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A HISTORY OF THE DOCTRINE OF COMETS

A PAPER READ BEFORE THE AMERICAN HISTORICAL ASSOCIATION AT ITS
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BY

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A HISTORY OF THE DOCTRINE OF COMETS.

FEW chapters in the evolution of astronomy are more interesting than the struggle between the theological and the scientific doctrine regarding comets—the passage from the conception of them as fire-balls flung by an angry God for the purpose of scaring a wicked world, to their recognition as natural in origin and obedient to law in movement. Hardly any thing throws a more vivid light upon the danger of wresting texts of Scripture to preserve ideas which observation and thought have superseded, and upon the folly of arraying ecclesiastical power against scientific discovery.

Out of the ancient world had come a mass of beliefs regarding comets, meteors, and eclipses; all these were held to be signs displayed from heaven for the warning of mankind. Stars and meteors were generally thought to presage happy events, especially the births of gods, heroes, and great men. So firmly rooted was this idea that we constantly find among the ancient nations traditions of lights in the heavens preceding the birth of persons of note. The sacred books of India show that the births of Crishna and of Buddha were announced by such heavenly lights.¹ The sacred books of China tell of similar appearances at

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¹ For Crishna see Cox, "Aryan Mythology," ii., 133; the "Vishnu Purana" (Wilson's translation), bk. v., ch. 4. As to lights at the birth, or rather at the conception, of Buddha, see Bunsen, "Angel Messiah," 22, 23; Alabaster, "Wheel of the Law" (illustrations of Buddhism), 102; Edwin Arnold, "Light of Asia"; Bp. Bigandet, "Life of Gaudama, the Burmese Buddha," 30; Oldenberg, "Buddha" (English translation), pt. i., ch. ii.

the births of Yu, the founder of the first dynasty, and of the inspired sage, Lao-tse.¹ According to the Jewish legends, a star appeared at the birth of Moses, and was seen by the Magi of Egypt, who informed the king; and when Abraham was born an unusual star appeared in the east.² The Greeks and Romans cherished similar traditions.³ A heavenly light accompanied the birth of Æsculapius, and the births of various Cæsars were heralded in like manner.

As to the nature of these heavenly bodies, the Fathers of the Christian Church were divided. Origen thought them living creatures possessed of souls,⁴ and this belief was thought warranted by the beautiful Song of the Three Children, which the Anglican communion has so wisely retained in its liturgy. Other Fathers of the church thought the stars abiding-places of the angels, and that shooting-stars were moved by angels.⁵ The Gnostics considered the stars as spiritual beings governed by angels and appointed not to cause earthly events but to indicate them.⁶ Philo Judæus believed the stars beneficent spirits,⁷ and this belief was widely held by Jews, Greeks, and Christians. Among the Mohammedans we have a curious example of the same

¹ For Chinese legends regarding stars at the birth of Yu and Lao-tse, see Thornton, "History of China," i., 137; also Pingré, "Cométographie," 245.

² Regarding stars at the births of Moses and Abraham, see Calmet, "Fragments," part viii.; Baring-Gould, "Legends of Old Testament Characters," ch. xxiv.; Farrar, "Life of Christ," ch. iii. As to the Magi, see Higgins, "Anacalypsis;" Hooykaas, Ort, and Kuehnen, "Bible for Learners," vol. iii.

³ See Bell, "Pantheon," s.v. Æsculapius and Atræus; Gibbon, "Decline and Fall," i., 151, 590; Farrar, "Life of Christ" (Amer. ed.), 52; Cox, "Tales of Ancient Greece," 41, 61, 62; Higgins, "Anacalypsis," i., 322; also Lucan, i., 529; Suetonius, "Caes.," Julius 88, Claud. 463; Seneca, "Nat. Quæst.," i., 1; Virgil, "Ecl.," ix., 47; as well as Ovid, Pliny, and other Roman poets and historians.

⁴ See Origen, "De Principiis," lib. i., cap. 7.

⁵ See Leopardi, "Errori Popolari," ch. xi.

⁶ See Wilson, "Selections from the Prophetic Scriptures" (in Ante-Nicene Christian Library), 132.

⁷ See Philo Judæus, "On the Creation of the World," cap. 18, 19; "On Monarchy," cap. i.

tendency toward a kindly interpretation of stars and meteors, in the belief of certain Mohammedan teachers that meteoric showers are caused by good angels hurling missiles to drive evil angels out of the sky.

Eclipses were regarded in a very different light, being supposed to express the distress of nature at earthly calamities.¹ The Greeks believed that darkness overshadowed the earth at the deaths of Prometheus, Atreus, Hercules, Æsculapius, and Alexander the Great. The Roman legends held that at the death of Romulus there was darkness for six hours.² In the history of the Cæsars occur portents of all three kinds; for at the death of Julius the earth was shrouded in darkness, the birth of Augustus was heralded by a star, and the downfall of Nero by a comet.³ Nor has this mode of thinking ceased in modern times. A similar claim was made at the execution of Charles I.,⁴ and Increase Mather thought an eclipse in Massachusetts an evidence of the grief of nature at the death of President Chauncey, of Harvard College.⁵ Archbishop Sandys expected eclipses to be the final tokens of woe at the destruction of the world, and traces of this feeling have come down to our own time. The beautiful story of the Connecticut statesman who, when his associates in the General Assembly were alarmed by an eclipse of the sun, and thought it the beginning of the day of judgment, quietly ordered in candles that he might in any case be found doing his duty, marks probably the last noteworthy appearance of the old belief in the civilized world.⁶

¹ For Indian theories, see Alabaster, "Wheel of the Law," 11.

² See Higgins, "Anacalypsis," i., 616, 617.

³ See Suetonius, "Cæs.," Julius 88, Claud. 46; Seneca, "Quæst. Nat.," i., 1, vii., 17; Pliny, "Hist. Nat.," ii., 25; Tacitus, "Ann.," xiv., 22; Josephus, xiv., 12; besides the authorities above cited.

⁴ See a sermon preached before Charles II., cited by Lecky, "England in the Eighteenth Century," i., 65.

⁵ He thought, too, that it might have something to do with the death of sundry civil functionaries of the colonies. See his "Discourse concerning Comets," 1682.

⁶ For Abp. Sandys' belief see his eighteenth sermon (in Parker Soc. publications).

In these beliefs regarding meteors and eclipses there was little calculated to do harm by arousing that superstitious terror which is the worst breeding-bed of cruelty. Far otherwise was it with the belief regarding comets. During many centuries they gave rise to the direst superstition and fanaticism. The records of every nation are full of these. The Chaldeans alone among the ancient nations seem to have regarded comets without fear, and to have thought them bodies wandering as harmless as fishes in the sea; the Pythagoreans alone among philosophers seem to have had a vague idea of them as bodies returning at fixed periods of time; and in all antiquity, so far as is known, one man alone—Seneca—had the scientific instinct and prophetic inspiration to give this idea definite shape, and to declare that the time would come when comets would be found to move in accordance with natural law.¹ Here and there a few strong men rose as individuals above the prevailing superstition. The Emperor Vespasian tried to laugh it down, and insisted that a certain comet in his time could not betoken his death, because it was hairy, and he bald; but such scoffing produced little permanent effect, and the prophecy of Seneca was soon forgotten. Such isolated utterances could not stand against the mass of superstition which upheld the doctrine that comets are "signs and wonders."²

The belief that every comet is a ball of fire flung from the right hand of an angry God to warn the grovelling dwellers of earth was received into the early Church, and transmitted through the middle ages to the Reformation period; and in its transmission it was made all the more precious by supposed textual proofs from Scripture. The great Fathers of the Church committed themselves unreservedly

¹ For terror caused in Rome by comets see Pingré, "Cométographie," 165, 166. For the Chaldeans see Wolf, "Geschichte der Astronomie," 10 *et seq.*, and 181 *et seq.*; also Pingré, "Cométographie," ch. ii. For the Pythagorean notions see citation from Plutarch in Costard, "History of Astronomy," 283. For Seneca's prediction see Guillemin, "World of Comets" (translated by Glaisner), 4, 5; also Watson, "On Comets," 46.

² For this feeling in antiquity see the preliminary chapters of the two works last cited.