

the ground and creeping things had been created in this place. I put together some of them in Nun as weary ones, before I could find a place in which I might stand. It seemed advantageous to me in my heart; I planned with my face; and I made every form when I was alone, before I had spat out what was Shu, before I had sputtered out what was Tefnut, and before any other had come into being who could act with me.

I planned in my own heart, and there came into being a multitude of forms and beings, the forms of children and the forms of their children. I was the one who copulated with my fist, I masturbated with my hand. Then I spewed with my own mouth: I spat out what was Shu, I sputtered out what was Tefnut. It was my father Nun who brought them up . . .

Then Shu and Tefnut brought forth Geb and Nut. Then Geb and Nut brought forth Osiris, Horus Khenti-en-irti, Seth, Isis, and Nephthys from the body, one of these after another, and they brought forth their multitudes in this land.

(Pritchard, *Ancient Near Eastern Texts*, p. 6)

Khepri is the morning sun-god; Nun is the primordial water; Shu and Tefnut are the air-god and the moisture-goddess; Geb and Nut are earth and sky.

Both the Babylonian and the Egyptian stories bear comparison with Hesiod as examples of mythical cosmogony. Many scholars compare the stories more directly with Greek philosophy, suggesting (for example) that Thales' ideas about the importance of water may derive from the primordial significance of Mummu-Tiamat and Nun. To me Thales seems to live in a different and a more luminous world.

Thales

According to Aristotle, Thales of Miletus was 'the founder of natural philosophy'. He is dated by the eclipse of the sun which he observed and which modern astronomers place on 28 May 585 B.C. The other known facts about his life suggest that he was born in about 625 and died in about 545. Simplicius reports that

Thales is said to have been the first to introduce the study of nature to the Greeks: although many others came before him, as Theophrastus thinks, yet he so far excelled them as to eclipse all his predecessors. But he is said to have left nothing behind in writing except the so-called *Nautical Astronomy*.

(Simplicius, *Commentary on the Physics* 23.29-33)

Other sources ascribe other writings to him, and there were books circulating under his name in antiquity. But it is probable that he wrote nothing - or at least nothing which survived even to the time of Aristotle. Our knowledge of his views therefore depends entirely on later reports; and those reports were themselves based on oral tradition.

Thales was a man of practical wisdom, one of the so-called Seven Sages of early Greek history, and he was regarded by posterity not only as an original contributor to science and philosophy, but also as an astute statesman.

Herodotus, the fifth-century B.C. historian, tells several stories which illustrate his political sagacity.

Useful advice had been given before the destruction of Ionia by Thales, a Milesian whose family originally came from Phoenicia: he urged

that the Ionians establish a single council-chamber, that it be located on Teos, which was the centre of Ionia, and that the other cities be governed and treated as though they were cantons.

(Herodotus, *Histories* I 170.3)

When Croesus came to the River Halys, then – according to my account – he crossed his army by way of the existing bridges; but according to a common account given by the Greeks, Thales of Miletus crossed the army for him. For it is said that Croesus was at a loss how his army should cross the river, since these bridges did not yet exist at that time, and that Thales, who was in the camp, made the river which flowed to the left of the army flow to its right as well, and that he did so in the following way. Beginning upstream of the camp, he dug a deep channel which he drew in the shape of a crescent so that the river should bend round the rear of the camp, being diverted down the channel away from its original course, and then, having passed the camp, should debouch again into its original course. Thus as soon as the river was divided it became fordable in both its parts.

(Herodotus, *Histories* I 75.3–5)

Herodotus also reports the eclipse:

The war [between the Lydians and the Persians] was equally balanced, until in the sixth year an engagement took place in which, after battle had been joined, the day suddenly turned to night. This change in the day had been foretold to the Ionians by Thales of Miletus, who had fixed as its term the very year in which it actually occurred.

(Herodotus, *Histories* I 74.2)

Note also the following snippet:

Thales said that the sun is eclipsed when the moon is in front of it, and he indicated the day on which it is eclipsed, which some call the thirtieth and others the new moon.

(anonymous *Commentary on the Odyssey*,
Oxyrhynchus Papyrus 3710, col. II 37–43)

Modern scholars conjecture that Thales had learned something of Babylonian astronomy; even so, it is generally doubted that he could have predicted his eclipse.

Of Thales' philosophico-scientific doctrines, the most celebrated concern water. First, he held that the earth rests upon water. Here is Aristotle's report:

Some say that [the earth] rests on water. This in fact is the oldest view that has been transmitted to us, and they say that it was advanced by Thales of Miletus who thought that the earth rests because it can float, like a log or something else of that sort (for none of these things can rest on air, but they can rest on water) – as though the same does not hold of the water supporting the earth as holds of the earth itself (water cannot rest in mid-air – it must rest on something).

(Aristotle, *On the Heavens* 294a28–b1)

(Note Aristotle's non-committal 'they say': his cautious approach to Thales is yet more pronounced in the next three extracts.)

In addition, and more strikingly, Thales held that everything was made from water, or that water, in a later jargon, was the 'material principle' of the world. Aristotle again:

Most of the first philosophers thought that material principles alone were principles of all things. For they say that the element and principle of the things which exist is that from which they all are and from which they first come into being and into which they are finally destroyed, the substance remaining and its properties changing . . . There must be some nature – either one or more than one – from which, being preserved itself, the other things come into being. But as to the number and form of this sort of principle, they do not all agree. Thales, the founder of this kind of philosophy, says that it is water (that is why he asserted that the earth rests on water). He perhaps came to acquire this belief from seeing that the nourishment of everything is moist and that all hot things come from water and live by water (for that from which anything comes into being is its principle) – he came to his belief both for this reason and because the

seeds of all things have a moist nature, and water is the natural principle of moist things. (Aristotle, *Metaphysics* 983b6-11, 17-27)

Aristotle elsewhere reports something of Thales' views on the nature of the soul.

Thales, judging by what they report, seems to have believed that the soul is something which produces motion - if indeed he said that magnets have souls because they move iron.

(Aristotle, *On the Soul* 405a19-21)

Some say that [soul] is mixed in the whole universe. Perhaps that is why Thales thought that everything was full of gods.

(Aristotle, *On the Soul* 411a7-8)

Eudemus, a pupil of Aristotle, ascribed various geometrical discoveries to Thales. Scholars are generally sceptical - but the passages may none the less be set down.

They say that Thales was the first to prove that a circle is bisected by its diameter.

(Proclus, *Commentary on Euclid* 157.10-11)

We are indebted to old Thales for many discoveries and for this theorem in particular: he is said to have been the first to have recognized and stated that in every isosceles triangle the angles at the base are equal, and to have called the equal angles 'similar' in the archaic style.

(Proclus, *Commentary on Euclid* 250.20-251.2)

This theorem proves that when two straight lines intersect with one another the angles at the vertex are equal: it was first discovered (according to Eudemus) by Thales and given a scientific proof by [Euclid].

(Proclus, *Commentary on Euclid* 299.1-5)

Eudemus in his *History of Geometry* ascribes this theorem [that a pair of triangles with one equal side and two equal angles are equal] to Thales; for he says that he must have made use of it in the procedure

by which they say he determined the distance of ships out at sea. (Proclus, *Commentary on Euclid* 352.14-18)

The account of Thales in Diogenes Laertius' Lives of the Philosophers contains many dubious and some false statements. It should be read as a specimen of one sort of material on which our knowledge of the Presocratics depends.

According to Herodotus, Duris and Democritus, Thales' father was Examyas and his mother Cleobulina, from the family of Theleus (they were Phoenicians, the best-born of the descendants of Cadmus and Agenor). <He was one of the Seven Sages,> according to Plato, and he was the first to be called a Sage - during the archonship of Damasias at Athens [582-580 BC], at which time, according to Demetrius of Phaleron in his list of archons, the Seven Sages were in fact named. He was enrolled as a citizen at Miletus when he came there with Neileus who had been expelled from Phoenicia. But most authorities say that he was a native Milesian of a famous family.

After his political activities he turned to the study of nature. According to some, he left no writing behind; for the *Nautical Astronomy* ascribed to him is said to be by Phocus of Samos. But Callimachus knows him as the discoverer of the Little Bear and writes as follows in his *Lambi*:

And he is said to have plotted the stars of the Wain by which the Phoenicians sail.

According to some, he wrote just two works, *On the Solstice* and *On the Equinox*, deeming that everything else was inapprehensible.

He is thought by some to have been the first to study astronomy and to have predicted eclipses of the sun and solstices, as Eudemus says in his *History of Astronomy* - that is why Xenophanes and Herodotus admire him. Heraclitus and Democritus also mention him. Some (among them the poet Choerilus) say that he was also the first to say that souls are immortal. He was the first to discover the period from one solstice to the next, and the first, according to some, to state that the size of the sun is one seven hundred and twentieth part <of the solar orbit, just as the size of the moon is a seven hundred and

twentieth> of the lunar orbit. He was the first to call the last day of the month the thirtieth. And he was the first, according to some, to discourse about nature.

Aristotle and Hippias say that he ascribed souls to lifeless things too, taking the magnet and amber as his evidence.

Pamphila says that he learned geometry from the Egyptians and was the first to inscribe a right-angled triangle inside a circle, for which he sacrificed an ox. (Others, including Apollodorus the calculator, ascribe this to Pythagoras, who greatly advanced the discoveries which Callimachus in his *Iambi* attributes to Euphorbus the Phrygian – for example, ‘scalenes and triangles’ and what belongs to the study of geometry.)

He is also thought to have given excellent advice in political affairs. For example, when Croesus sent envoys to the Milesians to make an alliance he prevented it – which saved the city when Cyrus came to power. But Clytus says, as Heraclides recounts, that he lived a solitary life as a private citizen. Some say that he married and had a son, Cybisthus, others that he remained a bachelor but adopted his sister’s son – so that when he was asked why he had no children he replied, ‘Because I love children.’ And they say that when his mother pressed him to marry he said, ‘It’s too early,’ and that then, when he had passed his prime and she insisted, he said, ‘It’s too late.’ Hieronymus of Rhodes, in the second book of his *Miscellanies*, says that, wanting to show how easy it is for a philosopher to be rich, he foresaw that there was about to be a good crop of olives, hired the olive presses, and made a large sum of money.

He held that water is the principle of all things, and that the world has a soul and is full of spirits. They say he discovered the seasons of the year, which he divided into three hundred and sixty-five days.

No one taught him, except that he went to Egypt and spent time with the priests there. Hieronymus says that he actually measured the pyramids from their shadows, having observed the time when <our shadows> are the same size as we are. He lived with Thrasybulus, the ruler of Miletus, according to Minyes.

There is a celebrated story about the tripod which was discovered by some fishermen and sent round to the Sages by the people of

Miletus. They say that some young men from Ionia bought a catch from a Milesian fisherman. Since the tripod had been fished up in it, there was a dispute until the Milesians sent to Delphi. The god gave this oracle:

Offspring of Miletus, do you ask Apollo about a tripod?

I declare that the tripod belongs to him who is first in wisdom. So they gave it to Thales. But he gave it to someone else, who passed it on until it reached Solon. Solon said that the god was first in wisdom and sent it to Delphi.

[There follow a number of different versions of the tripod story.]

Herrippus in his *Lives* ascribes to Thales what others say of Socrates. He used to say, they report, that he thanked Fortune for three things: first, that I am a man and not a beast; secondly, that I am male and not female; thirdly, that I am Greek and not foreign.

He is said to have been taken from his house by an old woman to look at the stars, and to have fallen into a ditch: when he cried out, the old woman said: ‘Do you think, Thales, that you’ll learn what’s in the heavens when you can’t see what’s in front of your feet?’ Timon knows him as an astronomer and praises him in his *Silli* in the following words:

Like Thales of the Seven Sages, that sage astronomer . . .

Lobon of Argos says that his writings stretched to two hundred lines and that the following epigram was inscribed on his statue:

This is Thales whom Ionian Miletus bred and showed
an astronomer, the highest of all in wisdom.

He adds that his poems include these verses:

It is not many words which show an intelligent opinion:
search out one wise thing,
choose one good thing;
for thus you will stop
the ceaseless tongues of babbling men.

The following aphorisms are ascribed to him. Of existing things, god is the oldest – for he is ungenerated. The world is the most beautiful – for it is god’s making. Space is the greatest – for it includes everything. Mind is the swiftest – for it runs through everything. Necessity is the strongest – for it controls everything. Time is the

wisest – for it discovers everything. He said that death is no different from life. ‘Then why don’t you die?’ someone asked him. ‘Because death is no different,’ he replied. When someone asked him which came first, night or day, he answered, ‘Night came first – by a day.’ When someone asked him whether a man can escape the notice of the gods if he does wrong, he replied: ‘Not even if he thinks of doing wrong.’ An adulterer asked him if he should swear that he had not committed adultery: he replied, ‘Perjury is no worse than adultery.’ When asked what is difficult, he said, ‘To know yourself; what is easy, ‘To give advice to someone else’; what most pleasant, ‘Success; what divine, ‘What has neither beginning nor end’. When asked what was the strangest thing he had seen, he said: ‘An old tyrant.’ How can we bear misfortune most easily? – If we see our enemies faring worse. How can we live best and most justly? – If we do not ourselves do the things we blame others for doing. Who is happy? – One who has a healthy body, a well-stocked soul and a cultivated nature. He says that we should remember our friends both present and absent, and that we should not beautify our appearance but be beautiful in our practices. ‘Do not be rich by evil means,’ he says, ‘and let not words set you against those who have had your trust.’ ‘Expect from your children the same provision you made for your parents.’

He said that the Nile floods when its streams are checked by the contrary etesian winds.

Apollodorus in his *Chronicles* says that he was born in the first year of the thirty-ninth Olympiad [624 B.C.]. He died at the age of seventy-eight (or, as Sosicrates says, at ninety); for he died in the fifty-eighth Olympiad [548–545 B.C.]. He was a contemporary of Croesus, whom he undertook to transport across the Halys without a bridge by diverting its course.

There were other men called Thales, according to Demetrius of Magnesia in his *Homononyms* – five in all: an orator from Callatis, who had an affected style; a painter from Sicyon, of great talent; third, a very early figure, a contemporary of Hesiod, Homer and Lycurgus; a fourth is mentioned by Duris in his work *On Painting*; a fifth, more recent and obscure, is mentioned by Dionysius in his *Critical Essays*.

The Sage died of heat and thirst and weakness while watching a

gymnastic contest. He was by then an old man. On his tomb is inscribed:

His tomb is small, his fame is heaven-high:
behold the remains of wise Thales.

In the first book of my *Epigrams*, or *Poems in All Metres* there is an epigram on him:

When once he was watching a gymnastic contest, O Zeus of
the Sun,

you stole Thales the Sage from the stadium.

I praise you for taking him near to you; for the old man
could no longer see the stars from the earth.

The motto ‘Know Thyself’ is his, though Antisthenes in his *Successions* says that it was Phemonoe’s and that Chilon appropriated it. (Diogenes Laertius, *Lives of the Philosophers* 1 22–28, 33–40)