

# **Nihil incredibile de natura<sup>1</sup>**

## **Pliny the Elder talks about animals**

‘I am obliged to use rude and foreign, or even barbarous terms . . . my road is not a beaten track’

So Pliny the Elder characterised his efforts in the first century AD to bring science to the attention of educated Romans, by means of a *Natural History* in 37 books (as translated from the Preface by Bostock and Riley in the mid Nineteenth Century).

In this special interest series we will study Pliny the Elder’s descriptions of real and imaginary animals, drawn mostly from books 8 to 11 of the *Historia Naturalis* published in AD77, two years before his death in the eruption of Vesuvius in 79.

The *Historia Naturalis* is a 406,000-word encyclopedic description of the whole world, from the structure of the universe (book 2), to the geography of the Earth (books 3 to 6), to human physiology (book 7), other animals (books 8 to 11), plants and agriculture, merging into materia medica (books 12 to 32), mining and metals and stones hence buildings, works of art and the artists who made them (books 33 to 36). Finally, and reluctantly, in book 37 Pliny discusses the ultimate luxury, gemstones, only so, as he says, his survey of the whole world will be complete. Book 1 is a book-by-book table of contents and list of sources, divided into Roman and foreign.

The four main books of the *NH* which concern animals divide the material up into land animals, marine animals, birds, and ‘insects’, which to Pliny are all the miraculously formed minute things including insects, ‘multipedes’, spiders.

In this course we concentrate on the cultural histories of three animals: the elephant, the crocodile and the dog, as representing a half-domesticated genus (elephant), a long-domesticated species (dog), and an animal which looms large in the Australian imagination – never likely to be domesticated – the crocodile. And in between these we devote a session to looking at Pliny’s handling and critique of evidence.

The ‘cultural history’ of an animal is its history in relation to humans, which encompasses our writing about it, our direct, personal relationship with domesticated animals (both a ‘walking larder’ relationship and companion animal and pets relationship), our attitude to, and attempts to understand, animals as other living beings sharing the planet, and study of the consciousness of animals.

In the Preface, Pliny, quite fairly, claims the *Natural History* as unique: not even the Greeks had attempted such a comprehensive account of the world in a single work. Pliny, ‘a learned and busy public servant’ to use Marjorie Chibnall’s words, did his work of collecting 20,000 facts from 2000 books by 100 authors (*Praef.*4 – all underestimates!) so well that the *HN* not only survived, it was in use, quoted, plagiarised (starting with Solinus in the second century), copied and recopied (Bede, even though he only had a bit of it, called the *HN* an *opus pulcherrimum*), reduced and brought up to date (by Robert of Cricklade for King Henry II c.1154), throughout the Middle Ages. Its role as compendium of current knowledge was gradually reduced through the 16th, 17th and 18th centuries as the Scientific Revolution established

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<sup>1</sup> Book 11.6 mihi contuenti semper suasit rerum natura nihil incredibile existimare de ea

experiment and new observations as the only acceptable way to acquire knowledge of the natural world; but the *HN* continued to have a ‘long career in the footnotes’ as a source for Roman knowledge of *rerum natura* right up to . . . well, now.

Though the course is short, I hope we can become naturalised in reading the *Natural History*, and get a sense of its breadth, its moral purpose, and its place in the history of science.

Susan Ford  
January 2020

### Short bibliography

Juliet Clutton-Brock, *A natural history of domesticated mammals*, 2nd edn, Cambridge, 1999.

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John F. Healy (trans.), *Pliny Natural History: a selection*, Penguin, 1991.

Linda Kalof (ed.), *A cultural history of animals in antiquity*, Oxford, Berg, 2007.

Roderich König et al. *Naturkunde: Lateinisch-deutsch. Pliny, the Elder*. München: Heimeran.

The very important ‘Tusculum edition’ of *HN*, being the product of the Pliny translation group which paired scientists and Latinists to do the translation. There is only one copy in the whole country as far as I can work out.

C. Mayhoff, *C. Plini Secundi Naturalis historiae libri XXXVII*, 6 vols, Munich, Teubner, 1892–1909. This is the Teubner Pliny, the one on Perseus. The whole of volume 6 is taken up with an extremely useful modern index ‘rerum et verborum’, done by Mayhoff, but unfortunately not included in the Perseus text.

# Monday

## Elephants

Book 8 leads off with a long section on Elephants. It follows immediately on from the human physiology of book 7 because Pliny considers that elephants are the closest to man, as we see in this first passage.

8. 1–3

Ad reliqua transeamus animalia et primum terrestria. Maximum est elephans proximumque humanis sensibus, quippe intellectus illis sermonis patrii et imperiorum obedientia, officiorum quae didicere memoria, amoris et gloriae voluptas, immo vero, quae etiam in homine rara, probitas, prudentia, aequitas, religio quoque siderum solisque ac lunae veneratio. auctores sunt in Mauretaniae saltibus ad quendam amnem, cui nomen est Amilo, nitescente luna nova greges eorum descendere ibique se purificantes sollemniter aqua circumspergi atque ita salutato sidere in silvas reverti vitulorum fatigatos prae se ferentes. alienae quoque religionis intellectu creduntur maria transitori non ante naves conscendere quam invitati rectoris iureiurandode reditu, visique sunt fessi aegritudine, quando et illas moles infestant morbi, herbas supini in caelum iacentes, veluti tellure precibus allegata. nam, quod docilitatem attinet, regem adorant, genua submitunt, coronas porrigunt. Indis arant minores, quos appellant nothos.

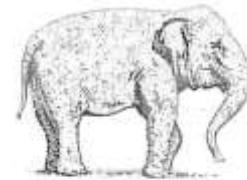


FIGURE 12.3. African elephant *Loxodonta africana*, above, and, Indian elephant, *Elephas maximus*

8.7–8  
(trans. Bostock & Riley)

These animals are well aware that the only spoil that we are anxious to procure of them is the part which forms their weapon of defence, by Juba, called their horns, but by Herodotus, a much older writer, as well as by general usage and more appropriately, their teeth. Hence it is that, when their tusks have fallen off, either by accident or from old age, they bury them in the earth. These tusks form the only real ivory, and, even in these, the part which is covered by the flesh is merely common bone, and of no value whatever; though, indeed, of late, in consequence of the insufficient supply of ivory, they have begun to cut the bones as well into thin plates. Large teeth, in fact, are now rarely found, except in India, the demands of luxury having exhausted all those in our part of the world. The youthfulness of the animal is ascertained by the whiteness of the teeth. These animals take the greatest care of their teeth; they pay especial attention to the point of one of them, that it may not be found blunt when wanted for combat; the other they employ for various purposes, such as digging up roots and pushing forward heavy weights. When they are surrounded by the hunters, they place those in front which have the smallest teeth, that the enemy may think that the spoil is not worth the combat; and afterwards, when they are weary of resistance, they break off their teeth, by dashing them against a tree, and in this manner pay their ransom.

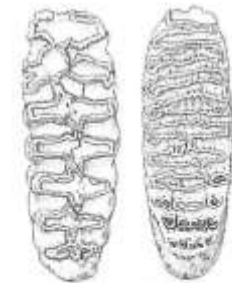


FIGURE 12.4. Molar teeth of an African, left, and an Indian elephant

## Elephants in Rome

(8.19–23)

(trans: Bostock & Riley)

Fenestella informs us, that they fought at Rome in the Circus for the first time during the curule ædileship of Claudius Pulcher, in the consulship of M. Antonius and A. Postumius, in the year of the City 655; and that twenty years afterwards, during the curule ædileship of the Luculli, they were set to fight against bulls. In the second consulship of Pompeius, at the dedication of the temple of Venus Victrix, twenty elephants, or, as some say, seventeen, fought in the Circus against a number of Gætulians, who attacked them with javelins. One of these animals fought in a most astonishing manner; being pierced through the feet, it dragged itself on its knees towards the troop, and seizing their bucklers, tossed them aloft into the air: and as they came to the ground they greatly amused the spectators, for they whirled round and round in the air, just as if they had been thrown up with a certain degree of skill, and not by the frantic fury of a wild beast. Another very wonderful circumstance happened; an elephant was killed by a single blow. The weapon pierced the animal below the eye, and entered the vital part of the head. The elephants attempted, too, by their united efforts, to break down the enclosure, not without great confusion among the people who surrounded the iron gratings. It was in consequence of this circumstance, that Cæsar, the Dictator, when he was afterwards about to exhibit a similar spectacle, had the arena surrounded with trenches of water, which were lately filled up by the Emperor Nero, when he added the seats for the equestrian order. When, however, the elephants in the exhibition given by Pompeius had lost all hopes of escaping, they implored the compassion of the multitude by attitudes which surpass all description, and with a kind of lamentation bewailed their unhappy fate. So greatly were the people affected by the scene, that, forgetting the general altogether, and the munificence which had been at such pains to do them honour, the whole assembly rose up in tears, and showered curses on Pompeius, of which he soon afterwards became the victim.

The elephant is said to display such a merciful disposition towards animals that are weaker than itself, that, when it finds itself in a flock of sheep, it will remove with its trunk those that are in the way, lest it should unintentionally trample upon them. They will never do any mischief except when provoked, and they are of a disposition so sociable, that they always move about in herds, no animal being less fond of a solitary life. When surrounded by a troop of horsemen, they place in the centre of the herd those that are weak, weary, or wounded, and then take the front rank each in its turn, just as though they acted under command and in accordance with discipline. When taken captive, they are very speedily tamed, by being fed on the juices of barley.



(Bostock's note on above passage: 'This trait has been observed in all ages; the elephant has been known to remove with its trunk a child lying in its way, and in danger of being injured. It appears to have an instinctive dread of trampling on a living animal; the same has also been observed in the horse.')

8.28 *Decem annis gestare in utero vulgus existimat, Aristoteles biennio nec amplius quam [semel gignere pluresque quam] singulos, vivere ducenis annis et quosdam CCC. iuventa eorum a sexagesimo incipit. gaudent omnibus maxime et circa fluvios vagantur, cum alioqui nare propter magnitudinem corporis non possint. iidem frigoris impatientes; maximum hoc malum inflationemque et profluvium alvi nec alia morborum genera sentiunt. olei potu tela, quae corpori eorum inhaereant, decidere inuenio, a sudore autem facilius adhaerescere.*

8.29 *et terram edisse iis tabificum est, nisi saepius mandant; devorant autem et lapides; truncos quidem gratissimo in cibatu habent. palmas excelsiores fronte prosternunt atque ita iacentium absumunt fructum. mandunt ore, spirant et bibunt odoranturque haut inproprie appellata manu. animalium maxime odere murem et, si pabulum in praesepio positum attingi ab eo videre, fastidiunt. cruciatum in potu maximum sentiunt hausta hirudine, quam sanguisugam vulgo coepisse appellari adverto. haec ubi in ipso animae canali se fixit, intolerando adficit dolore. 8.30 durissimum dorso tergus, ventri molle, saetarum nullum tegimentum, ne in cauda quidem praesidium abigendo taedio muscarum (namque id et tanta vastitas sentit), sed cancellata cutis, et invitans id genus animalium odore. ergo cum extentis recepere examina, artatis in rugas repente cancellis comprehensas enecant. hoc iis pro cauda, iuba, villo est. 8.31 dentibus ingens pretium et deorum simulacris lautissima ex his materia. invenit luxuria commendationem et aliam expetiti in callo manus saporis, haud alia de causa, credo, quam quia ipsum ebur sibi mandere videtur. magnitudo dentium videtur quidem in templis praecipua, sed tamen in extremis Africae, qua confinis Aethiopiae est, postium vicem in domiciliis praebere saepesque in his et pecorum stabulis pro palis elephantorum dentibus fieri Polybius tradidit auctore Gulusa regulo. 8.32 Elephantos fert Africa ultra Syrticas solitudines et in Mauretania, ferunt Aethiopia et Trogodytae, ut dictum est, sed maximos India bellantesque cum iis perpetua discoria dracones tantae magnitudinis et ipsos, ut circumplexu facili ambient nexuque nodi praestringant. conmoritur ea dimicatio, victusque conruens complexum elidit pondere.*

NB the referent of eos below has been disputed, so translators differ, but that it refers to snakes is confirmed by P's src for this passage = Ar. 8.28.4

8.35 *Generat eos Aethiopia Indicis pares, vicenum cubitorum. id modo mirum, unde cristatos Iuba crediderit. Asachaei vocantur Aethiopes apud quos maxime nascuntur; narrantque in maritimis eorum quaternos quinosque inter se cratium modo inplexos erectis capitibus velificantes ad meliora pabula Arabiae vehi fluctibus.*

We find some more facts about elephants in book 11, which describes insects in the first half, and in the second half looks at parts of animals and their behaviour, so generalises across all animals.

11.165

*at in marinis crustata et cartilaginea primores habere, item echinis quinos esse unde intellegi potuerit miror. dentium vice aculeus insectis. simia dentes ut homini. elephanto intus ad mandendum IIII, praeterque eos prominent masculis reflexi, feminis recti atque proni. musculus marinus, qui ballaenam antecedit, nullos habet, sed pro iis saetis intus os hirtum et linguam etiam ac palatum. terrestrium minutis quadripedibus primores bini utrimque longissimi.*

11.279

*Elephantorum anima serpentes extrahit, cervorum urit. diximus hominum genera qui venena serpentium suctu corporibus eximerent. quin et subus serpentes in pabulo sunt, et aliis venenum est. quae insecta appellavimus, omnia olei aspersu necantur, vultures unguenti — qui fugat alios appetunt odorem —, scarabaei rosa. quasdam serpentes scorpio occidit. Scythae sagittas tingunt viperina sanie et humano sanguine; inremediabile id scelus: mortem ilico adfert levi tactu.*

# Tuesday

## Dogs

Dogs were the first animals to be domesticated, about 15,000 years ago. The modern domestic dog, *canis familiaris*, begins with a wolf, *canis lupus*, so we do too.

### Wolves

8.80–84

(trans. Bostock & Riley)

In Italy also it is believed that there is a noxious influence in the eye of a wolf; it is supposed that it will instantly take away the voice of a man, if it is the first to see him. Africa and Egypt produce wolves of a sluggish and stunted nature; those of the colder climates are fierce and savage. That men have been turned into wolves, and again restored to their original form, we must confidently look upon as untrue, unless, indeed, we are ready to believe all the tales, which, for so many ages, have been found to be fabulous. But, as the belief of it has become so firmly fixed in the minds of the common people, as to have caused the term ‘Versipellis’ to be used as a common form of imprecation, I will here point out its origin. Euanthes, a Grecian author of no mean reputation, informs us that the Arcadians assert that a member of the family of one Anthus is chosen by lot, and then taken to a certain lake in that district, where, after suspending his clothes on an oak, he swims across the water and goes away into the desert, where he is changed into a wolf and associates with other animals of the same species for a space of nine years. If he has kept himself from beholding a man during the whole of that time, he returns to the same lake, and, after swimming across it, resumes his original form, only with the addition of nine years in age to his former appearance. To this Fabius adds, that he takes his former clothes as well. It is really wonderful to what a length the credulity of the Greeks will go! There is no falsehood, if ever so barefaced, to which some of them cannot be found to bear testimony.

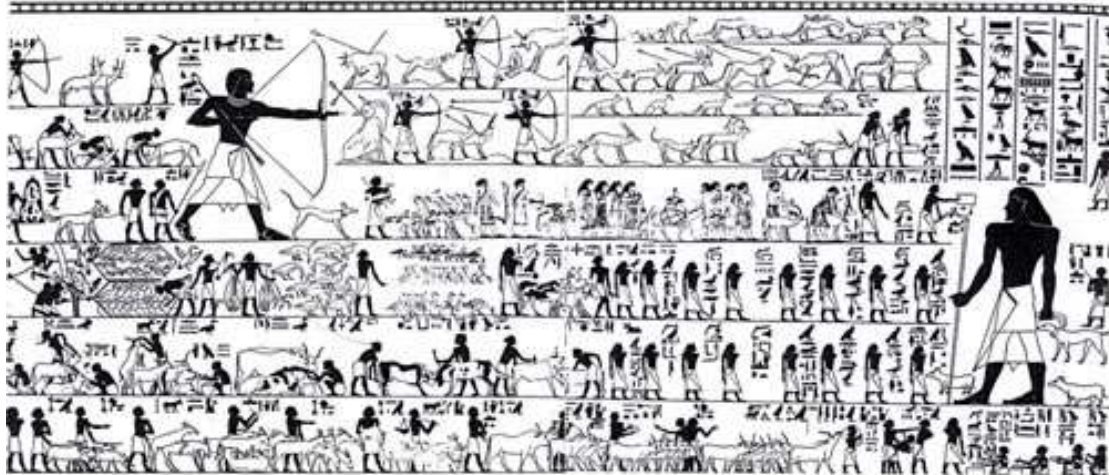


FIGURE 4.9. Skulls of the small Arabian wolf, *Canis lupus arabs*, above, and the much larger European wolf, *Canis lupus lupus*.

### Wolves' tails and forgetfulness

8.82–84

*item Apollas, qui Olympionicas scripsit, narrat Demaenetum Parrhasium in sacrificio, quod Arcades Iovi Lycaeo humana etiamtum hostia facebant, immolati pueri exta degustasse et in lupum se convertisse, eundem X anno restitutum athleticae se exercuisse in pugilatu victoremque Olympia reversum. quin et caudae huius animalis creditur vulgo inesse amatorium virus exiguo in villo eumque, cum capiatur, abici nec idem pollere nisi viventi dereptum. dies, quibus coeat, toto anno non amplius duodecim. eundem in fame vesci terra inter auguria; ad dexteram commeantium praeciso itinere si pleno id ore fecerit, nullum ominum praestantius. sunt in eo genere qui cervari vocantur, qualem e Gallia in Pompei Magni harena spectatum diximus. huic quamvis in fame mandenti, si respexerit, oblivionem cibi subrepere aiunt digressumque quaerere aliud.*



A plethora of animals, including different kinds of dogs  
(modern drawing of tomb 3 carvings Beni Hassan, Egypt: rock-cut tomb of nome governor  
Khnum-Hotep III, c1900BC)

## Domestic dogs

8.142–147 (trans. Rackham / SF)

Many also of the domestic animals are worth studying, and before all the one most faithful to man, the dog, and the horse.

We are told of a dog that fought against brigands in defence of his master and although covered with wounds would not leave his corpse, driving away birds and beasts of prey;

*ab alio in Epiro agnitum in conventu percussorem domini laniatuque et latratu coactum fateri scelus. Garamantum regem canes CC ab exilio reduxere proeliati contra resistentes. propter bella Colophonii itemque Castabalenses cohortes canum habuere.*

*hae primae dimicabant in acie numquam detrectantes; haec erant fidissima auxilia nec stipendiorum indiga. canes defendere Cimbris caesis domus eorum plaustris inpositas. canis Iasone Lycio interfecto cibum capere noluit inediaque consumptus est. is vero, cui nomen Hyrcani reddit Duris, accenso regis Lysimachi rogo iniecit se flammae, similiterque Hieronis regis.*

*memorat et Pyrrhum, Gelonis tyranni canem, Philistus; memoratur et Nicomedis Bithyniae regis, uxore eius Cosingi lacerata propter lascivioem cum marito iocum. apud nos Vulcatium nobilem, qui Cascellium ius civile docuit, asturcone e suburbano redeuntem, cum advesperavisset, canis a grassatore defendit; item Caelium senatorem aegrum Placentiae ab armatis oppressum, nec prius ille vulneratus est quam cane interempto.*



*sed super omnia in nostro aevo actis p. R. testatum Appio Iunio et P. Silio cos., cum animadverteretur ex causa Neronis Germanici filii in Titium Sabinum et servitia eius, unius ex his canem nec in carcere abigi potuisse nec a corpore recessisse abiecti, in gradibus gemitoriis maestos edentem ululatus magna populi Romani corona, ex qua cum quidam ei cibum obiecisset, ad os defuncti detulisse. innatavit idem, cadavere in Tiberim abiecto, sustentare conatus, effusa multitudine ad spectandam animalis fidem.*

### **A dog's understanding**

They alone know their master, and they understand that someone is a stranger, if one should suddenly come; they alone recognise their own name, they alone the voice of one of the household. They recall journeys, however long, and there is better memory in none except humans.

*impetus eorum et saevitia mitigatur ab homine considente humi. plurima alia in iis cotidie vita invenit, sed in venatu sollertia et sagacitas praecipua est. scrutatur vestigia atque persequitur, comitantem ad feram inquisitorem loro trahens, qua visa quam silens et occulte, set quam significans demonstratio est cauda primum, deinde rostro! ergo etiam senecta fessos caecosque ac debiles sinu ferunt, ventos et odorem captantes protendentesque rostra ad cubilia.*

8.151–153  
(trans. Bostock & Riley)



This animal brings forth twice in the year; it is capable of bearing young when a year old, and gestation continues for sixty days. The young ones are born blind, and the greater the supply of nourishment from the mother's milk, the more slowly do they acquire their sight; still, however, this never takes place later than the twentieth day, or earlier than the seventh. It is said by some writers, that if only one is born, it is able to see on the ninth day; and that if there are two, they begin to see on the tenth, every additional one causing the power of seeing to come a day later. It is said, too, that the females which are produced by the mother in her first litter, are subject to the nightmare. The best dog of the litter is the one which is last in obtaining its sight, or else the one which the mother carries first into her bed.

### **Canine madness**

Rabies in dogs is fatal to man during the heat of Sirius, as we have already said, because when bitten the victims have a deadly fear of water.

### **... and the solution**

*quapropter obviam itur per XXX eos dies, gallinaceo maxime fimo inmixto canum cibus aut, si praevenit morbus, veratro. a morsu vero unicum remedium, oraculo quodam nuper repertum, radix silvestris rosae, quae cynorrhoda appellatur.*

**... or prevention**

*Columella auctor est, si XL die quam sit natus castratur morsu cauda summusque eius articulus auferatur spinae nervo exempto, nec caudam crescere nec canes rabidos fieri. canem locutum in prodigiis, quod equidem adnotaverim, accepimus et serpentem latrasse, cum pulsus Tarquinius est regno.*



An alert attentive dog guarding livestock (Clutton-Brock, *Domesticated Mammals*)



'smiling' mouth of a contented dog (Clutton-Brock *Domesticated Mammals*)

## Wednesday

### *adeo causa non deest* (2.115): Evidence and explanation in the *HN*

#### Aristotle as a source

8.44  
(trans. Bostock & Riley)

Aristotle [is] a man of whom I think that I ought here to make some further mention, seeing that upon these subjects, I intend, in a great measure, to make him my guide. Alexander the Great, being inflamed with a strong desire to become acquainted with the natures of animals, entrusted the prosecution of this design to Aristotle, a man who held the highest rank in every branch of learning; for which purpose he placed under his command some thousands of men in every region of Asia and Greece, and comprising all those who followed the business of hunting, fowling, or fishing, or who had the care of parks, herds of cattle, the breeding of bees, fish-ponds, and aviaries, in order that no creature that was known to exist might escape his notice. By means of the information which he obtained from these persons, he was enabled to compose some fifty volumes, which are deservedly esteemed, on the subject of animals; of these I purpose to give an epitome, together with other facts with which Aristotle was unacquainted; and I beg the kind indulgence of my readers in their estimate of this work of mine, as by my aid they hastily travel through all the works of nature, and through the midst of subjects with which that most famous of all kings so ardently desired to be acquainted.

**The generative sea**  
9.1–3  
(trans. Bostock & Riley)

With this passage compare book 2 in which P. gives a general description of the structure of the universe (2.3) 'the seeds of all bodies fall down from the heavens, principally into the ocean, and being mixed together, we find that a variety of monstrous forms are in this way frequently produced.' (trans. Bostock & Riley)

We have now given an account of the animals which we call terrestrial, and which live as it were in a sort of society with man. Among the remaining ones, it is well known that the birds are the smallest; we shall therefore first describe those which inhabit the seas, rivers, and standing waters. Among these there are many to be found that exceed in size any of the terrestrial animals even; the evident cause of which is the superabundance of moisture with which they are supplied. Very different is the lot of the winged animals, whose life is passed soaring aloft in the air. But in the seas, spread out as they are far and wide, forming an element at once so delicate and so vivifying, and receiving the generating principles from the regions of the air, as they are ever produced by Nature, many animals are to be found, and indeed, most of those that are of monstrous form; from the fact, no doubt, that these seeds and first principles of being are so utterly conglomerated and so involved, the one with the other, from being whirled to and fro, now by the action of the winds and now by the waves. Hence it is that the vulgar notion may very possibly be true, that whatever is produced in any other department of Nature, is to be found in the sea as well; while, at the same time, many other productions are there to be found which nowhere else exist. That there are to be found in the sea the forms, not only of terrestrial animals, but of inanimate objects even, is easily to be understood by all who will take the

trouble to examine the ‘grape’, the ‘sword’, the ‘saw’, and the ‘cucumber’, which last so strongly resembles the real cucumber both in colour and in smell.

## Whales

9.16–19

P. does some speculative reasoning for himself, daring to disagree with Aristotle, aware of an ‘observe then theorise’ rule, and putting forward an hypothesis about what organ(s) are needed to enable breathing

*Ora ballaenae habent in frontibus ideoque summa aqua natantes in sublime nimbos efflant. spirant autem confessione omnium et paucissima alia in mari, quae internorum viscerum pulmonem habent, quoniam sine eo spirare animal nullum putatur. nec piscium branchias habentes anhelitum reddere ac per vices recipere existimant quorum haec opinio est, nec multa alia genera etiam branchiis carentia, in qua sententia fuisse Aristotelem video et multis persuasisse doctrina insignibus. nec me protinus huic opinioni eorum accedere haut dissimulo, quoniam et pulmonum vice alia possint spirabilia inesse viscera ita volente natura, sicut et pro sanguine est multis alius umor. in aquas quidem penetrare vitalem hunc halitum quis miretur, tanto spissiore naturae partem, penetrare argumento animalium quae semper defossa vivunt, ceu talpae? accedunt apud me certe efficacia ut credam, etiam omnia in aquis spirare naturae suae sorte, primum saepe adnotata piscium aestivo calore quaedam anhelatio et alia tranquillo velut oscitatio, ipsorum quoque, qui sunt in adversa opinione, de somno piscium confessio — quis enim sine respiratione somno locus? —, praeterea bullantium aquarum sufflatio lunaeque effectum concharum quoque corpora augescentia. super omnia est quod esse auditum et odoratum piscibus non erit dubium, ex aëris utrumque materia. odorem quidem non aliud quam infectum aëra intellegi possit. quam ob rem de his opinetur ut cuique libitum erit. branchiae non sunt ballaenis nec delphinis. haec duo genera fistula spirant, quae ad pulmonem pertinet, ballaenis a fronte, delphinis a dorso. et vituli marini, quae vocant phocas, spirant ac dormiunt in terra; item testudines, de quibus mox plura.*

## Evidence and doubt

9.183

(trans. SF)

I see that authors most distinguished for their wisdom wonder at there being a star in the sea. That refers to its shape, more or less small, with respect to the flesh inside, outside with a rather hard skin. In this creature they report that there is such burning heat that it burns everything in the sea it touches. It goes through all its food instantly. From what observation this fact has become known I could not readily say, and I would have regarded a fact of which there was daily test / observation as much more worthy of record.

## Animals, fabulous and exotic

8.69–71, 75–79

*Harum [sc. camels] aliqua similitudo in duo transfertur animalia. nabun Aethiopes vocant collo similem equo, pedibus et cruribus bovi, camelo capite, albis maculis rutilum colorem distinguentibus, unde appellata camelopardalis, dictatoris Caesaris circensibus ludis primum visa Romae. ex eo subinde cernitur, aspectu magis quam feritate conspicua, quare etiam ovis ferae nomen invenit.*

*Pompei Magni primum ludi ostenderunt chama, quem Galli rufium vocabant, effigie lupi, pardorum maculis. iidem ex Aethiopia quas vocant κήπους, quarum pedes posteriores pedibus humanis et cruribus, priores manibus fuere similes. hoc animal postea Roma non vidit. Isdem ludis et rhinoceros unius in nare cornus, qualis saepe visus. alter hic genitus hostis elephanto cornu ad saxa limato praeparat se pugnae, in dimicatione alvum maxime petens, quam scit esse molliorem. longitudo ei par, crura multo breviora, color buxeus.*

...

*Apud eosdem nasci Ctesias scribit quam mantichoran appellat, triplici dentium ordine pectinatim coeuntium, facie et auriculis hominis, oculis glaucis, colore sanguineo, corpore leonis, cauda scorpionis modo spicula infigentem, vocis ut si misceatur fistulae et tubae concentus, velocitatis magna, humani corporis vel praecipue adpetentem.*

*In India et boves solidis unguibus, unicornes, et feram nomine axin hinnulei pelle pluribus candidioribusque maculis, sacrorum Liberi patris — (Orsaei Indi simias candentes toto corpore venantur) —, asperrimam autem feram monocerotem, reliquo corpore equo similem, capite cervo, pedibus elephanto, cauda apro, mugitu gravi, uno cornu nigro media fronte cubitorum duum eminente. hanc feram vivam negant capi.*

*Apud Hesperios Aethiopas fons est Nigris, ut plerique existimavere, Nili caput, ut argumenta quae diximus persuadent. iuxta hunc fera appellatur catoblepas, modica alioqui ceterisque membris iners, caput tantum praegrave aegre ferens — id deiectum semper in terram —, alias internicio humani generis, omnibus, qui oculos eius videre, confestim expirantibus.*

*Eadem et basilisci serpentis est vis. Cyrenaica hunc generat provincia, duodecim non amplius digitorum magnitudine, candida in capite macula ut quodam diademate insignem. sibilio omnes fugat serpentes nec flexu multiplici, ut reliquae, corpus inpellit, sed celsus et erectus in medio incedens. necat frutices, non contactos modo, verum et adflatos, exurit herbas, rumpit saxa: talis vis malo est. creditum quondam ex equo occisum hasta et per eam subeunte vi non equitem modo, sed equum quoque absumptum.*

*Atque huic tali monstro — saepe enim enectum concupivere reges videre — mustellarum virus exitio est: adeo naturae nihil placuit esse sine pare. inferciunt has cavernis facile cognitae soli tabe. necant illae simul odore moriunturque, et naturae pugna conficitur.*

## A swipe at Romans' lack of interest in science

2.117

In the passage below, the *de his observationes* are the Greek meteorological researches, specifically the winds, which Pliny has just been discussing, rather than natural history, but the point is a general one.

*viginti amplius auctores Graeci veteres prodidere de his observationes . . . nunc vero pace tam festa, tam gaudente proventu rerum artiumque principe, omnino nihil addisci nova inquisitione, immo ne veterum quidem inventa perdisci.*

### **The tame ~ wild distinction; intermediate kinds of things and a short discourse on mice**

8.220–222

(trans. Bostock & Riley)

Hares are seldom tamed, and yet they cannot properly be called wild animals; indeed, there are many species of them which are neither tame nor wild, but of a sort of intermediate nature; of the same kind there are among the winged animals, swallows and bees, and among the sea animals, the dolphin.

Many persons have placed that inhabitant of our houses, *the mouse*, in this class also; an animal which is not to be despised, for the portents which it has afforded, even in relation to public events. By gnawing the silver shields at Lanuvium, mice prognosticated the Marsian war; and the death of our general, Carbo, at Clusium, by gnawing the latches with which he fastened his shoes. There are many species of this animal in the territory of Cyrenaica; some of them with a wide, others with a projecting, forehead, and some again with bristling hair, like the hedgehog. We are informed by Theophrastus, that after the mice had driven the inhabitants of Gyara from their island, they even gnawed the iron; which they also do, by a kind of natural instinct, in the iron forges among the Chalybes. In gold mines, too, their stomachs are opened for this purpose, and some of the metal is always to be found there, which they have pilfered, so great a delight do they take in stealing! We learn from our Annals, also, that at the siege of Casilinum, by Hannibal, a mouse was sold for two hundred denarii, and that the person who sold it perished with hunger, while the purchaser survived. To be visited by white mice is considered as indicative of a fortunate event; but our Annals are full of instances in which the singing of a mouse has interrupted the auspices. Nigidius informs us, that the field-mouse conceals itself during winter: this is also said to be the case with the dormouse, which the regulations of the censors, and of M. Scaurus, the chief of the senate, when he was consul, have banished from our tables, no less than shell-fish and birds, which are brought from a foreign country. The dormouse is also a half-wild animal, and the same person made warrens for them in large casks, who first formed parks for wild boars. In relation to this subject, it has been remarked that dormice will not mate, unless they happen to be natives of the same forest; and that if those are put together that are brought from different rivers or mountains, they will fight and destroy each other. These animals nourish their parents, when worn out with old age, with a singular degree of affection. This old age of theirs is put an end to by their winter's rest, when they conceal themselves and sleep; they are young again by the summer. The field-mouse also enjoys a similar repose.

# Thursday

## Crocodile

8.89–94

(trans. Bostock & Riley)

‘After latching onto an animal and drowning it, a crocodile will dismember its victim into “bite-size” pieces by rolling it underwater, violently shaking the carcass, and banging it on rocks, marking and fracturing the bones in the process. This feeding behavior often involves two or more crocodiles holding a carcass tight with their teeth and twisting or rolling in opposite directions.’ (Jackson Njau at evolution.berkeley.edu)

The Nile produces the crocodile also, a destructive quadruped, and equally dangerous on land and in the water. This is the only land animal that does not enjoy the use of its tongue, and the only one that has the upper jaw moveable, and is capable of biting with it; and terrible is its bite, for the rows of its teeth fit into each other, like those of a comb. Its length mostly exceeds eighteen cubits.

It produces eggs about the size of those of the goose, and, by a kind of instinctive foresight, always deposits them beyond the limit to which the river Nile rises, when at its greatest height. There is no animal that arrives at so great a bulk as this, from so small a beginning. It is armed also



with claws, and has a skin, that is proof against all blows. It passes the day on land, and the night in the water, in both instances on account of the warmth. When it has glutted itself with fish, it goes to sleep on the banks of the river, a portion of the food always remaining in its mouth; upon which, a little bird, which in Egypt is known as the trochilus, and, in Italy, as the king of the birds, for the purpose of obtaining food, invites the crocodile to open its jaws; then, hopping to and fro, it first cleans the outside of its mouth, next the teeth, and then the inside, while the animal opens its jaws as wide as possible, in consequence of the pleasure which it experiences from the titillation. It is at these moments that the ichneumon, seeing it fast asleep in consequence of the agreeable sensation thus produced, darts down its throat like an arrow, and eats away its intestines.

*Similis crocodilo, sed minor etiam ichneumone, est in Nilo natus scincos, contra venena praecipuus antidotis, item ad inflammandam virorum venerem. Verum in crocodilo maior erat pestis quam ut uno esset eius hoste natura contenta. itaque et delphini inmeantes Nilo, quorum dorso tamquam ad hunc usum cultellata inest pinna, abigentes eos praedam ac velut in suo tantum amne regnantes, alioqui in pares viribus ipsi, astu interimunt. callent enim in hoc cuncta animalia sciuntque non sua modo commoda, verum et hostium adversa, norunt sua tela, norunt occasiones partesque dissidentium inbelles. in ventre mollis est tenuisque cutis crocodilo: ideo se ut territi mergunt delphini subeuntesque alvum illa secant spina.*

### Crocodile cowboys

*quin et gens hominum est huic belvae adversa in ipso Nilo, a Tentyri insula, in qua habitat, appellata. mensura eorum parva, sed praesentia animi in hoc tantum usu mira. terribilis haec contra fugaces belva est, fugax contra sequentes. sed adversum*

*ire soli hi audent, quin et flumini innatant dorsoque equitantium modo inpositi hiantibus resupino capite ad morsum addita in os clava, a dextra ac laeva tenentes extrema eius utrimque, ut frenis in terram agunt captivos ac voce etiam sola terros cogunt evomere recentia corpora ad sepultura. itaque uni ei insulae crocodili non adnant olfactuque eius generis hominum, ut Psyllorum serpentes, fugantur. hebetes oculos hoc animal dicitur habere in aqua, extra acerrimi visus, quattuorque menses hiemis semper inedia tramittere in specu. quidam hoc unum quamdiu vivat crescere arbitrantur; vivit autem longo tempore.*

11.156–157

J. Blish *Star Trek* 8 67 'Look at their eyes—no nictation.'

*Ne genae quidem omnibus. ideo neque nictatio nisi iis quae animal generant, graviore alitum inferiore gena conivent, eadem nictantur ab angulis membrana obeunte. columbae et similia utraque conivent; at quadrupes quae ova pariunt, ut testudines, crocodili, inferiore tantum sine ulla nictatione propter praeduros oculos. extremum ambitum*

*genae superioris antiqui cilium vocavere, unde et supercilia. hoc vulnere aliquo diductum non coalescit, ut in paucis humani corporis membris. Infra oculos malae humani tantum, quas prisci genas vocabant, XII tabularum interdicto radi a feminis vetantes. pudoris haec sedes: ibi maxime ostenditur rubor.*



11.158

trans. Bostock & Riley

Within the cheeks is the mouth, which gives such strong indications of the feelings of joyousness and laughter; and above it, but in man only, is the nose, which modern notions have stamped as the exponent of sarcasm and ridicule. In no other animal but man, is the nose thus prominent; birds, serpents, and fishes, have no nostrils, but apertures only for the purpose of smell. It is from the peculiarity of the nose that are derived the surnames of 'Simus' and 'Silo'. Children born in the seventh month often have the ears and the nostrils imperforate.

11.159 (part of)

*Mentum nulli praeter hominem, nec malae. maxillas crocodilus tantum superiores movet, terrestres quadrupes eodem quo cetera more praeterque in oblicum.*