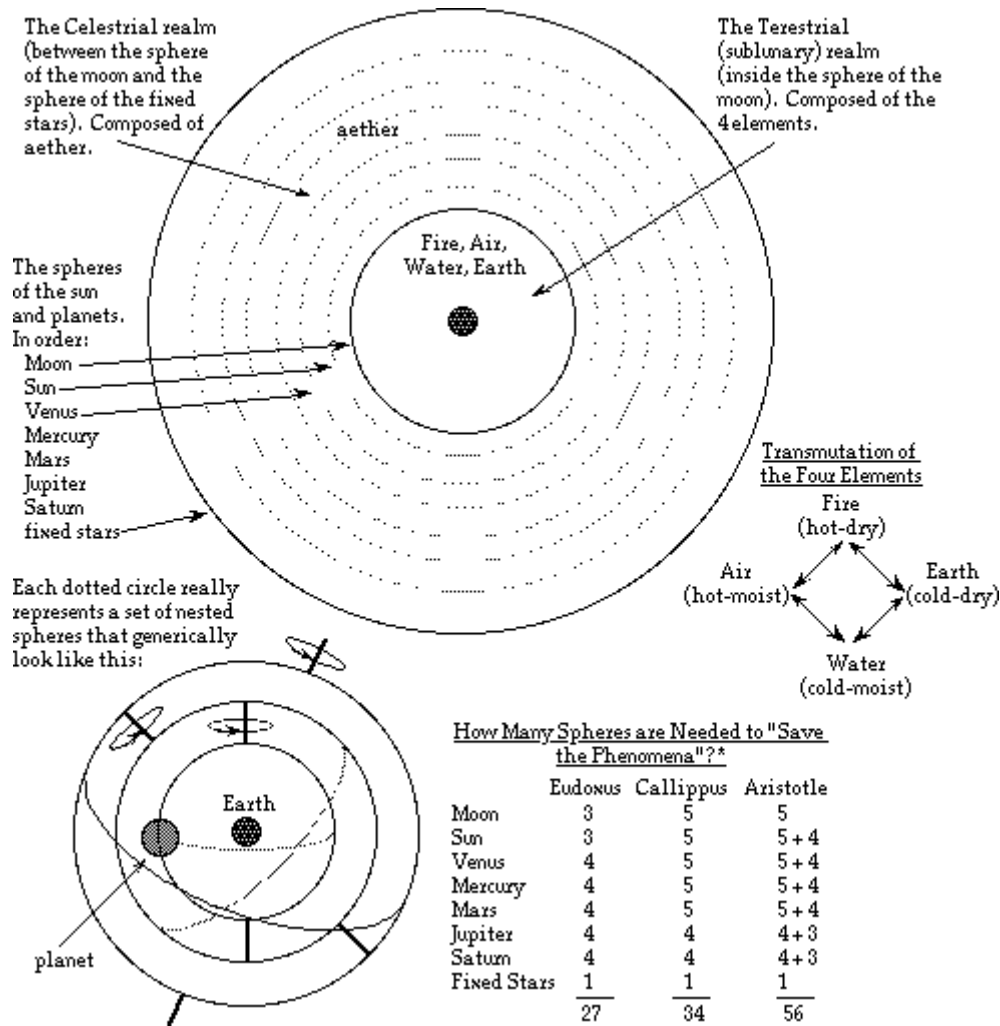


# Aristotle's Cosmos

from <http://ls.poly.edu/~jbain/mms/handouts/mmstotle.htm>



\*Aristotle, *Metaphysics Book XII, Chap 8*, gives these figures. The number of spheres given by Eudoxus (b. ca 390 B.C.) is 27 (including the sphere of the Fixed Stars). Callippus (b. ca. 370 B.C.) increases this to 34. Aristotle improves on Callippus by including additional spheres to counteract some of the motions of the planetary spheres. These additional spheres are placed between the outermost sphere of a given planet and the innermost sphere of the next planet and are one less than the number of spheres of the latter (hence the counteracting spheres between Mercury and Mars number 4, and those between Mars and Jupiter number 3). This is a significant modification: Eudoxus and Callippus view their systems as geometric models that describe the motions of the planets by reducing them to uniform simple motions; arguably, they do not reify these models. Aristotle, on the other hand, views the spheres as real existants and realizes that they are all literally attached to each other. The motions of the inner planets will thus affect the motions of the outer planets; hence the need for counteracting spheres.