Hecatæus of Miletus

DESCRIPTION: This monograph discusses the conceptual reconstructions of Hecatæus’ map of the oikumene [inhabited world] based upon his contemporaries. Hecatæus’ map was originally engraved on a copper plate and consisted of building upon the concepts of Anaximander of Miletus (ca 611-546 B.C.) whom later Greeks considered as the first map-maker (see #107). Miletus, as a Greek city in Asia Minor, was well placed to absorb aspects of Babylonian science, including possibly the gnomon, the upright member of a sundial, though Anaximander is said himself to have invented it. He is also said to have set up a sundial in or near Sparta. Anaximander’s master, Thales, was said to have visited Egypt to consult priests, and to have predicted an eclipse of the sun.

Anaximander was the second philosopher of the Ionian school, which was particularly interested in cosmology. The shape and size of his map are difficult to envisage from the accounts. Whether Anaximander taught that the earth was spherical or cylindrical has also been a point of contention among classical and modern authors, the direct evidence on his cosmology is contradictory. According to Diogenes Laertius, the third century A.D. compiler from whom we derive much of our bibliographical information about ancient Greek philosophers, Anaximander “was the first to draw an outline [perimetron] of land and sea and also to have constructed a globe”. Similarly, Agathemerus, author of a third century A.D. geographical treatise and a source of many otherwise lost works, claims that Anaximander was the first to venture to draw the inhabited world on a map [pinaki]. The two most common Greek words for a “map”, ges periodos and pinax, can have other meanings, respectively “circuit of the earth” and “painting”. As a result, modern writers have tended to be somewhat cautious in their assessment of Greek cartography.

Diogenes Laertius also tells us that Anaximander believed in a geocentric universe with a spherical earth. However, he is suspect, since the spherical concept was not devised early, and others attributed to Anaximander the different concept of a cylindrical earth. Nevertheless, he may indeed, as Diogenes Laertius claims, have been the first to construct a sphere, though more likely celestial than terrestrial. Anaximander of Miletus is said to have held that the earth was of cylindrical form, like a stone pillar; the inhabited part being apparently the circular upper surface. Some of his astronomical speculations were equally fanciful and unfounded.

The practical map-making which developed from Anaximander’s map may be illustrated from a well-known story in Herodotus. In 499-8 B.C. Aristagoras, tyrant of Miletus, made a tour of important cities on mainland Greece looking for allies against Darius I, King of Persia. He took with him on this tour what Herodotus calls “a bronze tablet [pinax] with an engraving of a map [periodos], literally ‘going round’ of the whole world with all its rivers and seas.” Aristagoras used it when he toured the Greek mainland in 499-498 in search of supporters for a revolt against Persian rule. Among his contacts was King Cleomenes of Sparta, and on it he showed him all the areas on the way from Ionia to Susa, capital of Persia. The last region of Asia Minor on the proposed march, Cilicia, is described as ‘opposite Cyprus’, implying that Cyprus too appeared; and the regions east of Asia Minor are given as Armenia, Matiena, and Cissia with the city of Susa. Herodotus represents Aristagoras showing it to the Spartan king Cleomenes with the following explanation:
Hecataeus’ World View

The lands in which the earth’s peoples dwell lie next to each other, as I shall show you: here are the Ionians, and here the Lydians, who inhabit a good land and have a great store of silver... and next to the Lydians you see the Phrygians, to the east, men that of all those known to me are the richest in flocks and in the earth’s fruits. Close by them are the Cappadocians, whom we call Syrians; and their neighbors are the Cilicians whose land reaches to the sea here, where you see the island of Cyprus located. The annual tribute which they pay to the king is 500 talents. Next to the Cilicians, here are the Armenians, another people rich in flocks, and after the Armenians, the Matieni, whose country is here; and you see the Cissians’ land adjoining theirs; it is there, on this particular river the Choaspes, that Susa is situated, the residence of the Great King, where his treasure-stores are.

On this detailed and informative map Aristogoras was able to show a vast swath of territory spanning mainland Greece, Ionia, and Persia. Like many other maps in antiquity, however, this presumably had no scale; for Cleomenes, two days later, asked “How long would such a march take?” “Three months” (a standard but ambiguous measure of the distance between places far apart), was the reply where upon despite attractive offers of money he refused.

This portable map commissioned by the ruler of Miletus, Aristogoras, was probably developed from those of Anaximander and his contemporary Hecataeus. The map was engraved on a bronze pinax like Anaximander’s. But we may presume that it also contained the course of the Royal Road, which Herodotus describes in some detail immediately after, giving the number of staging-posts and the distances. This road had been carefully measured for the Great King by road surveyors; and the general proportions of Aristogoras’ map, particularly the section relating to Asia, may well have been guided by such survey work on it. A plausible theory is that the geographer and mythographer Hecataeus of Miletus was the indirect promoter of this map based on Anaximander and on his own travels in Asia and Egypt.

Herodotus’ reference is important in showing that maps could be engraved on portable bronze tablets, that general maps of the inhabited world were frequently made in Ionia, and that they were more informative than the simple geometric plans such as the Babylonian clay tablet of the same era. I have found no one who has attempted a “reconstruction” or interpretation of Aristogoras’ lost map.

It is not certain that Anaximander wrote a commentary on his map or on the construction of his sphere. However, it is clear that Anaximander was the first recorded of that long line of Greek craftsmen-philosophers who tried to express concepts in graphic form. The construction of spheres and the drawing of maps were to become characteristic products of the mechanical mind of the Greeks and their regular occurrence reveals perhaps a more practical side to them than traditionally has been presented.

However, Anaximander’s fellow Milesian Hecataeus was the first Greek to produce a systematic written description of the world in his geographic treatise Periodos (or Periegesis) Ges, journeying around the Earth around 500 B.C. The surviving fragments suggest that he had traveled widely in Europe, Asia, and Africa. He may also have copied, or improved upon, Anaximander’s terrestrial map; at least, Agathemerus proclaimed the new edition “more accurate so that it became a source of wonder.” Even so, rather than redrawing the map from scratch, Hecataeus perhaps just criticized his predecessor’s work, in the typical way of Greek thinkers. Modern reconstructions of Hecataeus’ map closely resemble Anaximander’s map. They show a circular flat earth,
with Ocean surrounding the landmasses and the Mediterranean Sea in the middle. The *oikoumene* is depicted as tripartite: a strip of land lies to the north of the Mediterranean Sea (Iberia, Italy, Greece, and Asia Minor); another to the south (Egypt, Libya); and a third to the east (Palestine, Assyria, Persia, and Arabia). The lands to the north are the cold countries where dwell the mythical *Hyperboreans* [literally, peoples “of the far north”], separated from the rest of the world by the *Rhipaean* [gusty] Mountains, whose location has always been a matter of debate. The lands to the south are the hot countries inhabited by the *Ethiopians* [“burnt faced” because of their proximity to the sun] and the crane-fighting pygmies.

In short, this is a worldview that relies heavily on mathematical and ethnographic symmetry and balance, and mixes fact and fiction. Hecataeus’ erroneous impression that the *Hyrcanian* [Caspian] Sea flowed into the circumfluent Ocean long persisted, and he also believed that the Nile arose from the southern Ocean. It is no surprise, by contrast, that he was particularly knowledgeable about the *Euxine* [Black] Sea, an area colonized by Miletus and his writing may have helped Herodotus on areas like Thrace. He mentioned various Scythian peoples there, including the “black-cloaks”. He described the flora of the Caucasus, including the thick forest cover and the native prickly artichokes, and he was aware of the varying topography (plain and mountain) of the Chorasmians’ country in modern Uzbekistan.

A great part of Hecataeus’ geographic treatise *Periodos* was taken up with an account of places and districts bordering on the sea, and it must have borne a considerable resemblance to what was afterwards called a *Periplus*, or *Coasting Survey*. It
has only been preserved in some 300 fragments, and the majority of these are of the briefest description, having been preserved in the epitome of the work of Stephanus of Byzantium, which gives little more than the names of places with the countries to which they belonged. However, it does appears that, in part of his written work at least, Hecataeus was far from confining himself to a dry geographical description of the country, but discussed at considerable length upon its natural curiosities, and the manners and customs of the local inhabitants. He, however, certainly added a number of mere geographical details, such as are not found in Herodotus’ Histories, as we find the names of not less than fifteen cities of Egypt cited from him by Stephanus. When we are told that he enormously improved Aristagoras’ map, and again, this probably means that he criticized it in his text rather than re-drew the map.

The Periegesis was divided into two books, Europe and Asia, the latter also including Libya [Africa]. Hecataeus had personally traveled in Asia and Egypt. Modern reconstructions reasonably show this map, which is likely to have accompanied his book, as circular, with the ocean surrounding a landmass that ends eastwards at the Indus River and the Caspian “Gulf”. Hecataeus believed that the upper surface of the earth pillar was a curving disc. The Mediterranean Sea was the center of the “world island” composed of lands bordering this sea, the whole being surrounded by a circumfluent ocean-stream. The circular shape of flat maps in the early period was laughed at by later Greeks. To the north of the Danube, according to Hecataeus, were the Rhipæan [gusty] Mountains, beyond which were the Hypernotians [men of the far south]. Ancient and modern opinion has differed on the location of the Rhipæan Mountains; Aeschylus and Pindar imagined that they were at the source of the Danube.

In West Africa Hecataeus clearly knew some places on the coast of Morocco. His view of the Nile seems to have been that it came, somehow, from the southern ocean.

In Book Two of the Periegesis, comprising the coast of Libya [Africa], from the confines of Egypt to the Pillars of Hercules [Straits of Gibraltar], one finds a mere Periplus, or coast-description noticing many ports and small islands; while the only tribes of the interior he is known to have mentioned are the Mazyes and Zygantes - obviously the same with the Maxyes and Gyzantes of Herodotus, both of which lived within a short distance of the sea, near the Tritonian Lake. The most distant places that he enumerates towards the west are Metagonium, a name which we find in later times applied to a promontory and people not far from the Pillars of Hercules; and Thinga, evidently the same place that was subsequently called Tînga, or Tîgis [the modern Tangier], just without the Straits. It is probable also that his river Lîza was the same as the Lixus of later geographers, on the Atlantic coast of Mauritania, but this is far from certain.
Reconstruction of Hecateus’ World Map
In regard to the general notions of geography entertained by Hecataeus we are, unfortunately, very much in the dark. It is certainly probable that he was one of those writers whom Herodotus had in view when he censures those who represented the earth as “exactly round, as if drawn with a pair of compasses, and the Ocean flowing all around it.” This was clearly the popular contemporary Greek world view concept, derived originally from the Homeric poems; and, from all we know of the progress of the Greek mind, there can be no doubt that they would be very slow to emancipate themselves from the influence of an error once established upon such authority. Anaximander of Miletus, the countryman of Hecataeus, as mentioned above, has been credited in Western literature as the first to draw up a map of the world, and there can be little doubt that this formed the foundation for Hecataeus’ map. But though the latter is said to have introduced material improvements on the work of his predecessor, there can be no doubt that both would be still very rude and imperfect attempts, which might well excite the ridicule of Herodotus. In this case, as in so many others, it is probable that the scientific tendency of the Greek mind came into play, and that they assumed the round form of the earth and the circumfluent ocean as first principles, without any actual knowledge of the facts. We are told also that they placed Greece in the center of the world, and Delphi as the central point of Greece. This last notion appears to have obtained a fixed hold on the Greek mind, and is frequently alluded to by the poets of the fifth century B.C., as a received article of popular faith. Just in the same manner the geographers of the Middle Ages assumed that Jerusalem was the center of the world, and arranged other countries accordingly.
It was evidently the same symmetrical turn of mind that let Hecatæus to divide
the world into two great continents or primary divisions of equal extent. But this
question of the division of the continents is not free from difficulty. Herodotus, in
the passage already referred to, ridicules those who made Asia of equal size with Europe, in
terms which seem to exclude all consideration of a third continent; and Hecatæus, by
including all Libya [Africa], as well as Egypt, under the head of Asia, appears to have
sanctioned this arrangement. On the other hand, it is clear that the division into three
continents was well established in the time of Herodotus, so that he himself tells us that
he continues to use the divisions and the names “because they are sanctioned by custom,”
though he thinks them unreasonable, and without good foundation. And in another
place he censures “the Ionians,” who divided the world into the
three portions of Europe, Asia, and Africa, but considered
the last two as separated by the Nile; thus as he points
out, leaving the delta unaccounted for. It is difficult to
suppose that among these “Ionians” Herodotus did
not mean to include Hecatæus - the most recent as
well as the most eminent of Ionic writers on
geography - or that, if Hecatæus had departed from
the generally received doctrine on so important a
subject this would not have been noticed by
Herodotus. It seems therefore probable that, although
Hecatæus undoubtedly divided his work into only two
books or parts, the second of which included the
description of Libya as well as that of Asia, he nevertheless
recognized the established division of the three continents,
regarding Asia and Africa together as equal in size to Europe.

In the present day we are so accustomed to our modern maps, and to the small
size of Europe, as compared to the other two great continents, that we find it difficult to
represent to ourselves the opposite view. But Herodotus undoubtedly regarded Europe
as greatly exceeding in size both Asia and Africa together, and, therefore, treats it as a
gross blunder on the part of Hecataeus to have considered it as only equal to Asia. One
point that doubtless affected the comparison was that Hecatæus regarded the
Cimmerian Bosporus and the Tanais [i.e., the Don River] as the limit between Europe
and Asia - a view generally adopted in later times - while Herodotus extended the
confines of Europe to the river Phasis. Both systems were current in their time, as we
learn from the poet Æschylus, who in one passage adopts one view, in another follows
the other.

A traveler who had visited Egypt could hardly fail to have formed or adopted
some theory concerning the most controverted questions respecting the Nile and its
annual inundations, a subject which had already exercised the ingenuity of several of the
Ionic philosophers. But on this point Hecatæus appears to have acquiesced in the view
which, if we may trust to Diodorus, was that of the Egyptian priests: that the Nile
derived its waters from those of the circumfluent stream of ocean - a theory which
Herodotus justly sets aside as unworthy of refutation.

A similar want of judgment was displayed by him in accepting, as he appears to
have done without scruple, the fabulous tales that were current in his day concerning
the Pygmies and the Sciapodes, both which nations he placed in Ethiopia, in accordance
with the opinion prevalent among the travelers of the time.
LOCATION: (map only exists as reconstruction)

REFERENCES:
*Bunbury, E., History of Ancient Geography, pp. 71, 143-147.
*Dilke, O.A.W., Greek and Roman Maps, pp. 22-23.

*illustrated