

BOOK II.

SUMMARY.

In the Second Book, having proposed for discussion the [opinions] of Eratosthenes, he examines and refutes whatever that writer may have incorrectly said, determined, or laid down. He likewise brings forward many statements of Hipparchus, which he disproves, and finishes with a short exposition or synopsis of the whole subject, namely, geographical knowledge.

CHAPTER I.

1. IN the Third Book of his Geography Eratosthenes furnishes us with a chart of the habitable earth. This he divides into two portions, by a line running from east to west parallel to the equator. He makes the Pillars of Hercules the boundary of this line to the west, and to the east the farthest ridges of those mountains which bound India on the north. From the Pillars he draws the line through the Strait of Sicily,¹ and the southern extremities of Peloponnesus and Attica, to Rhodes and the Gulf of Issus.² He says, "Through the whole of this distance the line mentioned is drawn across the sea³ and adjacent continents; the whole length of the Mediterranean as far as Cilicia extending in that direction. Thence it runs nearly in a straight line along the whole chain of the Taurus to India. The Taurus continuing in a straight line from the Pillars divides Asia through its whole length into two halves, north and south. So that both the Taurus and the sea from the Pillars hither⁴ lie under the parallel of Athens."

2. He then declares that the ancient geographical chart wants revision; that in it the eastern portion of the Taurus

¹ The Strait of Messina.

² The Gulf of Aias. The town of Aias has replaced Issus, at the eastern extremity of the Mediterranean.

³ The Mediterranean.

⁴ That is, the Mediterranean on the coast of Syria.

is made to run too far north, India itself being also too much drawn in the same direction. One proof which he offers in support of this is, that the most southern extremities of India are under the same latitude as Meroe, as attested by many, both from astronomical observations and the temperature of the climate. From thence to the most northerly point by the mountains of the Caucasus,¹ there are 15,000 stadia, according to Patrocles, a writer whom we are bound to believe, both on account of his worth, and the vast amount of his geographical attainments. Now since the distance from Meroe to the parallel of Athens is nearly the same, the most northerly points of India next to the Caucasian mountains ought to be under the same degree of latitude.

3. But there is another method (says Eratosthenes) of proving this. The distance from the Gulf of Issus to the Euxine, proceeding in a northerly direction towards Amisus² and Sinope,³ is about 3000 stadia, which is as much as the supposed extent of the mountains [of the Taurus].⁴ The traveller who directs his course from Amisus due east,⁵ arrives first at Colchis, then at the high lands by the Hyrcanian Sea,⁶ afterwards at the road leading to Bactra,⁷ and beyond to the Scythians; having the mountains always on the right. The same line drawn through Amisus westward, crosses the Propontis and Hellespont. From Meroe to the Hellespont there are not more than 18,000 stadia.⁸ The distance is just the same from the southern extremity of India to the land of Bactria, if we add to the 15,000 stadia of that country the 3000 which its mountains occupy in breadth.

4. Hipparchus tries to invalidate this view of Eratosthenes, by sneering at the proofs on which it rests. Patrocles, he says, merits little credit, being contradicted by the two writers

¹ Strabo does not here mean the Caucasus or Balkan, but the mountains which stretch from Persia to Cochin China. At a later period the several chains were known to the Greeks by the names of Paropamisus, Emodi Montes, Imaüs, &c.

² Samsun.

³ Sinub.

⁴ The great chain of the Taurus was supposed to occupy the whole breadth of Asia Minor, a space of 3000 stadia. Eratosthenes is here attempting to prove that these mountains occupy a like space in the north of India.

⁵ *Lit.* to the equinoctial rising. ⁶ Another designation of the Caspian.

⁷ Balk.

⁸ Read 18,100 stadia.

Deimachus and Megasthenes, who say that the distance¹ taken from the southern ocean, is in some places 20,000, in others 30,000 stadia; that in this assertion they are supported by the ancient charts, and he considers it absurd to require us to put implicit faith in Patrocles alone, when there is so much testimony against him; or that the ancient charts should be corrected; but rather that they should be left as they are until we have something more certain on the subject.

5. This argument, I think, is in many instances unfounded. Eratosthenes availed himself of the statements of many writers, although Hipparchus alleges he was solely led by Patrocles. Who then are the authors of the statement that the southern extremity of India is under the same parallel as Meroe; and who are they who estimate² the distance from Meroe to the parallel passing through Athens? Or who, again, were those who asserted that the whole breadth occupied by the mountains³ was equal to the distance from Cilicia to Amisus? Or who made known that, travelling from Amisus, the course lay in a straight line due east through Colchis, the [sea of] Hyrcania, so on to Bactria, and beyond this to the eastern ocean,⁴ the mountains being always on the right hand; and that this same line carried west in a straight line, traverses the Propontis and the Hellespont? These things Eratosthenes advances on the testimony of men who had been on the spot, and from the study of those numerous memoirs which he had for reference in that noble library⁵ which Hipparchus himself acknowledges to be gigantic.

6. Besides, the credibility of Patrocles can be proved by a variety of evidence—the princes⁶ who confided to him so important trusts—the authors who follow his statements—and those, too, who criticise them, whose names Hipparchus has recorded. Since whenever these are refuted, the credit of Patrocles is by so much advanced. Nor does Patrocles appear to state any thing improbable when he says that the army

¹ i. e. The breadth of India.

² Literally, “estimate at so much,” referring to the estimate at the conclusion of § 2.

³ Caucasus, in the north of India.

⁴ By the term *ἑὸς θάλαττα*, rendered “eastern ocean,” we must understand Strabo to mean the Bay of Bengal.

⁵ The Alexandrian.

⁶ Seleucus Nicator and Antiochus Soter.

of Alexander took but a very hasty view of every thing [in India], but Alexander himself a more exact one, causing the whole country to be described by men well acquainted with it. Which description he says was afterwards put into his hands by Xenocles the treasurer.

7. Again, in the second volume of his Commentaries, Hipparchus accuses Eratosthenes of himself throwing discredit on the statement of Patrocles, on account of his differing with Megasthenes, as to the length of India on its northern side;¹ Megasthenes stating the length at 16,000 stadia, and Patrocles at 1000 less. Being biassed by a certain Itinerary, Eratosthenes was led to reject them both on account of this discrepancy, and to follow the Itinerary. If then merely the difference of 1000 stadia is sufficient to cause the authority of Patrocles to be rejected, how much more should this be the case when we find a difference of 8000 stadia between his statement and that of two writers who agree perfectly in theirs, that the breadth of India is 20,000 stadia, while he gives only 12,000!

8. We reply, that [Eratosthenes] did not object [to the statement of Patrocles] merely because it differed [from that of Megasthenes], but because the statement of this latter as to the stadia was confirmed by the Itinerary, an authority of no mean importance. There is nothing wonderful in this, that though a certain statement may be credible, another may be more credible; and that while in some instances we follow the former, in others we may dissent from it on finding a more trust-worthy guide. It is ridiculous to say that the greater the difference of one writer from others, the less he should be trusted. On the contrary, such a rule would be more applicable in regard to small differences; for in little particulars the ordinary observer and the man of great ability are equally liable to err. On the other hand, in great matters, the ordinary run of men are more like to be deceived than the man of superior talent, to whom consequently in such cases greater deference is paid.

9. Generally speaking, the men who hitherto have written on the affairs of India, were a set of liars. Deimachus holds the first place in the list, Megasthenes comes next, while

¹ The length of India is its measurement from west to east.

Onesicritus and Nearchus, with others of the same class, manage to stammer out a few words [of truth]. Of this we became the more convinced whilst writing the history of Alexander. No faith whatever can be placed in Deimachus and Megasthenes. They coined the fables concerning men with ears large enough to sleep in, men without any mouths, without noses, with only one eye, with spider-legs, and with fingers bent backward. They renewed Homer's fable concerning the battles of the Cranes and Pygmies, and asserted the latter to be three spans high. They told of ants digging for gold, of Pans with wedge-shaped heads, of serpents swallowing down oxen and stags, horns and all; meantime, as Eratosthenes has observed, reciprocally accusing each other of falsehood. Both of these men were sent ambassadors to Palimbothra,¹—Megasthenes to Sandrocottus, Deimachus to Allitrochades his son; and such are the notes of their residence abroad, which, I know not why, they thought fit to leave. Patrocles certainly does not resemble them; nor do any other of the authorities consulted by Eratosthenes contain such absurdities.

10. ²If the meridian of Rhodes and Byzantium has been rightly determined to be the same, then that of Cilicia and Amisus has likewise been rightly determined; many observations having proved that the lines are parallel, and that they never impinge on each other.

11. In like manner, that the voyage from Amisus to Colchis, and the route to the Caspian, and thence on to Bactra, are both due east, is proved by the winds, the seasons, the fruits, and even the sun-risings. Frequently evidence such as this, and general agreement, are more to be relied on than the measurement taken by means of instruments. Hipparchus himself was not wholly indebted to instruments and geometrical calculations for his statement that the Pillars and Cilicia lie in a direct line due east. For

¹ Not Allahabad, as supposed by D'Anville, but Patelputer, or Pataliputra, near Patna.

² There would seem to be some omission here, although none of the MSS. have any blank space left to indicate it. Groskurd has been at considerable pains to supply what he thinks requisite to complete the sense, but in a matter so doubtful we deemed it a surer course to follow the Greek text as it stands.

that part of it included between the Pillars and the Strait of Sicily he rests entirely on the assertion of sailors. It is therefore incorrect to say that, because we cannot exactly determine the duration of the longest and shortest days, nor the degree of shadow of the gnomon throughout the mountainous region between Cilicia and India, that therefore we are unable to decide whether the line traced obliquely on the ancient charts should or should not be parallel, and consequently must leave it unreformed, keeping it oblique as the ancient charts have it. For in the first place, not to determine any thing is to leave it undetermined; and to leave a thing undetermined, is neither to take one view of the matter nor the other: but to agree to leave it as the ancients have, that is to take a view of the case. It would have been more consistent with his reasoning, if he had told us to leave Geography alone altogether, since we are similarly unable to determine the position of the Alps, the Pyrenees, and the mountains of Thrace,¹ Illyria,² and Germany. Wherefore should we give more credit to the ancient writers than to the modern, when we call to mind the numerous errors of their charts which have been pointed out by Eratosthenes, and which Hipparchus has not attempted to defend.

12. But the system of Hipparchus altogether teems with difficulties. Reflect for an instant on the following absurdity; after admitting that the southern extremity of India is under the same degree of latitude as Meroe, and that the distance from Meroe to the Strait of Byzantium is about 18,000³ stadia, he then makes the distance from the southern extremity of India to the mountains 30,000 stadia. Since Byzantium and Marseilles are under the same parallel of latitude, as Hipparchus tells us they are, on the authority of Pytheas, and since Byzantium and the Dnieper⁴ have also the same meridian, as Hipparchus equally assures us, if we take his assertion that there is a distance of 3700⁵ stadia between Byzantium and the Dnieper, there will of course be a like difference between the latitude of Marseilles and the

¹ Thrace, now Roumelia.

² The situation of Illyria was on the eastern coast of the Gulf of Venice.

³ Read 18,100 stadia. ⁴ The mouth of the Dnieper.

⁵ Hipparchus stated 3800 stadia, not 3700.

Dnieper. This would make the latitude of the Dnieper identical with that of Keltica next the Ocean; for on proceeding 3700 stadia [north of Marseilles], we reach the ocean.¹

13. Again, we know that the Cinnamon Country is the most southerly point of the habitable earth. According to Hipparchus's own statement, the latitude of this country, which marks the commencement of the temperate zone, and likewise of the habitable earth, is distant from the equator about 8800 stadia.² And since he likewise says that from the equator to the parallel of the Dnieper there are 34,000 stadia, there will remain a distance of 25,200 stadia between the parallel of the Dnieper (which is the same as that which passes over the side of Keltica next the Ocean) to that which separates the torrid from the temperate zone. It is said that the farthest voyages now made north of Keltica are to Ierne,³ which lies beyond Britain, and, on account of its extreme cold, barely sustains life; beyond this it is thought to be uninhabitable. Now the distance between Keltica and Ierne is estimated at not more than 5000 stadia; so that on this view they must have estimated the whole breadth of the habitable earth at 30,000 stadia, or just above.

14. Let us then transport ourselves to the land opposite the Cinnamon Country, and lying to the east under the same parallel of latitude; we shall there find the country named Taprobane.⁴ This Taprobane is universally believed to be a large island situated in the high seas, and lying to the south opposite India. Its length in the direction of Ethiopia is above 5000 stadia, as they say. There are brought from thence to the Indian markets, ivory, tortoise-shells, and other wares in large quantities. Now if this island is broad in proportion to

¹ Gosselin remarks that these 3700, or rather 3800 stadia, on proceeding from Marseilles, would reach the latitude of Paris, and that of the coasts in the neighbourhood of Tréguier. Eratosthenes and Hipparchus were out but 14' and some seconds in their calculation of the latitude of Marseilles; but Strabo's error touching the same amounted to 3° 43' 28"; he consequently fixed the northern coasts of France at 45° 17' 18", which is about the latitude of the mouth of the Garonne.

² These 8800 stadia, at 700 to a degree, amount to 12° 34' 17" of latitude. This would be about the middle of Abyssinia.

³ Ireland.

⁴ The island of Ceylon.

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