the goats must fast for two days and then browse on ivy the third day. Drinking milk is generally bad for headache, complaints of the liver, spleen and sinews, for fevers, for giddiness except as a purge, and for a heavy cold, cough, and ophthalmia. Sheep's milk is very beneficial for tenesmus, dysentery, and consumption; there have been some who said that this milk is also the most wholesome for women.

**XXXIV**. The kinds of cheese I discussed when speaking of udders and the separate parts of animals. Sextius gives to cow's-milk cheese the same properties as he gives to that from mare's milk, which is called *hippace*. Beneficial to the stomach are those not salted, that is to say the fresh. Old cheeses bind the bowels and reduce flesh, being rather bad for the stomach; on the whole salty foods reduce flesh, soft foods make it. Fresh cheese with honey heals bruises, a soft cheese binds the bowels, and relieves gripes if lozenges of it are boiled in a dry wine and then roasted in a pan with honey. Coeliac illness are cured by the cheese that they call *saprum*, taken in drink after being pounded in wine with salt and dried sorb apples; carbuncles of the genitals by an application of pounded goat's-milk cheese. Sour cheese also with oxymel is applied in the bath alternately with oil to remove spots.

**XXXV**. From milk is also made butter, among barbarian tribes accounted the choicest food, one that distinguishes the rich from the lower orders. Mostly cow's milk is used (hence the name), but the richest comes from sheep's—it is also made from goat's—but in winter the milk is warmed, while in summer the butter is extracted merely by shaking it rapidly in a tall vessel. This has a small hole to admit the air, made just under the mouth, which is otherwise completely stopped. There is added a little water to make the milk turn sour. The part that curdles most, floating on the top, is skimmed off, and with salt added is called oxygala; the rest they boil down in pots. What comes to the surface is butter, a fatty substance. The stronger the taste, the more highly is butter esteemed. When matured it is used as an ingredient for several mixtures. It is by nature astringent, emollient, flesh-forming, and cleansing.

*Pliny then next goes on to talk about the importance of fat in remedies. And urine. And a number of other such things.*

SUMMARY.—Remedies, narratives, and observations, eight hundred and fifty-four.

ROMAN AUTHORS QUOTED.—M. Varro, Nigidius, Marcus Cicero, Sextius Niger who wrote in Greek, Licinius Macer.

FOREIGN AUTHORS QUOTED.—Eudoxus, Aristotle, Hermippus, Homer, Apion, Orpheus, Democritus, Anaxilaiis.

MEDICAL AUTHORS QUOTED.—Botrys, Horus, Apollodorus, Menander, Archidemus, Aristogenes, Xenocrates, Diodorus, Chrysippus, Nicander, Apollonius of Pitanae.

**BOOK XXIX: On Medical Authors, and on medicines from other Animals**

**I**. THE nature of remedies, and the great number of those already described or waiting to be described, compel me to say more about the art of medicine itself, although I am aware that no one hitherto has treated the subject in Latin, and that the judgement passed on all new endeavours is uncertain, especially on such as arc barren of all charm, and the difficulty of setting them forth is so great. But since it is likely to come into the minds of all students of the subject to ask why ever things ready to hand and appropriate have become obsolete in medical practice, the thought occurs at once that it is both a wonder and a shame that none of the arts has been more unstable, or even now more often changed, although none is more profitable. To its pioneers medicine assigned a place among the gods and a home in heaven, and even today medical aid is in many ways sought from the oracle. Then medicine became more famous even through sin, for legend said that Aesculapius[[113]](#footnote-113) was struck by lightning for bringing Tyndareus back to life. But medicine did not cease to give out that by its agency other men had come to life again, being famous in Trojan times, in which its renown was more assured, but only for the treatment of wounds.

**II I**ts succeeding history, a fact that is truly marvellous, remains enveloped in the densest night, down to the time of the Peloponnesian War; at which period it was restored to light by the agency of Hippocrates,[[114]](#footnote-114) a native of Cos, an island flourishing and powerful in the highest degree, and consecrated to Aesculapius. It being the practice for people who had recovered from a disease to describe in the temple of that god the remedies to which they had owed their restoration to health, that others might derive benefit therefrom in a similar emergency; Hippocrates, it is said, copied out these prescriptions, and, as our fellow-countryman Varro will have it, after burning the temple to the ground,[2](http://www.perseus.tufts.edu/hopper/text?doc=Plin.+Nat.+29.2&fromdoc=Perseus%3Atext%3A1999.02.0137#note2) instituted that branch of medical practice which is known as "Clinics."[[115]](#footnote-115) There was no limit after this to the profits derived from the practice of medicine; for Prodicus, a native of Selymbria, one of his disciples, founded the branch of it known as "Iatraliptics,"[[116]](#footnote-116) and so discovered a means of enriching the very anointers even and the commonest drudges employed by the physicians.

IIIIn the rules laid down by these professors, changes were effected by Chrysippus with a vast parade of words, and, after Chrysippus, by Erasistratus, son[1](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D29%3Achapter%3D3#note1) of the daughter of Aristotle. For the cure of King Antiochus-to give our first illustration of the profits realized by the medical art-Erasistratus received from his son, King Ptolemaeus, the sum of one hundred talents. IV.Another sect again, known as that of the Empirics—because it based its rules upon the results of experiment—rose in Sicily, having for its founder Acron of Agrigentum, a man recommended by the high authority of Empedocles the physician.

**V** These several schools of medicine, long at variance among themselves, were all of them condemned by Herophilus, who regulated the arterial pulsation according to the musical scale, correspondingly with the age of the patient. In succeeding years again, the theories of this sect were abandoned, it being found that to belong to it necessitated an acquaintance with literature. Changes, too, were effected in the school, of which, as already stated, Asclepiades had become the founder. His disciple, Themison, who at first implicitly followed him in his writings, soon afterwards, in compliance with the growing degeneracy of the age, went so far as to modify his own methods of treatment; which, in their turn, were entirely displaced with the authorization of the late Emperor Augustus, by Antonius Musa, a physician who had rescued that prince from a most dangerous illness, by following a mode of treatment diametrically opposite. I pass over in silence many physicians of the very highest celebrity, the Cassii, for instance, the Calpetani, the Arruntii, and the Rubrii, men who received fees yearly from the great, amounting to no less than two hundred and fifty thousand sesterces. As for Quintus Stertinius, he thought that he conferred an obligation upon the emperors in being content with five hundred thousand sesterces per annum; and indeed he proved, by an enumeration of the several houses, that a city practice would bring him in a yearly income of not less than six hundred thousand sesterces.

Fully equal to this was the sum lavished upon his brother by Claudius Caesar; and the two brothers, although they had drawn largely upon their fortunes in beautifying the public buildings at Neapolis [Naples], left to their heirs no less than thirty millions of sesterces, an estate that no physician but Arruntius had till then owned. Next in succession arose Vettius Valens, rendered so notorious by his adulterous connection with Messalina, the wife of Claudius Caesar, and equally celebrated as a professor of eloquence.[[117]](#footnote-117) When established in public favour, he became the founder of a new sect. It was in the same age, too, during the reign of the Emperor Nero, that the destinies of the medical art passed into the hands of Thessalus, a man who swept away all the precepts of his predecessors, and declaimed with a sort of frenzy against the physicians of every age; but with what discretion and in what spirit, we may abundantly conclude from a single trait presented by his character—upon his tomb, which is still to be seen on the Appian Way, he had his name inscribed as the "Iatronices" [Conqueror of Doctors]." No stage-player, no driver of a three-horse chariot, had a greater throng attending him when he appeared in public: but he was at last eclipsed in credit by Crinas, a native of Massilia [Marseilles], who, to wear an appearance of greater discreetness and more devoutness, united in himself the pursuit of two sciences, and prescribed diets to his patients in accordance with the movements of the heavenly bodies, as indicated by the almanacs of the astrologers, taking observations himself of the various times and seasons. It was but recently that he died, leaving ten millions sesterces, after having expended hardly a less sum upon building the walls of his native place and of other towns.

It was while these men were ruling our destinies, that all at once, Charmis, a native also of Massilia, took Rome by surprise. Not content with condemning the practice of preceding physicians, he proscribed the use of warm baths as well, and persuaded people, even in the very depth of winter to immerse themselves in cold water. He used to plunge his patients into large vessels filled with cold water, and it was a common thing to see aged men of consular rank make it a matter of parade to freeze themselves; a method of treatment, about which Seneca the Younger gives his personal testimony in writings still extant. There can be no doubt whatever, that all these men, in the pursuit of celebrity by the introduction of some novelty or other, bought it at the downright expense of human life. Hence those woeful discussions, those consultations at the bedside of the patient, where no one thinks it right to be of the same opinion as another, lest he may have the appearance of being subordinate to another; hence, too, that ominous inscription to be read upon a tomb, "it was the multitude of physicians that killed me."

The medical art, so often modified and renewed as it has been, still changes from day to day, and still are we impelled onwards by the puffs which emanate from the ingenuity of the Greeks. It is quite evident too, that every one among them that finds himself skilled in the art of speech, may forthwith create himself the arbiter of our life and death: as though there were not thousands of nations who live without any physicians at all, though not, for all that, without the aid of medicine. Such, for instance, was the Roman people, for a period of more than six hundred years; a people, too, which has never shown itself slow to adopt all useful arts, and which even welcomed the medical art with avidity, until, after a fair experience of it, there was found good reason to condemn it.

*[The cut sections talk about various the many uses of wool (at great length),* *eggs including ‘wind eggs’ (something created by serpents in a frenzy), goose eggs and geese, along with mice (no, he doesn’t claim they have eggs), bugs, basilisks, dragons, snails, scorpions. Then he talks about birds.]*

**XXIV**. Of birds, the chief protection against serpents is the vulture, and it has been noticed that there is less power in the black vulture. They say that the fumes of their burning feathers chase serpents away, and that those who carry about them a vulture's heart are protected not only from the attacks of serpents, but also from those of wild beasts, bandits, and angry rulers.

**XXV**. The flesh of chickens, torn away and applied warm to the bite, overcomes the venom of serpents, as will also a chicken's brain taken in wine. The Parthians prefer to put on the wound the brain of a hen. Chicken broth also, taken by the mouth, is a splendid remedy, being wonderfully good for many other purposes. Panthers and lions do not touch those rubbed over with this broth, especially if garlic has been boiled in it. A rather powerful purge is the broth of an old cock, which is also good for prolonged fevers, paralysed and palsied limbs, diseases of the joints, headaches, eye-fluxes, flatulence, loss of appetite, incipient tenesmus, complaints of liver, kidneys, and bladder, indigestion and asthma. And so instructions even are current for making it: they tell us that it is more effective boiled with sea-cabbage, or tuna-fish, or caper, or celery, or the herb mercury, with polypodium or dill, but most beneficial when three congii of water are boiled down to three heminae, with the above-mentioned herbs, cooled in the open air and administered, the best time being when an emetic has preceded. I will not pass over a marvel, though it has nothing to do with medicine: if the limbs of hens are stirred up in melted gold they absorb it all into themselves, so violent a poison of gold is chicken. But cocks themselves do not crow if they have a collar of wood shavings round their necks.

**XXVI**. A help against snakebite is also flesh of doves or swallows freshly torn away, and the feet of a horned owl burnt with the herb plumbago. Speaking of this bird I will not omit a specimen of Magian fraud, for besides their other monstrous lies they declare that an horned owl's heart, placed on the left breast of a sleeping woman, makes her tell all her secrets, and that men carrying it into battle are made braver by it. From the horned owl's egg they prescribe recipes for the hair. Now who, I ask, could have ever looked at an horned owl's egg, when it is a portent to have seen the bird itself? Who in any case could have tried it, particularly on the hair? The blood, indeed, of a horned owl's chick is guaranteed even to curl the hair. Of much the same kind would seem to be also their stories about the bat: that if carried alive three times round the house and then fastened head downwards through the window, it acts as a talisman, and is specifically such to sheepfolds if carried round them three times and hung up by the feet over the threshold. Its blood also with thistle the Magi praise as one of the sovereign remedies for snakebite.

**XXVII**. The phalangium[[118]](#footnote-118) is unknown to Italy and of several kinds. One is like the ant, but much larger, having a red head and the rest of the body black with white spots. Its wound is more painful than that of the wasp, and it lives especially near furnaces and mills. One remedy is to show to the bitten person another phalangium of the same kind; for this purpose are kept dead specimens. Their dry bodies are also found, which are pounded and taken as a remedy, as are a weasel's young prepared as I have described. Among classes of spiders the Greeks also include a phalangion which they distinguish by the name of 'wolf.' There is also a third kind of phalangium, a hairy spider with an enormous head. When this is cut open, there are said to be found inside two little worms, which, tied in deer skin as an amulet on women before sunrise, act as a contraceptive, as Caecilius has told us in his *Commentarii*. They retain this property for a year. Of all such preventives this only would it be right for me to mention, to help those women who are so prolific that they stand in need of such a respite. There is another phalangium called *rhox*, like a black grape, with a very small month under the abdomen, and very short legs as though not fully grown. Its bite is as painful as a scorpion's sting, forming in the urine as it were spider's webs The asterion is exactly like it, except that it is marked with white streaks. Its bite makes the knees weak. Worse than either is the blue spider; it is covered with black hair, and causes dimness of vision and vomit like spider's web. There is an even worse phalangium, which differs from the hornet only in having no wings. The bite from one of this kind also makes the body thin. The myrmecion in its head resembles the ant, with a black body marked by white spots, and a bite as painful as a wasp. There are two kinds of the phalanginm called tetragnathius, the worse of which has two white lines crossed on the middle of its head, and its bite makes the mouth swell, but the ash-coloured kind, which is whitish in its hind part, is less vicious. Least dangerous of all is the ash-coloured spider which spins its web all over our walls to catch flies. For the bites of all spiders remedial is a cock's brain with a little pepper taken in vinegar and water, five ants also taken in drink, the ash of sheep's dung applied in vinegar, or spiders themselves of any sort that have rotted in oil. The bite of the shrewmouse is healed by lamb's ­rennet taken in wine, by the ash of a ram's hoof with honey, and by a young weasel, as I have prescribed for snakebite. If it has bitten draught-animals, a freshly killed mouse is applied with salt, or a bat's gall in vinegar. The shrew-mouse itself, torn asunder and applied, is a remedy for its own bite; but if a pregnant shrewmouse has bitten, it bursts open at once. It is best if the mouse applied is the one which gave the bite, but they preserve them for this purpose in oil, or enclosed in clay. Another remedy for its bite is earth from a wheel rut. For they say that it will not cross a wheel rut owing to a sort of natural torpor.

**XXVIII**. The stelio[[119]](#footnote-119) is said in its turn to be such a great enemy to scorpions that the mere sight of one strikes them with panic, and torpor with cold sweat. Accordingly they let it rot in oil and so smear on scorpion wounds. Some boil down that oil with litharge to make a sort of ointment which they thus apply. This lizard the Greeks call *colotes*, *ascalabotes*, or, *galeotes*. This kind is not found in Italy, for it is covered with spots, has a shrill cry, and feeds on spiders, all which characteristics are lacking in our stelios.

**XXIX**. Beneficial too is ash of hen's dung applied, the liver of a python, a lizard or a mouse torn open, the scorpion laid on the wound it has itself inflicted, or roasted and taken in food or in two cyathi of neat wine. Scorpions are peculiar in that they do not sting the palm of the hand or touch any but hairy parts. A pebble of any kind, if the part next the ground is laid on the wound, relieves the pain, and a potsherd too is said to be a cure if a part covered with earth is applied just as it was taken up—those making the application must not look back, and must take care that the sun does not behold them—and another cure is an application of pounded earthworms. Many other remedies are obtained from earthworms, so they are kept in honey for this purpose. The night owl is an enemy of bees, wasps, hornets, and leeches, and those are not stung by them who carry about their person a beak of the woodpecker of Mars. Hostile to them are also the smallest of the locusts, which are wingless and called *attelebi*. There is also a venomous kind of ant, not generally found in Italy. Cicero calls it *solipuga* and in Baetica it is called *salpuga*. A bat's heart is hostile to these, as it is to all ants. I have said that cantharides are hostile to salamanders.

**XXX**. But this creates a much-disputed question, for the fly taken in drink is a poison, causing excruciating pain in the bladder. Cossinus, a Roman knight, well known for his friendship with the Emperor Nero, fell a victim to lichen. Caesar called in a specialist physician from Egypt, who decided on preliminary treatment with Spanish fly taken in drink, and the patient died. But there is no doubt that, with juice of taminian grapes, sheep suet, or that of a she-goat, an external application is beneficial. In what part of the Spanish fly itself the poison lies authorities disagree; some think in the feet and in the head, hut others say not. The only point agreed upon is that, wherever the poison lies, their wings help. The fly itself is bred from a grub found in the sponge-like substance on the stalk of the wild rose especially, but also very plentifully on the ash. The third kind breeds on the white rose, but is less efficacious. The most potent flies of all are marked with yellow lines across their wings and are plump; much less potent are those that are small, broad and hairy; the least useful however are of one colour, and thin. They are stored away in an earthen pot, not lined with pitch, but the mouth closed with a cloth. They are covered with full-blown roses and hung over boiling vinegar and salt until the steam, passing through the cloth, suffocates them. Then they are stored away. Their property is to cauterise the flesh and to form scabs. Of the same character is the pine-caterpillar, which is found on the pitch-pine, and the buprestis, and they are prepared in a similar way. All these are very efficacious for leprous sores and lichen. They are also said to be emmenagogue and diuretic, and so Hippocrates used them also for dropsy. Spanish fly was the subject of a charge against Cato Uticensis [Cato the Younger] that he had sold poison at an auction of royal property, for he had knocked some down for 60,000 sesterces. And I may remark in passing that at this sale there was sold for 30,000 sesterces ostrich suet, a far more useful fat for all purposes than goose-grease.

**XXXI**. I have also mentioned a kind of poisonous honey.[[120]](#footnote-120) To counteract it honey is used in which bees have died. The same honey is also a remedy for illness caused by eating fish.

**XXXII**. If a person has been bitten by a mad dog, as protection from hydrophobia is given by an application to the wound of ash from the burnt head of a dog. Now all reduction to ash (that I may describe it once for all) should be carried out in the following way: a new earthen vessel is covered all over with clay and so put into a furnace. The same method is also good when the ash is to be taken in drink. Some have prescribed as a cure eating a dog's head. Others too have used as an amulet a worm from a dead dog, or placed in a cloth under the cup the sexual fluid of a bitch, or have rubbed into the wound the ash from the hair under the tail of the mad dog itself. Dogs run away from one who carries a dog's heart, and indeed do not bark if a dog's tongue is placed in the shoe under the big toe, or at those who carry the severed tail of a weasel which has afterwards been set free. Under the tongue of a mad dog is a slimy saliva, which given in drink prevents hydrophobia, but much the most useful remedy is the liver of the dog that bit in his madness eaten raw, if that can be done, if it cannot, cooked in any way, or a broth must be made from the boiled flesh. There is a little worm on the tongue of dogs which the Greeks call *lytta* [madness], and if this is taken away when they are baby puppies they neither go mad nor lose their appetite. It is also carried three times round fire and given to those bitten by a mad dog to prevent their going mad. The brains of poultry are an antidote, but to swallow them gives protection for that year only. They say that it is also efficacious to apply to the wound a cock's comb pounded up, or goose grease with honey. The flesh of dogs that have gone mad is also preserved in salt to be used for the same purposes given in food. Puppies too of the same sex as the bitten patient are immediately drowned and their livers swallowed raw. An application in vinegar of poultry dung, if it is red, is also of advantage, or the ash of a shrewmouse's tail (but the mutilated animal must be set free alive), an application in vinegar of a bit of earth from a swallow's nest, of the chicks of a swallow reduced to ash, or the skin or cast slough of snakes, pounded in wine with a male crab; for by it even when put away by itself in chests and cupboards they kill moths. So great is the virulence of this plague that even the urine of a mad dog does harm if trodden on, especially to those who are suffering from sores. A remedy is an application of horse dung sprinkled with vinegar and warmed in a fig. Less surprised at all this will be one who remembers that `a dog will bite a stone thrown at him' has become a proverb to describe quarrelsomeness. It is said that he who voids his own urine on that of a dog will suffer numbness in his loins. The lizard called *seps* by some and *chalcis* by others, if taken in wine is a cure for its own bites.

**XXXIII**. For sorcerers' poisons obtained from the wild weasel[[121]](#footnote-121) a remedy is a copious draught of chicken broth made from an old bird; it is specific for aconite poisoning, and there should be added a dash of salt. Hens' dung, provided it is white, boiled down in hyssop or honey wine, is used for poisonous fungi and mushrooms, as well as for flatulence and suffocations—a matter for wonder, because if any animal save man should taste this dung, it will suffer from colic and flatulence. Goose blood, with the same quantity of oil, is good for the poison of sea hares, also for all sorcerers' poisons—it is kept with red Lemnian earth and the sap of white thorn, and five drachmae of the lozenges should be taken as a dose in three cyathi of water—also a baby weasel prepared as I have described. Lamb's rennet too is a powerful antidote to all sorcerers' poisons, as is the blood of Pontic ducks; and so when thickened it is also stored away and dissolved in wine. Some are of opinion that the blood of a female duck is more efficacious. In like manner general remedies for all poisons are the crop of storks, sheep's rennet, the broth of ram's flesh (which is specific for cantharides), likewise warmed sheep's milk, which is also good for those who have swallowed buprestis or aconite, the dung of wild doves (specific if quicksilver has been swallowed), and for arrow poisons the common weasel, preserved and taken in drink, two drachmae at a time.

XXXIV. Bald patches through mange are covered again with hair by an application of ash of sheep's dung with cyprus oil and honey, by the hooves, reduced to ash, of a mule of either sex, applied in myrtle oil; moreover, as our countryman Varro relates, by mouse dung, which he calls also *muscerdae*, or by the fresh heads of flies, but the patches must first be roughened with a fig leaf. Some use the blood of flies, others for ten days apply their ash with that of paper or nuts, but a third of the whole must be that of flies; others make a paste of fly ash, woman's milk, and cabbage, while some add honey only. No creature is thought to be less teachable or less intelligent than the fly; it is all the more wonderful that at the Olympic games, after the bull has been sacrificed to the god they call Myiodes, clouds of flies depart from Olympic territory.[[122]](#footnote-122) Hair lost by mange is restored by the ash of mice, their heads and tails, or their whole bodies, especially when this affliction is the result of sorcery; it is restored too by the ash of a hedgehog mixed with honey, or by its burnt skin with liquid pitch. The head indeed of this animal, reduced to ash, by itself restores the hair even to scars. But for this treatment the patches must first be prepared by shaving with a razor. Some too have preferred to use mustard in vinegar. All that will be said about the hedgehog will apply even more to the porcupine. Hair is also prevented from falling out by the ash of a lizard that, in the way I have described, has been burnt with the root of a fresh-cut reed, which must be chopped up fine so that the two may be consumed together, an ointment being made by the admixture of myrtle-oil. All the same results are given more efficaciously by green lizards, and with even greater benefit if there are added salt, bear's grease, and crushed onion. Some thoroughly boil ten green lizards at a time in ten sextarii of old oil, being content with one application a month. Vipers' skins reduced to ashes very quickly restore hair lost through mange, as does also an application of fresh hens' dung. A raven's egg, beaten up in a copper vessel and applied to the head after shaving it, imparts a black colour to the hair, but until it dries oil must be kept in the mouth lest the teeth too turn black at the same time; the application too must be made in the shade, and not washed off before three days have passed. Some use a raven's blood and brains added to dark wine; others thoroughly boil the raven itself and store it away at bed time in a vessel of lead. Some apply to patches of mange Spanish fly pounded with liquid pitch, first preparing the skin with soda—the applica­tion is caustic, and care must be taken not to cause deep sores—and prescribe that afterwards to the sores so formed be applied the heads, gall, and dung of mice with hellebore and pepper.

XXXV. Nits are removed by dog fat, snakes taken in food like eels, or by the cast slough of snakes taken in drink; dandruff by sheep's gall with Cimolian chalk rubbed on the head until it dries off. XXXVI. Headaches have a remedy in the heads of snails, cut off from those that are found without shells, being not yet complete, and the hard stony substance taken from them—it is of the width of a pebble—which are used as an amulet, while the small snails are crushed, and rubbed on the forehead; there is also wool grease; the bones from the head of a vulture attached as an amulet, or its brain with oil and cedar resin, the head being rubbed all over and the inner part of the nostrils smeared with the ointment; the brain of a crow or owl boiled and taken in food; a cock penned up without food for a day and a night, the sufferer fasting with him at the same time, feathers plucked from the neck, or the comb, being tied round the head; the application of a weasel reduced to ash; a twig from a kite's nest placed under the pillow; a mouse's skin burnt and the ash applied in vinegar; the little bone of a slug found between two wheel ruts, passed through gold, silver and ivory, and attached in dog skin as an amulet, a remedy that always does good to most. Applied in oil and vinegar to a fractured skull, cobweb does not come away until the wound is healed. Cobweb also stops bleeding from a razor cut, but haemorrhage from the brain is stayed by pouring into the wound the blood of goose or duck, or the grease of these birds with rose oil. The head of a snail cut off with a reed as he feeds in the morning, by preference when the moon is full, is attached in a linen cloth by a thread to the head of a sufferer from headaches, or else made into an ointment for the forehead with white wax, and an amulet attached of dog's hair in a cloth.

**XXXVII**. A crow's brain taken in food is said to make eyelashes grow, and also wool grease and myrrh applied with a warmed probe. We are assured that the same result is obtained by taking the ash of flies and of mouse dung in equal quantities, so that the weight of the whole amounts to half a denarius, then adding two-sixths of a denarius of antimony and applying all with wool grease; or one may use baby mice beaten up in old wine to the consistency of an anodyne salve. When inconvenient hairs in the eyelashes have been plucked out they are prevented from growing again by the gall of a hedgehog, the fluid part of a spotted lizard's eggs, the ash of a salamander, the gall of a green lizard in white wine condensed by sunshine to the consistency of honey in a copper vessel, the ash of a swallow's young added to the milky juice of tithymallus and the slime of snails.

**XXXVIII**. Opaqueness of the eye-lens is cured, say the Magi, by the brain of a seven-day-old puppy, the probe being inserted into the right side of the eye to treat the right eye and into the left side to treat the left eye; or by the fresh gall of the axio, a kind of owl whose feathers twitch like ears. Apollonius of Pitane preferred to treat cataract with honey and dog's gall rather than using hyena's, as he did also to treat white eye ulcers. The heads and tails of mice, reduced to ash and made into an ointment with honey, restore, they say, clearness of vision; much better the ash of a dormouse or wild mouse, or the brain of an eagle or the gall with Attic honey. The ash and fat of the shrewmouse, beaten up with antimony, is very good for watery eyes—what antimony is I shall say when I speak of metals—the ash of the weasel for cataract, likewise of the lizard, or the brain of the swallow. Pounded snails applied to the forehead relieve eye fluxes, either by themselves or with fine flour or with frankincense; so applied they are also good for sunstroke. To burn them alive also, and to use as ointment the ash with Cretan honey is very good for dimness of vision. For the eyes of draught animals the slough cast in spring by the asp makes with asp fat an ointment that improves their vision. To burn a viper alive in new earthenware, with addition of fennel juice up to one cyathus, and of one grain of frankincense, makes an ointment very good for cataract and dimness of vision; this prescription is called *eckeon*. An eye salve is also made by letting a viper rot in a jar, and pounding with saffron the grubs that breed in it. A viper is also burned in a jar with salt, to lick which gives clearness of vision, and is a tonic to the stomach and to the whole body. This salt is also given to sheep to keep them in health, and is an ingredient of an antidote to snakebite. Some use vipers as food. They prescribe that, first of all, as soon as the viper has been killed, salt should be placed in its mouth until it melts; then at both ends a length of four fingers is cut off and the intestines taken out; the rest they thoroughly boil in water, oil, salt and dill, and either eat at once, or mix in bread so that it can be used several times. In addition to what has been said above, the broth removes lice from any part of the body, as well as itching from the surface of the skin. Even by itself, the ash of a viper's head shows results; as ointment for the eyes it is very effective, and the same is true of viper's fat. I would not confidently recommend what is prescribed about a viper's gall, because, as I have pointed out in the appropriate place a serpent's poison is nothing but gall. The fat of snakes mixed with bronze rust heals ruptured parts of the eyes, and rubbing with their skin, or slough, cast in spring, gives clear vision. The gall of the boa afro is recommended for white ulcers, cataract, and dimness, and its fat similarly for clear vision.

The gall of the eagle, which, as I have said, tests its chicks for gazing at the sun, makes, when mixed with Attic honey, an ointment for film on the eyes, dimness of vision, and cataract. There is the same property also in vulture's gall with leek juice and a little honey, likewise in the gall of a cock, especially of a white cock, diluted with water and used for white specks, white ulcers, and cataract. The dung of poultry also, provided that it is red, is prescribed as an ointment for night blindness. The gall of a hen also, and in particular the fat, is recommended for pustules on the pupils, but of course hens are not fattened specially for this purpose. It is a wonderful help, combined with the stones schistos and haematites, for the coats of the eye when torn. The dung also of hens, provided it is white, is kept in old oil and horn boxes for white ulcers on the pupil; while on the subject I must mention the tradition that peacocks swallow back their own dung, begrudging men its benefits. A hawk boiled down in rose oil is thought to make a very efficacious liniment for all eye complaints, as is its dung reduced to ash and added to Attic honey. A kite's liver too is recommended, and also pigeons' dung, applied in vinegar for fistulas, similarly for white ulcers and for sears, goose's gall and duck's blood for bruised eyes, provided that afterwards they are treated with wool grease and honey; partridge gall can be used with an equal weight of honey, hut by itself for clear vision. It is on the supposed authority of Hippocrates that the further instruction is given to keep this gall in a silver box. Partridge eggs boiled down with honey in a bronze vessel cure ulcers on the eyes and opaqueness of the lens. The blood of pigeons, doves, turtle doves, or partridges, makes an excellent application for blood-shot eyes. Among pigeons, male birds are supposed to have the more efficacious blood, and a vein under a wing is cut for this purpose, because its natural heat makes it more useful. Over the application should be placed a plaster boiled in honey and greasy wool boiled in oil or wine. Night blindness is cured by the blood of the same birds and by the liver of sheep, as I said a when speaking of goats, with greater benefit if the sheep are tawny. With a decoction also of the liver it is recommended to bathe the eyes and to apply the marrow to those that are painful or swollen. We are assured that the eyes of the horned owl, reduced to ash and mixed with a salve, improves the vision. White ulcers are made better by the dung of a turtle dove, by snails reduced to ash, and by the dung of the cenchris, a bird considered by the Greeks to be a species of hawk. White specks are cured by all the above remedies applied with honey. The honey most beneficial for the eyes is that in which bees have died. He who has eaten the chick of a stork, it is said, will not suffer from ophthalmia for years on end, likewise he who carries about the head of a python. Its fat with honey and old oil is said to disperse incipient dimness. The chicks of swallows are blinded by the full moon, and when their sight is restored their heads are burnt and the ash used with honey to improve the vision and for pains, ophthalmia, and blows. Lizards too are employed in several ways for eye remedies. Some shut up a green lizard in new earthenware, and with them the pebbles called *cinaedia*, which are used as amulets for swellings on the groin, mark them with nine marks and take away one daily; on the ninth day they set the lizard free, but keep the pebbles for pains in the eyes. Others put earth under a green lizard after blinding it, and shut it in a glass vessel with rings of solid iron or gold. When they can see through the glass that the lizard has recovered its sight, they let it out, and use the rings for ophthalmia; others use the ash of the head instead of antimony for scabrous eyes. Some burn the green lizard with a long neck that is found in sandy places, and use it as ointment for incipient fluxes, as well as for opaqueness of the lens. They also say that when a weasel's eyes have been gouged out with a pointed tool, the sight is restored, and they use the animal as they used the lizards and rings, saying also that a serpent's right eye worn as au amulet, is good for eye fluxes, if the serpent is set free alive. The ash of a spotted lizard's head makes with antimony an excellent remedy for continually streaming eyes. The web of a fly-spider, particularly its very lair, is said to be a marvellous cure for fluxes if laid in a plaster across the forehead from temple to temple; but it must be collected and applied by a boy before puberty, who waits three days before showing himself to the patient needing cure, during which days the latter must not touch the earth with bare feet. White ulcers also are said to be removed by the white spider with very long and very thin legs, which is pounded in old oil and used as ointment. The spider too, whose very coarse web is generally found in rafters, is said to cure fluxes if worn in cloth as an amulet. The green beetle has the property of sharpening the sight of those who gaze at it, and so the carvers of jewels gaze on one to rest their eves.

*[In the cut section Pliny talks about how to cure various ear ailments.]*

SUMMARY.—Remedies, narratives, and observations, six hundred and twenty-one.

ROMAN AUTHORS QUOTED.—M. Varro, L. Piso, Flaccus Verrius, Antias, Nigidius, Cassius Hemina, Cicero, Plautus, Celsus, Sextius Niger who wrote in Greek, Caecilius the physician, Metellus Scipio, the Poet Ovid, Licinius Macer.

FOREIGN AUTHORS QUOTED.—Homer, Aristotle, Orpheus, Palaephatus, Democritus, Anaxilaiis.

MEDICAL AUTHORS QUOTED.—Botrys, Apollodorus, Archidemus, Aristogenes, Xenocrites,Democrates, Diodorus, Chrysippusthe philosopher, Horus, Nicander, Apolloniusof Pitanæ.

**BOOK XXX: on Magic, and Medicines for certain parts of the Body**

**I**. In the previous part of my work I have often indeed refuted the fraudulent lies of the Magi, whenever the subject and the occasion required it, and I shall continue to expose them. In a few respects, however, the theme deserves to be enlarged upon, were it only because the most fraudulent of arts has held complete sway throughout the world for many ages. Nobody should be surprised at the greatness of its influence, since alone of the arts it has embraced three others that hold supreme dominion over the human mind, and made them subject to itself alone. Nobody will doubt that it first arose from medicine, and that professing to promote health it insidiously advanced under the disguise of a higher and holier system; that to the most seductive and welcome promises it added the powers of religion, about which even today the human race is quite in the dark; that again meeting with success it made a further addition of astrology, because there is nobody who is not eager to learn his destiny, or who does not believe that the truest account of it is that gained by watching the skies. Accordingly, holding men's emotions in a threefold bond, magic rose to such a height that even today it has sway over a great part of mankind, and in the East commands the Kings of Kings.

**II**. Without doubt magic arose in Persia with Zoroaster. On this our authorities are agreed, but whether he was the only one of that name, or whether there was also another afterwards, is not clear. Eudoxus, who wished magic to be acknowledged as the noblest and most useful of the schools of philosophy, declared that this Zoroaster lived six thousand years before Plato's death, and Aristotle agrees with him. Hermippus, a most studious writer about every aspect of magic, and an exponent of two million verses composed by Zoroaster, added summaries too to his rolls, and gave Agonaces as the teacher by whom he said that he had been instructed, assigning to the man himself a date five thousand years before the Trojan War. What especially is surprising is the survival, through so long a period, of the craft and its tradition; treatises are wanting, and besides there is no line of distinguished or continuous successors to keep alive their memory. For how few know anything, even by hearsay, of those who alone have left their names but without other memorial—Apusorus and Zaratus of Media, Marmarus and Arabantiphocus of Babylon, or Tarmoendas of Assyria? The most surprising thing, however, is the complete silence of Homer about magic in his poem on the Trojan War [*Iliad]*, and yet so much of his work in the wanderings of Ulysses is so occupied with it that it alone forms the backbone of the whole work, if indeed they put a magical interpretation upon the Proteus episode in Homer and the songs of the Sirens, and especially upon the episode of Circe and of the calling up of the dead from Hades, of which magic is the sole theme. And in later times nobody has explained how ever it reached Telmesus,[[123]](#footnote-123) a city given up to superstition, or when it passed over to the Thessalian matrons, whose surname a was long proverbial in our part of the world, although magic was a craft repugnant to the Thessalian people, who were content, at any rate in the Trojan period, with the medicines of Chiron, and with the War God as the only wielder of the thunderbolt? I am indeed surprised that the people over whom Achilles once ruled had a reputation for magic so lasting that Menander, a man with an unrivalled gift for sound literary taste, gave the name *Thessala[[124]](#footnote-124)* to his comedy, which deals fully with the tricks of the women for calling down the moon. I would believe that Orpheus was the first to carry the craft to his near neighbours, and that his superstition grew from medicine, if the whole of Thrace, the home of Orpheus, had not been untainted by magic. The first man, so far as I can discover, to write a still-extant treatise on magic was Osthanes, who accompanied the Persian King Xerxes in his invasion of Greece, and sowed what I may call the seeds of this monstrous craft, infecting the whole world by the way at every stage of their travels. A little before Osthanes, the more careful inquirers place another Zoroaster, a native of Proconnesus. One thing is certain; it was this Osthanes who chiefly roused among the Greek peoples not so much an eager appetite for his science as a sheer mania. And yet I notice that of old, in fact almost always, the highest literary distinction and renown have been sought from that science. Certainly Pythagoras, Empedocles, Democritus and Plato went overseas to learn it, going into exile rather than on a journey, taught it openly on their return, and considered it one of their most treasured secrets. Democritus taught Apollobex the Copt and Dardanus the Phoenician, entering the latter's tomb to obtain his works and basing his own on their doctrines. That these were accepted by any human beings and transmitted by memory is the most extraordinary phenomenon in history; so utterly are they lacking in credibility and decency that those who like the other works of Democritus deny that the magical books are his. But it is all to no purpose, for it is certain that Democritus especially instilled into men's minds the sweets of magic. Another extraordinary thing is that both these arts, medicine I mean and magic, flourished together, Democritus expounding magic in the same age as Hippocrates expounded medicine, about the time of the Peloponnesian War, which was waged in Greece from the three-hundredth year of our city. There is yet another branch of magic, derived from Moses, Jannes [an Egyptian magician], Lotapes [Iotape = Yahweh], and the Jews, but living many thousand years after Zoroaster. So much more recent is the branch in Cyprus. In the time too of Alexander the Great, no slight addition was made to the influence of the profession by a second Osthanes, who, honoured by his attendance on Alexander, travelled certainly without the slightest doubt all over the world.

**III**. Among Italian tribes also there still certainly exist traces of magic in the Twelve Tables, as is proved by my own and the other evidence set forth in an earlier Book? It was not until the 657th year of the City [97 BCE] that in the consulship of Gnaeus Cornelius Lentulus and Publius Licinius Crassus there was passed a resolution of the Senate forbidding human sacrifice; so that down to that date it is manifest that such abominable rites were practised.

**IV**. Magic certainly found a home in the two Gallic provinces, and that down to living memory. For the principate of Tiberius Caesar did away with their Druids and this tribe of seers and medicine men. But why should I speak of these things when the craft has even crossed the Ocean and reached the empty voids of Nature? Even today Britain practises magic in awe, with such grand ritual that it might seem that she gave it to the Persians. So universal is the cult of magic throughout the world. although its nations disagree or are unknown to each other. It is beyond calculation how great is the debt owed to the Romans, who swept away the mon­strous rites, in which to kill a man was the highest religious duty and for him to be eaten a passport to health.

**V**. As Osthanes said, there are several forms of magic; he professes to divine from water, globes, air, stars, lamps, basins and axes, and by many other methods, and besides to converse with ghosts and those in the underworld. All of these in our generation the Emperor Nero discovered to be lies and frauds. In fact his passion for the lyre and tragic song was no greater than his passion for magic; his elevation to the greatest height of human fortune aroused desire in the vicious depths of his mind; his greatest wish was to give commands to the gods, and he could rise to no nobler ambition. No other of the arts ever had a more enthusiastic patron. Every means were his to gratify his desire—wealth, strength, aptitude for learning—and what else did the world not allow! That the craft is a fraud there could be no greater or more indisputable proof than that Nero abandoned it; but would that he had consulted about his suspicions the powers of Hell and any other gods whatsoever, instead of entrusting these researches to pimps and harlots. Of a surety no ceremony, outlandish and savage though the rites may be, would not have been gentler than Nero's thoughts; more cruelly behaving than any did Nero thus fill our Rome with ghosts.

**VI**. The Magi have certain means of evasion; for example that the gods neither obey those with freckles nor are seen by them. Was this perhaps their objection to Nero? But his body was without blemish; he was free to choose the fixed days, could easily obtain perfectly black sheep, and as for human sacrifice, he took the greatest delight in it. Mithridates the Magus had come to him bringing a retinue for the Annenian triumph over himself, thereby laying a heavy burden on the provinces. He had refused to travel by sea, for the Magi hold it sin to spit into the sea or wrong that element by other necessary functions of mortal creatures. He had brought Magi with him, had initiated Nero into their banquets; yet the man giving him a kingdom was unable to acquire from him the magic art. Therefore let us be convinced by this that magic is detestable, vain, and idle; and though it has what I might call shadows of truth, their power comes from the art of the poisoner, not of the Magi. One might well ask what were the lies of the old Magi, when as a youth I saw Apion the grammarian, who told me that the herb cynocephalia, called in Egypt *osiritis*, was an instrument of divina­tion and a protection from all kinds of sorcery, but if it were uprooted altogether the digger would die at once, and that he had called up ghosts to inquire from Homer his native country and the name of his parents, but did not dare to repeat the answers which he said were given.

**VII**. It should be unique evidence of fraud that they look upon the mole of all living creatures with the greatest awe, although it is cursed by Nature with so many defects, being permanently blind, sunk in other darkness also, and resembling the buried dead. In no entrails is placed such faith; to no creature do they attribute more supernatural properties; so that if anyone eats its heart, fresh and still beating, they promise powers of divination and of foretelling the issue of matters in hand. They declare that a tooth, extracted from a living mole and attached as an amulet, cures toothache. The rest of their beliefs about this animal I will relate in the appropriate places. But of all they say nothing will be found more likely than that the mole is an antidote for the bite of the shrewmouse, seeing that an antidote for it, as I have said, is even earth that has been depressed by cart wheels.

**VIII**. Toothache is also cured, the Magi tell us, by the ash of the burnt heads without any flesh of dogs that have died of madness, which must be dropped in cyprus oil through the ear on the side where the pain is; also by the left eye-tooth of a dog, the aching tooth being scraped round with it; by one of the vertebrae of the draco or of the enhydris, the serpent being a white male. With this eye-tooth they serape all round the painful one, or they make an amulet of two upper teeth, when the pain is in the upper jaw, using lower teeth for the lower jaw. With its fat they rub hunters of the crocodile. They also scrape teeth with bones extracted from the forehead of a lizard at a full moon, without their touching the earth. They rinse the mouth with a decoction of dogs' teeth in wine, boiled down to one-half. The ash of these teeth with honey helps children who are slow in teething. A dentifrice also is made with the same ingredients. Hollow teeth are stuffed with the ash of mouse dung or with dried lizards' liver. A snake's heart, eaten or worn as an amulet, is considered efficacious. There are among them some who recommend a mouse to be chewed up twice a month to prevent aches. Earthworms, boiled down in oil and poured into the ear on the side where there is pain, afford relief. These also, reduced to ash and plugged into decayed teeth, force them to fall out easily, and applied to sound teeth relieve any pain in them. They should be burnt, however, in an earthen pot. They also benefit if boiled down in squill vinegar with the root of a mulberry tree, so as to make a wash for the teeth. The maggot also, which is found on the plant called Venus' Bath, plugged into hollow teeth, is wonderfully good. But they fall out at the touch of the cabbage caterpillar, and the bugs from the mallow are poured into the ears with rose oil. The little grains of sand, that are found in the horns of snails, if put into hollow teeth, free them at once from pain. Empty snail shells, reduced to ash and myrrh added, are good for the gums, as is the ash of a serpent burnt with salt in an earthen pot, poured with rose oil into the opposite ear, or the slough of a snake with oil and pitch-pine resin warmed and poured into either ear—some add frankincense and rose oil—and if put into hollow teeth it also makes them fall out without trouble. I think it idle talk that white snakes cast their slough about the rising of the Dog-star, since the casting has been seen in Italy before the rising, and in warm regions it is much less probable for sloughing to be so late. But they say that this slough, even when dry, combined with wax forces out teeth very quickly. A snake's tooth also, worn as an amulet, relieves toothache. There are some who think that a spider also is beneficial, the animal itself, caught with the left hand, beaten up in rose oil, and poured into the ear on the side of the pain. The little bones of hens have been kept hanging on the wall of a room with the gullet intact; if a tooth is touched, or the gum scraped, and the bone thrown away, they assure us that the pain at once disappears, as it does if a raven's dung, wrapped in wool, is worn as an amulet, or if sparrows' dung is warmed with oil and poured into the ear nearer the pain. This however causes unbearable itching, and so it is better to rub the part with vinegar and the ash of a sparrow's nestlings burnt on twigs.

**IX**. They assert that the taste in the mouth is made agreeable if the teeth are rubbed with the ash of burnt mice mixed with honey; some add fennel root. If the teeth are picked with a vulture's feather, they make the breath sour. To pick them with a porcupine's quill helps their firmness. Sores on the tongue or lips are healed by a decoction of swallows in honey wine; chaps on them by goose grease or hen's grease, by oesypum[[125]](#footnote-125) with gall nut, by white webs of spiders, or by the small webs spun on rafters. If the mouth has been scalded by over-hot things, bitch's milk will give an immediate cure.

**X**. Spots on the face are removed by oesypum with Gorsican honey, which is considered the most acrid; scurf on the skin of the face by the same with rose oil on a piece of fleece; some add also butter. If however there is psoriasis, dog's gall is applied to the spots, which are first pricked with a needle; to livid spots and bruises rams' or sheep's lungs are applied hot and cut into thin slices, or else pigeon's dung. The skin of the face is preserved by goose grease or hen's. To lichen is also applied mouse dung in vinegar, or ash of the hedgehog in oil; for this treatment they prescribe that the face should first be fomented with soda and vinegar. Facial troubles are also removed by the ash with honey of the broad but small snails that are found everywhere. The ash indeed of all snails, such is its detergent property, thickens and warms; for that reason it is an ingredient of caustic preparations and used as a liniment for itch, leprous sores, and freckles. I find also that there are ants called Herculanean, which beaten up and with the addition of a little salt cure facial troubles. The buprestis is a creature rarely found in Italy, and very similar to a long-legged beetle. Oxen at pasture are very apt not to see it—hence too its name—and should it be swallowed it causes such inflammation on reaching the gall that it bursts the animal. This insect applied with he-goat suet removes lichen from the face by its corrosive property, as I have already said. Vulture's blood, beaten up with cedar resin and the root of the white chamaeleon, a plant I have already mentioned, and covered with a cabbage leaf, heals leprous sores, as do the legs of locusts beaten up with he-goat suet. Pimples are cured by poultry fat kneaded with onion. Very useful too for the face is honey in which bees have died, but the best thing for clearing the complexion and removing wrinkles is swan's fat. Branded marks are removed by pigeon's dung in vinegar.

**XI**. I find that a heavy cold clears up if the sufferer kisses a mule's muzzle. Pain in the uvula and in the throat is relieved by the dung, dried in shade, of lambs that have not yet eaten grass, uvula pain by applying the juice of a snail transfixed by a needle, so that the snail itself may be hung up in the smoke, and by the ash of swallows with honey. This also gives relief to affections of the tonsils. Gargling with ewe's milk is a help to tonsils and throat, as is a multipede beaten up, gargling with pigeon's dung and raisin wine, and also an external application of it with dried fig and soda. Sore throat and a running cold are relieved by snails—they should be boiled unwashed and with only the earth taken off crushed and given to drink in raisin wine; some hold that the snails of Astypalaea are the most efficacious—by their ash, and also by rubbing with a cricket or if anybody touches the tonsils with hands that have crushed a cricket.

*[To save you, we have cut some of the cures, but we return with Pliny’s unique cure for brain fever.]*

**XXIX**. For brain-fever a sheep's lung wrapped warm round the patient's head appears to be beneficial. But who could give to one delirious the brain of a mouse to be taken in water, or the ash of a weasel, or even the dried flesh of a hedgehog, even if the treatment were bound to be successful? As for the eyes of the horned owl reduced to ash, I should be inclined to count this remedy as one of the frauds with which magicians mock mankind, and it is especially in fevers that true medicine is opposed to the doctrines of these quacks. For they have actually divided the art according to the passing of the sun, and also that of the moon, through the twelve signs of the Zodiac. That the whole theory should be rejected I will show by a few examples. If the sun is passing through Gemini, they recommend the sick to be rubbed with the combs, ears, and claws of cocks, burnt and pounded with oil; if it is the moon, the cocks' spurs and wattles must be used. If either sun or moon is passing through Virgo, grains of barley must be used; if through Sagittarius, a bat's wings; if the moon is passing through Leo, leaves of tamarisk, and they add that it must be the cultivated shrub; if through Aquarius, box­wood charcoal, pounded. Of these remedies I shall include only those recognised, or at least thought probable: for example, to rouse the victims of lethargus by pungent smells, among which perhaps I would put the dried testicles of a weasel or the fumes of his burnt liver. For these patients also they consider it useful to wrap round the head the warm lung of a sheep.

**XXX**. In quartans ordinary medicines are practically useless; for which reason I shall include several of the magicians' remedies, and in the first place the amulets they recommend: the dust in which a hawk has rolled himself tied in a linen cloth by a red thread, or the longest tooth of a black dog. The wasp they call pseudosphex, that flies about by itself, they catch with the left hand and hang under the chin, and others use the first wasp seen in that year; a severed viper's head attached in a linen cloth, or the heart taken from the creature while still alive; the snout and ear tips of a mouse, wrapped in red cloth, the mouse itself being allowed to go free; the right eye gouged out of a living lizard; a fly in a bit of goat skin, with its head cut off; or the beetle that rolls little pellets. Because of this beetle the greater part of Egypt worships the beetle as one of its deities. Apion gives an erudite explanation: he infers that this creature resembles the sun and its revolutions, seeking to find an excuse for the religious customs of his race. But the Magi also make amulets of other beetles. There is one with bent-back little horns, which they take up in the left hand; a third kind, called *fullo*, with white spots, they cut in two and wear as an amulet on either upper arm; all the rest are worn on the left arm; the heart, taken out `with the left hand from a living snake; four joints of a scorpion's tail, with the sting, wrapped in black cloth, care being taken that the sick man does not see, for three days, either the scorpion when set free or him who attaches the amulet; after the third paroxysm he must hide it away. They tie a thread three times round a caterpillar in a linen cloth, and with three knots, the ministering attendant saying at each knot the reason for so doing. Other amulets are: a slug in a piece of skin, or four slugs' heads cut off with a reed, a multipede wrapped up in wool, the grubs from which gadflies are born, before they develop wings, or other hairy grubs found on thorny bushes. Some shut up four of these grubs in a walnut shell and attach as an amulet. Snails that are found without shells, or a spotted lizard shut up in a little box, they place under the patient's head and let out when the fever goes down. They also recommend the heart of a sea-diver,[[126]](#footnote-126) cut out without iron, dried and pounded, to be taken in warm water, or the hearts of swallows with honey; others swallows' dung in doses of one drachma in three cyathi of goat's or sheep's milk or in raisin wine, to be taken before the parozysms. Some hold that the entire swallow should be taken. An asp's skin, in doses of one sixth of a denarius by weight with an equal quantity of pepper, is taken by Parthian tribes as a cure for a quartan. Chrysippus the philosopher has told us that wearing a phryganion as an amulet is a cure for quartans: but what the animal is Chrysippus has left no account, and I have met nobody who knew. Yet a statement made by so great an authority it was necessary to mention, in case somebody's research should meet with better success. To eat the flesh of a crow or to apply its nest as a friction they think very beneficial in chronic diseases. In tertians too it may be worth while to try whether there is any benefit (so much does suffering delight in hoping against hope) in the spider called *lycos* (wolf) applied with its web in a small plaster of resin and the wax to both temples and to the forehead, or in the spider itself attached as an amulet in a reed, in which form it is also said to be beneficial for other fevers. A green lizard too may be tried, attached alive, in a vessel just large enough to contain it; by which method we are assured that recurrent fevers also are often banished.

**XXXI**. For dropsy is given in drink wool grease in wine mixed with a little myrrh, in doses the size of a hazel nut. Some also add goose grease in myrtle-wine. The dirt from the udders of sheep has the same effect, as has the dried flesh of a hedgehog taken by the mouth. An application too of dogs vomit to the abdomen brings away, we are assured, the dropsical fluid.

**XXXII**. Erysipelas is benefited by wool grease with pompholyx and rose oil, by the blood of a tick, by earth-worms applied in vinegar, by a cricket crushed between the hands—he who succeeds in doing this before the complaint shows itself is protected from an attack for the whole of that year, but the cricket must be lifted with iron along with the earth of its hole—by goose grease, by the head of a viper, kept till dry, burnt, and then applied in vinegar, a serpent's slough applied in water with bitumen and lamb suet after a bath.

**XXXIII**. A carbuncle is removed by pigeon's dung, applied by itself or with linseed in oxymel, also by bees that have died in honey, applied and sprinkled with pearl barley. If a carbuncle or other sore is on the privates, the remedy is wool grease with lead scales in honey, and sheep dung for incipient carbuncles. Hard swellings and whatever needs to be softened are treated very efficaciously with goose grease, and equally good results are also given by the grease of cranes.

**XXXIV**. Boils are said to be cured by a spider, applied before its name has been mentioned and taken off on the third day, by a shrewmouse, killed  and hung up so that it does not touch earth after death, and passed three times round the boil, both the attendant and the patient spitting the same number of times, by the red part of poultry dung, best applied fresh in vinegar, by a stork's crop boiled down in wine, by an odd number of flies rubbed on with the medical finger by dirt from the ears of sheep, by stale mutton suet with the ash of woman's hair, and by ram's suet with ash of burnt pumice and an equal quantity of salt.

**XXXV**. Burns are treated with ash of a dog's head, the ash of dormice and oil, sheep dung and wax, the ash of mice; with the ash of snails so well that not even a scar is to be seen, with viper fat, and with the ash of pigeon's dung applied in oil.

**XXXVI**. Hard lumps in the sinews are treated with the ash of a viper's head in cyprus oil, and by an application of earthworms and honey. Pains in the sinews are soothed by fat, by a dead amphisbaena attached as an amulet, by vulture's fat with its crop, dried and pounded with stale pig's fat, by the ash of a horned-owl's head taken in honey wine with the root of a lily, if we believe the Magi. For cramp in the sinews woodpigeon's flesh dried and taken in the food, for cramping spasms hedgehog's flesh, also the ash of a weasel—a serpent's slough attached as an amulet in a piece of bull's leather prevents such spasms, while the dried liver of a kite, the dose being three oboli taken in three cyathi of hydromel prevents opisthotony [tetanus].

**XXXVII**. Hangnails and whitlows[[127]](#footnote-127) that form on the fingers are removed by the ash of a dog's head, or by the uterus boiled down in oil, with a layer on top of butter from ewe's milk with honey, as also by the gall bladder of any animal; roughness of the nails by cantharides and pitch, taken off on the third day, or by locusts fried with he-goat suet, and by mutton suet. Some mix with the ingredients mistletoe and purslane, others flowers of copper and mistletoe, but remove the application on the third day. Bleeding in the nostrils is arrested by inserting suet from the caul of a sheep, also by its rennet in water, especially by lamb's rennet, snuffed up or injected, even if other remedies do no good, by goose grease with an equal quantity of butter worked up into lozenges, by the earth off snails, but also by the actual snails themselves, taken from their shells; but when there is severe epistaxis it is stayed by snails beaten up and applied to the forehead, and also by spider's web; by the brain or blood of a cock are arrested fluxes from the brain, also by pigeon's blood; it is stored and congealed for this purpose. If however there is violent haemorrhage from a wound, it is wonderfully arrested by an application of the ash of horse-dung burnt with egg shells.

**XXXIX**. Ulcers are healed by wool grease, barley ash, and copper rust, in equal parts; this is also equally efficacious for carcinomata and spreading sores. It cauterizes too the edges of ulcers, and levels out excrescences in the flesh; it also fills up hollows and forms scars. There is also great power to heal carcinomata in the ash of sheep's dung with soda added, or in the ash of a lamb's thigh bones, especially when ulcers refuse to heal. There is great power too in the lungs, especially those of rams, which flatten out very efficaciously excrescences of flesh on ulcers; ewe dung too by itself, warmed under an earthen jar and kneaded, reduces swollen wounds, and cleans and heals fistulas and epinyctides. The greatest power, however, is in the ash of a dog's head, which cauterizes and thoroughly heals all excrescences as well as does spodium. These are cauterized too by mouse dung, and also by the ash of weasel's dung. Indurations in deep-seated ulcers and carcinomata are penetrated by millipedes pounded and mixed with terebinth resin and earth of Sinope. The same remedies are very useful for those ulcers that are threatened by worms. Moreover, the various kinds of worms themselves have wonderful uses. The larvae that breed in wood heal all ulcers; and nomae too if burnt with an equal weight of anise and applied in oil. Fresh wounds are united so well by earth worms that there is a general conviction that even severed sinews are by applying them made whole by the seventh day; accordingly it is thought that they should be preserved in honey. Their ash with liquid pitch or symphytum and honey removes too-hard edges of ulcers. Some dry them in the sun, use in vinegar to treat wounds, and do not take them off without an interval of two days. Used in the same way the earth too off snails is beneficial, and snails taken out whole, beaten up, and applied, unite fresh wounds and arrest nomae. There is also an insect called by the Greeks ‘herpes’, [[128]](#footnote-128)which is specific for all creeping ulcers. Snails also are good for them, beaten up with their shells; with myrrh indeed and frankincense they are said to heal even severed sinews. The fat of a python also, dried in the sun, is of great benefit, as is a cock's brain for fresh wounds. By viper's salt taken in food we are told that ulcers become more amenable to treatment and heal more rapidly. Indeed the physician Antonius after operating on ulcers without success gave vipers as food to bring about complete cures with wonderful rapidity. The ash of the trixallis with honey removes hard edges on ulcers, as does ash of pigeon's dung with arsenic and honey; these also remove all that needs a cautery. The brain of a horned owl with goose grease is said to unite wounds wonderfully, as, with woman's milk, does the ash of a ram's thighs the ulcers called malignant, but the cloths must be first carefully washed, or the screech owl boiled in oil, with which when melted down are mixed ewe butter and honey. The lips of ulcers that are too hard are softened by bees that have died in honey, and elephantiasis by the blood and ash of a weasel. Wounds and weals made by the scourge are removed by an application of fresh sheepskin.

**XL**. For fractures of the joints a specific is the ash of a sheep's thighs with wax—this medicament is more efficacious if there are burnt with the thighs the sheep's jawbones and a deer's horn, and the wax is softened with rose oil—specific for broken bones is a dog's brain, spread on a linen cloth, over which is placed wool, occasionally moistened underneath (with oil). In about fourteen days it unites the broken parts, as does quite as quickly the ash of a field-mouse with honey, or that of earthworms, which also extracts fragments of bone.

**XLI**. Scars are restored to the natural colour by the lungs of sheep, particularly of rams, by their suet in soda, by the ash of a green lizard, by a snake's slough boiled down in wine, and by pigeon's dung with honey; the last in wine does the same for both kinds a of white vitiligo; for vitiligo cantharides also with two parts of rue leaves. These must be kept on in the sun until the skin is violently irritated; then there must be fomentation and rubbing with oil, followed by another application. This treatment should be repeated for several days, but deep ulceration must be guarded against. For vitiligo of all kinds they also recommend the application of flies with root of eupatoria, or the white part of hens' dung kept in old oil in a horn box, or bat's blood, or hedgehog's gall in water. Itch scab however is relieved by the brain of a horned owl with saltpetre, but best of all by dog's blood, and pruritus by the small, broad, kind of snail, crushed and applied.

**XLII**. Arrows, weapons, and everything that must be extracted from the flesh, are withdrawn by a mouse split and laid on the wound, but especially by a split lizard, or even its head only, crushed and laid on the wound with salt, by the snails that attack leaves in clusters, crushed and similarly laid on with the shells, and edible snails without them, but most efficaciously by the bones of snakes with hare's rennet. These bones also, with the rennet of any quadruped, show a good result by the third day. Cantharides too are highly recommended, beaten up and applied with barley meal.

**XLIII**. For women's complaints the afterbirth of an ewe is of service, as I said when speaking of goats. The dung too of sheep has the same medicinal uses. Fumigation with lobsters is of the greatest help in strangury in women. If occasionally after conception a woman eats the testicles of a cock, males are said to be formed in the uterus. The foetus is retained by taking in drink the ash of porcupines, brought to maturity by drinking bitch's milk, and withdrawn by the afterbirth of a bitch, which must not touch the earth, laid on the loins of the woman in childbed. Mouse dung diluted with rain water reduces the breasts of women swollen after childbirth. Rubbing the woman all over with the ash of hedgehogs and oil prevents miscarriage. The delivery of those is easier who have swallowed goose with two cyathi of water, or the liquids that flow from a weasel's uterus through its genitals. Applying earthworms prevents pains in the sinews of neck and shoulders, and taken in raisin wine bring away a sluggish afterbirth. These worms laid by themselves on the breasts also mature suppurations there, open them, draw out the pus, and make them cicatrize. Taken with honey wine they stimulate the flow of milk. There are also little worms found in grass; these, tied round the neck as an amulet, prevent a miscarriage, but they are taken off just before the birth, otherwise they prevent delivery, Care too must be taken not to lay them on the earth. Further, to cause conception five or seven at a time are given in drink. Snails taken in food hasten delivery, and conception too if applied with saffron. An application of snails in starch and tragacanth arrests fluxes. They are also good for menstruation if taken in food, and correct with deer's marrow dis­placements of the uterus; to one snail should be added a denarius by weight of marrow and cyprus oil. Inflation too of the uterus is dispersed by snails taken out of their shells and beaten up with rose oil. For these purposes the most preferred are snails of Astypalaea. African snails are prepared in a different way; doses of two are beaten up with a three-finger pinch of fenugreek, four spoonfuls of honey added, and the whole applied after rubbing the abdomen with iris juice. There are also found straying everywhere small snails with a white corslet. Dried in the sun on tiles, crushed to powder, and mixed with an equal quantity of bean meal, these impart both whiteness and smoothness to the skin. The desire to scratch is removed by the small, broad snails with pearl barley. If a woman with child step across a viper she will miscarry; similarly if she cross an amphisbaena,[[129]](#footnote-129) a dead one at least, but those that carry on their persons a live one in a box step across with impunity; even if it is a dead one and preserved it makes childbirth easy. In the case of a dead one, wonderful to relate, no harm is done should a pregnant woman cross it without a preserved one, if she at once crosses a preserved one. Fumigation with a dried snake assists menstruation.

XLIV. A snake's slough, tied to the loins as an amulet, makes childbirth easier, but it must be taken off immediately after delivery. They also give it in wine to be taken with frankincense; in any other way it causes miscarriage. A stick with which a frog has been shaken from a snake helps women in labour, and the ash of the trixallis, applied with honey, helps menstruation, as does a spider that is spinning a thread from a height. It should be caught in the hollow of the hand, crushed, and applied; but if it is caught as it ascends again, the same treatment will arrest menstruation. The stone aetites, found in the eagle's nest, protects a foetus from all plots to cause abortion. A vulture's feather, placed under their feet, helps lying-in women. It is certain that pregnant women must avoid a raven's egg, since if they step over it they will miscarry through the mouth. A hawk's dung taken in honey wine seems to make women fertile. Indurations and abscesses of the uterus are softened by goose grease or by swan's grease.

XLV. After delivery breasts are safeguarded by goose grease with rose oil and a spider's web. The Phrygians and Lycaonians have found that the fat of bustards is beneficial for teats disordered by child­birth. For uterine suffocation beetles also are applied. Ash of partridge eggshells mixed with cadmia and wax keeps the breasts firm. They also think that breasts do not droop if circles are traced round them three times with the egg of partridge or quail, and that if this egg is swallowed it also produces fertility and an abundant supply of milk as well, that it lessens pains in the breasts if they are rubbed with it and goose grease, that it breaks up moles in the uterus, and that uterine itch is relieved if it is applied with crushed bugs.

*[A number of chapters at the end of the book have been cut; they list more remedies. Lots more remedies.]*

SUMMARY.—Remedies, narratives, and observations, eight hundred and fifty-four.

ROMAN AUTHORS QUOTED.—M. Varro, Nigidius,[7](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D30%3Achapter%3D53#note7) M. Cicero, Sextius Niger[9](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D30%3Achapter%3D53#note9) who wrote in Greek, Licinius Macer.

FOREIGN AUTHORS QUOTED.—Eudoxus, Aristotle, Hermippus, Homer, Apion,Orpheus, Democritus, Anaxilaiis.

MEDICAL AUTHORS QUOTED.—Botrys, Horus, Apollodorus, Menander, Archidemus, Aristogenes, Xenocrates, Diodorus, Chrysippus, Nicander, Apollonius of Pitanae.

**Book XXXVII: On Gems**

*After much discussion of gems and ranting about people’s fondness for the same, Pliny concludes the encylopedia by talking about how wonderful Italy is and with a ‘best of’ and ‘most expensive’ category.*

**LXXVII.** Having now dealt with all the works of Nature, it will be as well to take a sort of comparative view of her several productions, as well as the countries which supply them. Throughout the whole earth, then, and wherever the vault of heaven extends, there is no country so beautiful, or which, for the productions of Nature, merits so high a rank as Italy, that ruler and second parent of the world; recommended as she is by her men, her women, her generals, her soldiers, her slaves, her superiority in the arts, and the illustrious examples of genius which she has produced. Her situation, too, is equally in her favour; the healthiness and mildness of her climate; the easy access which she offers to all nations; her coasts indented with so many harbours; the propitious breezes, too, that always prevail on her shores; advantages, all of them, due to her situation, lying, as she does, midway between the East and the West, and extended in the most favourable of all positions. Add to this, the abundant supply of her waters, the healthfulness of her groves, the repeated intersections of her mountain ranges, the comparative innocuousness of her wild animals, the fertility of her soil, and the singular richness of her pastures.Whatever there is that the life of man ought not to feel in want of, is nowhere to be found in greater perfection than here; the cereals, for example, wine, oil, wool, flax, tissues, and oxen. As to horses, there are none, I find, preferred to those of Italy for chariot racing; while, for mines of gold, silver, copper, and iron, so long as it was deemed lawful to work them,[2](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D37%3Achapter%3D77#note2) Italy was held inferior to no country whatsoever. At the present day, teeming as she is with these treasures, she contents herself with lavishing upon us, as the whole of her bounties, her various liquids, and the numerous flavours yielded by her cereals and her fruits.

Next to Italy, if we leave out the fabulous regions of India, I would rank Spain, for my own part, or at least those districts that lie in the vicinity of the sea. She is parched and sterile in one part, it is true; but where she is at all productive, she yields the cereals in abundance, oil, wine, horses, and metals of every kind. In all these respects, Gaul is her equal, no doubt; but Spain, on the other hand, outdoes the Gallic provinces in her spartum[4](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.02.0137%3Abook%3D37%3Achapter%3D77#note4) and her specular stone, the products of her desert tracts, in her pigments that minister to our luxuries, in the ardour displayed by her people in laborious employments, in the perfect training of her slaves, in the robustness of body of her men, and in their general resoluteness of character.

As to the productions themselves, the greatest value of all, among the products of the sea, is attached to pearls: of objects that lie upon the surface of the earth, it is crystals that are most highly esteemed: and of those derived from the interior, adamas, smaragdus, precious stones, and murrhine, are the things upon which the highest value is placed. The most costly things that are matured by the earth, are the kermes-berry[[130]](#footnote-130) and laser; that are gathered from trees, nard and silk; that are derived from the trunks of trees, logs of citrus-wood; that are produced by shrubs, cinnamon, cassia, and amomum; that are yielded by the juices of trees or of shrubs, amber, opobalsamum[[131]](#footnote-131), myrrh, and frankincense; that are found in the roots of trees, the perfumes derived from costus.[[132]](#footnote-132) The most valuable products furnished by living animals, on land, are the teeth of elephants; by animals in the sea, tortoise-shell; by the coverings of animals, the skins which the Seres[[133]](#footnote-133) dye, and the substance gathered from the hair of the she-goats of Arabia, which we have spoken of under the name of "ladanum;" by creatures that are common to both land and sea, the purple of the murex.[[134]](#footnote-134) With reference to the birds, beyond plumes for warriors' helmets, and the grease that is derived from the geese of Commagene,[[135]](#footnote-135) I find no remarkable product mentioned. We must not omit, too, to observe, that gold, for which there is such a mania with all mankind, hardly holds the tenth rank as an object of value, and silver, with which we purchase gold, hardly the twentieth!

Hail to thee, Nature, you mother of all things, and do thou stoop to show thy favour unto me, who, alone of all the citizens of Rome, have, in thy every department, thus made known thy praise.

SUMMARY: Facts, narratives, and observations, one thousand three hundred.

ROMAN AUTHORS QUOTED: Marcus Varro, the Register of the Triumphs,[[136]](#footnote-136) Maecenas, Iacchus, Cornelius Bocchus

FOREIGN AUTHORS QUOTED.—King Juba, Xenocrates the son of Zeno, Sudines, Aeschylus, Philoxenus, Euripides, Nicander, Satyrus, Theophrastus, Chares, Philemon, Demostratus, Zenothemis, Metrodorus, Sotacus, Pytheas, Timæus the Sicilian, Nicias, Theochrestus, Asarubas, Mnaseas, Theomenes, Ctesias, Mithridates, Sophocles, King Archelaüs, Callistratus, Democritus, Ismenias, Olympicus, Alexander Polyhistor, Apion, Horus, Zoroaster, Zachalias.

1. We have two letters by his nephew and adopted son Pliny the Younger describing the eruption and his uncle’s death (*Letters* 6.16. & 6.20). [↑](#footnote-ref-1)
2. He did not make the notes: a slave did. [↑](#footnote-ref-2)
3. All Roman citizens had three names. Slaves only had one, as did Greeks and many other ancient peoples. Titus, as the son of the emperor and his heir had many titles and names, as did his imperial father, Vespasian. (Vespasian ruled from 69-79 CE; Titus from 79-81 CE.) [↑](#footnote-ref-3)
4. The line quoted is from Catullus (c.84-54 BCE), a Roman poet from Verona, best known now for his love poems to his girlfriend Lesbia. Once, when his napkins were stolen by a guest, he wrote a very nasty poem (poem 12) demanding them back because they were gifts from dear friends. [↑](#footnote-ref-4)
5. A type of military parade which was voted to victorious generals by the senate provided certain conditions of victory had been met. By this period the only people who were voted triumphs were the emperors or members of the imperial family, as they would not share such an honour with potential challengers. [↑](#footnote-ref-5)
6. There were two consuls, who were the chief military and political positions in Rome. (They also gave their names to the years, so that events could be dated to the consulships of various individuals.) These had traditionally (like all the other political offices) been voted on by the people annually. Under the empire, they were selected by the emperor, who often held the position. [↑](#footnote-ref-6)
7. The Tribunes of the Plebs were supposed to protect and represent the plebs – the ordinary people of Rome. They were associated with a particularly vigorous and crowd-pleasing form of rhetoric. By this stage the tribunate was a symbolic office only and the emperor constantly held the powers that had once been vested in that office. [↑](#footnote-ref-7)
8. This was the military unit stationed in Rome and charged with protecting the emperor. [↑](#footnote-ref-8)
9. There were three ‘orders’ in Roman society: the senatorial and equestrian orders and the the plebs. The first two were very small and had property and other qualifications before one held them. The last was very large. [↑](#footnote-ref-9)
10. Domitian, the next emperor. He did not turn out well and was eventually assasinated. [↑](#footnote-ref-10)
11. The Roman orator and lawyer Cicero (106-43 BCE). He was killed by Mark Antony’s soldiers after he was declared an enemy of the state by the Second Triumvirate (comprised of Antony, Octavian [later Augustus], and Lepidus. No one ever remembers Lepidus, but he was there!). As well as speeches, Cicero wrote a number of works on philosophy and oratorical theory. [↑](#footnote-ref-11)
12. A Roman aristocrat and satirist of the 2nd century BCE. Only fragments of his poetry remain. The Romans believed that they had created the genre of satire, although they had taken all the other literary genres from the Greeks. [↑](#footnote-ref-12)
13. This was an imitation of Plato’s *Republic,* incorporating a great deal of Platonic and other Greek philosophical material into a Roman framework. [↑](#footnote-ref-13)
14. Although electoral bribery was common in the Roman Republic, it was illegal and could be punished by a fine as well as losing your right to contest an election. [↑](#footnote-ref-14)
15. Marcus Porcius Cato the Younger [65-46 BCE], known for his rigid morality and adherence to what he claimed were traditional Roman values. He might have rejected bribing the Roman electorate, but he was alone in that position. Cicero thought he was impossible to deal with and lived in a fantasy world. [↑](#footnote-ref-15)
16. The brother of Scipio Africanus the Elder, he was charged with misappropriating funds from a military campaign: he was tried before Tiberius Gracchus and acquitted. He died after 183 BCE. [↑](#footnote-ref-16)
17. There are quite a few stories from Classical mythology that would suggest that this is not always true. [↑](#footnote-ref-17)
18. Although this is a traditional thing for Roman authors to say in works of this sort, it cannot be argued that the *Natural History* is always easy to read: Pliny has a very difficult and contorted Latin style. [↑](#footnote-ref-18)
19. Elite Romans learned both to read, write, and speak Latin and a certain dialect of Greek, and they privileged them above all the other (‘barbarian’) languages. [↑](#footnote-ref-19)
20. Pliny really, really doesn’t like Greeks. He thought all Greek doctors had sworn to an oath to kill their Roman patients. [↑](#footnote-ref-20)
21. Livy (d. 17 CE), the author of a history of Rome since its founding down to his own time. We only have portions of the history, which was immense - 142 books. [↑](#footnote-ref-21)
22. A book is the amount of text that you could fit on a scroll – we would probably call them chapters, but confusingly chapters are used to refer to the smaller sections in an individual scroll. [↑](#footnote-ref-22)
23. Roman polymath of the Late Republic, he published a huge array of works. What remains are his work on farming and substantial portions of his work *On the Latin Language,* along with a few fragments of his other works. [↑](#footnote-ref-23)
24. A Roman historian who lived under the Emperor Tiberius (reigned 14-37 CE). [↑](#footnote-ref-24)
25. An imitation of Plato’s *Republic,* but featuring Roman speakers and Roman values. It borrows from Plato, the Stoics, Aristotle, and many other philosphers and philosophical schools. [↑](#footnote-ref-25)
26. Tullia. After she died in 46 BCE he wrote himself a consolation. It didn’t work. It also does not survive. [↑](#footnote-ref-26)
27. Crantor was a Greek philosopher who died c. 276 BCE. He wrote a number of works, including *On Grief.* [↑](#footnote-ref-27)
28. A Greek Stoic of the 2nd century BCE; he spent time in Rome where he helped make Stoicism popular among the Roman elite. [↑](#footnote-ref-28)
29. *De Officiis;* it was written for his son Marcus. [↑](#footnote-ref-29)
30. Pigeon’s milk = anything proverbially rare or non-existent. [↑](#footnote-ref-30)
31. The Latin says Bibaculus, a family name that suggested its holder drank. [↑](#footnote-ref-31)
32. *Sesqueulixes.* It seems to have described Varro’s 30 years away from Rome on military service – 10 years longer than Ulysses/Odysseus spent on his wanderings. [↑](#footnote-ref-32)
33. Diodorus Siculus/the Sicilian, a Roman historian of the late first century BCE, who wrote a history of the world in Greek. He was Sicilian, hence his name. [↑](#footnote-ref-33)
34. Apelles was a famous Greek painter of the 4th century BCE; Polyclitus was a Greek sculptor of the 5th century BCE, whose works include the Doryphorus and the Wounded Amazon. [↑](#footnote-ref-34)
35. The Latin has *Homeromastigae*, literally ‘Homer-Critics/Attackers’, a term used for people who relentlessly criticised even great authors for trivial faults or supposed errors. [↑](#footnote-ref-35)
36. This no longer exists, but was on the topic of ambiguity of expression and had eight books. [↑](#footnote-ref-36)
37. Marcus Porcius Cato the Elder, the great grandfather of Cato the Younger. He lived in the 3rd-2nd centuries BCE. He and his great grandson were legendary conservatives and both claimed to uphold the traditional values of Rome. [↑](#footnote-ref-37)
38. Scipio Africanus the Elder, who won the second Punic War in 202 BCE against the Carthaginian general Hannibal. [↑](#footnote-ref-38)
39. d. 82 BCE; very little remains of his work and none of the *On Mysteries.* He was supposedly executed for revealing the secret name of Rome. [↑](#footnote-ref-39)
40. The so-called ‘music of the spheres’, a subject of much discussion among philosophers in antiquity. [↑](#footnote-ref-40)
41. The various constellations. [↑](#footnote-ref-41)
42. The Greek noun *cosmos* has as two of its primary meanings ‘order’ and ‘ornament.’ [↑](#footnote-ref-42)
43. The Latin for engraven is *caelatum.* [↑](#footnote-ref-43)
44. The Latin word used here, *sidera*, is used to refer to planets, constellations, stars and even (though rarely) comets. [↑](#footnote-ref-44)
45. One of the seven hills of Rome; this was now the location of the imperial palace as well as a number of temples, shrines, and the ‘hut of Romulus.’ [↑](#footnote-ref-45)
46. The goddess of stillbirths and dead infants. [↑](#footnote-ref-46)
47. Another of the hills of Rome. [↑](#footnote-ref-47)
48. Romans believed every woman had a Juno and every man a Genius: they are hard to define, and are sometimes described as guardian angels who resided in someone until their death. However, they were sometimes felt to embody the essence of a person and be a spark of identity that would continue after death, and hence can sometimes be seen as a soul. However, places were also felt to have a Genius, and these were worshipped and propitiated like other gods were. [↑](#footnote-ref-48)
49. Emperors took the title Augustus, after the first emperor of Rome, who was voted that name by the Senate in 27 BCE; the principate (the rule of Rome by emperors rather than the Senate and the People of Rome), is usually dated from this time. [↑](#footnote-ref-49)
50. Inscribed on rings. [↑](#footnote-ref-50)
51. Jupiter the Thunderer: this aspect of Jupiter had a very lavish temple on the Capitoline dedicated to him by the Emperor Augustus in 22 BCE after he escaped being hit by lightning in 26 BCE. It was extremely popular, and contained a number of famous artworks. There was an older temple to Jupiter Fulgens (Jupiter the Lightning Sender) near the Campus Martius. [↑](#footnote-ref-51)
52. Astrology was extremely popular in Rome, although problematic to some, especially when the horoscope of the emperor was involved (emperors published their horoscopes and it became illegal for others to cast an imperial horoscope, in case they were seeking to discover when he might die. [↑](#footnote-ref-52)
53. After his death, Augustus, like his adopted father Julius Caesar before him, was deified by the Roman Senate. [↑](#footnote-ref-53)
54. Haruspicy, the art of telling the future from looking at the liver and internal organs. [↑](#footnote-ref-54)
55. In the books before this Pliny has surveyed the geography of the known world. Here he turns to discussing variuos peoples and humanity in general. [↑](#footnote-ref-55)
56. As in fairy tales, Roman stepmothers (and often step-fathers) were felt to be especially evil to their step-children. [↑](#footnote-ref-56)
57. In previous books covering the geography of the known world. [↑](#footnote-ref-57)
58. Books VIII..97ff and XXV.89ff. [↑](#footnote-ref-58)
59. A legendary Persian magician, who inspired a number of pseudo-Osthanes who wrote various books of magic. [↑](#footnote-ref-59)
60. In Rome, suicide was considered an honourable and proper response to certain intolerable situations, especially if your honour and dignity would be compromised by continued life. [↑](#footnote-ref-60)
61. A ritual where a soldier dedicated themselves to the gods of underworld, and then suicidally attacked the enemy. If they died, it was felt the underworld gods would punish their killers because they were sacred to them. The consul Decius Mus supposedly did this before a battle in 340 BCE. His son – also a consul - Publius Decius Mus dedicated himself and then rode into the ranks of a Gallic and Samnite army at the start of the battle of Sentinum in 295 BCE. The Romans won, thus securing victory in the Third Samnite War. If a general did this and survived, then he was never supposed to peform any religious ritual again; if an ordinary soldier did this and survived, then you were required to bury a seven foot statue of him. [↑](#footnote-ref-61)
62. She was supposed to have carried the water from the Tiber River to the Temple of Vesta in the Forum (see also Valerius Maximus, Book 8.1). Romans dated events from the year of the founding of Rome in 753 BCE, hence the date given. [↑](#footnote-ref-62)
63. According to Pliny (Book 30.3) human sacrifice was outlawed in Rome by a decree of the senate in 97 BCE, which does not agree with his statement that this took place ‘in our own period’ [*aetas*]. We know that in earlier periods the Roman did perform human sacrifice via live burial in moments of intense crisis, but not on a regular basis. These took place in the Forum Boarium, translated as ‘Cattle Market.’ [↑](#footnote-ref-63)
64. A college (*collegium*) of 15 men whose main responsibilty was to interpret the Sibylline Books, highly obscure books in Greek of oracular pronouncements which were consulted by the Senate in times of crisis. [↑](#footnote-ref-64)
65. Lucius Calpurnius Piso Frugi, censor 120 BCE, wrote seven books of *Annales,* a history down to his own time. The work does not survive. [↑](#footnote-ref-65)
66. The third king of Rome. In its early days Rome was ruled by kings; they were more the stuff of legends than of any secure historial information, so take any exact dates or information given about them with a pince of salt. [↑](#footnote-ref-66)
67. Numa was the second king of Rome and supposedly had founded many of Rome’s religious rituals and political structures. He claimed to be instructed by a water nymph, Egeria. She was worshipped at a spring near one of the gates of Rome (the Porta Capena). [↑](#footnote-ref-67)
68. A region to the North of Rome; Rome was at one point ruled by the Etruscans. [↑](#footnote-ref-68)
69. Rome’s earliest law code, dating to c. 450 BCE. [↑](#footnote-ref-69)
70. A ritual called *devotio,* ‘calling out.’ [↑](#footnote-ref-70)
71. A Italian people, they lived in central Italy and were believed by the Romans to be adept in witchcraft and the ability to handle snakes. [↑](#footnote-ref-71)
72. The second emperor of Rome, he ruled from 14-37 CE. [↑](#footnote-ref-72)
73. Attalus III, the childless King of Pergamum, who ruled from 138-33 BCE. He devoted (notoriously in antiquity) himself to gardening and pharmacology (especially poisons) and is probably most famous for leaving his kingdom in his will to the Romans. [↑](#footnote-ref-73)
74. The Lares (singular Lar) were household gods. Each household had a lararium, a shrine in which their family’s Lares were worshipped. The Lares as a group entity were also worshipped at several shrines around the city. [↑](#footnote-ref-74)
75. A tribe from North Africa; their abilities to resist poison were legendary and are noted by other authors. [↑](#footnote-ref-75)
76. The Greek philosopher and mathematician: he and his followers were accused of dabbling in magic. They were well known the Romans as they were resident in Southern Italy. [↑](#footnote-ref-76)
77. Orpheus was a mythical poet, whose name was, however, attached to a number of writings and a popular mystery religion. There were a number of Archelauses; we are not entirely sure which one Pliny is referring to here. [↑](#footnote-ref-77)
78. The thumb of King Pyrrhus of Epirus (c. 319-272 BCE), was kept in a temple of Demeter in Argos, where it was said to have magical healing properties. [↑](#footnote-ref-78)
79. Pelops was a mythical king in Greece (the Peloponnese was named after him). It was said that his father, Tantalus, tried to test the power of the gods by chopping him up and feeding him to them when they came to dinner. All of the gods realised they were being served human flesh as soon as it appeared; however, the goddess Demeter was in mourning for her lost daughter, Persephone, and ate Pelops’ shoulder in her distracted state. The gods made him a new shoulder of ivory to replace it and this was on display in Elis, the city that was responsible for running the ancient Olympic games. [↑](#footnote-ref-79)
80. Not the plant, but used to by Pliny to describe a type of skin disease on the chin and acne. [↑](#footnote-ref-80)
81. Aristolochia rotunda or smearwort/birthwort, a perennial found in Southern Europe. [↑](#footnote-ref-81)
82. There were two female authors with the name Salpe (it is possible they were the same one – it is not a common name in antiquity). This one is decribed by Pliny as a an obstetrix, a midwife: his references to her work are all that remains extant. Salpe is also the name for a fish, so it is possible it is a pseudynom. [↑](#footnote-ref-82)
83. We know very little about this god; *fascinum* was a name for the penis, which was enscribed on various amulets and depicted in many other forms, including mosaics, to avert the evil eye. [↑](#footnote-ref-83)
84. A mild form of malaria. [↑](#footnote-ref-84)
85. A complication of tonsillitis. [↑](#footnote-ref-85)
86. *Magos/Magus* (plural: *magi*) was originally the name for a particular type of Persian priest. It was borrowed into Greek and Latin and was soon associated with magic and used as a shorthand for magicians and warlocks. [↑](#footnote-ref-86)
87. I bet they did. I bet they did. [↑](#footnote-ref-87)
88. After exercising athletes were scraped with a strigil to remove sweat and dirt; this product was collected and sold. That of Olympic athletes was particularly prized. [↑](#footnote-ref-88)
89. Something used to increase blood flow in the pelvic area. [↑](#footnote-ref-89)
90. When Alcmena was about to give birth to Hercules, the son of Jupiter. [↑](#footnote-ref-90)
91. A freedman of the Roman noble (and Augustus’ chief minister) Maecenas (1st century BCE). [↑](#footnote-ref-91)
92. The reef knot. [↑](#footnote-ref-92)
93. This and the following are Roman measurements, measuring 45ml and c.550 ml respectively. [↑](#footnote-ref-93)
94. A disease of the eye [↑](#footnote-ref-94)
95. Another eye disease. [↑](#footnote-ref-95)
96. A type of centipede. [↑](#footnote-ref-96)
97. A Greek poet of roughly the same period as Homer. [↑](#footnote-ref-97)
98. Red lead, most likely. [↑](#footnote-ref-98)
99. An infection with a severe skin rash. [↑](#footnote-ref-99)
100. A liquid made from the squirting/exploding cucumber, a member of the cucumber family which squirts out its seeds when it is ripe. [↑](#footnote-ref-100)
101. A type of mollusc. [↑](#footnote-ref-101)
102. A genus of the pea family. [↑](#footnote-ref-102)
103. Lais was a Greek doctor from the 1/2nd centuries BCE; we know bascially nothing about her (but do not confuse her with two famous courtesans also called Lais). Elephantis (1st century BCE) wrote an infamous sex manual which no longer exists. [↑](#footnote-ref-103)
104. Otherwise unknown; her name means ‘saviour,’ [↑](#footnote-ref-104)
105. A Roman measurement of c. 270 ml. [↑](#footnote-ref-105)
106. Book xiii.7. It is highly recommended reading. [↑](#footnote-ref-106)
107. In case you’re wondering, Pliny is wrong about this. Both types are amphibuous, but lived in different regions of the Nile. [↑](#footnote-ref-107)
108. A Roman measurement of c. 270 ml. [↑](#footnote-ref-108)
109. Book VIII.40. [↑](#footnote-ref-109)
110. An island between Crete and Rhodes. [↑](#footnote-ref-110)
111. A measurement of about 45 ml. (It is also the name used for the cups often used in serving wine, hence the transfer to the measurement size). [↑](#footnote-ref-111)
112. We are not entirely sure what sort of insect Pliny is referring to here; sometimes he gets this mixed up with a plant buprestis. [↑](#footnote-ref-112)
113. Also spelt Asclepios/Asclepius. Greek and Roman god of healing; a son of the god Apollo, he was supposedly killed by Jupiter for bringing back a dead man to life. His temples were healing centres and were located around the Mediterranean. [↑](#footnote-ref-113)
114. Born c. 460 BCE [↑](#footnote-ref-114)
115. Here the doctor came to the patient who was en kline/in bed. [↑](#footnote-ref-115)
116. Healing via ointments. [↑](#footnote-ref-116)
117. The third wife of the Emperor Claudius; in 48 CE she was excuted for adultery, apparently married a senator, Gaius Silius, in a very unsecret secret ceremony. Before that she had a relationship with the doctor Vettius Valens, who was apparently also at this wedding. [↑](#footnote-ref-117)
118. A type of spider. [↑](#footnote-ref-118)
119. A spotted lizard. [↑](#footnote-ref-119)
120. Book xxi.34. [↑](#footnote-ref-120)
121. The Romans had domesticated weasels, that they used in their houses to keep mice and pests away, much like we have cats. They distinguished these from wild weasels. [↑](#footnote-ref-121)
122. Given that most ancient accounts of the Olympic games are pretty clear that there were still a lot of flies around, this was clearly not very effective. [↑](#footnote-ref-122)
123. A city in Caria (now part of Turkey). [↑](#footnote-ref-123)
124. The Thessalian woman. [↑](#footnote-ref-124)
125. Grease from unwashed wool/ [↑](#footnote-ref-125)
126. A type of bird. [↑](#footnote-ref-126)
127. A nail infection. [↑](#footnote-ref-127)
128. Literally ‘creeper.’ It has not been identified. [↑](#footnote-ref-128)
129. According to Pliny this deadly snake not only lies in wait for pregnant women, but has two heads – one at either end – and spews poison from both. Indeed. [↑](#footnote-ref-129)
130. The berry that grows on the scarlet oak/holm oak. [↑](#footnote-ref-130)
131. A type of balsam. [↑](#footnote-ref-131)
132. A large perennial whose root was used in many perfumes, drugs, and as an aphrodisiac. [↑](#footnote-ref-132)
133. ‘Silk-people.’ This name referred to various distant (to the Romans) peoples of Asia, including Indians and the Chinese, from whom the Romans imported their silk. [↑](#footnote-ref-133)
134. The murex is a sea snail from which Tyrian purple (a very, very expensive dye) was extracted. [↑](#footnote-ref-134)
135. A region in the province of Syria. [↑](#footnote-ref-135)
136. *The fasti triumphales,* a publicly posted inscription of all the triumphs (a type of military parade held after certain victories) held in Rome since its founding. [↑](#footnote-ref-136)