



Figure 8.14. The sun (black circle) setting in southern Grecian latitudes on the day of the vernal equinox in 939 BCE, the year when Newton thought Chiron delineated the first celestial sphere. Note that the equinoctial colure runs through the back of Aries, while the zero longitude axis runs near its nose.

below the horizon. Chiron, Newton apparently reasoned, had decided to create a scheme consisting of twelve equal divisions along the zodiac that were each connected to a specific constellation, a system whose first sign included the position of the sun among the stars on the day of the vernal equinox. The question was where to set the beginning of the first sign. Instead of locating it at the equinoctial sun, Chiron chose to make the sun the center of his first sign, not only because a good part of the constellation to which the sign was connected (the Ram) had already preceded it in setting, but also because the *equinoctial colure* ran through the back of Aries (figure 8.14).

Because Chiron linked the signs to the stars proper, over time the entire reference system would move forward past the equinox in the same direction as the annual motion of the sun. Newton thought that for centuries the Chironic scheme continued to prevail, up to and perhaps past the time of Meton himself. Consequently, Metons' assertion that the cardinal points had decreased their positions by eight degrees could be translated directly via precession in respect to the Chironic system especially troubled one of his French critics because he had not also used remarks by Hipparchus in

the *Commentary* that Hipparchus lies at about 18d of 3d of the Ram [Aries] taken to imply that Chiron according to perhaps Eudoxus his original sphere would represented longitude (needed), upsetting Preret made precise different way. In Hipparchus' time, the equinoctial colure, 105 An equinoctial point pro stars themselves. Hipp locations to the middle assumed that in giving tem, and "as Eudoxus' system of coordinates had been constructed Thus far Newton which apparently col- tained through his co- unbiased (because de- gitude of the chosen, the loci of the origina- date of the 41st Olympi- this time to set the ca- cer, Libra, and Capric- The coherence was And from Newton's p- method of argument. on his colure statistic computing the star po- "the place of any Star wards one Sign, 6°.29' 103 Petavius, 1630, p. 188, tra- 104 One might think the date given the *Commentary's* to move back from. This -388, making that the year- larly named constellations Specifically, *prima* lay on with the period when Eud- Hipparchus' *Commentary*.