REVIEW ARTICLE

ON THE COSMICAL MYSTERIES OF MITHRAS*

From the late first through the fourth century, in dark little grottos carved into the sides of forested hills surrounding valleys of the Rhine and the Danube, soldiers of the Roman frontier legions were initiated into the rites of the youthful deity Mithras, a humble faith that built no great temples, left no great legends, performed no great miracles. Mystery cult, secret society, fraternity excluding women, Mithraism probably had more in common with Freemasonry, Dungeons and Dragons, and the Loyal Order of Moose than with the Universal Church then attracting converts of all stations and sexes in the great cities of the Empire. Little is known of what the soldiers, decurions, and centurions received from the *Patres* of Mithras, although we may presume from their simple inscriptions that it was morally and spiritually edifying in a way suitable to their rude manners. And as in any good fraternal society, by performing various arcane rites the proselyte could rise through grades of initiation, perhaps becoming more venerable and achieving greater spiritual perfection at each step, perhaps providing for the future of his soul, or perhaps nothing of the kind.

Central and southeastern Europe, the Rhine and the Danube, central Italy and Rome itself are littered with the relics of Mithraic ritual—inscriptions, mosaics, frescoes, statues, reliefs, a few pieces in the Vatican of artistic value, but much of it bizarre and more of it kitsch—the most celebrated being the reliefs of Mithras slaying the bull, the tauroctony, as it is called, best known in the examples from Hedernheim and Osterburken (*CIMRM* 1083, 1292) but found over a vast region from Hadrian's Wall to Dura-Europos. The young god sits astride the animal with his left knee on its back and his right leg along the hind leg, pulling the bull's head up by the snout with his left hand while with his right he plunges a sword into its shoulder. He wears a tunic, sometimes trousers, a Phrygian cap, a billowing cape, and turns his head to face the observer or to look back over his shoulder toward a bird, possibly a raven. In the upper left is the head or bust of a male sun, in the upper right that of a female moon. On the ground, grasping at the bull's genitals, is a scorpion; a dog leaps toward the wound as though to drink the blood; a snake slithers on the ground or rises toward the wound or the dog; sometimes there are a crater and a lion couchant paying particular attention to the crater or the snake; shafts of wheat spring from the bull's tail or occasionally from the wound. On either side two young men dressed like Mithras stand casually with their legs crossed, the one on the right, called Cautes, carrying a torch pointed up, the one

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on the left, called Cautopates, a torch pointed down. Sometimes the figures are reversed, and there are other variations in detail from example to example. The whole tableau may be roofed as though in a grotto and surrounded by smaller scenes from the life of Mithras and other deities, various sorts of trees, and occasionally the planets or signs of the zodiac. Almost as well known as the tauroctony is a terrifying statue of a winged nude male figure with a ferocious lion's head, gaping mouth, and a serpent coiled around his body.

What does it all mean? Unfortunately there are no accounts, either because the Mithraic initiates, who presumably knew, were sworn to secrecy or were too unlettered to write, or because Christians, who barely deigned to notice the poor cult, threw away what few explanations there may once have been. As more Mithraic monuments were excavated and described, from the Renaissance through the nineteenth century, the question remained without a satisfactory answer—although there was no lack of speculation—until at the end of the century the foundation of modern Mithraic studies was laid by Franz Cumont in his magisterial *Textes et monuments figurés relatifs aux mystères de Mithra,*[1] a publication of monuments, inscriptions, and testimonia with extensive analysis and an essay on the history, doctrines, and rituals of the cult. Cumont, who had studied *all* the earlier literature on the subject, characterized two principal interpretations, which may be called Iranian and Chaldaean.[2] The former goes back to A. H. Anquetil du Perron's translation of the Mazdean or Zoroastrian *Avesta* (1771), in which the Persian deity Mithra is the god of contracts and agent of the good Ahura Mazdāh or Ohrmazd against the evil Angra Mainyu or Ahriman. The latter, based upon western rather than cuneiform sources and found principally in the work of K. B. Stark (1865–68), is astrological and cosmological, and has not a little in common with earlier astronomical interpretations of ancient mythology and religion by Charles Dupuis (1795).

Cumont regarded the astrological content of the monuments, which he never denied, as an accretion due to Babylonian and later Hellenistic influences in the course of the transmission of Mithraism to the west. It was, he wrote, the aspect of the cult known to the throng of proselytes and to the profane, while only initiates to the higher degrees learned the true Iranian doctrines of the Mithraic religion. Further, the relief is obviously narrative, and while astrology may offer facile identifications of certain figures, it says nothing of whatever story is depicted. Eliminating the astrological veneer in this way, he used Indo-Iranian sources as early as the *Vedas,* but principally the *Avesta* and other Zoroastrian writings, to explain the western monuments—although in the eastern tradition it is Ahriman, not Mithra, who slays a bull—and the western cult of Mithras. (I shall consistently call the Persian deity Mithra and the western deity Mithras.) The brilliance of

1. 2 vols. (Brussels, 1896–99); henceforth cited as Cumont. Other abbreviations used in this paper: *CIMRM* = M. J. Vermaseren, *Corpus Inscriptionum et Monumentorum Religionis Mithraicae,* 2 vols. (The Hague, 1956–60); *EPRO* = *Études préliminaires aux religions orientales dans l'empire romain,* ed. M. J. Vermaseren (Leiden); *JMS* = *Journal of Mithraic Studies; MM* = *Mysteria Mithrae,* ed. U. Bianchi, *EPRO* 80 (1979); *MS* = *Mithraic Studies: Proceedings of the First International Congress of Mithraic Studies,* ed. J. R. Hinnells, 2 vols. (Manchester, 1975).

2. The annotated bibliography in Cumont, 1:xxi–xxviii, and the discussions of the various interpretations, 1:70–74, 198–202, are essential. A history of Mithraic studies would be curious indeed.

Cumont's reconstruction is undeniable, the first of his many contributions to the study of the religion and culture of late antiquity, and through his influence Mithraism has since been treated principally as a syncretistic transmission of Iranian religion. The monuments and inscriptions have been republished with many additions by M. J. Vermaseren, the foremost scholar of Mithraism since Cumont, in the *Corpus Inscriptionum et Monumentorum Religionis Mithraicae,* now the standard work, a successor to Cumont's publication begun with his encouragement and assistance.[3] However, in recent years the inevitable incompleteness and inconsistencies in accounting for each detail of the monuments, which are not entirely consistent themselves, have brought about objections to Cumont's interpretation, the suspicion that Mithraism shared little with Mazdeism beyond the names of a few deities, and a return to astronomical and astrological speculation. More and more, what Cumont regarded as superficial is taken for substance, what he dismissed, in some cases with a few witty remarks, is taken as deadly serious.[4]

Without the Iranian foundation, scholars have searched high and low, mostly in western sources, to find some explanation of the cult's monuments and what little is known of its ritual. Perhaps the most innovative is that of one of Cumont's principal critics, R. L. Gordon,[5] who turns to what he calls the "Greco-Roman encyclopedia," all the curious lore from writers like Pliny and Aelian, for anything that may throw light on the darkness of the mysteries. For example, since Mithraic testimonia refer to animals like ravens and lions and hyenas, he ransacks such sources for whatever can be found about these creatures, with one thing leading to another in a manner that may fairly be described as free association. The exercise is certainly curious and, except for the structuralist jargon, entertaining enough—the raven that came to the Forum every day to say "Good morning" to Tiberius is nice—but with no standard of judgment to appeal to it is not easy to decide which animal stories are or are not pertinent to Mithraism. R. Beck does something similar with the analogy between the grades of initiation and the order of the planets, "to validate the cult's grade structure."[6] After distinguishing between speculation and *uncontrolled* speculation, he collects many odds and ends about planets, zodiacs, and astrology to elucidate frequently unique details of monuments, which in turn are supposed to explain something about the beliefs and practices of the cult. Again, with nothing for comparison but more mute monuments and more obscure testimonia, one hardly knows how to evaluate such

3. Two important later studies of the monuments owing much to Cumont are F. Saxl, *Mithras: Typengeschichtliche Untersuchungen* (Berlin, 1931), an echt Warburg iconographical study of their relation to both oriental and western art and mythology, and L. A. Campbell, *Mithraic Iconography and Ideology, EPRO* 11 (1968), a very detailed analysis and principally Iranian interpretation of iconographical and textual evidence from many different cultures.

4. A review of the issues and literature since Cumont with extensive bibliography may be found in R. Beck, "Mithraism since Franz Cumont," *ANRW* 2. 17. 4 (Berlin and New York, 1984), pp. 2001–15. Much has been published in *EPRO.* There have been three international congresses under the sponsorship of Her Imperial Majesty, Farah Pahlavi, Shahbanou of Iran: Manchester, 1971, published as *MS;* Tehran, 1975, *Études Mithriaques: Actes du 2e congrès international,* ed. J. Duchesne-Guillemin, *Acta Iranica* 17, *Actes de congrès* 4 (1978), Rome, 1978, published as *MM. JMS,* also sponsored by Her Imperial Majesty, began publication in 1976 but ceased in 1980. Two papers particularly critical of Cumont are R. L. Gordon, "Franz Cumont and the Doctrines of Mithraism," *MS,* pp. 215–48, and J. R. Hinnells, "Reflections on the Bull-Slaying Scene," *MS,* pp. 290–312.

5. "Reality, Evocation and Boundary in the Mysteries of Mithras," *JMS* 3 (1980): 19–99.

6. *Planetary Gods and Planetary Orders in the Mysteries of Mithras, EPRO* 109 (1988).

"interprétations personelles," as Cumont called the speculations of F. Lejard. Both Gordon and Beck delight in complex, even contradictory, interpretations ("multivalence" and "paradox"), as though religions are like that, and Gordon begins his paper with Humpty Dumpty's pronouncement in *Through the Looking Glass* on words' meaning whatever you wish as long as you pay them extra—a quotation that, whenever I come across it, fills me with dread that some kind of nonsense is sure to follow. And my fears are seldom unjustified.

But above all it is now astronomy and astrology that are taken as the key to Mithraism and to the tauroctony in particular. The basis of the astrological interpretation is that most figures of the tauroctony may be identified with constellations: the bull with Taurus, the scorpion Scorpio, the raven Corvus, the dog Canis Major or Minor, the snake Hydra (or Serpens or, for that matter, Draco), the lion Leo, the crater Crater, and the shafts of wheat Spica. In addition there are images of the sun and moon, and not infrequently planets and an arch or circle of the signs of the zodiac. The torchbearer Cautes (with the raised torch) is sometimes shown near the head of the bull, the sign of Taurus, and his companion Cautopates (with the lowered torch) near a scorpion, evidently Scorpio. Going beyond the iconography of the tauroctony, Mithras himself is identified with the sun and frequently called *Sol invictus* in inscriptions. Porphyry (*De antro nympharum* 6. 24) describes the cave-like Mithraeum as an image of the cosmos, places Mithras both on the celestial equator and at the equinoxes, and says he carries the sword of Aries, the sign of Mars, and rides the bull, Taurus, the sign of Venus. And in fact Mithraea are often decorated with signs of the zodiac, representations of the planets, and stars painted on a blue ceiling. Celsus, as quoted by Origen (*Contra Celsum* 6. 22), says that according to the mystery of Mithras the soul ascends through the spheres of the seven planets, which are associated with a ladder with gates of seven metals, while the seven grades of initiation, called *Corax, Nymphus, Miles, Leo, Perses, Heliodromus,* and *Pater,* are also associated with the seven planets.[7]

What could be more obviously astrological? Mithraism, like much else in late antiquity, was permeated by the imagery of Hellenistic astrology. The problem is in going deeper, in explaining the arrangement and iconography of the relief, its narrative, ritual, and theological significance, and deciding whether astrology is essential or ancillary to the religion of the cult, if indeed it was a religion. There has been a good deal of literature in recent years, of which we shall consider a part concerned with the tauroctony itself, rather than other symbols within the Mithraeum, for it is surely the tauroctony that is the central mystery of the cult.[8]

7. There are particularly thoughtful, and very different, recent discussions of the testimonia of Porphyry and Celsus by L. A. Campbell (see n. 3 above) and R. Turcan, *Mithras Platonicus: Researches sur l'hellénisation philosophique de Mithra, EPRO* 47 (1975). The names of the seven degrees are given by Jerome (*Epist.* 107) in a remark on the destruction of a Mithraeum, and also appear in inscriptions. On the correct reading, see B. M. Metzger, "St. Jerome's Testimony Concerning the Second Grade of Mithraic Initiation," *AJP* 66 (1945): 225–33. Elsewhere (*Comm. in Amos* 5. 9–10; Cumont, 2:19), Jerome points out the great mystery that the numerical value of the letters of Μείθρας is the same as Ἀβράξας, namely 365, "the number of the annual passage in the circle of the sun."

8. There are a number of studies of zodiacal signs, planetary symbols, possible alignments, and such in Mithraea; for example: L. A. Campbell (see n. 3 above); M. J. Vermaseren, *Mithraica II: The Mithraeum at Ponza, EPRO* 16.2 (1974); R. Beck, "Interpreting the Ponza Zodiac," *JMS* 1 (1976): 1–19, *JMS* 2 (1978): 87–147; R. L. Gordon, "The Sacred Geography of a *Mithraeum:* The Example of Sette Sfere," *JMS* 1 (1976): 119–65; R. Beck, "Sette Sfere, Sette Porte, and the Spring Equinoxes of A.D. 172 and 173,"

R. Beck has observed that the constellations are those that would be seen in the southern sky at the cosmical setting of Taurus, when Taurus is setting in the west and Scorpio rising in the east just before sunrise, which occurs in the autumn.[9] (Note that here are meant the sidereal constellations, not the conventional zodiacal signs of thirty degrees.) Independently, S. Insler has related the same constellations to the heliacal setting of Taurus, with Taurus setting and Scorpio rising just after sunset, which occurs in the spring and specifically at the time of the Iranian Mithragān early in the first century B.C.[10] Insler also holds that the order of figures on the relief is that of the constellations in the heavens, as though it were a star map. But this is hardly true, with the scorpion at the bull's genitals, for Scorpio is always associated with the genitals in a melothesia, an assignment of the parts of the body to zodiacal signs; and in different examples of the tauroctony, the snake wriggles around to different places, and the location of other figures also varies. In a further refinement, A. Bausani, considering the Iranian prehistory of the tauroctony, noted that the true significance of the configuration may be that Leo is culminating while Taurus is setting—he prefers the cosmical setting in the autumn at a very early date—a reenactment of the lion attacking, and killing, the bull, a frequent motif in the Near East that has been interpreted astronomically by W. Hartner.[11] It is worth remarking, however, that the relief contains a very big bull and (when it is shown at all) a very little lion; note also that it is not necessary to abandon an Iranian origin to interpret the tauroctony astronomically. Finally, M. P. Speidel claims that all the constellations lie along the celestial equator and that a large, omitted equatorial constellation—Orion, no less—may be identified with Mithras himself, a closely guarded secret, he says, of the cult of Mithras.[12] This is surely going far beyond the evidence, for Taurus and Scorpio (and Leo and Spica, if they are counted) are not on the equator, although Speidel tortures some ancient texts into making a few of their stars touch the equator, which is not at all the same thing; and this in turn makes the identification of Mithras with Orion, for which the other evidence is weak, extremely doubtful.

But in the most recent, and ambitious, interpretation of the tauroctony, David Ulansey is willing to go much further, even to the extent of moving the equinoxes to Taurus and Scorpio, so that they too come to lie on the equator (which would have been true about 4000–2000 B.C.). Under these circumstances Orion is no longer on the equator, but Ulansey has the idea of identifying Mithras with Perseus, who is located just above Taurus in the sky, much as in the tauroctony

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MM, pp. 515–29; M. J. Vermaseren, *Mithraica III: The Mithraeum at Marino, EPRO* 16.3 (1982); R. Beck (see n. 6 above). These show the prevalence of astrological motifs in Mithraea, but not necessarily what was distinctive about the cult itself.

9. "Cautes and Cautopates: Some Astronomical Considerations," *JMS* 2 (1977): 1–17. In "A Note on the Scorpion in the Tauroctony," *JMS* 1 (1976): 208–9, Beck noted Pliny's remark (*HN* 18. 200) that Zoroaster said to sow when the moon is in Taurus and the sun has crossed 12 degrees of Scorpio, which would be about the time of the cosmical setting of some part of Taurus. The passage raises far too many problems to use as evidence.

10. "A New Interpretation of the Bull-Slaying Motif," *Hommages à Maarten J. Vermaseren* 2, *EPRO* 68 (1978), pp. 519–38.

11. Bausani, "Note sulla preistoria astronomica del mito di Mithra," *MM*, pp. 503–11. Hartner, "The Earliest History of the Constellations in the Near East and the Motif of the Lion-Bull Combat," *Journal of Near Eastern Studies* 24 (1965): 1–16 (repr. in W. Hartner, *Oriens-Occidens* [Hildesheim, 1968], pp. 227–59).

12. *Mithras-Orion: Greek Hero and Roman Army God, EPRO* 81 (1980).

itself, while Orion is below. F. Creuzer had made the same identification on the basis of various evidence, in particular the notion that the Lion Gate in Mycenae, which Perseus is supposed to have founded, is in fact a Mithraic monument.[13] Ulansey has different evidence.[14] Perseus, too, is occasionally portrayed wearing a Phrygian cap; because of his name he is associated with Persia; and in killing the Gorgon he had to turn his head away from his victim just as Mithras does in killing the bull. Perseus was born in a cave—actually an underground bronze chamber, whatever that may have been—Mithras, apparently, miraculously from a rock. An early reference to Mithras by Statius (*Theb.* 1. 718–19) with the scholium of Lactantius Placidus (5th cent.) speaks of Mithras' twisting the *indignata cornua* in the cave or temple of Perseus (or of Persia), although Mithras is here clearly identified with the sun and Perseus must be someone else.[15] Perseus, we are told, was particularly venerated in Tarsus in Cilicia, and is even referred to as its founder,[16] while according to a famous passage in Plutarch's Life of Pompey (24) the secret rites of Mithras were founded by the pirates of Cilicia whom Pompey defeated. The familiar Mithraic lion-headed figure just may be related to the Gorgon. Exactly how the identification of Mithras with Perseus came about remains to be explained, and will be seen to be the origin of the cult of Mithras.

According to Ulansey's interpretation, then, Mithras' slaying of the bull may be identified with Perseus' place above Taurus on the celestial sphere when the vernal equinox was in Taurus, and the other constellations of the tauroctony (again omitting Leo and Spica) are extended along the celestial equator as far as the autumnal equinox in Scorpio. The torchbearers Cautes and Cautopates are identified as the equinoxes themselves, both because they sometimes carry the signs of Taurus and Scorpio (*CIMRM* 2120, 2122), and because one very noted relief (*CIMRM* 335) also shows Taurus and a raised torch next to a tree in leaf, signifying spring, and Scorpio and a lowered torch next to a tree bearing fruit, signifying autumn.[17] It need hardly be pointed out that all this necessarily shows is an identification of Cautes with Taurus and spring and of Cautopates with Scorpio and autumn, without any reference to the equinoxes themselves, a point to which we shall return.

13. *Symbolik und Mythologie der alten Völker,* dritte verbesserte Ausgabe (Leipzig und Darmstadt, 1836), 1:267–90. This has been noted by Cumont, 1:xxiv.

14. *Origins,* chap. 3.

15. Cumont, 2:46–49.

16. *Origins,* chap. 4, following A. L. Frothingham, "The Cosmopolitan Religion of Tarsus and the Origin of Mithra," *AJA* 22 (1918): 63–64, an abstract of a paper (mercifully never published) in which the author intended to show the identity of the solar deities Mithra, Perseus, Heracles, Gilgamesh, and the Hittite Sandan (who is represented as a lion killing a bull), and in particular that Gilgamesh is the source of Mithra.

17. Ulansey, *Origins,* pp. 62–66. This is the famous relief of Ottaviano Zeno from Rome, originally published in 1564 and a favorite of all Mithraic scholars ever since, but lost until Vermaseren discovered the torchbearers in the Louvre and then a large part of the main relief was found in São Paulo and identified by Vermaseren. The important publication of the monument by Vermaseren, *Mithraica IV: Le monument d'Ottaviano Zeno et le culte de Mithra sur le Célius, EPRO* 16.4 (1978), which includes other similar examples, is critical of astronomical interpretations. Beck ("Cautes and Cautopates," p. 6) identifies the torchbearers with Aldebaran and Antares, the brightest stars of Taurus and Scorpio, and labors to assign the monument's seven flaming altars to specific planets (*Planetary Gods,* pp. 41–72). Ulansey rejects the suggestion of A. Deman, "Mithras and Christ: Some Iconographical Similarities," *MS,* pp. 507–17 at 517, that the crossed legs of the torchbearers specifically show the intersections of the ecliptic and equator, that is, the equinoxes.

But Ulansey must place the equinoxes in Taurus and Scorpio, for it is precisely this, he believes, that holds the key to the origin and significance of Mithraism.[18] In order to do so, he invokes the precession of the equinoxes, the slow westward motion of the intersections of the ecliptic and the equator along the ecliptic and thus backward through the zodiacal constellations. What we call the "precession of the equinoxes" (a term first used by Copernicus) was discovered by Hipparchus (2d cent. B.C.) as a second motion of the fixed stars, in addition to the diurnal rotation. He described it either as an eastward motion of the sphere of the fixed stars about the axis of the ecliptic, thereby shifting the stars in the direction of increasing longitude with respect to the equinoxes, or as a westward motion of the axis of the diurnal rotation in a circle about the axis of the ecliptic, shifting the equinoxes in the direction of decreasing longitude with respect to the fixed stars. (These two descriptions must really be illustrated, which I cannot do here, but both come to the same thing: the stars appear to move slowly eastward with respect to the equinoxes.) The result is that the equinoxes, which in the first century were somewhat west of the stars of Aries and Libra, were near the stars of Taurus and Scorpio between two and four thousand years earlier. For example, with Ptolemy's value of the precession, the vernal equinox would have been near Aldebaran, the brightest star in Taurus, about 4200 B.C., and with the modern value, about 3000 B.C. And since in Ptolemy's star catalog Antares, the brightest star in Scorpio, is exactly 180 degrees from Aldebaran (which is quite interesting in itself), the autumnal equinox would simultaneously have been near Antares.

Now, there is a precedent for identifying Taurus and Scorpio in the tauroctony with the equinoxes: the ingenious savant Charles François Dupuis' *Origine de tous les cultes, ou religion universelle* (l'an III de la République, 1795), a comprehensive astronomical and astrological interpretation of the religions and myths of all peoples and ages.[19] And this is well worth a digression, for the nearly forgotten Dupuis surpasses in invention all other writers on the astronomical interpretation of religion before or since, and should be mandatory reading for anyone wishing to indulge in the pursuit. According to Dupuis, the zodiac was invented fourteen or fifteen thousand years ago in upper Egypt or Ethiopia, near Syene (Assuan) on the summer tropic, when the heliacal rising of Sirius coincided with the summer solstice in Capricorn, and the inundation of the Nile followed as the sun moved through Aquarius and Pisces, signs associated with water, as seems only reasonable.[20] After the invention of the zodiac and of astronomy by the most ancient Egyptians, the precession carried the equinoxes and solstices through other signs, and Dupuis' method is to explain ancient cults and myths according to the phenomena of the constellations, their risings and settings, brought about by the precession, mostly during the period in which the equinoxes were in Taurus and Scorpio and the solstices in Leo and Aquarius, and also when the vernal equinox moved into Aries. He interprets numerous gods and heros as solar deities, among them Heracles, Theseus, and Jason, each of whom had adventures with a lion or

18. *Origins*, chap. 5.

19. I have used the edition Paris, 1822 in 7 vols. and plates with a memoir of the life of Dupuis by P. R. Auguis (found crumbling away in the library of the Princeton Theological Seminary).

20. *Origine*, 6:128 ff., 171 ff., 211 f.

bull or ram, not to mention other creatures found in the heavens. But there are also gods represented as bulls, or with attributes of bulls, or mounted on bulls, and these too were solar deities when the vernal equinox was in Taurus. Of the first kind are Apis and the golden calf worshipped by the Hebrews that Moses destroyed; of the second, Osiris, sometimes shown with horns, and Bacchus (Dionysus), shown with the feet and tail of a bull; and of course a representative of the third is Mithra, the image of the sun, the great Dieu-soleil of the Persians.

Dupuis analyzes the famous tauroctony (*CIMRM* 335) with the tree in leaf and the sign of Taurus and the tree bearing fruit with Scorpio, concluding that the monument or its prototype dates from about 4,500–2,500 B.C., when the equinoxes were in those signs, shows the solar deity Mithra of the vernal equinox in Taurus, and signifies the successive growth and decay of the production of Nature and the triumph of light over darkness and darkness over light, which is part of his system of naturalistic interpretation of myths of creation and dualism.[21] After 2,500 B.C., when the vernal equinox moved from Taurus into Aries, Mithra was succeeded by none other than Perseus, the solar deity of the equinoctial sun in Aries.[22] But there is more, for the Persian *fiction cosmogonique* of the *Avesta,* of good and evil, light and darkness, was adopted by the Hebrews in the *roman cosmogonique* of Genesis, in which Ohrmazd and Ahriman become the God of Light, who creates the world and man, and the Prince of Darkness, represented by the serpent who brings about the fall from the *jardin de délices.* It is true that the Christian Doctors subordinate the principle of darkness, making the principle of light alone eternal, but this is only a *nuance de métaphysique* in the common doctrine upon which all religions are founded.[23] And the solar deity of the equinox in Taurus, Mithra, who sacrificed a bull, becomes the solar deity of the equinox in Aries, symbolized by the sacrifice of a lamb, namely Christ, whose Incarnation and Resurrection Dupuis reduced to an allegory of astronomy, astrology, and nature in deliciously blasphemous detail.

Christ is not merely like Mithra, he is Mithra: both are the same solar deity—there is only one sun—Christianity is a branch of the religion of Zoroaster, and the Gospel is as much an allegory as the *Avesta.* Concerning the birth of Christ—the birth of the sun at the winter solstice in the midst of the six zodiacal signs of darkness, the realm of Ahriman—it suffices to mention that both Mithra and Christ are born at the winter solstice on 25 December (just as *Sol Invictus*), Mithra in a cave, Christ in a stable; that the infant Christ was visited by Magi, Zoroastrian priests, who brought him gold, incense, and myrrh, all consecrated to the sun; that Our Lady is the constellation Virgo and is identical to the Egyptian goddess Isis, also represented by Virgo (as confirmed by a precious monument of the cult of Isis on a portal of Notre Dame de Paris); and that the virgin birth really

21. *Origine,* 5:86 ff., pl. 17, the relief of Ottaviano Zeno. While recognizing constellations and identifying the altars as planets, Dupuis does not attempt to explain the tauroctony in detail; cf. 3:224, 234, 277 f.; 4:502. He illustrates and interprets Cautes as a young man but Cautopates as an old man, for which his source is Thomas Hyde, *Veterum Persarum et Parthorum et Medorum Religionis Historia* (Oxford, 1700), p. 112; cf. Vermaseren, *Mithraica IV,* p. 10, pl. xiv. Hyde's learned study was the first to consider seriously the Iranian origin of Mithras, although on the basis of western sources.

22. *Origine,* 6:35–40. Perseus is also identified even more strikingly with the angel of the Apocalypse in Revelation 19:11–21.

23. Dupuis, *Origine,* 5:7 ff.

means that at the moment of Christ's birth, midnight of 25 December, the horoscopus, the rising point of the ecliptic, was in Virgo.[24] The Resurrection of Christ, the triumph of the sun over darkness by crossing into the six zodiacal signs of light, the realm of Ohrmazd, is on 25 March at the vernal equinox in Aries, shown by the lamb of the Apocalypse, just as Mithra's slaying of the bull shows the equinoctial sun in Taurus.[25]

This, as the author had foreseen, produced a sensation and aroused the partisans of erudition and of historical and literary criticism.[26] Citoyen Dupuis, as he was then, delighted the advocates of new and bold ideas, but disturbed and terrified the religious; admired by the one, reviled by the other, he was alternately the object of exaggerated praise and blame. The faithful reproached him for undermining the foundation of the Christian religion, while nonbelievers thought they found in him irrefutable arguments against their enemies. Dupuis himself often said that in his youth he had been very devout, and that he was, as if by magic, raised from superstitious practices by the philosophic ideas that led him to search for the origin of primitive religions. It was, he said, the conversion of St. Paul, but in the opposite sense, for why does philosophy not also have her miracles? Dupuis (1742–1809), a child of poor parents, had studied mathematics, astronomy, and law, gave up a clerical profession, was aided by Lalande and Condorcet, taught at the Collège de France, was elected to the Académie des Inscriptions, and became an official and member of the legislative bodies in both the revolutionary and Napoleonic governments. Napoleon, once seeing Dupuis among a deputation of the Institut, said to him, "N'est-il pas vrai, Monsieur Dupuis, que Jesus Christ n'a jamais existé?" "Sire, c'est mon opinion," replied the author of the *Origine des cultes*. One day Dupuis was dining at the house of General Bonaparte, then First Consul of the Republic. Noticing him chatting amicably with Bishop Grégoire of Blois, Napoleon appeared surprised at the friendly relations between two men of such diametrically opposite views in religion, and asked the bishop how it could be that the religious opinions of Dupuis did not raise a wall of separation between him and the author of the *Origine des cultes*. "Cela devrait être," answered the good bishop, "mais Dupuis et moi nous avons une religion commune; c'est la religion de la République."

But from this shining son of the Enlightenment we return to the obscure mysteries of Mithras. Dupuis was concerned with the effects of the precession but never claimed that knowing about it had anything to do with ancient cults. Ulansey, on the other hand, believes that the discovery of the precession by Hipparchus was itself of religious significance and laid the foundation for the cult

24. Ibid., pp. 90 ff. The sculpture from Notre Dame, illustrated in pl. 18, "Calendrier d'Isis, ou de la vierge," showing zodiacal signs, the labors of the months, and the Virgin and Child, is none other than the Portal of the Virgin. Dupuis' explanation of the iconography could pass for a wicked parody of a Warburg study. But let us not be superior. L.-E. Lefèvre, "Le calendrier-zodiac du portal royal de Chartres et les influences Mithriaques," *Revue Archéologique* 5 Ser. 26 (1927):207–32, suggests that the zodiac of the west portal of Chartres is based upon a Mithraic astronomical treatise that somehow survived until the twelfth century, which Saxl (*Mithras*, p. 95, n. 2) gravely calls "sehr zweifelhaft."

25. Dupuis, *Origine*, 5:109 ff., a remarkable comparison of dying and reviving gods—Osiris, Horus, Dionysus, Adonis, Attis—much in the spirit of Frazer, but as solar rather than agricultural deities. The mysteries of Mithra are also considered as a death and resurrection.

26. What follows is based upon the memoir by Dupuis' friend and admirer Auguis, esp. ix, xvi.

of Mithras.[27] Hipparchus' discovery, he says, "had an absolutely shattering significance," particularly since Hipparchus was also an astrologer and may have seen it as "something akin to a divine revelation, possessing a spiritual significance stretching far beyond its merely scientific aspects." But that was nothing compared to what happened when news of Hipparchus' discovery, perhaps by way of the ubiquitous Posidonius, reached the city of Tarsus, where, we remember, Perseus was especially revered. For Tarsus, it appears, was filled with great numbers of Stoic philosophers, who were much given to astrology, astral religion (in which the heavenly bodies are personified as divine beings), and speculation about the Great Year, the period in which all the planets come back to their original positions and the world comes to an end in a great conflagration (and then presumably begins again). "It is not difficult to imagine"—a phrase used more than once—that such "Stoicizing intellectuals" might have greeted Hipparchus' discovery "with something akin to religious awe," so that, as was their wont, they hypothesized a new divine being of immense power who could move the entire sphere of the fixed stars (or the "cosmic axis"), and was thus more powerful than the planets or the sun (since he could alter their courses) or "the divinity of the cosmos itself." Since prior to the constellation of Aries the vernal equinox had been in Taurus, these intellectuals represented the precession by the death of a bull, which was particularly appropriate because the motif of the lion killing the bull was used in the coinage of Tarsus. And since Perseus, the special god of Tarsus, just happened to be located above Taurus, the great deity who moved the cosmos was personified as Perseus and was represented, appropriately enough, as killing a bull. But of course all this was "an extremely powerful secret," revealed only to those who proved themselves worthy to be initiated into Hipparchus' discovery of the precession of the equinoxes and its religious implications. These implications could not but be of profound significance in a world of astrological fatalism, astral religion, and the belief in "astral immortality," in which after this life the soul ascends through the heavenly spheres, the doctrine later attributed to Mithraism by Celsus.

But how did this become the cult of Mithras rather than Perseus? Here we turn, not to the identification of Mithras with Perseus, which is after the fact, but to the famous Cilician pirates in Plutarch *Pompey* 24. These were no ordinary pirates; according to Plutarch, they included men of wealth, illustrious descent, and superior intelligence who "had close ties with the upper classes and intelligentsia," and would thus be eligible to be initiated into the "young astronomical mystery cult of the Tarsian intellectuals." In addition, since the pirates were sailors, they would be particularly receptive to a deity who had power over the stars. But because the teachings of the cult were highly secret, it was desirable to conceal the true name of the cult's deity, and for this reason the new god was named after the Persian deity Mithra, in honor of Mithridates VI Eupator of Pontus, a strong ally of the pirates, who himself claimed descent from Perseus, in whose form he depicted himself on coins. And in this way the secret cult of Perseus, the cosmic deity of the precession of the equinoxes, became the secret cult of Mithras.

27. *Origins*, chap. 6.

A candid and impartial reader with little more than common sense may well conclude that Ulansey has piled hypothesis upon hypothesis and tenuous interpretation upon tenuous evidence to the degree that assenting to his argument is really more an act of faith than an exercise of reason. And while there is not a single point that is free of serious doubt, two that are central to his demonstration are worthy of special consideration. Here I should point out that I am a historian of science, particularly astronomy, not of religion; and just as the standards of evidence and of proof are different in science and in religion, so it appears that they also differ in the history of science and the history of religion. The reader will I hope forgive me for applying the standards of my own studies, for they are the ones I know best.

The first point, which has already been mentioned, is that it is unwarranted to identify the torchbearers, sometimes associated with Taurus and Scorpio (which in turn are shown in a famous relief with a tree in leaf and a tree in fruit),[28] with the equinoxes specifically rather than just with agricultural spring and autumn, the new vegetation of spring and the fruit of autumn. But without this specific identification, which is nothing more than wishful thinking, there is no reason to place the equinoxes in Taurus and Scorpio, as they were in 4,000–2,000 B.C., and thus no reason to introduce the precession and to discover the foundation of Mithraism in beliefs about the precession. Indeed, that the torchbearers are associated with Taurus and Scorpio is very good evidence that they are *not* the equinoxes, but are simply related to seasons in an agricultural calendar. For example, Varro (*Rust.* 1. 28) says that the first day of spring is in Aquarius, of summer in Taurus, of autumn in Leo, and of winter in Scorpio, in each case on the twenty-third day after the sun enters the sign; and he gives as corresponding dates in the new Julian calendar 7 Id. Feb., 7 Id. Mai, 3 Id. Sex., 4 Id. Nov. (that is, 7 Feb., 9 May, 11 Aug., 10 Nov.). Then Columella (11. 2. 4, 36, 52, 76), in a detailed agricultural calendar with risings and settings of constellations and stars, gives the entries of the sun into each sign as: Aquarius, 17 Kal. Feb.; Taurus, 15 Kal. Mai.; Leo, 13 Kal. Aug.; Scorpio, 14 Kal. Nov. (16 Jan., 17 Apr., 20 Jul., 19 Oct.)—that is, exactly twenty-two days before the first day of each season in the calendar used by Varro, with whom Columella is thus in agreement. Here, of course, we are considering conventional zodiacal signs of thirty degrees rather than sidereal constellations. Further, if the twenty-third *day* is taken as the twenty-third *degree* of each of these signs—a good approximation, since the sun moves about one degree per day—then each twenty-third degree exactly bisects the arc of ninety degrees between the equinoxes and solstices at the eighth degree of Aries, Cancer, Libra, and Capricorn, a standard Babylonian location found in a number of western sources.[29] Hence, the beginnings of these agricultural seasons in Aquarius,

28. *CIMRM* 335; see n. 17 above.

29. E.g., the 23d degree of Taurus lies midway between the 8th degree of Aries and the 8th degree of Cancer, etc. See O. Neugebauer, *A History of Ancient Mathematical Astronomy* (Berlin–Heidelberg–New York, 1975), pp. 594–96. This Roman version of a Greek parapegma is Mommsen's "Bauernkalender," which we should call something like the "Old Farmer's Almanac." Cumont, 1: 211, likewise citing Varro *Rust.* 1. 28 and Columella 11. 2, says that the Romans customarily took spring to begin on 7 May and autumn on 7 November when the sun was in Taurus and Scorpio respectively, which is not exactly what Varro writes (as has been noted by Beck, "Mithraism," p. 2003, n. 2); cf. also Beck, "Cautes and Cautopates," pp. 4–5.

Taurus, Leo, and Scorpio in no way coincide with the equinoxes and solstices, but are removed from them fully forty-five degrees, or about forty-five days; and there is no reason to believe that Taurus and Scorpio in the tauroctony contain the equinoxes either, without which Ulansey's entire argument fails. (His later attempt to identify the torchbearers with the Dioscuri—because their hats are similar!—and with the two halves of the celestial sphere above and below the horizon really does more harm than good.)

The other point concerns Hipparchus' discovery of the precession and whatever might have been made of it in Tarsus or any place else. The earliest surviving writer so much as to mention the precession is Ptolemy in the mid-second century, about three hundred years after Hipparchus. Ulansey may say the centuries intervene because the discovery was kept a deep dark secret reserved for adepts of the cult of Mithras or Perseus, but that is simply ridiculous. Aside from the vagaries of the survival of writings on astronomy before Ptolemy, whose work made that of his predecessors on the whole obsolete, it is most likely that the precession was not mentioned for three hundred years because Hipparchus' description was so tentative, and so uncertain of what his observations showed, that no one paid any attention to it until Ptolemy demonstrated that it really existed. Even then, Proclus, who lived fully three centuries after Ptolemy and is the only philosopher to my knowledge to take note of the precession, denied it because he thought it undetectable and contradicted by the appearances—it would, he said, make the Bears partially set below the horizon—and because all wise men agreed that the fixed stars have only a single motion about the pole of the world, the diurnal rotation, and none about the pole of the ecliptic.[30] In short, what was good enough for Plato was good enough for Proclus. And Ptolemy, who (like Proclus) was personally a devoted believer in the divinity of the heavenly bodies and the efficacy of astrological divination, treats the precession purely astronomically, for nowhere does he so much as hint at any religious or astrological implications. Did he know he was giving away a great mystery? Was he perhaps doing it on purpose? Had everyone forgotten the true significance of the precession? Was Proclus trying to put the cat back into the bag? The questions are too absurd to deserve an answer.

Now Hipparchus' treatment of the precession was not at all straightforward and was hardly such as would have suggested the need for a new cosmic deity. If anything, until a few hundred years had passed, in which the evidence for a motion of the stars with respect to the equinoxes became stronger, it would have suggested above all the possibility of observational error, which Hipparchus himself feared. All that is known of Hipparchus' study of what we now call the precession is contained in *Almagest* 3. 1 and 7. 1–3, and it is evident from Ptolemy's account that it was highly technical, highly tentative, and offered more than one explanation for rather discrepant observations that did not necessarily indicate anything like a motion of the entire sphere of the fixed stars with respect to the equinoxes.[31]

30. *Hypotyposis astronomicarum positionum* 7. 45–47, ed. K. Manitius (1909), pp. 234–35.

31. What follows is based upon Neugebauer, *Ancient Mathematical Astronomy*, pp. 292–98, 631–34, and N. M. Swerdlow, "Hipparchus's Determination of the Length of the Tropical Year and the Rate of Precession," *Archive for History of Exact Science* 21 (1980): 291–309. Ulansey has consulted neither of these, and his sources for Hipparchus and astronomy in general are weak.

In essence, Hipparchus was concerned with three problems that might or might not be related. The first was an occasional discrepancy of about a quarter of a day in the length of the tropical year (the period for the sun to return to the same equinox), a discrepancy that appeared from a series of his own observations. The question, which he appears to have left open, was whether the length of the year was really inconstant, which could be due to a second inequality in the motion of the sun or a motion of the equinox. Ptolemy later showed (correctly) that the apparent discrepancy was due to nothing more than observational error. The second problem was that from Babylonian astronomy Hipparchus had different values for the length of the year: what we call a sidereal year (the time it takes for the sun to return to the same point with respect to the fixed stars) of about ten minutes over 365¼ days; and a tropical year of about ten minutes under 364¼ days. Now, the reason for this difference is the precession, and it is probably from the difference between these two years that Hipparchus eventually estimated a lower limit for the rate of precession; but initially he knew only that he had different values for the length of the year on his hands, and he wished to find which was correct or what could account for the difference. (Much of Hipparchus' work, it should be noted, was concerned with examining the accuracy of Babylonian parameters, and his observational tests, which can be reconstructed from evidence given by Ptolemy, are exceedingly ingenious.) The third problem was that comparison of observations by Timocharis (early 3d cent. B.C.) of occultations of fixed stars by the moon with Hipparchus' own observations of the distances of fixed stars from the moon during lunar eclipses seemed to show large but highly irregular displacements in the tropical longitudes of the stars. This problem turned out to be connected with the second problem, the difference between the tropical and sidereal years, and together they provided the evidence for Hipparchus' various hypotheses, one of which was the precession, as Ptolemy later confirmed it. But as Ptolemy points out, the displacements were themselves so doubtful—because of suspected observational errors and uncertainties in lunar theory, lunar parallax, and solar theory—that it was difficult to draw any certain conclusions from them.

How Hipparchus treated all this is not known, although some plausible reconstruction is possible; but it is certain that in at least two different works, *On the displacement of the solstitial and equinoctial points* and *On the length of the year,* he offered various hypotheses, all quite tentative. He considered the possibility that only zodiacal stars, or perhaps bright zodiacal stars like Spica, move with respect to the equinoxes (as though they were very slow, distant planets). Ptolemy calls this Hipparchus' "first hypothesis." He also considered the possibility that the fixed stars were not fixed at all, but had independent motions, and he left many descriptions of stellar alignments that could later be checked to see if any changes had occurred. Ptolemy used them to show that none could be detected. Hipparchus may also have proposed that the sphere of the fixed stars might oscillate back and forth over a short arc of eight degrees, a theory doubtless related to the Babylonian location of the equinoxes at the eighth degree of Aries and Libra. This is the so-called "trepidation of the equinoxes" described by Theon of Alexandria (late 4th cent.) in his shorter commentary on Ptolemy's *Handy Tables.* Finally, one of his suggestions was a motion of the sphere of the fixed stars

through not less than one degree per century with respect to the equinoxes—the very motion later confirmed by Ptolemy; but it is evident from Ptolemy's account that this too was highly tentative, something that "Hipparchus too seems to have suspected" in his book *On the length of the year.* Ptolemy's demonstrations in *Almagest* 7. 1–3 are precisely that the stars are fixed in relation to each other but move slowly eastward with respect to the equinoxes, both of which points Hipparchus conjectured but was not able to prove. "Hipparchus," Ptolemy says, "conceived of both of these notions on the basis of the phenomena available to him, but under conditions which forced him, as far as concerns the effect over a long period, to conjecture rather than to predict, since he had found very few observations of fixed stars before his own time, in fact practically none beside those recorded by Aristyllos and Timocharis, and even these were neither free from uncertainty nor carefully worked out."[32]

One may well wonder whether Hipparchus considered his conjectures to be of "absolutely shattering significance," particularly as he was fully aware of the uncertainty of the underlying observations. And one may also wonder whether his technical and critical accounts of his investigations ever reached the "Stoicizing intellectuals" of Tarsus, and whether they would even have understood them, let alone received them "with something akin to religious awe." Finally, since even Stoics were aware that the entire heaven with everything in it—stars, sun, moon, planets—whirls around the earth at a vast speed in a single day, one may at last wonder whether it would have seemed worthwhile to invent a new deity—"stronger than the divinity of the cosmos itself"—who just manages to move the heavens by a scant and nearly undetectable one degree per century. The rest of Ulansey's argument, with the cult of Perseus, the identification of Mithras and Perseus, the intellectual Cilician pirates, and the naming of Mithras after Mithridates of Pontus—all the great secrets previously unknown (and probably best left unrevealed)—may be left to the discretion of the judicious reader, who by now may wish to regard the entire study as a cautionary tale.

What then is left of the cosmical mysteries of Mithras? Very little, I fear. If that is your pleasure, the figures in the tauroctony may be identified with a group of constellations, mostly just below the ecliptic, crossing the southern sky between Taurus and Scorpio; the torchbearers may have something to do with spring and autumn; and any planets or zodiacal signs in the borders show the ordinary symbols of Hellenistic astrology. If you truly wish, you may believe that the death of the bull shows the heliacal or cosmical setting of Taurus, but this cannot be pressed too far, since it is not certain which part of Taurus is setting—the Pleiades, the Hyades with Aldebaran, or the entire constellation—nor is it certain what such a setting means for the cult beyond giving a date in the spring or autumn, the purpose of which is anyone's guess. None of this is very profound, and it provides nothing of substance about the narrative that is so obviously shown in the reliefs; further explanations by means of astronomy or astrology seem to me hopeless, although I am sure that will not stop people from trying. It is not that the cult is not astrological—almost everything in its period is astrological, and some, perhaps all, Mithraea were decorated with zodiacal signs—but the

32. *Almagest* 7. 1, trans. G. J. Toomer (1984), p. 321.

evidence is lacking for anything that is not superficial and ubiquitous, which is all the astrological content may be, as Cumont long ago surmised. The passages from Celsus, from Porphyry, and from the scholiast to Statius that have been brought to bear on these questions are opaque, confused, even ridiculous, as Cumont recognized, mostly second-hand farragoes of the commonplaces of Hellenistic pagan cults of whatever sort you will, seen through the philosophical lens of Platonism; and the other testimonia are not more helpful.[33] For the rest, if one gives up Cumont's Iranian interpretation—on which I have no opinion, except that Cumont seems to me, as Vermaseren does also, more astute than his critics—one must admit that nothing is known of the meaning of the tauroctony and next to nothing of the rituals and beliefs of the cult of Mithras. One might also suggest, as a general lesson, that the astronomical interpretation of religions is best not attempted at all—that is, unless you can carry it off like Dupuis.

This is not a happy situation, for few delight in confessing to ignorance where once there was knowledge. And there is worse: for if the astrology is commonplace, and if the Iranian Mithra is dismissed, those who ask "What was Mithraism, anyway?" just may conclude that it was nothing much, and perhaps not a serious religion after all. Many claims have been made for the importance of Mithraism—Renan's is the most famous—and the cult has often been called the great rival of Christianity in the second and third centuries, probably because of the large number of monuments in Europe, while other pagan cults have left rather little. But are such claims true? Do the Fathers of the second and third centuries—Justin, Clement, Irenaeus, Hippolytus, Cyprian, even the stern Tertullian and the learned Origen—warn against its blandishments, ridicule its myths, refute its theology, condemn its followers to perdition? No, they treat it with mild curiosity or contempt, but more often with neglect. And then do Lactantius and Eusebius, Ambrose, Augustine, and Jerome acclaim the Church's recent and glorious victory over its great rival? No, for while celebrating with righteous zeal the triumph of the Church over every pagan and persecutor, every philosopher and skeptic, every heretic and schismatic, they too pass over the cult of Mithras in almost complete silence. Even in the interminable comminations of the interminable *City of God,* the name of the great god Mithras occurs not once.

The argument from silence is not to be taken lightly, for it means that Mithraism was no great popular religion, at least in the eyes of those who would have been the most concerned if it were. And if it was not a popular religion, then it must have been no more than what the monuments and inscriptions, taken literally, show it to be: a rude fraternal cult of soldiers on the frontier, many of them adolescents, and perhaps of ancient veterans back in Rome and Ostia, gathering in their mock grottos to perform the old rites and recall the old days. Yes, it had images of some now-forgotten myth, of Mithras slaying a bull, banqueting with the sun on the animal's dead body, of other scenes from the exploits of the hero, of a monster with a lion's head and a human body encoiled by a serpent, of

33. See the more polite but also critical judgment of Porphyry in particular by M. J. Vermaseren, *Mithraica III: The Mithraeum at Marino, EPRO* 16.3 (1982), pp. 56 ff., and the detailed analysis of all the Platonizing testimonia by Turcan, *Mithras Platonicus.*

torches, keys, shovels, caps, zodiacs, and planets. And like other cults, it had names of deities imported from the exotic East, grades of initiation, secret rites, and doubtless a good deal of divination, magic, and mumbo-jumbo that have left less record than the commonplace astrology of the monuments. But that may be the whole of it, a cult and fraternity of soldiers as eclectic as Freemasonry, and no more profound. Rather than speculating on presumed cosmical mysteries, we will perhaps learn more of Mithraism by contemplating the silence of the Christians.

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