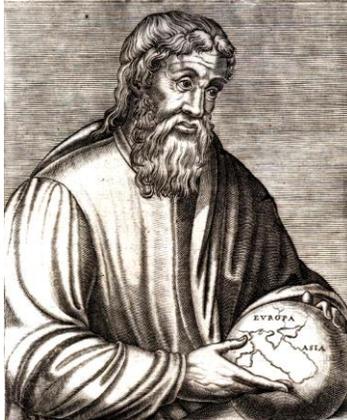


THE GEOGRAPHY OF STRABO

(excerpts from *The Geography of Strabo*, Volume I, Loeb Classical Library)

Ro version: <http://www.hexaimeron.ro/Astronomia/Strabon.html>



Assuredly, however, there is need of encyclopaedic learning for the study of geography, as many men have already stated; and Hipparchus, too, in his treatise *Against Eratosthenes*, correctly shows that it is impossible for any man, whether layman or scholar, to attain to the requisite knowledge of geography without the determination of the heavenly bodies and of the eclipses which have been observed; for instance, it is impossible to determine whether Alexandria in Egypt is north or south of Babylon, or how much north or south of Babylon it is, without investigation through the means of the "climata." (Hipparchus took as a basis of calculation for latitudes and longitudes a principal parallel of latitude through the Pillars of Hercules and the Gulf of Issus, and a principal meridian through Alexandria. He then drew parallels of latitude through various well-known places, and thus formed belts of latitude which he called "climata." By means of the solstitial day he determined the width of each "clima," differences of latitude, and so on. But Strabo uses the term primarily in reference to the parallels of latitude themselves.) In like manner, we cannot accurately fix points that lie at varying distances from us, whether to the east or the west, except by a comparison of the eclipses of the sun and the moon (That is, by a comparison of the observations of the same eclipse, made from the different points of observation.) That, then, is what Hipparchus says on the subject.

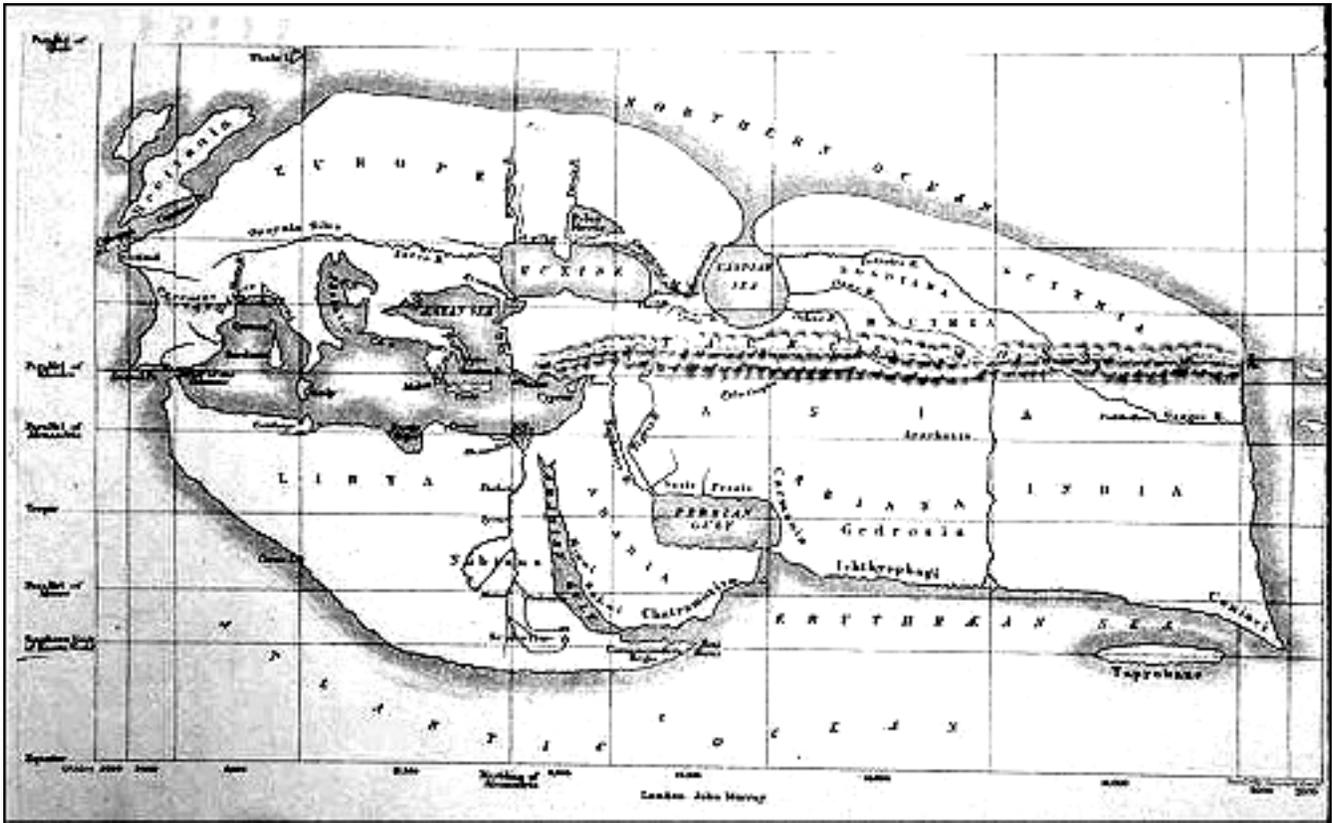
All those who undertake to describe the distinguishing features of countries devote special attention to astronomy and geometry, in explaining matters of shape, of size, of distances between points, and of "climata," as well as matters of heat and cold, and, in general, the peculiarities of the atmosphere.

Everything of this kind, since it is caused by the movement of the sun and the other stars as well as by their tendency towards the centre, compels us to look to the vault of heaven, and to observe the phenomena of the heavenly bodies peculiar to our individual positions; and in these phenomena we see very great variations in the positions of inhabited place.

Moreover, the man who has once thus lifted his thoughts to the heavens will surely not hold aloof from the earth as a whole; for it is obviously absurd, if a man who desired to give a clear exposition of the inhabited world had ventured to lay hold of the celestial bodies and to use them for the purposes of instruction, and yet had paid no attention to the earth as a whole, of which the inhabited world is just a part — neither as to its size, nor its character, nor its position in the universe, nor even whether the world is inhabited only in the one part in which we live, or in a number of parts, and if so, how many such parts there are; and likewise how large the uninhabited part is, what its nature is, and why it is uninhabited. It seems, then, that the special branch of geography represents a union of meteorology

(The Greek word here includes our science of astronomy as well as our science of meteorology) and geometry, since it unites terrestrial and celestial phenomena as being very closely related, and in no sense separated from each other "as heaven is high above the earth."

Most of all, it seems to me, we need, as I have said, geometry and astronomy for a subject like geography; and the need of them is real indeed; for without such methods as they offer it is not possible accurately to determine our geometrical figures, "climata," dimensions, and the other cognate things; but just as these sciences prove for us in other treatises all that has to do with the measurement of the earth as a whole and as I must in this treatise take for granted that the universe is sphere-shaped, and also that the earth's surface is sphere-shaped, and, what is more, I must take for granted the law that is prior to these two principles, namely that the bodies tend toward the centre (Strabo here means all the heavenly bodies. According to his conception, the earth was stationary and all the heavenly bodies revolved about the earth from east to west, the heavens having the same centre as the earth. The Greek word ἄρτημα, here used figuratively, mean a weight suspended by a cord or otherwise. Strabo means that each body is moored, as it were, from its own respective position of suspension to the centre of the earth.); and I need only indicate, in a brief and summary way, whether a proposition comes — if it really does — within the range of sense-perception or of intuitive knowledge. Take, for example, the proposition that the earth is sphere-shaped: whereas the suggestion of this proposition comes to us mediately from the law that bodies tend toward the centre and that each body inclines toward its own centre of gravity (Hence the term has another meaning than Newtonian), the suggestion comes immediately from the phenomena observed at sea and in the heavens; for our sense-perception and also our intuition can bear testimony in the latter case. For instance, it is obviously the curvature of the sea that prevents sailors from seeing distant lights at an elevation equal to that of the eye; however, if they are at a higher elevation than that of the eye, they become visible, even though they be at a greater distance from the eyes; and similarly if the eyes themselves are elevated, they see what was before invisible. This fact is noted by Homer, also, for such is the meaning of the words: "With a quick glance ahead, being upborne on a great wave, [he saw the land very near]." So, also, when sailors are approaching land, the different parts of the shore become revealed progressively, more and more, and what at first appeared to be low-lying land grows gradually higher and higher. Again, the revolution of the heavenly bodies is evident on many grounds, but it is particularly evident from the phenomena of the sun-dial; and from these phenomena our intuitive judgment itself suggests that no such revolution could take place if the earth were rooted to an infinite depth (This was the doctrine of Xenophanes and Anaximenes.) As regards the "climata", they are treated in our discussion of the Inhabited Districts.



But at this point we must assume off-hand a knowledge of some matters, and particularly of all that is useful for the statesman and the general to know. For one should not, on the one hand, be so ignorant of the heavens and the position of the earth as to be alarmed when he comes to countries in which some of the celestial phenomena that are familiar to everybody have changed, and to exclaim: "My friends, lo, now we know not where is the place of darkness, nor of dawning, nor where the sun, that gives light to men, goes beneath the earth, nor where he rises"; nor, on the other hand, need one have such scientifically accurate knowledge as to know what constellations rise and set and pass the meridian at the same time everywhere; or as to know the elevations of the poles, the constellations that are in the zenith, and all other such changing phenomena as meet one according as he changes his horizons and arctic circles, whether those changes be merely visual, or actual as well. Nay, he should pay no attention at all to some of these things, unless it be in order to view them as a philosopher. But he should take some other things on faith, even if he does not see a reason for them; for the question of causes belongs to the student of philosophy alone, whereas the statesman does not have adequate leisure for research, or at least not always. However, the reader of this book should not be so simple-minded or indifferent as not to have observed a globe, or the circles drawn upon it, some of which are parallel, others drawn at right angles to the parallels, and still others oblique to them; or, again, so simple as not to have observed the position of tropics, equator, and zodiac — the region through which the sun is borne in his course and by his turning determines the different zones and winds. For if one have learned, even in a superficial way, about these matters, and about the horizons and the arctic circles and all the other matters taught in the elementary courses of mathematics, he will be able to follow what is said in this book. If, however, a man does not know even what a straight line is, or a curve, or a circle, nor the difference between a spherical and a plane surface, and if, in the heavens, he have not learned even the seven stars of the Great Bear, or anything else of that kind, either he will have no use for this book, or else not at present — in fact, not until he has studied those topics without which he cannot be familiar with geography.