

He explains the form of the world by comparing it with the tabernacle of Moses. The stars are transported by angels, who are likewise charged with regulating eclipses. The cause of the succession of day and night is referred to the interposition of a great mountain, behind which the sun disappeared each evening.¹ The firmament extended around the earth, the ocean, and the stars, enclosing them hermetically in its crystal walls.

WHEEL MAPS OF
THE MIDDLE AGES.

In the seventh century Isidore of Seville, starting from an idea suggested by the scriptural phrase, "the *circle* of the earth," and deriving, by a false etymology, *rotundatus* from *rota*, a wheel,² declared consequently that the earth had the appearance of a wheel, hence going back to the Homeric idea of a disc surrounded by the ocean. Thus originated the "wheel maps" which ornament the manuscripts of the Middle Ages. These maps divide the circle of the earth into an eastern part, Asia, and into a western part, which is again subdivided into Europe and Africa. Jerusalem occupies the centre of the world. The north and south diameter is indicated by rivers—the Nile and the Tanais;³ finally, the Mediterranean occupies the ray perpendicular to this diameter between Europe and Africa. The ocean surrounds the circle. This tripartite division was supported by a text of St. Augustine,⁴ which was much used by the cosmologists of the period as a base for their cosmographical conceptions. (See Wheel map, Plate V.).

What has been said above suffices to show the state of ignorance and the infantile conceptions as regards geography, to which the writers of the Dark Ages had descended. The study of Nature was abandoned for the most adventurous speculation; there was a proclivity to twist facts so as to make them agree with what was believed to be religious truth. In this shipwreck of geographical knowledge a few fragments floated; some dim notions of ancient science were preserved among the more learned; it may be said that all the sense that was written regarding Nature during the barbarous period was borrowed from the philosophical works of antiquity—Pliny, Solinus, or Mela being chiefly consulted. The early part of the Middle Ages produced nothing that can be regarded as progress; geography was reduced to a simple enumeration of names of towns. The scientific ideas which animated the times of Strabo and Ptolemy had wholly disappeared.

¹ A similar opinion was held by Anaximenes, who flourished in the sixth century B.C.

² "*Orbis a rotunditate circuli dictus, quia sicut rota est,*" Isidore, Origines, lib. xiv. cap. 2, 1.

³ The river Don.

⁴ De Civitate Dei, xvi. 17 :—"Unde videntur orbem dimidium duæ tenere, Europa et Africa, alium vero dimidium sola Asia Quapropter si in duas partes orbem divides, Orientis et Occidentis, Asia erit in una, in altera vero Europa et Africa." This system of division bore the technical name of *Divisio* or *Distinctio trifaria*. The ancients had adopted a *quadripartite division*. This theory, propounded by the astronomer Geminus (about 140 B.C.), was taken up by Strabo, who represented the terrestrial globe as divided into four segments by the equator and by a meridian; two of these are to the north and two to the south of the equator. One of the segments to the north comprised the part of the earth known to the Greeks and Romans. All the rest of the globe, that is to say three out of the four segments, were unknown (see *ante*, pages 20, 21, and Vivien de St. Martin, *op. cit.*, p. 169).