# Plutarch on whether water or land animals are the most crafty

## Train of thoughts

1 Field sports, the slaughter of wild and at length of tame animals, prepared the way for men to kill one another.

2 Have brutes a soul? they certainly have sense and imagination.

3 The learn to desire some things and to avoid others.

4 If they have sense, they have understanding.

5 They have what in men is called understanding.

6 Men punish dogs and horses for their faults, as if for the purpose of producing repentance.

7 Beasts are susceptible of pleasure, joy anger, fear.

8 But are they capable of virtue?

9 The love their off spring.

10 They may have reason, and yet not have it perfectly, or in a high degree.

11 As sight and swiftness exist in different degrees, so may reason and mental force.

12 Animals differ widely in their faculties, as in their habits.

13 Many brute animals excel men in the faculties of sight and hearing, as well as in swiftness and strength; but we may not therefore say that men are blind, &c.

14 There are mad dogs and horses; what is this but a disturbance of the reason?

15 Mankind are chargeable with great injustice in dealing with beasts as they do.

16 There is a necessary and convenient use of the brute creation.

17 Beyond this, we ought not to go.

18 In the exercise of what so nearly resembles reason, do land animals excel those that live in the water?

19 There is sufficient reason to believe that they do.

20 Observe the habits of bulls, lions, and elephants.

21 Of the ichneumon, of swallows, and spiders.

22 Of bees, crows, geese, and cranes.

23 The contrivances and labours of emmets.

24 The sagacity of the elephant and the fox.

25 The affection of the dog for his master: some striking instances related.

26 Story of a mule at Athens.

27 Another dog story.

28 The elephant that carried King Porus.

# Plutarch on whether water or land animals are the most crafty

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AUTOBULUS, SOCLARUS, OPTATUS, PHAEDIMUS, ARISTOTIMUS, HERACLEO.

1 AUTOBULUS Leonidas, being asked the question what he thought of Tyrtæus, made answer, that he was a good poet to whet minds of young men; as a person who, by the vigour and spirit of his poetical raptures, kindled that wrathful indignation and ambition of honour, which emboldened them in combat to the contempt of death and danger. Which makes me afraid, my dearest friends, lest the encomium of hunting yesterday recited may have inflamed our young gentlemen beyond the bounds of moderation, so as to deem all other things fruitless and of little worth, while they rendezvous from all parts to this exercise. So much the rather, because I myself, when I was but very young, even beyond the strength of my age, seemed to be more than became me addicted to this sport, and to be over desirous with Phædra in Euripides,

> With hounds and horn and merry hollow,
> The spotted hart and hind to follow.

So did that discourse affect me, fortified with many and probable arguments.

SOCLARUS You say very truly, Autobulus. For that same poet seems to me to have awakened the force of rhetoric, for a long time lulled asleep, to gratify the inclinations of the youthful gentry, and to make himself their spring companion. But I am most pleased with him for introducing the example of single combatants, from whence he takes occasion to praise the sport of hunting, as being that which for the most part draws to itself whatever is natural in us, or what we have by use acquired, of that delight which men take in fighting with single weapons one against another, thus affording an evident prospect of artifice and daring courage, endued with understanding, encountering brutish force and strength, and applauding that of Euripides:

> Small is the nerveless strength of feeble man,
> Yet through the cunning of his reaching brain,
> By various slights and sundry stratagems,
> Whatever land or th' Ocean breeds he tames.[1]

[1] Euripides, *Hippolytus*, 218

2 AUTOBULUS And hence it was, as they say, my dearest Soclarus, that men at first became insensible and inhuman, having once tasted of murder, and being all accustomed, by hunting and following the chase, not only to behold without remorse the wounds and blood of wild beasts, but to rejoice at their being killed and slaughtered. Afterwards, as at Athens, some sycophant was by the Thirty Tyrants set apart for death, as a proper object of capital punishment, then a second, and a third; till, proceeding by degrees, they seized upon good men, and at length spared not the best and most worthy citizens. In like manner the first that slew a bear or a wolf obtained applause, then the ox and hog were appointed to be killed, under pretence of having tasted the sacred things that lay before them. Next to them deer, hares, and goats were made use of for food, and in some places the flesh of sheep, dogs, and horses grew familiar to human taste. The tame goose also and pigeon, man's familiar domestic, according to Sophocles — not for nourishment or to assuage hunger, as cats and weasels do, but to indulge voluptuous appetites — they dressed and mangled to pieces. This gave strength and vigour to whatever was in nature bloodthirsty and savage, and rendering the disposition of man inflexible to pity, had almost erased out of his breast whatever was inclinable to humanity and mildness. Whereas, on the other side, the Pythagoreans, that they might accustom men to the love of humanity and compassion, still inculcated into their minds a particular care of being mild and gentle towards beasts. For there is nothing more powerful than custom to win upon all the affections of man, and to draw them from moderation to extremity. But I know not how it comes to pass, that being entered into this discourse, we have forgot not only the subject we were yesterday upon, but what we had also this day agreed to make the theme of our colloquy. For yesterday, as you well know, having thrown out a proposition, that all creatures were in some manner partakers of understanding and reason, we gave an occasion to you, young huntsmen, for a fair dispute, which of the two excelled in craft and cunning, the land animals, or the creatures that breed in the sea? Which, if you please, we will determine this day, if Aristotimus and Phædimus will stand to their agreement; of which two gentlemen, the one has offered himself to his friends to be the patron of the land animals, the other reserves the honour of being more crafty to those of the sea.

SOCLARUS They will be as good as their words, I assure you, Autobulus, and will be here presently; for I saw them both early this morning preparing for the combat. In the meantime, if you please, before they begin, let us resume something of what was yesterday not so fully discoursed of for want of time, or not so carefully argued in our wine, as it ought to have been. For there seemed a dispute to resound in my ears from the Stoics' portico, that, as immortal is opposite to mortal, incorruptible to corruptible, incorporeal to corporeal, in like manner things void of reason ought to be opposed to those beings that are endued with reason, lest among so many pairs of contraries this alone should be found maimed and imperfect.

3 AUTOBULUS Good now, friend Soclarus, who was he that maintained that, because there are certain beings endued with reason, therefore there is nothing void of reason? For we abound with examples in all things that are destitute of a soul; nor do we want any other antithesis to irrational, but only to oppose whatever is deprived of a soul — as being void of reason and understanding — to that which is endued with reason and understanding together with a soul. But if anyone will assert, that Nature

is not defective, and that therefore animated Nature is partly rational, partly without reason; another may at the same time allege, that animated Nature is partly endued with imagination, partly deprived of it; partly sensible, partly insensible; to the end that Nature may not want these opposite habits and privations, as it were, equally balanced in the same kind. For, as it would be absurd to expect to find some living creatures sensible and others without sense, and equally ridiculous to grant imagination to some living creatures and not allow it to others — since there is no living creature that comes into the world but what is presently endued with sense and imagination — thus would he be as much out of the way, who should require one living creature to be rational and another void of reason, and that too when he is disputing with men who hold that nothing whatever can partake of sense which does not also partake of understanding, and that there is no animal not endued by Nature with opinion and ratiocination, as well as with sense and instinct. For Nature, which, as they truly say, made all things for the sake of something and to some end, did not make a sensible creature to be merely sensible of barely suffering something; but since there are many things familiar and agreeable, and other things as baneful and pernicious, no one of them could survive for a moment, did they not learn to avoid some things and covet the use and benefit of others. Sense it is, therefore, that affords to every creature the knowledge both of useful and hurtful; but the discretion which accompanies the said sense, choosing and seizing upon things profitable, and discerning and avoiding things pernicious or troublesome, can never be thought to reside in any creature not capable to reason, to judge, remember, and consider. Therefore, if you will deprive the creatures of expectation, memory, design, preparation, hope, fear, desire, and grief, you must at the same time deny them the use either of eyes or ears, and indeed of all sense and imagination; which it is better for them to be without, since they cannot make use of them, than to labour under grief and pain, with no means present of averting them.

There is an oration of Strato the philosopher, demonstrating that without sense there can be no understanding. For many times letters cursorily glanced upon by the eye, and speeches little regarded by the ear, escape our knowledge, our minds being intent on other matters. Afterwards by recollection the same things return into our mind, for us to run through and pursue them in our thoughts as we please. Whence we say proverbially,

> The mind sees, the mind hears; all other things are deaf and blind,

in regard there can be no sense in the eyes and ears, if understanding be wanting. Therefore King Cleomenes, after great commendations given to a copy of verses recited at a banquet where he was present, being asked whether it were not an admirable piece, bid them that heard it give their judgment, for that his mind was in the Peloponnesus. Therefore of necessity, whatever creatures are capable of sense must also be capable of understanding, if we can no otherwise be sensible than by the force of understanding.

But suppose we should grant that sense has no need of the understanding for the performance of the duty incumbent upon it; nevertheless, when that same sense which has shown an animal the difference between what is grateful and what is averse to Nature has departed, where is that faculty which retains this difference in

the memory — dreading things that are abominable, and longing after things that are useful, and if they are wanting, seeking means to compass them — which provides animals receptacles and places of refuge, that they may look out after their prey, and avoid the snares and gins of the hunters? And yet those very authors inculcate these things in their introductions, even to the teasing our ears: defining purpose to be an indication that something is to be brought to completion; design to be an impulse before an impulse; preparation to be an action before an action; memory to be the comprehension of some certain past impression, which at first was apprehended by sense. In all which things there is nothing which may not rightly be said to partake of reason, and yet all these things are common to all creatures; as indeed are certainly all cogitations; which, while they lie concealed in the brain, we call thoughts, but when they come to be in motion, we name conceptions. In the mean time they acknowledge all passions and perturbations of the mind to be false judgments and erroneous opinions; so that it is a wonder to me, that the same men should oversee so many operations and motions, some of desire, others of fear, nay, by Jupiter, many times of envy and emulation itself. And many times they themselves punish their dogs and horses when they commit a fault, and this not to no purpose, but to chastise them by causing in them through pain that trouble of mind which we call repentance. Now the tickling the ear by pleasing sounds is called enchantment, but the bewitching the eye is called bewitching; both which we make use of in the domesticating of wild beasts. Harts and horses are allured by the sounds of pipes and flutes. And there are a sort of crabs which are charmed out of their holes by fifes; and it is reported that the shad fish are drawn to show themselves above water by singing and clapping of hands. The otus also, which is a bird not much unlike a night-raven, is taken by allurement of the sight; for that while he stands staring upon the fowlers dancing before him in measure and figure, and out of affection will be striving to act his part by aping their motions with his wings and shoulders, he is frequently surprised and taken.

But as for those that more foolishly affirm that beasts are not affected with joy or anger or fear, that the swallow does not build, that the bee does not remember, that the lion is not angry, that the hart is not timorous, but that they do all these things only as it were and apparently; I would fain know what answer they will make to those who say, that beasts neither see nor hear, but as it were see and as it were hear; that they neither neigh nor bleat, but as it were send forth a certain sound; lastly, that they do not absolutely live, but live as it were? For, in my opinion, to aver this is as contrary to plain demonstration as the rest.

4 SOCLARUS Well then, Autobulus, suppose me to be one of those that affirm these things. For it is great folly for men to compare the actions of beasts with the customs, actions, and manner of living men, and above all, to deny that beasts have the least inclination or aim at any progress towards virtue, to which we bent our discourse. Indeed, I doubt whether Nature gave them a beginning or no, since they are so incapable to attain the end.

AUTOBULUS Why truly, Soclarus, this is not a thing that seems so absurd to those men. For that while they assert the extreme love of parents towards their children to be the principle of society and justice, and find at the same time this virtue apparent

and surpassing in brute animals, yet they will not allow them in the least to partake of justice; like mules, which, though they are furnished with genital parts, as wanting neither privities nor wombs, and mixing with delight and pleasure, yet cannot attain the end of generation. But then again I would have you consider, whether they be not ridiculous, that affirm Socrates or Plato to be no less vicious than the meanest of slaves — nay more, that they were fools, intemperate, and unjust — and then find fault with the nature of beasts, as being impure and no way accurately framed for the reception of virtue; as if this were proof of utter want of reason, and not of depravedness and imbecility of reason. And all the while, they acknowledge that there are vices of reason, of which all brute beasts are guilty; many of which we plainly find to be intemperate, fearful, malicious, and unjust. Therefore he that denies that reason exists by Nature in a creature, because it is not framed by Nature to attain to the perfection of reason, little differs from one that should deny a monkey to partake of deformity by Nature, or a tortoise of slowness, as being neither susceptible of beauty or swiftness. Nor do they observe the distinction that lies before their eyes. For reason is in the creature by Nature, but right and perfect reason is attained by industry and education; so that naturally all creatures may be said to be rational. But if they look for perfection of reason and true wisdom, they will hardly find those perfections in any man whatever. For as there is a difference between sight and sight, and between flight and flight — for hawks and grasshoppers do not see alike, neither do eagles and partridges fly with equal swiftness — so neither in all rational creatures is there to be found the same perfection of cunning and acuteness. For as there are many examples to be produced of several brute creatures, excelling in the observance of society, fortitude, and foresight as to their particular economy and making provision for themselves; so on the other side, there may be found among them as many of injustice, cowardice, and folly. Which is evident from the present contest wherein these young gentlemen have engaged themselves, while the one has undertaken to maintain that land-animals, the other that creatures bred in the sea, are most inclined to virtue. Which is plainly demonstrated by comparing river-horses with storks. For the one support and cherish their fathers, the others kill them that they may enjoy their dams. So likewise, if you compare doves with partridges. For the cock partridge will not suffer the hen to sit, but breaks her eggs and throws them out of the nest if she refuses to be trod. But the cock pigeon takes upon him part of the female's duty, in brooding over the eggs and feeding the young ones; and if the hen happens to be too long absent, he corrects her with his bill, till he forces her to return to her nest. So that, while Antipater found fault with sheep and asses for their nastiness, I wonder how he came to pass by lynxes and swallows, of which the one are so cleanly that they always remove and hide their excrements, the others teach their young ones to turn their tails out of their nest, before they let fall their defilement. And indeed, why may we not say that one tree is more docible than another, as dogs are more docible than sheep; or one pot-herb more timorous than another, as harts are more fearful than lions? Or otherwise, as among things immovable, there is not one thing slower in motion than another; nor among things that are mute, one thing more vocal than another; so neither, among things to which Nature has not afforded a faculty of understanding, is there one thing more timorous, more

slothful, or more intemperate than another. But as to those creatures where that faculty is present, the difference is manifest in the degrees of more or less.

5 SOCLARUS However, it is a wonderful thing to observe, how much man differs from all other creatures in probity of manners, in industry, and in all those things that relate to justice and common society.

AUTOBULUS Nevertheless, my dear friend, this cannot be denied, that there are many brute beasts that surpass men both in bulk and swiftness, others that far surpass him in strength of sight and exactness of hearing; and yet for all this we are not to say that man is blind, without strength, or wants ears. For Nature has not deprived us either of hands or eyes or strength or bulk, though we must not compare with camels or elephants. In like manner we must not say that brute beasts are altogether deprived of reason and understanding, because they are more dull of understanding, and not so quick at ratiocination as we are, as only enjoying a weak and muddy sort of reason, like a dim and clouded eye. And did I not presently expect these young gentlemen, being persons both studious and learned, to bring together an infinite number of examples in reference to both land and sea-animals, I could produce a thousand examples of docility and a thousand more of good nature in beasts, which the famous city of Rome has given us an opportunity to fetch from her imperial theatres; but we will leave these things fresh and untouched, for them to embellish with their eloquent discourse.

In the mean time I have something to offer by the by, which is this, that I am of opinion that there is a mutilation, disease, and defect peculiar to every part and faculty

— as blindness of the eye, lameness of the leg, and stuttering of the tongue — which defects cannot be appropriated to any other members. For that blindness can never be attributed to that which was never created to see, nor lameness to that which never could go, nor can anything be said to stammer that wants a tongue, or to lisp or stutter that has not a vocal utterance. And nothing can be said to be a changeling or beside his wits or mad, to which Nature never gave the use of thought, reason, and understanding; for it is impossible to be so without some faculty that can suffer either privation or mutilation or some other defect. But you have seen dogs that were mad, and I have seen horses under the same predicament; and some there are who say that bulls and foxes will be mad. But the example of dogs is sufficient, which is unquestionable. This makes it evident, that those creatures have a sort of reason and understanding not to be despised, which being once confused and troubled, the affection arises which is called madness. For we do not find either their sight or their hearing diminished. Now, as when a man is affected with hypochondriac melancholy, or in a delirium, it would be absurd to say that he was not beside himself, or that his sense, reason, and memory were not disturbed — for custom tells that they who are in a raving condition are not in their right senses, but are fallen from their reason — so whoever believes that there is any other cause why dogs run mad, but only that their natural senses, reason, and memories are disturbed, while they cease to know faces the most familiar to them before, and abandon their most usual food, and overlook what is just before their eyes, such a man, I say, seems to me either to overlook what is just before his eyes, or else, seeing the conclusions that follow, to fight against the truth itself.

6 SOCLARUS You seem to me to be very much in the right, for the Stoics and Peripatetics are led to affirm the contrary upon this supposition, that justice could have no certain original, but would be altogether incomprehensible and inexistent if all brute creatures should partake of reason. For either of necessity we must do a very great piece of injustice when we devour and feed upon them; or if we forbear the use of them, it will be impossible for us to live, or rather we shall in some measure live the lives of beasts, rejecting the use of brute creatures. I pass by those innumerable myriads of nomades and Troglodytes that know no other food but flesh. But as for us that seem to live lovingly and in friendship together, what necessity would there be of labouring on the earth, toiling upon the sea, or mining in the mountains, what ornament would there be in our life, if it were so that we must be bound to live, as it would then become us, not only without injury but rather with all civility and humanity toward all the sorts of beasts, as being our fellow rational creatures? We have no cure, no remedy for an unquestionable necessity that deprives us either of life or justice, unless we observe that ancient bound and dispensation which, according to Hesiod, distinguishing natures and separating every kind by themselves, commands

> The fish, wild beasts, and all the winged fowl,
> To prey upon their kinds without control,
> For among them no law nor justice reigns;
> Only by justice man from man abstains.[1]

[1] Hesiod, *Works and Days*, 275

And therefore, as brutes can extend no act of justice to us, so neither can we commit any act of injustice against them. Which argument they who reject have left us no benefit of life, nor any the smallest entrance for justice into the world.

7 AUTOBULUS These things, dear friend, you utter as the opinion of those people. But we are not to allow philosophers a remedy to procure easy delivery, as they do to women that are subject to hard labours, merely that they may bring us forth justice without any pain or trouble. For the same persons, even in the greatest matters, will not allow to Epicurus so small and pitiful a thing as the slightest inclination of one only atom, for to make way for the stars and living creatures and Fortune to come into the world, and that thereby our free will might be saved. For we ought either to prove what is doubtful or to assume what of itself is manifest; so we ought not to take for granted this doctrine touching beasts as regards justice, unless it is either confessed or otherwise proved by demonstration. For justice has another way to establish itself, neither so steep nor so slippery, nor leading to the subversion of evident truths; but which, according to Plato's instruction, my son and thy friend, Soclarus, has showed to such as are not captiously contentious but willing to learn. For certain it is, that both Empedocles and Heraclitus held it for a truth, that man could not be altogether cleared from injustice in dealing with beasts as he now does; often bewailing and exclaiming against Nature, as if she were nothing else but necessity and war, having neither anything unmixed nor anything truly pure, but still arriving at her end by many, and those unjust and unlawful passions. Whence they affirm that generation itself originally proceeded from injustice by the conjunction of immortal with mortal, and that the thing engendered is still contrary to Nature delighted with the parts of that which engenders, dismembered from the whole. But this seems to be too luxuriant and severe an accusation of Nature. For there is yet a more moderate excuse, which does not altogether deprive the beasts of reason, yet justifies the necessary and convenient use of them; which when the ancients introduced, they detested and utterly discountenanced voracious and voluptuous gluttony. Pythagoras also resumed the argument, teaching how we might reap the benefit of the creatures without doing injustice. For they do no injustice, that chastise and kill such savage beasts that are both hurtful to man and never will be tame. But taming such as are gentle and loving to men, they thereby make them assistant in the several uses to which they were ordained —

> The horse and ass, that backs to load resign,
> And race of bulls,

which, as Prometheus in Æschylus[1] observes,

> Kind Heaven vouchsafed to men by toil distrest,
> With servile limbs his labours to assist.

Thus we make use of dogs to guard our goats and sheep, while they are milked and shorn. For life does not presently forsake a man unless he have his platters of fish or livers of geese, or unless he may kill whole oxen or kids to supply his banquets, or unless — that he may disport himself in the theatre or take his pleasure in hunting

[1] In the lost tragedy, *Prometheus Unbound*, Frag. 188 (Nauck). (G.)

— he may compel some beasts to be daring and to fight against their wills, and kill others whom Nature has not armed to defend themselves. For, in my opinion, he that is for sport and pastime ought to seek out for such as will sport and be merry with him. And as it was the saying of Bion, that, though boys throw stones at frogs in sport, yet the frogs do not die in sport but in earnest; so in hunting and fishing, the fault is in the men delighting in the torments and cruel deaths of beasts, and tearing them without compassion from their whelps and their young ones. For it is not in the making use of beasts that men do them wrong, but in the wastefully and cruelly destroying them.

8 SOCLARUS Contain yourself, my dearest Autobulus, and forbear these accusations; for here are several gentlemen coming, all great huntsmen, whom it will be very difficult to bring over to your opinion; neither is it convenient to offend them.

AUTOBULUS You give me good advice. However, I know Eubiotus very well, and my kinsman Ariston; nor am I less acquainted with Æacides and Aristotimus, the sons of Dionysius the Delphian, as also with Nicander the son of Euthydemus, all expert in the chase by land, as Homer expresses it; and therefore likely to take part with Aristotimus. On the other side, yonder comes Phædimus too, bringing along with him the islanders and neighbours to the sea, Heracleon of Megara, and Philostratus of Eubœa,

> Whose whole delight is all the day
> The toilsome pastime of the sea.[1]

But as for Optatus, our equal in years (like Tydides) —

> Which of the sides to range him well,
> So versed in both, we cannot tell.[2]

For he is one that offers as well the first-fruits of his fishery to Dictynna, as of his forest spoils to Diana; so that it is apparent he comes among us as one that intends not to be partial to one side more than the other; or else our conjecture is amiss, dear Optatus, that your design is only to be an impartial umpire between these young gentlemen.

OPTATUS You conjecture very truly, Autobulus. For the ancient law of Solon is out of date, that punished those who stood neuters and refused to adhere to either side.

AUTOBULUS Seat yourself then here by us, that if there should be any occasion for a testimony, we may not be troubled to run to Aristotle's writings, but acquiescing in your experience, may give our suffrages according to what you aver for truth.

OPTATUS Go to then, young gentlemen: are ye agreed upon the method and order of the dispute?

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[1] See *Odyssey*, XII, 116

[2] *Iliad*, V, 85

PHÆDIMUS Truly, worthy Soclarus, that very thing occasioned a great debate among us; but at length, according to that of Euripides,

> The child of Fortune, Chance, the point agreed,
> And fixed the method how we should proceed,

by giving the precedence to the land animals to plead their cause before marine creatures.

SOCLARUS Then, Aristotimus, it is high time for you to speak and for us to hear.

9 ARISTOTIMUS The court is open to all concerned in the controversy. . . . Others there are that kill their young ones by leaping the females at the very instant of their bringing forth. There are a sort of mullets, called pardiæ, that feed upon their own slime. But the polypus sits all the winter feeding upon itself,

> In fireless house, and domicils forlorn;[1]

so slothful, or so stupid, or so given to his gut he is, or else so abandoned to all those vices together. And therefore Plato again and again forbids, or rather makes it his wish, in his laws, that young men might not be permitted to addict themselves to marine fishery, wherein there is no exercise of strength, no cogitation of wisdom, nor anything that contributes to fortitude, swiftness, or agility, in combating against pikes, congers, or scates; whereas, in the chase of wild beasts, the fiercer sort accustom the huntsman to contempt of danger, the more subtle sort exercise and sharpen his wit and cunning, the swifter sort exercise his strength, and render him more apt to endure labour. These are the advantages that accrue to a man by hunting; but in fishing, there is nothing worth his while. For never any of the Gods got honour by the surname of a conger-killer; as Apollo was surnamed the wolf-slayer; never any of the Deities gloried in being a darter of mullets, as Diana is honoured with the addition of hart-darting. And what wonder is it, when it is accounted more noble for a man to kill than to buy a wild boar, a hart, a goat, or a hare, but more honourable to buy a tunny, a lobster, or an amy, than to kill one? And therefore, because there is nothing in fishing that is noble, no using of gins and slight of cunning, it is accounted a sorry, pitiful exercise, not worth a man's labour.

[1] Hesiod, *Works and Days*, 525

10 In general then, since the usual arguments by which philosophers demonstrate that beasts partake of reason are these following — purpose, contrivance, memory, passions, care of their young ones, gratefulness to those from whom they receive kindnesses, and the remembrance of shrewd turns, to which we may add the search after and choice

of what is needful and beneficial for them, together with apparent shows of virtue, as of fortitude, society, continence, and magnanimity — if we consider the marine creatures, we shall not find that our strictest observation can perceive in them any of these excellences, or at best they are such obscure and imperfect glimmerings as are scarce discernible. But in terrestrial and land animals, there is not any man but may behold the most luculent, the most evident and uncontrollable demonstrations in the world of all that has been said. In the first place, observe the designs and preparations of bulls provoked to combat, and of wild boars whetting their teeth. Again, elephants — since, by digging up or tearing down the trees which they intend to feed upon, they blunt and wear out their tushes — make use of only one for those purposes, but reserve the other strong and sharp for their own defence. The lion also always walks with his feet inverted, hiding his claws withinside his paw, to prevent the hunter from tracing him easily by his footing. For the track of a lion's claw is not easily to be found, so that the hunters are frequently at a loss, and wander after the obscure and scarce discernible footsteps of those beasts. You have heard also, I suppose, of the ichneumon, how that he arms himself as completely as a soldier with his breastplate and cuirass prepared for battle; in such a manner does that creature surround and wrap himself about with a coat of mail, when he attacks the crocodile.

Admirable are the preparations of swallows before they go to lay their eggs, how they place the more solid stubble for foundations, and upon that build up the slighter straws; and if they perceive that the nest wants mud to serve as glue, you may observe how they fly to the next lake or sea, and after they have skimmed the superficies of the water with their wings — so as to make them

moist, yet not heavy with wet — they lick up the dust, and so daub and bind together the loose and ill-cohering parts of the nest. As for the form of their architecture, it is composed neither of angles nor of many sides, but smooth and, as much as may be, spherical; for that such a figure is lasting and capacious, and not easily affording entrance to creatures that lie in wait for their destruction from without.

Who is there that does not admire, for more reasons than one, the labour of the spiders, which seems as pattern for the threads that women spin and the nets that are used in hunting? For the extraordinary fineness of the spinning, and the evenness of the thread, not discontinued or snapped off like the yarn upon a quill, but having the smooth and subtle texture of a thin membrane, and knit and spun together with a certain clammy moisture imperceptibly mixed; besides the tincture of it, causing a kind of airy and misty colour, the better to deceive; but above all, the conduct and governing of this little engine, in which when anything happens to be entangled, you see how presently, like an expert huntsman, the subtle artist contracts her net and binds her prey within it; — all this, being every day obvious to our sight and contemplation, gives credit to my discourse, which otherwise might be accounted no less fabulous than what is reported of certain Libyan crows, that, when they are a-thirsty, throw stones into the water, by that means to raise it to such a height that they may

be able to reach it with their bills. Then again, when I saw a ship dog, in the absence of the seamen, putting in stones in a half-empty jar of oil, it was to me a wonder how that dog should understand that the pressure of the heavier weight would make the lighter rise.

And the same artifices are reported of Cretan bees and Cilician geese. For the first of these, being to take their flight about some windy promontory, ballast themselves with little stones, to prevent their being carried away by the stronger blasts. And as

for the geese, they being afraid of the eagles, every time they cross the mountain Taurus, carry great stones in their mouths, to the end that by that means (as it were) bridling their gaggling tongues, they may cross the mountain in silence, without alarming their enemies.

Extraordinary also is the caution which the cranes observe in their flight. For they fly, when the wind is very high and the air very tempestuous, not as in fair weather, all afront or in manner of the half-moon; but forming a triangular body, with the sharp angle of that figure they penetrate the wind that ruffles round about them, and by that means preserve their order unbroken. On the other side, when they fall upon the ground, those that are upon the night-watch stand with the whole weight of their bodies upon one leg, holding a stone in the claw of the other foot. For the holding of the stone keeps them awake for a long time together, and wakes them again with the noise of the fall if they happen to drop asleep. So that it was no wonder that Hercules laid his quiver under his arm-pit, and with his strenuous arm embracing his bow,

> Slept all the night, where'er he laid his load,
> With his right-handed weight upon the wood.

Nor do I so much admire at him who was the first that hit upon the way to open an oyster, when I meet with and consider the artifices of the herons. For a heron, when he has swallowed a closed oyster, endures the trouble and vexation of it for so long time, till he perceives it soften and relaxed by the heat of his stomach; then casting it up again gaping and divided, he takes out that which is fit for food.

11 But as it is a task of great labour accurately to relate the economy and contrivances of the emmets, so it would argue too much of negligence to pass them over in silence. For there is not in Nature a smaller creature; and yet it is a most absolute mirror of the greatest and most noble performances, and (as it were) in a transparent drop the appearance of all virtue. There is friendship to be discerned in their mutual society. There is the image of fortitude in the patient undergoing of labour. In them are to be seen many seeds of continence, many of wisdom and justice. Insomuch that Cleanthes, who denied that beasts were endued with reason, could not forbear reporting how he met with the following accident of a crowd of emmets, that came to another ant-hill, bringing along with them a dead emmet. Presently other emmets ascending out of their ant-hill seemed (as it were) to meet them, and then disappeared again; and this was done twice or thrice. Till at length the one side brought up from underground a worm, as the price of the dead emmet's redemption, which the other party of pismires receiving, delivered the dead emmet, and so departed. But that which is apparent to all is their equity to each other when they meet one another, while they that carry nothing always give way to those that are burdened; nor are their divisions and partitions of things too weighty for single carriage less remarkable, to the end the burdens may be divided among many. But when they bring forth their little eggs and expose them to the cold, Aratus makes it a sign of rainy weather.

> When from her hollow cells th' industrious ant
> Her hidden store of eggs brings forth.

For in that sense many read *ἠια* (*provision*) for *ὠεα* (*eggs*), referring it to the providence of those little creatures, who, when they find their provision in their magazines to begin to taint and grow rotten, bring it forth and expose it to the open air, to prevent the progress of the putrefaction. But that which above all things demonstrates the surpassing excellency of their understanding is their pre-apprehension of the germinating of wheat. For the wheat does not remain dry and void of putrefaction, but grows moist and turns into a kind of milky substance, when it changes from seed to become an herb. For fear therefore that preserving the quality it should become useless for food, they eat out the very principal part of the grain, from whence the wheat sends forth its blossom. I must confess, I do not approve of those who dig up ant-hills on purpose to improve their learning (as it were) by anatomy. However, they tell us by virtue of that cruel information, that the passage or descent from the top of the hill to the nest is not directly straight nor easily penetrated by any other creature, but intercepted with several turnings and windings, leading through several underminings and perforations into three cavities; of which the one is the common place of feeding and converse for the whole community, the next is the general magazine of their provision, and the third is the apartment where they dispose of their dead.

12 I am afraid you may deem me too impertinent in joining elephants with pismires, and yet I cannot but think it seasonable to show the nature and force of understanding, as well in the smallest as in the greatest bodies, neither obscured in the one nor deficient in the other.

Some there are that admire in an elephant his aptness to learn and to be taught, and the many various postures and alterations of movement which he shows upon the

theatres, not easily to be equalled by human assiduity, as subtle and abounding in memory and retention as man is. But for my part, I rather choose to prove his evident understanding from the passions and inclinations of the creature, that were never taught him, but only infused by Nature, as being altogether unmixed and pure without the help of art.

At Rome, not very long ago, there were many elephants that were taught many dangerous postures, many windings and turnings and circular screwings of their bulky bodies, hard to be expressed; among which there was one, which, being duller than the rest, and therefore often rated and chastised for his stupidity, was seen in the night-time, by moonlight, without being forced to it, to practise over his lessons with all the industry imaginable.

Agno tells a story of an elephant in Syria, that was bred up in a certain house, who observed that his keeper took away and defrauded him every day of half the measure of his barley; only that once, the master being present and looking on, the keeper poured out the whole measure; which was no sooner done, but the elephant, extending his proboscis, separated the barley and divided it into two equal parts, thereby ingeniously discovering, as much as in him lay, the injustice of his keeper.

Another in revenge that his keeper mixed stones and dirt with his barley, as the keeper's meat was boiling upon the fire, took up the ashes and flung them into the pot.

Another being provoked by the boys in Rome, that pricked his proboscis with the sharp ends of their writing-steels, caught one of them in his proboscis, and mounted him up into the air, as if he intended to have squashed out his guts; but upon the loud outcries of the spectators, set him gently down again upon his feet, and so went on, believing he had sufficiently punished the boy in scaring him. Many other things are reported of the wild elephants that feed without control, but nothing more to be admired than their passing of great rivers. For first of all the youngest and the least flounces into the stream; whom the rest beholding from the shore, if they see that the less bulky leader keeps steady footing with his back above water, they are then assured and confident that they may boldly adventure without any danger.

13 Having thus far proceeded in our discourse, I cannot think it well done to pass by the cunning of the fox, by reason of the similitude it has with the former. The mythologists tell us that the dove which Deucalion sent out of his ark, returning back again, was to him a certain sign of the storm not ceased; but of serene and fair weather, when she flew quite away. But the Thracians to this day, when they design to pass a river that is frozen over, make use of a fox to try whether the ice will bear or no. For the fox, treading gently, lays his ear to the ice, and if he perceive by the noise of the water that the stream runs very close underneath,

conjecturing from thence that the congelation is not deep but thin, and no way steadfastly solid, he makes a stop, and if he be suffered, returns back again; but if he perceive no noise, he goes on boldly. Nor can we say that this is only an exquisiteness of sense without reason; but it is a syllogistical deduction from sense, concluding that whatever makes a noise is moved; whatever is moved, cannot be frozen; what is not frozen, is moist; what is moist, gives way. The logicians say that a dog, making use of the argument drawn from many disjunctive propositions, thus reasons with himself, in places where several highways meet: Either the wild beast is gone this way, or that, or that way; but not that way, nor that way, therefore this way: the force of sense affording nothing but the minor premise, but the force of reason affording the major proposition, and inferring the conclusion of the assumption. But a dog stands in no need of any such testimonial; in regard it is both false and adulterate. For sense itself shows which way the beast is fled, by his tracks and footsteps, bidding farewell to disjunctive and copulative propositions. The nature of dogs is palpably to be discerned by many other actions, affections, and dutiful service, neither the effects of hearing or seeing, but practicable only by reason and understanding. It would be ridiculous for me to discourse of the continence, obedience, and industry of dogs in hunting, to you that are so well confirmed in the knowledge of those things by daily experience and practice.

There was a Roman named Calvus, slain in the civil wars, whose head nobody durst cut off before they killed the dog that guarded his body and fought in defence of his master. It happened that King Pyrrhus, travelling one day, lit upon a dog watching over the carcass of a person slain; and hearing that the dog had been there three days without meat or drink, yet would not forsake his dead master, ordered that the man should be buried, but that the dog should be preserved and brought to him. A few days after, there was a muster of the soldiers, so that they were forced to march all in order by the king, with the dog quietly lying by him for a good while. But when he saw the murderers of his master pass by him, he flew upon them with a more than ordinary fury, barking and baying and tearing his throat, and ever and anon turning about to the king; which did not only rouse the king's suspicion, but the jealousy of all that stood about him. Upon which the men were presently apprehended; and though the circumstances were very slight which otherwise appeared against them, yet they confessed the fact and were executed.

The same thing is reported to have been done by a dog that belonged to Hesiod, surnamed the wise, which discovered the sons of Ganyctor the Naupactian, by whom Hesiod was murdered. But that which came to the knowledge of our parents, when they were students at Athens, is yet more evident than anything we have said. For a certain person getting into the temple of Æsculapius, after he had stolen all the massy offerings of gold and silver, made his escape, not believing he was discovered. But the dog which belonged to the temple, who was called Capparus, when he found that none of the sacristans took any notice of his barking, pursued himself the sacrilegious thief; and though at first the fellow pelted him with stones, he could not beat him off. So soon as it was day, the dog still followed him, though at such a distance that he always kept him in his eyes. When the fellow threw him meat he refused it; when the thief went to bed, the dog watched at his door; and when he rose in the morning, the dog still followed him, fawning upon the passengers on the road, but

still barking and baying at the heels of the thief. These things when they who were in pursuit of the sacrilegious person heard, and were told withal by those they met the colour and bigness of the dog, they were the more vigorous in the pursuit; and by that means overtaking the thief, brought him back from Crommyon, while the dog ran before, leaping and capering and full of joy, as it were challenging to himself the praise and reward of apprehending the temple-robber. And indeed the Athenians were so grateful to him, that they decreed him such a quantity of meat to be publicly measured to him, and ordered the priests to take care to see it done; in imitation of the kindness of the ancient Athenians in rewarding the mule.

For when Pericles built the temple Hecatompedon (or Parthenon) in the tower of Athens, it so fell out that the stones were to be fetched every day many furlongs off, and a world of carriages were made use of for that purpose. Among the rest of the mules that laboured hard in this employment, there was one that, though dismissed by reason of age, would still go down to the Ceramicus, and meeting the carts that brought the stones, would be always in their company running by their sides, as it were by the way of encouragement and to excite them to work cheerfully. So that the people, admiring the zeal of the mule, ordered him to be fed at the public charge, as they were wont to decree public alms to the superannuated wrestlers.

14 And therefore they who deny that there is anything of justice due from us towards dumb animals may be said to speak true, so far as concerns them that live in the sea and haunt the abysses of the deep. For those kind of creatures are altogether unsociable, without affection for their young ones, void of all softness of disposition; and therefore it was well said of Homer, speaking to a person whom he looked upon as a mere savage,

> But as for thee, so little worth,
> The gleaming sea did bring thee forth;[1]

in regard the sea brings forth nothing friendly, nothing mansuete or gentle. But he that uses the same discourse and arguments against land animals is himself a brute and savage creature; unless any man will affirm that there was nothing of justice due from Lysimachus to the Hyrcanian dog, that would not stir from the body of his deceased master, and when he saw his master's carcass burning, ran and threw himself into the flames. The same is reported to have been done by the dog Astus, that was kept by one Pyrrhus, not the king, but a private person of that name. For upon the death of his master, he would not stir from the body, but when it was carried forth, leaped upon the bier, and at length threw himself into the funeral pile, and was burnt alive with his master's body.

The elephant also which carried King Porus, when the king was wounded in the battle against Alexander, pulled out several darts out of his wounds with his proboscis, with no less tenderness and care than the chirurgeon could have done; and though the elephant himself was but in a very bad condition, yet would he not give over till he perceived the king was ready to reel and sink down by reason of the blood which

[1] *Iliad*, XVI, 34

he had lost; and then fearing lest the king should fall, he stooped down gently, to ease the king in sliding to the ground.

Such was the humour of Bucephalus, who, before he was accoutred, would suffer his groom to back him, but when he had all his royal trappings and housings about him, would permit nobody but Alexander to bestride him. But if any other persons approached him in curiosity to try what they could do, he encountered them open-mouthed, and neighing out his fury, leaped upon their shoulders, bore them down, and trampled them under his feet, unless prevented by keeping at a distance or by speedy flight.

15 Nor am I ignorant but that there is something of variety in every one of these examples, which you must acknowledge. And indeed it is not easy to find out the natural dexterity of any one ingenious and docible animal, which is not accompanied with more than one single virtue. Thus, where there is affection toward their young ones, there is desire of praise. Where there is generosity, there is also moderation of anger. Cunning likewise and understanding are rarely parted from daring boldness and fortitude. But as for those that rather choose to divide and distinguish every one of these virtues particularly by themselves, they shall find in dogs a fair demonstration of a gentle and yet lofty mind at the same time, in turning away from such as sit quietly upon the ground; according to that of Homer,

> With hideous noise the dogs upon him flew;
> But sly Ulysses, who the danger knew,
> Sate husht and still, and from his royal hand
> His sceptre dropt, as useless in command.[1]

For dogs never bite or worry those that prostrate themselves at their mercy and put on a face of humility. Thus they say the bravest of those Indian dogs that fought against Alexander never stirred or so much as looked about them upon the letting loose of a hart, a boar, and a bear; but when they saw a lion, then they began to rouse, to shake, and prepare themselves for the combat. By which it was plain that they thought only the lion an antagonist worthy of their courage, but despised all the rest as below their anger.

Your hounds that usually hunt hares, if they kill the hares themselves, take great delight in tearing them to pieces and lapping up the blood. But if the hare despairing of her life, as many times it happens, runs herself to death, the hounds finding her

[1] *Odyssey*, XIV, 30

dead will never touch her, but stand wagging their tails, as if they did hunt not so much for the love of the food as for victory and triumph's sake.

16 There are many examples of cunning and subtlety abounding in land creatures; but to omit slights and artifices of foxes, cranes, and jackdaws, of which I shall say nothing, because they are things already so well known, I shall make use of the testimony of Thales, the ancientest of our philosophers, who is reported to have chiefly admired the most excellent in any art or cunning.

A certain mule that was wont to carry salt, in fording a river, by accident happened to stumble, by which means the water melting away the salt, when the mule rose again he felt himself much lighter; the cause of which the mule was very sensible of, and laid it up in his memory, insomuch that every time he forded the same river, he would always stoop when he came into the deepest part, and fill his vessels with water, crouching down, and leaning sometimes to one side, sometimes to the other. Thales hearing this, ordered the vessels to be well filled with wool and sponges, and to drive the mule laden after that manner. But then the mule, as he was wont, filling his burthens with water, reasoned with himself that he had ill consulted his own benefit, and ever afterwards, when he forded the same river, was so careful and cautious, that he would never suffer his burthens so much as to touch the water by accident.

Another piece of cunning, joined with an extraordinary affection to their young ones, is to be observed in partridges, which instruct their young ones, ere they are able to fly, when they are pursued by the fowlers, to lay themselves upon their backs, their breasts covered with some clod of earth or little heap of dirt, under which they may lie concealed. On the other side, the old partridges do deceive the fowlers, and draw them quite a contrary way, make short flights from one place to another, thereby enticing the fowlers to follow them; till thus allured from their young ones, the fowlers give over all hopes of being masters of their game.

In like manner, hares returning to their forms dispose their leverets one to one place, another to another, at the distance many times of an acre of ground; so that, upon the tracing either of men or hounds, they are sure not to be all in danger at one time — themselves in the meantime not easy to be tracked, by reason of the various windings and turnings which they make, until at length, by giving a large leap, they discontinue the print of their feet, and so betake themselves to their rest.

A bear, when she perceives her winter sleep coming upon her, before she grows stiff and unwieldy, cleanses the place where she intends to conceal herself, and in her passage thither lifts up her paws as high as she can, and treads upon the ground with the top of her toes, and at length turning herself upon her back, throws herself into her receptacle.

Your hinds generally calve at a distance from all places frequented by flesh-devouring beasts; and stags, when they find themselves unwieldy through surplusage of flesh and fat, get out of the way and hide themselves, hoping to secure themselves by lurking, when they dare not trust to their heels.

The means by which the land hedge-hogs defend and guard themselves occasioned the proverb,

Many sly tricks the subtle Reynard knows,
But one the hedge-hog greater than all those.

For the hedge-hog, as Ion the poet says,[1] when he spies the fox coming,

Round as a pine-nut, or more sphere-like ball,
Lies with his body palisaded all
With pointed thorns, which all the fox's slight
Can find no way to touch, much less to bite.

But the provision which the hedge-hogs make for their young ones is much more ingenious. For when autumn comes, they creep under vines, and shake off the grapes with their feet; which done they roll themselves up and down, and take them up with their prickles, so that when they creep away again, you would think it a walking cluster (and this we have looked on and seen them do); after which returning to their holes, they lay themselves down for their young ones to feed. Their holes have two openings, one to the south, the other to the north. So that when they perceive the alteration of the air, like pilots shifting their sails, they stop up that which lies to the wind and open the other. Which a certain person that lived at Cyzicus observing, took upon him from thence at any time to tell in what corner the wind would sit.

17

As for love and observance of society joined with understanding and prudence, Juba produces many examples of it in elephants. For it is the usual practice of the elephant-hunters to dig large pits in the elephants' walks, and cover them slightly over with dry twigs or other materials; into which if any elephant happens to fall, the rest fetch wood and stones to fill up the cavity of the pit, that the other may the more easily get out again. And some report of the elephants, that they make prayers to the

[1] Fragment 38

Gods by natural instinct, that they perform divine ceremonies to the sea, and worship the rising sun, lifting up the proboscis to heaven instead of hands.

For which reason they are creatures the most beloved of any by the Gods, as Ptolemy Philopator testified. For having vanquished Antiochus, and being desirous to pay a more than ordinary honour to the Deity, among many other oblations of thanksgivings for his victory, he sacrificed four elephants. After which being terrified with a dream, which threatened him with the wrath of the Deity for that prodigious sacrifice, he sought out several ways to expiate his offence, and among the rest by way of propitiation, he erected four elephants of brass to atone for the four elephants he had slaughtered.

Examples not inferior of the observance of society are to be found among lions. For the younger carry forth the slow and aged, when they hunt abroad for their prey. When the old ones are weary and tired, they rest and stay for the younger that hunt on; who, when they have seized upon anything, call to the old ones, making a noise like the bleating of a calf. They presently hear, and so meeting all together, they feed in common upon the prey.


Lion in Love from Walter Crane's Æsop

18 In the amours of many animals there is much variety. Some are furious and mad; others observe a kind of human decency, and tricking of themselves to set off their beauty, not without a courtly kind of conversation. Such was the amour of the elephant at Alexandria, that rivalled Aristophanes the grammarian. For they were both in love with a girl that sold garlands; nor was the elephant's courtship less conspicuous than the other's. For as he passed through the fruit-market, he always brought her apples, and stayed with her for some time, and thrusting his proboscis within her waistcoat, instead of a hand, took great delight in gently feeling her breasts.

No less remarkable was the serpent in love with the Ætolian woman. He came to her in the night, and getting under her garments to her very skin, embraced her naked body; and never either willingly or unwillingly did he do her any harm, but always about break of day departed; which the kindred of the woman observing to be the common custom of the animal, removed her a great way off. After that, the serpent came not again for three or four days together, being all the while, as it seemed, wandering about in search of her. But at length, having with much ado found her out, he did not approach her with that mildness as he was wont to do, but after a rougher manner; with his folds having first bound her hands to her body, with the end of his tail he lashed the calves of her legs; expressing thereby a gentle and loving anger, which had more in it of indulgent expostulation than punishment.

I say nothing of a goose in Egypt in love with a boy, nor of the ram in love with Glauce who played on the harp; for the stories are in all people's mouths. And besides, I am apt to think you are satiated with examples of this nature.

19 But as for starlings, magpies, and parrots, that learn to talk, and afford their teachers such a spirit of voice, so well-tempered and so adapted for imitation, they seem to me to be patrons and advocates in behalf of other creatures, by their talent of learning what they are taught; and in some measure to teach us that those creatures also, as well as we, partake of vocal expression and articulate sound. From whence I conclude it a most ridiculous thing in them that would compare these creatures with a sort of mute animals, I mean the fish, that have not voice enough to howl or make a mournful noise. Whereas, in the natural and untaught notes of these creatures, what music, what a charming grace do we observe! To which the famous poets and choicest singers among men bear testimony, while they compare their sweetest odes and poems to the singing of swans and melody of nightingales. Now in regard there is more of reason in teaching than in learning, we are to believe Aristotle,[1] who assures us that terrestrial animals do that likewise, in regard that nightingales have been observed instructing their young ones to sing. Of which this may be a sufficient proof, that such nightingales are known to sing worse that are taken very young from the nest and deprived of the education of the old one. For they both learn and are taught from the old one, not for hire or to get reputation, but merely out of a delight in mixing their notes together, and because they have a greater love for that which is excellent and curious in the voice than for what is profitable. Concerning which I have a story to tell you, which I heard from several Greeks and Romans, who were eye-witnesses of the thing.

A certain barber in Rome, who had a shop right against the temple which is called the Greeks' Market, bred in his house a kind of a prodigy of a magpie, whose tongue would be always going with the greatest variety imaginable, sometimes imitating human speech, sometimes chattering her wild notes, and sometimes humouring the sounds of wind instruments; neither was this by any constraint, but

[1] *History of Animals*, IV, 9, 19

as she accustomed herself, with a more than ordinary ambition, to leave nothing unspoken, nothing that her imitation should not master.

It happened a certain person of the wealthier sort, newly dead in the neighbourhood, was carried forth to be buried with a great number of trumpets before him. Now in regard it was the custom of the bearers to rest themselves before the barber's shop, the trumpeters being excellent in their art, and withal commanded so to do, made a long stop, sounding all the while.

After that day the magpie was altogether mute, not so much as uttering her usual notes by which she called for what she wanted, insomuch that they who before admired as they passed to and fro at the chattering and prating of the bird now much more wondered at her sudden silence; and many suspected her to have been poisoned by some that affected peculiar skill in teaching this kind of birds. But the greatest number were of opinion, that the noise of the trumpets had stupefied her hearing, and that by the loss of her hearing the use of her voice was likewise extinguished. But her unusual silence proceeded from neither of these causes, but from her retiring to privacy, by herself to exercise the imitation of what she had heard, and to fit and prepare her voice as the instrument to express what she had learned. For soon after she came of a sudden to sight again, but had quitted all her former customary imitations, and sounded only the music of the trumpets, observing all the changes and cadences of the harmony, with such exactness of time as was not to be imagined; an argument, as I have said before, that the aptness in those creatures to learn of themselves is more rational than readiness to be taught by others. Nor do I think it proper to pass by in silence one wonderful example of the docility of a dog, of which I myself was a spectator at Rome. This dog belonged to a certain mimic, who at that time had the management of a farce wherein there was great variety of parts, which he undertook to instruct the actors to perform, with several imitations proper for the matters and passions therein represented. Among the rest there was one who was to drink a sleepy potion, and after he had drunk it, to fall into a deadly drowsiness and counterfeit the actions of a dying person. The dog, who had studied several of the other gestures and postures, more diligently observing this, took a piece of bread that was sopped in the potion, and after he had ate it, in a short time counterfeited a trembling, then a staggering, and afterwards a drowsiness in his head. Then stretching out himself, he lay as if he had been dead, and seemed to proffer himself to be dragged out of the place and carried to burial, as the plot of the play required. Afterwards understanding the time from what was said and acted, in the first place he began gently to stir, as it were waking out of a profound sleep, and lifting up his head, he gazed about him. Afterwards to the amazement of the beholders, he rose up, and went to his master to whom he belonged, with all the signs of gladness and fawning kindness, insomuch that all the spectators, and even Cæsar himself (for old Vespasian was present in Marcellus's theatre) were taken with the sight.

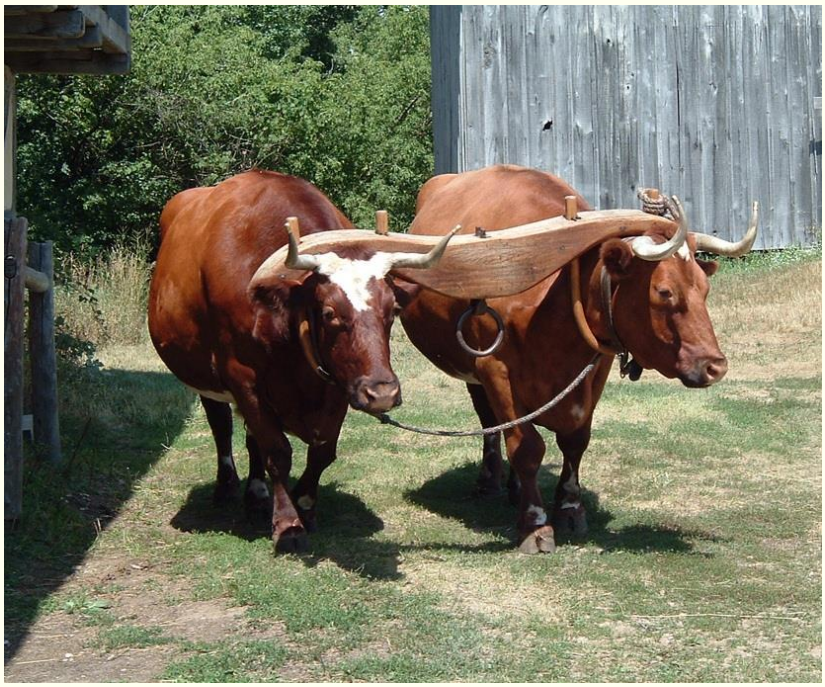
20 But perhaps we may seem ridiculous for signalizing beasts in this manner because they learn, since we find that Democritus affirms us to have been their scholars in the greatest matters; — of the spider, in weaving and repairing what we tear or wear out; of the swallow, in building houses; and of the mournful swan and nightingale, in singing and imitation. Moreover in others we observe a threefold practice of physic, both natural and inbred. For tortoises make use of marjoram and weasels eat rue, when they have devoured a serpent; and dogs purge themselves from abounding gall with a certain sort of grass. The dragon quickens the dimness of his sight with fennel; and the bear, coming forth of her cave after long emaciation, feeds upon the wild arum, for the acrimony of that herb opens and separates her guts when clung together. At other times, being overcloyed with food, she repairs to the emmet-hills,

and thrusting forth her tongue all soft and unctuous, by reason of the sweet kind of slime that all besmears it, till it be crowded with emmets, at length swallows them down her throat, and so recovers. And it is reported that the Egyptians observe and imitate the bird called ibis, in purging and cleansing her bowels with the briny sea-water. For which reason the priests, when they hallow themselves, make use of the water of which the ibis has drunk; for that those birds will not drink the water, if it be medicinal or otherwise infected. Some beasts there are that cure themselves by abstinence; as wolves and lions, who, when they are gorged with flesh, lie still and digest their crudities by the warmth of one another's bodies. It is reported also of the tiger, that if a kid be thrown to her, she will not eat in two days; but growing almost famished the third day, if she be not supplied with another, she will tear down the cage that holds her, if she have strength enough; yet all this while she will not meddle with the first kid, as being her companion and fellow-housekeeper.

More than this, the elephants are said to make use of chirurgery; for that being brought to persons wounded, they will draw forth the heads of spears and arrows out of their bodies with little pain, and without dilacerating and mangling the flesh.

The Cretan goats, which by eating dittany expel the arrows shot into their bodies, taught women with child to understand the virtue of that herb, so prevalent to expel the birth. For those goats being wounded seek no other cure, but presently seek out and hunt for dittany.

21



But these things, though wonderful, are not so much to be admired as are those beasts that understand the use of numbers and have the power of reckoning, like the oxen about Susa. For there are oxen in that place that water the king's gardens with portable buckets, of which the number is fixed. For every ox carries a hundred buckets every day, and more you cannot force them to take or carry, would you never so fain; insomuch that, when constraint has been used for experiment's sake, nothing could make them stir after they had carried their full number. Such an accurate account do they take, and preserve the same in their memory, as Ctesias the Cnidian relates it.

The Libyans deride the Egyptians for the fables which they report of the oryx, which, as they say, makes a great noise upon the same day, at the very hour, when the Dogstar, which they call Sothes, rises. However, this is certain, that all their goats, when that star rises truly with the sun, turn themselves and stand gazing toward the east; which is a most unquestionable argument of that star's having finished its course, and agrees exactly with the astronomer's observations.

22

But that my discourse may draw to a conclusion, let us (as the saying is) move the stone over the sacred line, and add something concerning the divinity and prophetic nature with which our terrestrial creatures are endued. Which when we consider, we shall find that that part of soothsaying which is founded upon the observation of birds is not the meanest or most ignoble, but very ancient and in great esteem. For the smartness and intelligible faculty of birds, together with their capability to receive all impressions of fancy, afford the Deity a convenience to make use of those faculties as instruments, that he may turn them into motion, sounds, chirpings, and forms, now to stop and stay, anon to drive forward like the winds; by means of some of these stopping short, by the means of others directing to their end, the actions and impetuous impulses of men. Therefore Euripides in general calls birds the criers of the Gods; and particularly Socrates styles himself a fellow-servant with the swans. As among princes, Pyrrhus was pleased with the surname of Eagle; and Antiochus loved to be called Antiochus the Falcon. But they who deride men as insipid and void of ingenuity call them by the names of fish. And whereas we can produce millions of things and accidents which are foretold us by land and flying creatures, there is not any one such example that the patrons of water-animals can produce in their behalf; but being all void of hearing, perfectly sottish, and without any sight, discerning, or

providence, they are all thrown apart into that same place, unblest and hideous, called the sea, as it were into the region of the ungodly, where the rational and intellectual part of the soul is extinguished; being animated with only some diminutive portion, the lowest that may be imagined, of a confused and overwhelmed sense, so that they rather seem to palpitate than breathe.

23 HERACLEO Pluck up your brows then, friend Phædimus; after all this, it is time to rouse thyself in the defence of the islanders, and others that live by the seaside. For this has been no frivolous discourse, but a hard fought contest, and a continued piece of rhetoric that wanted only lattices and a pulpit to give it the honour it deserved.

PHÆDIMUS Therefore, you see, it is plain here has been foul play and treachery in the case, for a person sober and upon premeditation to set upon us when we were stomach-sick and dozed with our last night's compotation. But there is no way to avoid the combat; for that, being an imitator of Pindar, it shall never be said of me,

> Combats refused, when nobly set upon,
> Have virtue into deepest darkness thrown.

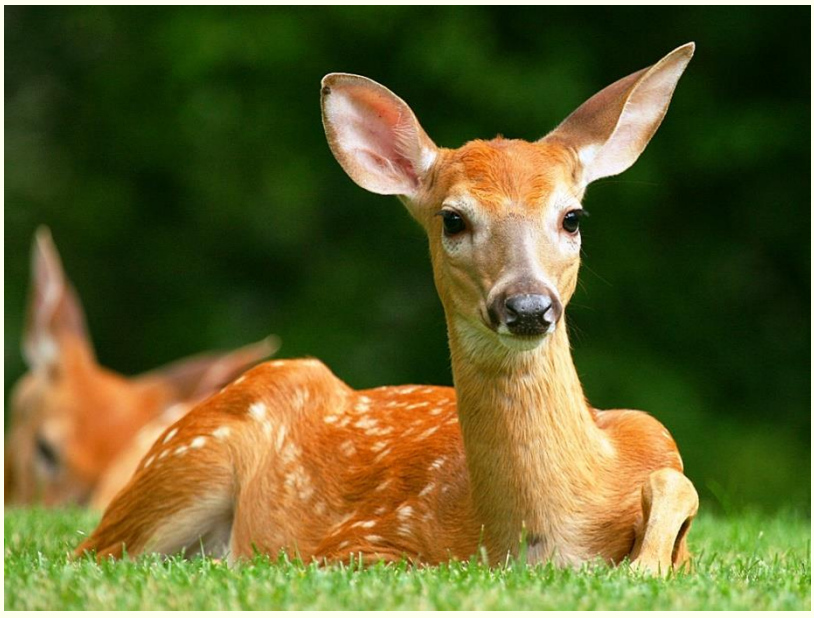
For we have leisure enough, as having not only allowed ourselves a vacation from jollity and balls, but our hounds and horses a relaxation from their labours, and withal having hung up our drag-nets and spears, as having also this day granted, for disputation's sake, a general truce to all creatures, as well upon the land as in the sea. However, fear not; for I will use it moderately, without producing either the opinions of philosophers or the fables of the Egyptians, or the relations either of the Indians or Libyans, wanting testimony; but such as shall be verified by good witnesses, who have made it their business to toil upon the ocean, and such as are evident to the eye. For to say truth, there is not any one of those examples produced from the land which is not apparent and openly manifested to our sense. Whereas the sea affords few but such as are difficult to be discerned, as concealing the generation and nourishment of most of her creatures, their antipathies, and ways of preserving themselves; in reference to which many acts of understanding, memory, and community are unknown to us, so that we cannot be so copious in our discourse. Then again, land animals, by reason of their familiarity and cohabitation, being in some measure accustomed to the conditions of men, become capable of their nutriture, education, and imitation; which sweetens and allays all their acerbity and moroseness, like the mixture of fresh water with sea brine, and awakening that which is slow and disordered in them, inflames it with human motions. Whereas the living of sea animals being by many degrees remote from the converse of men, and having nothing adventitious or that may be said to be acquired by custom and familiarity, is altogether peculiar, genuine, and unmixed with manners strange and foreign to them; which proceeds not from Nature, but from the place itself. For Nature, receiving and cherishing whatever knowledge comes to herself, affords it also to fish, and makes many eels tame and familiar to men, which for that reason are called sacred, like those in the fountain Arethusa; so that in many places there are fish that will hear and obey when called by their names, as the story goes of Crassus's mullet, upon the death of which he wept. For which when Domitius twitted him in these words, Did not you weep when your mullet died? — he retorted upon him again, Did you not bury three

wives and never weep at all? The crocodiles belonging to the priests not only know the voices of those that call them, and suffer themselves to be stroked and handled, but gaping hold out their teeth to be cleansed and wiped by the hands of the priests.

Lately Philinus, after he had been long travelling in Egypt, returning to us, told us how he saw, in the city which derives its name from Anteus, an old woman sleeping by the side of a crocodile, upon a low soft bed well and decently dressed up.

In ancient histories we find that when King Ptolemy called the sacred crocodile, and when the crocodile neither vouchsafed to appear at his call nor would answer to the earnest expostulations of the priests, it was looked upon as a prognostication of the death of the king, which happened soon after. Which shows that the race of water-animals is neither without a share of that inestimable thing called prophetic signification, nor undeserving those honours ascribed to land creatures. For that about Sura, which is a village in Lycia between Phellus and Myra, I have heard it credibly reported, that there are certain persons who make it their business to watch the turns, flights, and pursuits of the fish, whence, by a certain art which they have, they gather predictions, as others from the observation of birds.

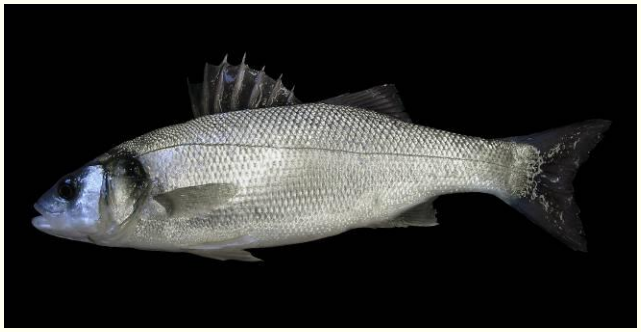
24 But let these examples suffice to show, that fish are not altogether strangers to mankind, nor altogether void of human affection. But for a great and common demonstration of their unmixed and natural understanding, we find that there is not any fish that swims, unless they be such as stick and cling to the rocks, which is so easily taken by men, as asses are seized by wolves, bees by bee-eaters, grasshoppers by swallows, serpents by harts. And these last are therefore called *ἔλαφοι*, not from their swiftness (*ελαφρότης*), but from a faculty which they have of drawing serpents to them (*ἕλκειν ὄφεις*). So sheep call the wolf by



the sound of their feet, and the panther allures to her paws both apes and other creatures by the fragrant smell of her body. But so suspicious is the sense of all water animals, and so watchful are they to avoid all baits and treacheries against them, by reason of their extraordinary cunning, that fishing thereby becomes no easy or single labour, but a toil that requires various instruments and many tricks of human cunning and deceit. This is apparent from examples near at hand. For no man desires an angling-rod too thick, though strong enough to hold against the twitches of the fish when taken; but rather they require it slender, lest by casting too great a shadow upon the water, it should frighten the suspicious creature. In the next place, they never knit too many knots in the line, but make it as smooth as may be, for that would too much discover the deceit; and then for the hairs which are next the hook, they endeavour to get the whitest they can meet with; for so, by reason of the likeness of colour, they lie the more easily concealed in the water. Therefore some there are who, wrongly expounding the following verses of Homer,[1]

> She to the bottom quickly sinks, like lead,
> Which fixt to horn[2] of rustic ox descends,
> And brings destruction to the greedy fish,

believe that the ancients made use of ox-hair for their lines with which they angled, alleging that *κέρας* then signified hair — from whence *κείρασθαι, to be shaved*, and *κουρά, shaving* — and that *κεροπλάστης* in Archilochus signified one who takes delight in trimming and decking the hair. But this is an error. For they made use of horse-hair, more especially that of male horses. For mares, by moistening their tails with their urine, render the hair weak and brittle. Though Aristotle will not allow anything to be said in all this that requires such extraordinary subtlety. Only he says, that the lower piece of the line was fortified with a little hollow piece of horn, lest the fish should come at the line itself and bite it off; moreover, that they made use of round hooks to catch mullets and tunnies, in regard they had but small mouths, for that they were afraid of a straight hook. He also further says, that the mullet many times suspecting the round hook, will swim round about it, flapping the bait with his tail, and then turning round, secures to himself so much as he has broken off. Or if he cannot do that, he shuts his mouth close, and with the extremities of his lips nibbles off some part of the bait.



The fish called labrax behaves himself more stoutly than the elephant; for when he perceives himself struck with the hook, without assistance he sets himself at liberty, widening the wound by flinging his head to and fro, and enduring the painful twingings of the hook, till he have freed himself from it with the loss of his flesh. The sea fox (or the fish called alopex) seldom bites, but avoids the deceit; but if

[1] *Iliad*, XXIV, 80

[2] *κέρας*

he chance to be taken, he presently turns the inside of his body outward. For by reason of the strength and moisture of his body, he has a peculiar faculty to turn it so that, the inside coming to be outermost, the hook falls off. These things demonstrate understanding, and a subtle and extraordinary use of it in the nick and juncture of time.

25

Other examples there are which show not only this same understanding and knowledge, but the community and mutual affection of fish. Thus, if one skate happen to swallow the hook, all the rest of the scates that are in the same shoal presently crowd together and bite the line in pieces. The same scates, if any of their companions fall into the net, give the prisoners their tails to take hold of with their teeth, and so draw them forth by main force.

But the fish called anthiæ with far more courage assist their fellows in distress. For getting under the line with their backs, and setting up their fins, with these, as with sharp saws, they endeavour to cut it in two.

Now we know no land animal that will assist and defend his kind in danger; neither the bear, nor the wild boar, nor the lion, nor the panther. True it is that, when they are in herds together, they will gather into a circle and defend each other in common; but no single land animal either knows or cares to assist a single companion, but flies and shifts for himself as far off as he can from the beast that is wounded and lies a dying. For as for that old story of elephants filling up the ditches with heaps of adjoining materials, whether wood or earth, for the unfortunate elephant the more easily to get up again, this, my good friend, is extremely uncouth and foreign to us, as if we were bound to believe Juba's books by virtue of a royal edict. However, if it is true, it does but serve to show that many of the marine creatures are nothing inferior in understanding and community to the most intelligent of the land animals. But as for their mutual society, we shall discourse apart of that by itself.

26 Now the fishermen, observing how that most fish avoided the casts of their hooks by cunning or by striving with the tackling, betook themselves to force — as the Persians use to serve their enemies in their wars,[1] — making use of nets, that there might be no escape for those that were caught either by the help of reason or subtlety. Thus mullets and the fish called julides are taken with sweep-nets and drag-nets, as are also several other sorts of fish called mormuri, sargi, gobii, and labraces; those that are called casting-nets catch the mullet, the gilthead, and the scorpion fish; and therefore Homer calls this sort of net *πανάγρα*, or the *all-sweeper*.[2] And yet there are some fish that are too cunning for these nets. Thus the labrax, perceiving the drawing of the sweep-net, with the force of his body beats a hollow place in the mud, where he lays himself close till the net be gone over him. But as for the dolphin, when he finds himself taken and in the midst of the net, he remains there without being in the least perplexed, but falls to with a great deal of joy, and feasts upon the numerous fry within the meshes; but so soon as he comes near the shore, he bites his way through the net with his teeth and swims away. Or if he chance to be taken, the fishermen do him no other harm the first time, but only sew a sort of large bulrush to the finny crown upon his head, and so let him go. If they take him a second time, they punish him with stripes, well knowing him again by the prints of the needle. But that rarely happens. For having got pardon the first time, for the most part of them, they acknowledge the favour, and abstain from spoil for the future.

Moreover, among the many examples that make evident the wariness of fish in avoiding the deceits and craft of the fishermen, it would not be convenient to pass by that of the cuttlefish. For this fish, carrying near his neck a certain black and inky sort of liquor, so soon as he perceives himself discovered, throws that liquor forth, and darkens all the water round about him in such a manner that, the fisherman losing sight of him, by that means he makes his escape; imitating therein Homer's Deities, who, when they had a mind to save any of their heroes, hid them in an azure cloud. But of this enough.

[1] That is, by joining hands and sweeping across an island. See the description in Herodotus VI, 31, and *σαγηνεύω* in Liddell and Scott. (G.)

[2] See *Iliad*, V, 487

27 Now for the extraordinary subtlety of fish in hunting and catching their own prey, we shall meet with several examples of it in several fish. Particularly the star-fish, understanding his own nature to be such that whatever he touches dissolves and liquefies, readily offers his body, and permits himself to be touched by all that come near him.

You know yourself the property of the torpedo or cramp fish, which not only benumbs all those that touch it, but also strikes a numbness through the very net into the hands of them that go about to take him. And some that have had greater experience of this fish report that, if it happen to fall alive upon the land, they that pour water upon it shall presently perceive a numbness seizing upon their hands and stupefying their feeling, through the water affected with the quality of the fish. And therefore, having an innate sense of this faculty, it never makes any resistance against anything, nor ever is it in danger. Only swimming circularly about his prey, he shoots forth the effluviums of his nature like so many darts, and first infects the water, then the fish through the water, which is neither able to defend itself nor to escape, being (as it were) held in chains and frozen up.

The fish called the fisherman is well known to many, who has his name given him from his manner of catching fish; whose art, as Aristotle writes, the cuttle-fish makes use of, for he lets down, like a line, a certain curl which Nature has given him, so ordered as to let it run out at length or draw it to him again, as he sees occasion. This, when he sees any of the lesser fish approach, he offers them to bite, and then by degrees pulls the curl nearer and nearer by virtue of the bait, till he has drawn his prey within the reach of his mouth. And as for the polypus' changing his colour, Pindar has made it famous in these words:

> In any city may that man expose
> His safety, who well knows
> Like sea-bred polypus to range,
> And vary colour upon every change.

In like manner Theognis:

> Change manners with thy friends, observing thus
> The many-colored, cunning polypus;
> Who let him stick to whatsoever rock,
> Of the same colour does his body look.[1]

It is true the chameleon changes colour, not out of any design or to conceal himself, but out of fear, being naturally timorous and trembling at every noise he hears. And this is occasioned by the extraordinary abundance of breath which he enjoys, as Theophrastus affirms. For the whole body of this creature wants but little of being nothing else but lungs; which demonstrates him to be full of spirits, and consequently apt to

[1] Theognis, vs. 215

change. But this same change of the polypus is no product of any affection of the mind, but a kind of action. For he changes on purpose, making use of this artifice to escape what he fears, and to get the food which he lives by. For by fraud, those things that he will take never avoid him, and those things he will escape pass him by without taking any notice of him. For that he devours his own claws is an untruth, but that he is afraid of the lamprey and conger is certain; for by these he is ill-treated, not being able to return them any injury, by reason of their being so slippery. Though on the other side the crawfish, having once got them within his claws, holds them with ease. For slenderness affords no help against roughness; but when the polypus comes to thrust his horns into the body of the crawfish, then also the crawfish dies. And this same vicissitude of avoiding and pursuing one another has Nature infused into them on purpose to exercise their subtlety and understanding.

28 Then again we have heard Aristotimus relating how the land hedge-hog had a perception of the rising of the wind, and praising the trigonal flight of cranes. But for my part, I produce no particular hedge-hog of Cyzicus or Byzantium, but all the sea hedge-hogs in general; who, when they perceive a storm coming, ballast themselves with little stones, lest they should be overturned by reason of their lightness or carried away by the rolling of the waves, which they prevent by the weight of their little stones.

On the other side, the cranes' order in their flight against the wind is not of one sort. But this is a general notion among all fish, that they always swim against the waves and the tide, and always take care lest the wind being in their tails should force their fins from their backs, and leave their naked bodies exposed to the cold and other inconveniences; and therefore they still oppose the prows of their bodies against the waves. For that while they thus cleave the waves at the top, the sea keeps their fins close, and lightly flowing over the superficies of their bodies, becomes less burdensome, besides that it suffers not their scales to rise.

This, I say, is common to all fish, except that fish which is called ellops; which, as they report, always swims with the wind and tide, not minding the erection or opening of the scales, which do not lie towards the tail, as in other fish.

29 Moreover, the tunny is so sensible of the equinoxes and solstices, that he teaches even men themselves without the help of any astrological table. For where the winter solstice overtakes him, there he remains till the vernal equinox.

As for that same artifice of the cranes, that keep themselves waking by clutching a stone in their claws, how much more cunningly done is that of the dolphin, for whom it is not lawful to stand still or to be out of motion. For it is the nature of the dolphins to be always in motion; so that, when they cease to move, they also cease to live. And therefore when sleep seizes them, they raise their bodies to the superficies of the sea, and so sinking down again with their bellies upward, are carried along with the tide till they touch again the shore. Wak-

ened in that manner, with an impetuous noise they mount upward again, designing thus a kind of rest still intermixed with motion. And the same thing is reported of the tunnies for the same reason.

Having thus concluded their mathematical foreknowledge of the mutations of the sun, of which Aristotle gives testimony, let me now relate their skill in arithmetic; but first of all, their knowledge in optics, of which Æschylus seems not to have been altogether ignorant. For these are his words:

> Casting a squint-eye like the tunny.

For tunnies seem to be dim-sighted of one eye. And therefore, when they enter the Euxine Sea, they coast along the land on the right side, and contrariwise when they come forth; prudently committing the care of their bodies to the best eye.

But wanting arithmetic in order to the preservation of mutual love and society one with another, they arrive in such a manner to the perfection of that science, that, in regard they are extremely desirous to enjoy the society of each other, they always make up their whole fry into the form of a cube, and make a solid of the whole number consisting of six equal planes; and then they swim in such order as to present an equal front in each direction. So then, if the observer of the tunnies does but exactly take the number of the side that he sees, he knows the whole number of the shoal; well knowing that the depth is equal to the breadth and length.

30

The fish amiæ, which are another sort of tunnies, are so called, because they swim in shoals, as also the pelamydes or summer whitings. As for the rest that are seen to swim in shoals and to observe a mutual society, their number is not to be expressed. And therefore let us proceed to those that observe a kind of private and particular society one with another. Among which is the pinoteras of Chrysippus, upon which he has expended so much ink, that he gives it the precedency in all his books, both physical and ethical. For Chrysippus never knew the spongotera, for he would not have passed it over out of negligence.

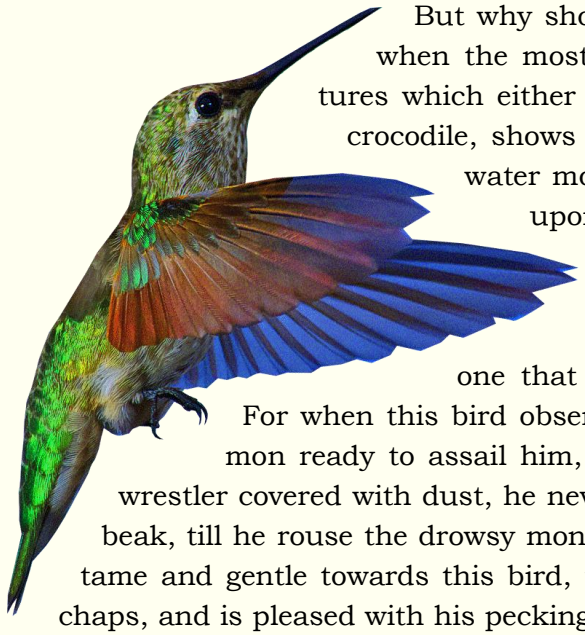
The pinoteras is so called, from watching the fish called pina or the nacre, and in shape resembles a crab; and cohabiting with the nacre, he sits like a porter at his shellside, which he lets continually to stand wide open until he spies some small fishes gotten within it, such as they are wont to take for their food. Then entering the shell, he nips the flesh of the nacre, to give him notice to shut his shell; which being done, they feed together within the fortification upon the common prey.

The sponge is governed by a certain little creature more like a spider than a crab. For the sponge wants neither soul nor sense nor blood; but growing to the stones, as many other things do, it has a peculiar motion from itself and to itself, which nevertheless stands in need as it were of a monitor or instructor. For being otherwise of a substance loose and open, and full of holes and hollowness, by reason of the sloth and stupidity of it the sponge-watcher assists to give notice when anything of food enters the cavities of it, at which time the sponge contracts itself and falls to feeding.

But if a man approach and touch it, being nipped and admonished by the sponge-watcher, it seems to shudder and shut up the body of it, closing and condensing it in such a manner as makes it no easy thing to cut it from the place where it grows.

The purple shellfish also, called porphyræ, clustering together in a kind of mutual society, build up little combs for themselves like bees, wherein they are said to generate; and culling out the choicest substance of the moss and seaweed that stick to their shells, they seem to be in a circular commons among themselves, feeding the one upon the other's nourishment.

31



But why should we admire society in these creatures, when the most savage and most unsociable of all creatures which either lakes, rivers, or the ocean nourishes, the crocodile, shows himself the most sociable and grateful of water monsters in the banquets which he bestows upon the trochilus? For the trochilus is a bird that haunts marshes and rivers, and he guards and watches over the crocodile, not as one that feeds at his table, but as one that lives upon his scraps and leavings only. For when this bird observes the crocodile asleep, and the ichneumon ready to assail him, smeared with mud for the conflict like a wrestler covered with dust, he never leaves crying and pecking him with his beak, till he rouse the drowsy monster. In return of which the crocodile is so tame and gentle towards this bird, that he permits him to enter his yawning chaps, and is pleased with his pecking out and cleansing away with his beak the remainders of the devoured flesh that sticks between his teeth. And when the monster has an inclination to shut his mouth, he gives the bird notice by a gentle lowering of his jaw, nor will he close his chaps till he finds that the bird is flown away. The fish which the Greeks call hegemon (or the captain or leader) is a small fish, in bigness and shape not much unlike a gudgeon, but by reason of the roughness of his scales is said to resemble a bird when she shakes her feathers. This fish always keeps company with one of the huge whales, and swims before him to direct his course, lest he should bruise himself upon the shallows, or fall into any marshy place or narrow haven whence he could not easily get out again. Therefore the whale follows him, as the ship follows the helm, directing his course with confidence. All other things whatever, whether skiff, whether beast or stone, that chance to light into the gaping gulf of the whale's mouth, immediately perish, being swallowed by the monster; but acknowledging his conductor, he receives him and lodges him, like an anchor, safely in his jaws. There he sleeps; and all the while he takes his rest, the

whale lies still, as if he were at anchor; and when his guide comes forth again, the whale proceeds, never forsaking him night or day; or if he wander without his leader, the monster shipwrecks, like a vessel cast upon a rock without a helm. And this we saw not long ago near Anticyra, where they report that in former times a whale being cast and putrefying caused a pestilence.

Is it worthwhile then to compare these observations of community and association with those sympathies which, as Aristotle relates, exist between foxes and serpents because the eagle is an enemy to both? Or with those of the horn-owls with horses, whose dung they love to scrape about the field? For my part I observe no such care of one another in bees and emmets, which, by reason of their multitude, carry on and perfect their work in common, but have no particular care or consideration one of another.

32 We shall observe this difference more evidently, if we direct our discourses upon the most ancient and greatest works of common society, which are the works of generation and procreation of offspring. For in the first place, those fish that frequent the shores next adjoining to vast lakes or great rivers, when they are near their time of bringing forth, retire up into those places, seeking the fresh waters which are more gentle and void of brine. For tranquillity is most convenient for such as bring forth, and there is most safety in rivers and lakes for their young ones, as being freest from the devouring monsters of the sea. Which is the reason that there is the greatest plenty of fish about the Euxine Sea, where there are no whales, but only small sea-calves or little dolphins. Besides, the mixture of rivers, many in number, and those very large, that fall into the Pontus, make the temperature more kindly and proper for breeding and bringing forth. And that is most wonderful which is reported of the anthias, which Homer[1] calls the sacred fish, though some interpret sacred to signify great in that place, as we call a certain great bone *os sacrum*, and the epilepsy, being a great disease, the *sacred disease*, though others interpret that to be sacred which ought not to be touched, as being dedicated to holy use. And Eratosthenes seems to take the gilthead, so called from the golden hair about his eyes, for the sacred fish; though many believe it to be the ellops — a fish seldom seen and difficult to be caught, yet many times it appears in the rivers of Pamphylia. So they that catch them are crowned, and their boats are also adorned with garlands, and as they pass along they are received and honoured with loud shouts and clapping of hands. However it be, most people take the anthias to be a sacred fish, because that where the anthias appears, there are no sea-monsters, but the sponge-cutters dive boldly, and the fish as fearlessly spawn, as having a pledge for their security. And the reason is twofold, either because the sea-monsters dread the anthias, as elephants dread a hog, and lions a cock; or else it is a sign that there are no sea-monsters in those places, which the anthias knows and observes, as being an intelligent fish, endued with sense and a good memory.

33 Then again, the care of their young is common to both sexes. For the males never devour their offspring, but remain and abide constantly by the spawn, protecting it with a diligent watchfulness, as Aristotle relates; and those that accompany the fe-

[1] *Iliad*, XVI, 407

males moisten the spawn with a small quantity of milky seed; for that otherwise the spawn will not grow, but remains imperfect and never arrives at the due proportion. Particularly the fish called phycides make themselves nests in the seaweed to preserve their spawn from the waves.

But the love of the galeus toward her young ones is beyond the affection and clemency of any the tamest of creatures; for they lay an egg, which being hatched, they nourish and carry the young about not outwardly, but within their own bowels, as if they could not breed their young without a second birth.

When the young ones are somewhat grown, they put them forth again, and teach them to swim close by themselves, then resume them again through their mouths into their bellies, and afford them nourishment and safe retirement in their bodies, till they are able to shift for themselves.

No less admirable is the care of the tortoise, as to the bringing forth and preserving her young. For she retires out of the sea to lay; but not being able to stay long upon the land, she hides her eggs in the sand, covering them over gently with the lightest of the gravel; and when she has thus sufficiently and assuredly concealed them, some report that she marks and streaks the place with her feet, that she may be able to know it again; others affirm that the female, being turned upon her back upon the sand by the male, leaves her particular marks and signatures behind her. However it be, this is most wonderful, that after waiting forty days (for in so many the eggs come to break) she returns, and knowing where the treasure lies, as well as any man understands where he hides his gold, she opens them with great joy and alacrity.

34 Many observations like to these are made of the crocodile. But such is its skill in choosing a place for breeding, that no man can explain it by reason or conjecture. Whence it comes that the foreknowledge of this creature is imputed more to divinity than reason. For neither farther nor nearer, but just so far as the Nile that year will increase and cover the land, thither she goes forth and lays her eggs; which the countrymen finding, are able to tell one another how far the river will overflow that year. So truly does that animal measure for herself, that though she live in the water, she may lay her eggs dry. But the young ones being hatched, whichsoever of them, so soon as they are come to life, does not seize whatever comes next — either upon a fly, or a worm, or a straw, or a tuft of grass — with his mouth, the dam presently tears him to pieces with her teeth. But those that are fierce and active she loves and cherishes, according to the judgment of the wisest men, imparting her affection by the rules of judgment, not by the sway of passion.

The sea-calves also bring forth upon the dry lands; but then fetching out their young ones by degrees, they give them a taste of the sea-water, and presently lead them out again; and this they often do, till custom has made them bold, and brought them to love a sea life.

Frogs when they couple use a certain croaking invitation, which is commonly called ololygon; and when the male has thus enticed the female, they abide together all night. For in the water they cannot, and in the daytime they are afraid to engender upon the land, which in the night-time they do without control. At other times they croak more shrill and loud; and this is a sign of rain, and holds among the most assured prognostics of wet weather.

35 


But what absurdity, dearest Neptune, would this passion of mine lead me into! How ridiculous should I appear, if trifling among sea-calves and frogs, I should omit one of the marine animals, the wisest and most beloved by the Gods! For what nightingales are to be compared with the halcyon for music? or who will presume to prefer the swallow's love offspring, the dove's love of her mate, or the art and curiosity of the bees, to those virtues ascribed to the halcyon? One only island, as history tells us, received and entertained Latona when she gave birth; which island, floating before, was then made firm land. But when the halcyon brings forth, about the winter solstice, the whole ocean remains calm and undisturbed without the wrinkle of a wave. So that there is not any other creature for which man has so great an affection, seeing that for her sake for seven days and seven nights together, in the depth of winter, they sail without fear of shipwreck, and make their voyages upon the sea with greater safety than they travel upon the land.

But if it be required that we should make a brief recital of her particular virtues, she is so great an example of conjugal affection, that she does not keep company with her mate for a single season, but for the whole year together, and that not for wantonness (for she never couples but with her own), but out of affection and friendship, like a truly virtuous married wife. And when her mate through age becomes infirm and not able to bear her company, she takes care of him, and feeds and carries him about in his old age, never forsaking nor leaving him alone, but taking him upon her shoulders, carries him from place to place, never abandoning him till death.

As to her affection towards her young ones and care of their preservation, so soon as she perceives herself near the time of her bringing forth, she presently betakes herself to the making of her nest. For the building of which, she neither makes use of mud and dirt nor props it up with walls and rafters, like the swallows; nor does she use several members of her body to work with, like the bees, that employ their whole body to enter the wax and open their cells, with their six feet fashioning their six-sided apartments. For the halcyon having but one single instrument, one single tool, which is her bill, nor any other help to assist her in labour and her care of her young ones, what a wonderful master-piece of workmanship does she erect? Insomuch that it is a difficult thing for them that have not well considered it to believe their eyesight; her workmanship seeming rather the art of a shipwright than of a common builder; of all inventions being the only form not to be overwhelmed and washed by the waves. To this purpose she gathers together the thorns of the sea-needle — some straight, others oblique, like the woof in the loom — and twists and binds them where the thread and yarn are interwoven one within another, till she has framed a nest round and oblong, resembling the usual fisher-boats. This when she has finished she launches into the sea, where the waves beating gently upon it direct to reform what is amiss, by consolidating the loose and ill compacted parts, where the water has forced any entrance; insomuch that at length she fastens and strengthens what she has put together in such a manner, that it is not to be broken or pierced either by stones or steel. Nor is the symmetry and form of the inside and cavity of the nest less to be admired. For it is so contrived as only to receive herself; the entrance into it not being to be found by any other creature, nor can the sea itself find a way into it. I am apt to believe that there is none of you who never saw this nest. But for my own part, that have often seen and handled one of them, I may safely say, that I

> In Delos' temple near Apollo's shrine,
> Something like this, a fabric most divine,

have seen. That is to say, the horned altar, celebrated for one of the seven wonders of the world, which without the help of parget, glue, soder, paste, or any other binding, is framed only of horns that grew on the right side of the head of the beast.

Now may the Deity that is somewhat musical and an islander be propitious to me, . . . while I deride the questions which those scoffers put — wherefore Apollo may not be called mullet-shooter, when we find that Venus is called the mullet-protectrix; for which reason she is honoured with temples adjoining to the sea, and sacred rights; and certain it is, that she is displeased when any mullet is killed. Therefore at Leptis the priests of Neptune never eat anything that breeds in the sea; and you know the mullet is in great veneration among the professors of the Eleusinian mysteries;

moreover, that the priestess of Juno at Argos abstains from the same fish; and the reason is because the mullets kill and destroy the sea-hare, which is pernicious to man, and therefore they spare those creatures that are kind and beneficial to him.

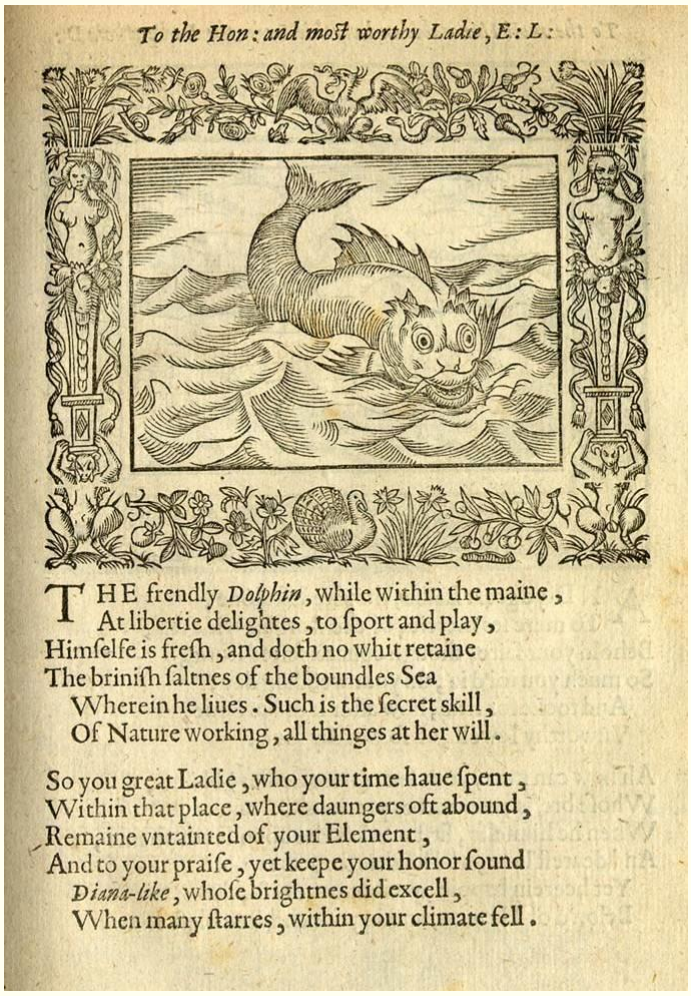
36 Then again, we find among many of the Greeks temples and altars frequently dedicated to Diana Dictynna (so called from *δίκτυον*, *a net*) and Delphinian Apollo. And that same place which Apollo has peculiarly chosen for himself was first of all inhabited by Cretans, having a dolphin for their leader. For the Deity did not swim before his army in another shape (as the mythologists dream), but sending a dolphin to direct them in their course, the dolphin brought them to Cirrha. Story also tells us that Soteles and Dionysius, who were sent to Sinope by Ptolemy Soter to fetch from thence Serapis, were driven by contrary winds beyond Cape Malea, having the Peloponnesus upon their right hands; while they were thus wandering and out of their course, a dolphin appeared before the prow of the headmost vessel, and (as it were) kindly inviting them, conducted them into safe harbours and roads, till by his good guidance and leading them he at length brought the whole fleet to Cirrha. There, when they came to offer the usual sacrifices for their safe landing, they came to understand that, of two statues which were in the place, they were to take that of Pluto and carry it along with them; but as for that of Proserpina, they were only to take the mould and leave the statue itself behind. Probable it is that the Deity had a kindness for the dolphin, considering how much he delights in music. For which reason Pindar likens himself to the dolphin, and confesses himself to be moved in the same manner as that noble creature,

Which flutes' beloved sound
  Excites to play,
Upon the calm and placid sea.

Though it is very probable that his affection to men is more pleasing to the Deity, he being the only creature that bears an affection to man as man. For as for the land animals, some kinds there are that fly him altogether, and the tamest and most gen-

tle follow him and are familiar with him, only for the benefit and nourishment which they receive from him; as the dog, the horse, and elephant. The swallows, by necessity constrained, build in houses, seeking shade and security, but are no less afraid of men than of the wild beasts. Only to the dolphin has Nature bequeathed that excellent quality, so much sought for by the best of philosophers, to love for no advantage; for that having no need at all of man, he is a kind friend to all men, and has lent his assistance to many. There is no man that is ignorant of the famous story of Arion. And you, my dear friend, have seasonably put us in mind of Hesiod; but

> Thou didst not by a legal course
> Rightly conclude thy long discourse.[1]



Minerva Britanna's 86th emblem (1612) Henry Peacham

For when you had spoken so much in praise of the dog, you should not have passed by the dolphin. For it would have been a blind story of the dog that barked and flew with violence upon the murderers, had it not been for the dolphins, that took the carcass of Hesiod, floating in the sea near Nemeum, and readily receiving it from one another, landed it at Rhium, whereby the murder came to be known.

[1] *Iliad*, IX, 56. See above, ch. 13.

Myrtilus the Lesbian writes, that Enalus the Æolian, being in love with the daughter of Phineus, who, by the command of the oracle of Amphitrite was cast into the sea by the Penthilidæ, when he understood it, threw himself also into the sea, but was saved by a dolphin, and carried to Lesbos.

But the gentleness and kindness of the dolphin towards the lad of Jasus was so extraordinary that it might be said to amount even to amorous love. For he played and swam with him in the daytime, and suffered himself to be handled and bestrid by him; nor did he swim away with him, but joyfully carried him which way so ever the lad by the motion of his body turned him, while the Iasians flocked from all parts to the shore to behold the sight. At length the lad, being thrown from the dolphin's back by a terrible shower of rain and hail, was drowned. Which the dolphin perceiving took up the dead youth, and threw himself upon the land together with the body, from which he never stirred till he died out of his own element; deeming it but just to partake of that end of which he seemed to have been the occasion to his friend and playfellow. Nor can the Iasians forget the accident, but keep it still in remembrance by the stamp upon their coin, which is a lad upon a dolphin's back.

And from hence it was that the fabulous stories of Cœranus gained credit. He was a Parian by birth, who residing at Byzantium, when a draught of dolphins caught in a net were exposed to sale and in danger of slaughter, bought them up all, and put them into the sea again. It happened not long after that Cœranus took a voyage in a vessel of fifty oars, carrying, as the story goes, several pirates. But between Naxos and the Bay of Paros he suffered shipwreck; and when all the rest were drowned, he alone was taken up by a dolphin that hastened to his succour, and carried to Sicynthus, and set ashore near the cave which to this day bears the name of Cœraneum. Upon which Archilochus is said to have made these lines:

> Of fifty men, great Neptune gentle grown
> Left courteous Cœranus alive alone.

Some years after Cœranus dying, his relations burnt his body near the seaside; at what time several dolphins appeared near the shore, as if they had come to his funeral; nor would they stir till the funeral was over. Moreover Stesichorus writes that Ulysses bore a dolphin painted upon his shield; and for what reason the Zacynthian records tell us, as Critheus testifies. For they say that Telemachus, when he was but a boy, falling into the sea, was saved by the dolphins that took him up and set him ashore. And therefore he made use of a dolphin for the impression of his seal and the ornament of his shield. But having promised before that I would produce no fabulous stories, and yet being carried, I know not how, to discourse beyond probability of dolphins by this repetition of the stories of Cœranus and Ulysses, I will do justice upon myself by concluding here.

37 ARISTOTIMUS Now, gentlemen, it lies on your part that are judges, to pronounce sentence.

SOCLARUS Assuredly then, for our parts, we shall give the same judgment in this, as Sophocles did in another case:

> Discourse upon discording arguments
> Is then determined best, when what was said
> Is duly weighed and stated on both sides.

For thus comparing what you have both discoursed one against another, it will be found that you have acquitted yourselves on both sides like true champions against those that would deprive brute animals of sense and understanding.

The Final Embrace by William Schimmel

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- THE RUSSIAN MOTE AND THE BRITISH BEAM
- THE SEWER OF DOGMATIC CREEDS AND BLIND FAITH
- THE SPARKLE OF “LIGHT ON THE PATH” HAS BEEN DIMMED BY A DARK STAIN
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- THE TWELVE TRIBES OF ISRAEL NEVER EXISTED
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- WHY THE HOLLOW MEN PRIZE THEIR VICE