

**TITLE:** *Ephorus' Parallelogram*

**DATE:** 350 B.C.

**AUTHOR:** *Ephorus*

**DESCRIPTION:** By the fourth century maps began to show greater sophistication. Eudoxus (fl. ca. 365-340), a celebrated geometer and astronomer, composed the work entitled *Periodos Ges* [A Trip around the World], of which only fragments survive. Strabo praises his skill in rendering *schemata* [figures] and understanding latitudinal zones (*klimata*, based on the maximum hours of sunshine). Eudoxus' *schemata* imply geometrically informed maps designed to accompany his text. His determination that the *oikoumene's* [the known inhabited world] length is double its breadth became the simple and elegant ratio adopted by most Greek cartographers, including Geminus, who advised that "to draw a map to scale one should use a rectangular panel, with its length twice its breadth".

Eudoxus' contemporary, the historian Ephorus (fl. ca. 360-330), recognized the value of geography to the historian. Only fragments of his work survive, but we know that—unlike Herodotus (#109), who synthesized his discussions of geography and history—Ephorus presented an overview of the *oikoumene*. He treated world geography organically and in the order established by Hecataeus (#108), starting from the *Pillars of Hercules* [Straits of Gibraltar] and worked clockwise around the Mediterranean. Ephorus' geographic interests included historical geography and the foundations of cities, and he also inquired into the theoretical geography of peripheral peoples. He viewed the earth as a flat rectangle, whose cardinal limits, cited according to the winds, are represented by the *Scythians* (north), *Indians* (east), *Ethiopians* (south), and *Celts* (west). He believed that the two largest areas were *Ethiopia*, which extended from the sun's winter rising to setting, and *Scythia*, reaching from its summer setting to rising. We are further told by Cosmas Indicopleustes (*Book II*, #202, fl. ca. 530-570), a Christian writer of the Byzantine period, that Ephorus illustrated his arguments "with the help of the enclosed drawings". The illustration that Comas offers shows a geometric figure keyed with the wind names and oriented (contrary to modern convention) with the north at the bottom (*Boreas*), east to the left (*Apeliotes*), south at the top (*Notus*), and west at the right (*Zephyrus*). The ecliptic (the sun's apparent orbit around the earth) crossed diagonally (from southeast to northwest), and the Aegean Sea was undoubtedly envisaged as the center.

With advances in theoretical cartography came debates about the extent of the *oikoumene*. Greek geographers doubted their ability to glean useful, let alone accurate, information about distant places. Plato (*Phaedo* 109b) speculated on the extent of the *oikoumene*. He posited that the Greeks, situated between the *Phasis River* (at the eastern end of the Black Sea) and the *Pillars of Hercules*, in fact inhabited only a small portion of the earth and were "living around the [Mediterranean] sea like ants or frogs around a marsh." He hypothesized that "many other peoples live in many other places." Aristotle, too, perceived a greatly restricted habitable range. Advancing Parmenides' division of the earth into five zones, he named the zones—*equator*, *tropics*, *arctic circles*—and compared each to a drum. He argued that the earth had two habitable zones, the one where we (Greeks) dwell, toward the upper pole, and a corresponding one toward the lower pole. The upper zone of the *oikoumene* extends from the *Pillars of Hercules* to India and from Ethiopia to lake *Maotis* [the Sea of Azov], a ratio exceeding 5:3. Excessive heat and cold prevent habitation, and even exploration, to the north or south; the Ocean between the *Pillars of Hercules* and India interrupts the habitable stretch of land and

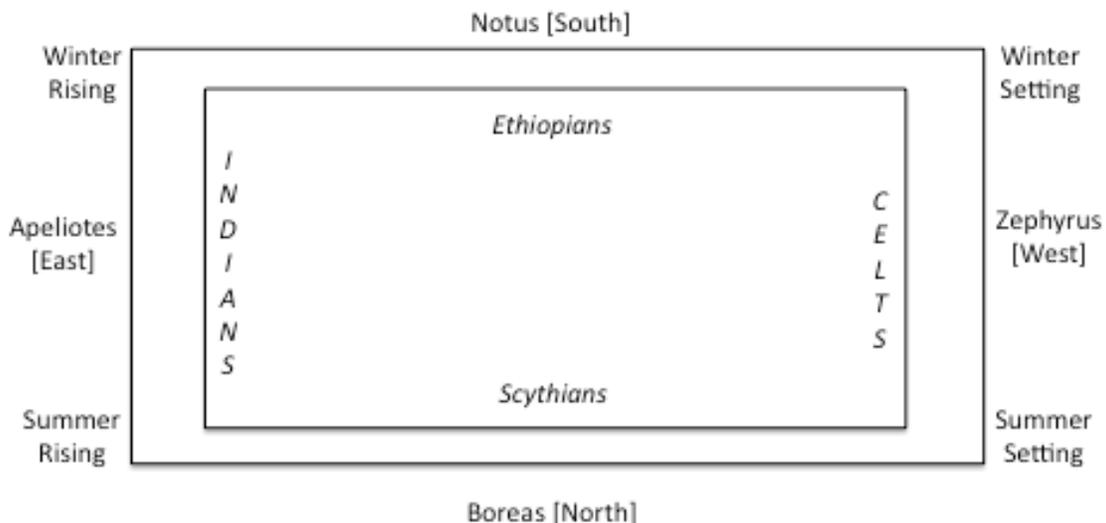
"prevents it from forming a continuous belt around the globe." Aristotle's view gained currency.

Presented here is a modern reconstruction of the world map, in the shape of a parallelogram, by the Greek historian Ephorus (ca. 405 - 330 B.C.). This map suggests that a new cartographic image of the inhabited world was being adopted in some quarters by the beginning of the fourth century B.C. The only known contribution by Ephorus is the compilation of a map to illustrate a theoretical geography of the world's peoples, but though he was a contemporary of Eudoxus, the exact nature of his map's construction and content remains partly conjectural.

Ephorus was born in Cyme in the Aeolis, became a disciple of Isocrates (436 - 338 B.C.) and was an accomplished writer. It is clear that he discussed many geographical questions in his thirty-book *History*, which is now lost. Once again our knowledge of his cartographic ideas is filtered through the texts of later writers, in this case Strabo (#115, ca. 64 B.C. - A.D. 21) and, much later, the writings of Cosmas Indicopleustes (#202 in *Book II*), a Nestorian Christian author of the sixth century A.D.

From Strabo we learn that in Book IV of Ephorus' *History*, the part dealing with Europe, there is an expression of the opinions held by the ancients concerning Ethiopia. Ephorus discloses the ancient belief in regard to Ethiopia that says that if we divide the regions of the heavens and of the earth into four parts, the Indians will occupy that part from which *Apeliotes* blows, the Ethiopians the part from which *Notus* blows, the *Celts* the part on the west, and the *Scythians* the part from which the north wind blows.

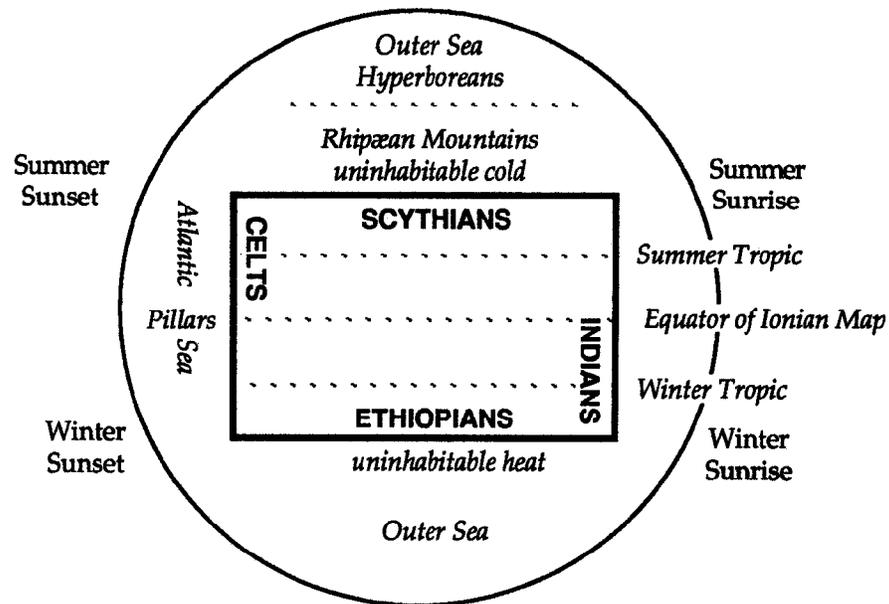
Ephorus had apparently added that Ethiopia and *Scythia* were the largest areas, because the Ethiopians seemed to extend from the *Winter Rising* to the *Winter Setting*, and the Scythians occupied the area from the *Summer Rising* to the *Summer Setting*. [With mainland Greece or Rhodes as the traditional place of observation, the equinoctial rising and setting of the sun are due east and due west; its *Summer Rising* is ENE; its *Summer Setting*, WNW; its *Winter Rising* ESE; and its *Winter Setting* is WSW].



Ephorus' flat earth concept

Cosmas Indicopleustes also quoted the passage of Ephorus from Book IV in full, adding a very interesting detail: Ephorus had stated his opinion "with the help of the enclosed drawings". Indeed the manuscript of Cosmas is also illustrated by a rectangle showing the earth according to the principle explained above. South is in the top pan of the length of the rectangle, showing the *Ethiopians*; North is in the lower pan of its length, showing the *Scythians*; to the right on its breadth are *Zephyrus* and the *Celts*; and to the left are the *Apeliotes* and the *Indians*. In this map it is clear that the center of such a rectangle, with the positions of summer and winter sunrise and sunset at its corners, must be Greece or Aegean.

In summary, then, Ephorus included peoples peripheral to the known world in his theoretical geography. Their distance from the Aegean, or the climate in which they were thought to live, had rendered them mysterious and almost mythical. The map supplied by Ephorus, as reconstructed by Cosmas (although we cannot be quite sure how faithfully), similarly portrays the remote pans of the inhabited world. It is little more than a geometric sketch revealing a general ignorance of these regions. And it also confirms to us to what extent the Mediterranean basin had long remained the best-known part of the inhabited world and the most exactly drawn; distant lands were only vaguely delineated and were inserted into world maps by guesswork.



**LOCATION:** (this map only exist as a reconstruction)

#### REFERENCES:

- \*Harley, J.B., *The History of Cartography, Volume One*, pp. 143-144.
- \*Heidel, W.A., *The Frame of the Ancient Greek Maps*, pp. 16-20.
- \*Talbert, R. and Georgia Irby, *Ancient Perspectives*, 2012, pp. 96-97.

\*illustrated