Natural sciences

The deathless ones

Aristotle's *History of Animals* is a fascinating backdrop to the love of fish that swept through Classical Athens

Darwin wrote a letter to a man named William Ogle, who had sent him a translation of a book by Aristotle. Darwin's reply began:

"My dear Dr. Ogle,

You must let me thank you for the pleasure which the introduction to the Aristotle book has given me. I have rarely read anything which has interested me more, though I have not read as yet more than a quarter of the book proper. From quotations which I had seen, I had a high notion of Aristotle's merits, but I had not the most remote notion what a wonderful man he was. Linnaeus and Cuvier have been my two gods, though in very different ways, but they were mere schoolboys to old Aristotle."

The book was called the *History of Animals*, and is one of several texts which Aristotle is know to have written on the natural sciences. The *History of Animals* is an attempt to find patterns in the anatomy, behaviour, and habitats of the animals Aristotle found around him, Man included. It mentions around 500 different species, split approximately evenly between birds, terrestrial animals, and marine creatures. Of particular interest are the quite astonishingly accurate observations on marine life.

To give a brief idea, the book was the first to accurately describe the placenta of the smooth-hound, which was rediscovered in 1673. It was also the first to accurately describe cephalopod reproduction, a subject rediscovered in 1852. As late as 1857, naturalists described a new and obscure species of catfish, only to find that Aristotle had beaten them to it. So complete is the description of its habits set out in the *History of Animals* that today it

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bears the name *Silurus aristotelis*—Aristotle's catfish.

Written sometime around 350 BC, at the tail-end of the Classical period in Athens, the impact of the History of Animals was immediate and immense. It was rapidly adapted to form the backbone of lesser works such as Pliny's Natural History; it quite possibly influenced the early Christian Church's attitude to women; and it was copied and recopied, with varying degrees of accuracy, by successive generations of scribes, culminating in the great illuminated bestiaries of Mediaeval Europe. These contained no more information than Aristotle had gleaned well over one-and-a-half thousand years earlier, although the pictures were undoubtedly nicer.

Such remarkable longevity owed much to the accuracy of the observations made throughout the work. Forty years before Darwin wrote his letter to Dr. Ogle, this depth and breadth of the *History of Animals* had caused the great French scientist Georges Cuvier, one of Darwin's gods, to write:

"I cannot read this work without being ravished with astonishment. Indeed, it is impossible to conceive how a single man was able to collect and compare the multitude of particular facts implied in the numerous general rules and aphorisms contained in this work and of which his predecessors never had any idea."

Observations

But, brilliant though the *History of Animals* is, Cuvier goes too far. Aristotle did not collect his facts on his own, nor had they gone unnoticed by his predecessors. In fact, Aristotle frequently explains how many of his observations came from people who would have had rather more contact with animals than Aristotle himself. Returning to two of the examples above, Aristotle mentions that the ones who have actually determined how cephalopods reproduce are the fishermen who catch them.

ikewise, the description of 'his' catfish comes, again, from the fishermen whose living it provides. Viewed in this light, the *History of Animals* may be seen not as an isolated work of genius, but as a culmination of the knowledge of nature that the Classical Athenians had acquired, and as a reflection of their attitudes towards living creatures.

This begs the question of why the observations on marine life are so much more detailed than those on, for example, birds. Why should the knowledge of fishermen be any more accurate or widely disseminated than the knowledge of, say, bird hunters? To answer this question, we need to take a slightly broader view of fish and fishermen in the Classical Mediterranean.

Fishing in the Mediterranean has a history as old as the sea itself, and evidence to show the importance of marine life in the popular diets and economies of the early Mediterranean peoples runs through the art and literature of the second and first millenia BC. Fish bones found at archaeological sites in southern Greece suggest that the inhabitants there had made the jump from coastal fishing to deep-sea fishing in neolithic times. Some of the world's earliest frescoes, painted on the island of Santorini around 1500 BC, depict fishermen's catches, and tablets, dating from a few hundred years later, found in the Palace of Knossos on Crete, list stocks of fish kept in the Palace larders.

Literary, archaeological and artistic evidence all suggest that, by the dawn of the Classical Athenian age, the techniques of fishing were set, remaining essentially unchanged to this day in certain parts of the Aegean. Netting, diving, baskets, rod-and-line fishing, long-line fishing, poisoning—all formed part of the fisherman's repertoire, and all are mentioned in the *History of Animals*. The local fishermen even enlisted the aid of fellow mammals.

In his poem, *The Shield of Heracles*, Hesiod, writing around 700 BC, mentions "dolphins rushing this way and that, fishing...and devouring the mute fishes. And on the shore sat a fisherman watching: in his hands he held a casting net for fish, and seemed as if about to cast it forth."

Classical writing

This use of dolphins to round up fish is mentioned by several Classical authors, Hesiod being the first, and the trick is still

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widespread today, from the autumn garfish hunts of the Cyclades to the great tuna round-ups of the Pacific.

But not only did ancient fishermen know how to fish, they also knew when and where to fish. Fish stocks fluctuate in the Mediterranean today, and we have no reason to suspect it would have been otherwise 2,500 years ago. The *History of Animals* covers this, of course, reporting the seasonal migrations of fish through the Bosphorus and discussing the best times of year for certain fish to be eaten.

However, for once, the *History of Animals* doesn't get there first, being beaten into second place by some fragments of the work of the comic poet Archestratus, which have survived in a collection by a late Roman writer named Athenaeus. Archestratus wrote a book called *The Life of Luxury* at about the same time as Aristotle was writing the *History of Animals* and, although rather less highbrow, it is just as accurate in its descriptions of fish migrations and localities:

"If you go to the prosperous land of Ambrakia and happen to see the boarfish, buy it! Even if it costs its weight in gold, don't leave without it, lest the dread vengeance of the deathless ones breathes down on you; for this fish is the flower of nectar."

In similar over-the-top vein, Archestratus praises squid from Dium, maigre from Pella, bluefish from Olynthus, shark from Torone, and many more local specialities. More evidence for this identification of fish with sites comes from the coinage, which begins to be seen towards the middle of the first millennium BC. The Mediterranean at the time was composed of a number of city States, which took it in turns to go to war with the Persians and then each other, until this happy state of affairs came to an end with the rise of Macedonia under Philip and his son Alexander the Great. Each of these city States minted their own coinage and, naturally enough, each chose a symbol to place on the coins, which they felt reflected well on themselves. An enormous number of these symbols are marine creatures. Cuttlefish stand for

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Keos, turtles for the island of Aegina, and tunas and bonitos proudly adorn many coins minted in and around the Bosphorus, reminding the users where these delicacies came from.

Fish were being caught, but who was eating? Initially, as far as we can tell, nobody important. The two towering works of Ancient Greek literature are those traditionally ascribed to Homer-the Iliad, which tells the story of the Trojan War, and the Odyssey, which tells of the return home of Odysseus, one of the heroes of the Iliad. Both were written at about the same time as Hesiod's Shield of Heracles, which is to say around 700 BC. Perhaps unsurprisingly for an epic poem, banquets abound in Homer's works. Rather more surprisingly, fish wasn't eaten at any of them. The heroes of the Iliad—Achilles, Agamemnon, Hector-ate cows, sheep, deer, and boars, but no fish, a fact which bemused later generations of Greeks no end. In his Republic, written around 400 BC, about 300 years after the Iliad, Plato draws attention to this:

"For you know that when his heroes are on campaign, he does not feast them on fish, although they are on the shores of the Hellespont, nor on boiled meat, but only roast. That is what suits soldiers best."

Fish was no food fit for heroes, but a low-class meal, eaten by peasants and women. In the *Odyssey*, Odysseus and his men will only stoop so low as to eat fish when they are driven almost to starvation. As Homer puts it, "They were forced to eat fish because hunger gnawed their bellies." In keeping with this low-status meal, the fishermen who caught it were of comparably low status. They, like most workers, were passed over by epic poetry, but appear from time to time in vignettes such as the one by Hesiod, mutely collecting their catch and troubling nobody.

Changing times

Times, however, were changing. The expansion of the Greeks throughout the Mediterranean in the seventh and sixth centuries BC led to the creation of colonies that stretched from the south of France to the sea of Azov. And, as is so often the case with colonies, the tastes and fashions of

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the new world came back to corrupt the old.

s James Davidson relates in his excellent book, *Courtesans and Fishcakes*, by the end of the sixth century, a new fashion was beginning in the Greek colonies of southern Italy—fish eating. Cookbooks begin to appear in which fish are lauded. A new type of crockery appears that allows fish eaters to enjoy their fish to the full. Called the fishplate, it is a wide, flat dish, on which painted fish appear as the real ones on top are eaten. The fish-eating habits of the Italian city of Sybaris become so decadent that their memory is preserved in the English word 'sybarite'.

One particularly extravagant citizen of Svbaris. gentleman named а Smindyrides, found himself unable to travel to Athens without taking a retinue of over 1,000 with him, in which number are included many fishermen and fish cooks. Little wonder then, that after the Homeric heroes have been lauded for their roast meat, one of Plato's characters in the Republic speculates, "If that's your view, I assume that you don't approve of the luxury of Syracusan and Sicilian cooking?"

The heyday of the Ancient Greeks is often said to be the Classical period in Athens, which lasted from about 500 BC to 323 BC. Aristotle's own death coincides with the latter date, and to that century and a half belong the great dramas of Aeschylus and Sophocles, the bawdy comedies of Aristophanes, the first concepts of Western democracy, the construction of the Parthenon under Pericles, the birth of written history under Herodotus and Thucydides, and the foundations of philosophy under Socrates, Plato, and Aristotle himself. But the age starts with the defeat of the mighty Persian empire at the battles of Marathon and Salamis. As victors are wont to do. the Athenians decided that they deserved to let their hair down after their triumph, and began to scale enjoy themselves on а unprecedented in their history. As they did so, a subtle change took place in their meals.

Greek meals were traditionally divided into three parts—the carbohydrate, which was usually bread and went by the name of $\Sigma ITO\Sigma$ (*sitos*); the thing which made the carbohydrate taste nice, called OYON (*opson*); and the drink.

Real luxury

As we have seen, Homer took *opson* to mean meat, preferably roast, and this usage held throughout most of the Greek-speaking world. However, in Athens a gradual but complete identification of *opson* with fish was to occur. To the Classical Athenians, the real luxury of a meal was in the seafood. Fish came to be so identified with *opson* that it even appropriated the word, and the modern Greek for fish, ΨAPI (*psari*), reminds us of this.

This association of seafood with pleasure reaches its height in the comic plays of the period, in which fish are treated as the currency of luxury. Fishermen and fish sellers transform from the simple hunters of Hesiod to grasping pimps, selling their wares to the highest bidder. One comic poet, Lynceus of Samos, even went so far as to suggest that the Athenian national hero Theseus would surrender himself to the embraces of Tlepolemus, Rhodes' mythical founder, for a taste of the latter's (famously delicious) dogfish.

In fact, anybody who did anything with a fish other than eat it was looked at archly—reports of fish worship amongst the Egyptians and Syrians just went to show how strange they were. "We will never get on", says Anaxandrides to the Egyptians, "as the eel you consider the greatest divinity and we the very greatest dish."

Slowly, seafood became redolent of sex and seduction. The renowned orator Demosthenes said of a traitor that he "went around buying whores and fish", two things Athenians associated with decadent luxury. This association between seafood and sex grew so strong began that vocabularies to blur—courtesans were given fishy nicknames; one was called "red mullet", another "cuttlefish", and a pair of sisters were named the "anchovies" because of their "pale complexions, slender figures, and large eyes."

Why did seafood take such a hold? Nobody is entirely sure why the love of fish swept through Classical Athens so completely, nor why the fad started in Sicily in the first place. However, one important distinction should be made between the "Homeric" foods, and seafood, and that distinction is a religious one. Fish wasn't offered to the gods as a sacrifice, unlike the meat from terrestrial animals. Most people would only eat cows, sheep, or pigs as part of a sacrifice, in which the animals were dedicated to one or other of the Greeks' numerous gods, before being ritually dismembered by the priests who were officiating. Entrails were usually burnt, and the remaining flesh distributed by lot among the participants in a manner mirrored today by the production of *halal* and *kosher* meat. Since priests tended to keep the secrets of their religious ritual to themselves, the average Athenian rarely got a chance to examine terrestrial animals at length. In contrast, fish were not sacrificed, and so could be bought, dissected, and examined to the heart's content.

We see glimpses of this in the *History of Animals*. When Aristotle considers sheep, he does so through the eyes of priests, describing variations in the gall bladders of different breeds, which were one of the few organs used in divination. However, when it comes to tuna fish, his concerns are those of a gourmet:

"And if you should come to the holy city of famous Byzantium, eat another slice of preserved tuna for me there: it is good and tender," says Archestratus. "But when old", cautions Aristotle, "the tuna are poor even for preserving: for much of the flesh wastes away."

"...and these, owing to their rarity, it is impossible to classify," observes Aristotle sagely, before relating a collection of fishermen's tales of the "one that got away" variety.

We have seen that, by around 400 BC, the behaviour and anatomy of fish had become of great importance to the Athenians. Their love of fish, and eagerness to exploit edible marine life, had bred a hierarchy of taste, with lowly salted fish and small fry at the bottom for the poor, and with dogfish and tuna steaks at the top and only for the rich.

It is this culture of fish identification and classification that Aristotle drew upon, and on which, despite the occasional display of scepticism, the *History of Animals* relies so heavily.

Age estimation

Of course, fishermen's observations aren't always correct, and their mistakes became Aristotle's. For example, when estimating the ages of marine life, Aristotle and his fishermen are spot on with the dolphin,

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which was held to be sacred and so was not killed but released when caught:

The dolphin lives many years; some are definitely known to have lived for over 25 years, others for 30, by the following method: fishermen dock the tails of some of them and then let them go again: this enables them to discover how long they live."

However, no fisherman will throw back a tuna, one of the great catches and likely to fetch a good price at market. Bluefin tuna can reach 15 years of age, but Aristotle's estimate of their lifespan is sadly out.

"Tunas live for two years; the fishermen consider this to be proved by the fact that once there was a failure of young tunas for a year, and the next year there was a failure of the adult ones."

Ultimately, however, we should realize the debt of thanks we owe to the inhabitants of the shores of the Aegean, for such lapses are few and far between, and could have been much worse. A famous anecdote from Athenaeus tells the story of how a man from Sparta, Athens' main rival for power throughout the Classical period and an inland city, got on with his seafood. We can only imagine how bad a book the *History of Animals* might have been had the young Aristotle settled in Sparta... "A Spartan was invited to a banquet at which sea urchins were served at table, and took one. He did not know how this food is eaten and did not notice how his fellow diners handled it: he put the urchin in his mouth, shell and all, and cracked it with his teeth. He was getting on badly with his helping, having not come to terms with its tough and thorny surface, and said,

'Wretched dish! I'm not going to weaken and let you go now—but I'll take no more of your kind!'"

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