

Astronomy and Augustine's Break with the Manichees*

As Augustine himself admits in the *Confessions*, from the age of nineteen to that of twenty-eight he was a member of the religion of the Manichees¹. This strange sect was founded by a Persian divine named Mani, or Manes (215-276), and was dualistic in character, teaching the conflict between the two great Kingdoms of Light and Darkness. Soul and body in man derived respectively from these two kingdoms and the true Manichee worshipped light and did all in his power to promote its separation from the darkness with which it had become enmeshed through the production of the present world².

Augustine's abandonment³ of Manichaeism after nine years³ of immersion in its doctrines and practices constitutes an abrupt cleavage with the past — a dramatic change which to my knowledge has received but little attention⁴. The object of the present study is to examine the cir-

* The author wishes to express his indebtedness to the Canada Council and (at a later date) to the Deutscher Akademischer Austauschdienst. Thanks are also due to Bryan H. Andrew of the Astrophysics Branch of the National Research Council of Canada.

1. *Confessions* (hereafter : *Conf.*) 4. 1. 1.

2. For a very readable account of the intricacies of this fascinating religion see : Francis CRAWFORD BURKITT, *Religion of the Manichees*, Cambridge, 1925. A more recent account is *Mani and Manichaeism* by Geo Widengren (translated by Charles Kessler and revised by the author ; London 1965).

3. While Augustine repeatedly claims that he was a Manichee for nine years, Courcelle has well observed that the correct period is at least ten years : Pierre COURCELLE, *Recherches sur les Confessions de Saint Augustin*, Paris², 1968, p. 78.

4. See M. NÉDONCELLE, *L'abandon de Mani par Augustin, ou la logique de l'optimisme*, dans *Recherches Augustiniennes* 2 (1962) 17-32. This author however, treats the break from a completely different viewpoint than the present article. Also on this topic, see COURCELLE, *op. cit.*, p. 73.

cumstances surrounding Augustine's break with the Manichees with a view to explaining this change through a better appreciation of one of its more important causes.

The description of Augustine's growing disillusionment with Manichaeism occupies most of the first half of the fifth book of the *Confessions*. After treating of other matters in the second half of the book, Augustine closes with a provisional decision to become a catechumen :

« I decided, therefore, to be for the time being a catechumen in the Catholic Church (the Church which my parents had encouraged me to join) until I should see some certain light by which to steer my course⁵. »

Further, early in the next book, when Augustine's mother joins him in Milan, he could tell her that though he was not yet a Catholic Christian, nevertheless he was certainly no longer a Manichaean⁶. While this assertion is found at the beginning of the sixth book, the full conversion of Augustine, involving the now-famous garden-scene, does not take place until the closing chapter of the eighth book⁷. It is noteworthy that the intervening text contains two events of importance to his growth towards Catholicism. The first is the rejection of astrology⁸, while the second event consists in the discovery of certain books of the « Platonists » which (among other things) free his mind from the materialism of the Manichees⁹.

Regarding the growth of Augustine's disillusionment with Manichaeism, it seems to have begun with questions which neither he, nor his fellow-believers could answer. Apparently Augustine was not content at that stage with blind, unquestioning faith. He was advised by his co-religionists to await the coming to Carthage (where he was then teaching) of a certain Faustus. Augustine was assured that this famous Manichaean preacher would be able to solve all his religious difficulties with ease¹⁰. Faustus eventually arrived in the course of Augustine's twenty-ninth year¹¹. The great anti-climax for the inquiring Augustine was that though Faustus was a charming man, he did not even pretend to be able to solve the problems that were plaguing him¹². The result was a definite check

5. *Conf.* 5. 14. 25. Cited extracts are from the Rex Warner translation. However the extra paragraph number in each reference is derived from the Pilkington translation.

6. *Conf.* 6. 1. 1.

7. *Conf.* 8. 12. 28-30.

8. *Conf.* 7. 6. 8-10.

9. *Conf.* 7. 9-20. Augustine treats explicitly of having been liberated from materialism in the last chapter.

10. *Conf.* 5. 3. 3, but more especially for the assurances of Augustine's co-religionists, see *Conf.* 5. 6. 10.

11. *Conf.* 5. 3. 3.

12. *Conf.* 5. 6. 11 and 5. 7. 12.

upon Augustine's zeal for the Manichaean cause — « All the ambition I had had to go far in that sect simply collapsed once I had got to know the man. Not that I broke completely with the Manichees¹³. »

Within a year after this disturbing encounter, Augustine had shifted the site of his teaching from Carthage to Rome. No doubt the transition was facilitated by Manichaean contacts, as is reflected by the fact that he stayed with a member of that sect after arrival in Rome¹⁴. However, by this stage his faith seems to have expired. He continued to associate with the members of that sect because of old friendships (and no doubt too, for professional advantages). This inertia prevented him for looking elsewhere for alternatives of belief :

« Yet I still lived on more friendly terms with the Manichees than with others not of that heresy. I was no longer defending it with my old fervor, but my friendship with those people... made me slower to look for some other belief¹⁵. »

This « spiritual inertia » is described about half way through the tenth chapter of the fifth book. Only towards the end of the fourteenth chapter does Augustine make a definite commitment to sever all ties with the Manichees — « So... I did at least decide that I must leave the Manichees¹⁶. » Yet it is to be observed that this definite decision was not due to any clear realization of the lame materialism of the light-worshipping Manichees. Indeed, lacking (at that stage) any notion of « spiritual » he was consequently quite incapable of rebelling against Manichaean materialism :

« Then indeed I began to bend my mind earnestly to the question : could I find any sure proofs by which to convince the Manichees of falsehood ? If only I had been able to form the idea of a substance that was spiritual, all their strongholds would have collapsed at once and been thrown out of my mind. But I could not¹⁷. »

Of all possible reasons for his final break with the Manichees, Augustine proposes a seemingly irrelevant preference for the views of the « philosophers » to those of the Manichees, in regard to the phenomena of nature :

« With regard to the body of this world and the whole of nature that is within the reach of our bodily senses, I considered, after much consideration and frequent comparisons (*magis magisque considerans atque comparans*), that very many of the philosophers held views which were much more probable than those of the Manichees¹⁸. »

13. *Conf.* 5. 7. 13.

14. *Conf.* 5. 10. 18-19.

15. *Conf.* 5. 10. 19.

16. *Conf.* 5. 14. 25.

17. *Ibid.*

18. *Ibid.*

This strange statement is found towards the end of the fourteenth chapter of book five. In order to begin explaining it, it is necessary to go back to early in the third chapter where the first mention of « philosophers » and of « comparing » occurs. At this site, the following informative extract is to be found :

« Now I had read a lot of philosophy, and I retained in my memory a great deal of what I had read. I began to compare some of the things said by the philosophers with those interminable fallacies of the Manichees, and it seemed to me that what the philosophers said was the more probable¹⁹. »

Further reading reveals that the « philosophers » of which Augustine is writing are those whose labours aim to « count the stars... measure the constellations in the sky and track down the paths of the stars²⁰. » In modern terminology these « philosophers » are obviously astronomers.

It is noteworthy that by the time of Augustine, astronomy had developed into a very sophisticated science of the heavens. Indeed, as early as the fourth century before Christ, Eudoxus had designed an elegant system of homocentric spheres surrounding the earth (also spherical) which reduced the seemingly lawless movements of the planets (Gr. : *πλανήτης* : wanderer) to some kind of order. This system was superseded by Hipparchus' (2nd-1st century B.C.), but more especially by that of the great Ptolemy of Alexandria in the second century of the present era²¹. With Ptolemy, ancient astronomy received its most sophisticated formulation as a complex system capable of accounting for many of the celestial phenomena.

Just how much of this wealth of astronomical knowledge was known to Augustine is open to question. What is to be observed however, is that he places a strange and protracted emphasis upon celestial phenomena in chapters three, four and five of the fifth book of the *Confessions*. In that place are to be found many references to such things as the lengths of days and nights, their alternation, the solstices, the equinoxes and eclipses of the sun and moon.

It would appear that for Augustine the fifth book of the *Confessions* is the site of a confrontation between Manes and the astronomers with regard to celestial phenomena :

« I could remember many true things which the philosophers have said about this created world, and I could see the reason for what they said in calculation, in the order of time, and in the visible evidence of the stars. I compared their views with those of Manes, who, drawing

19. *Conf.* 5. 3. 3.

20. *Ibid.*

21. J. L. E. DREYER, *A History of Astronomy from Thales to Kepler*, (Dover edition 1953), chapters 4, 7 & 9.

on a rich vein of pure fantasy, has had a lot to say on these subjects. I found in him no reason given for the solstices and the equinoxes or the eclipses of the sun and moon or anything else of this kind which I had learned from the books of secular philosophy²². »

Whatever may have been Augustine's feelings at the time of the confrontation, later on when he came to writing the *Confessions* he did not see the crisis as posing a switch of loyalties from the Manichees to the astronomers. Notwithstanding the exalted nature of the physical heavens, Augustine did not see the study of them as intrinsically a noble enterprise. Indeed, he rebukes the astronomers inasmuch as they proudly seek only knowledge of the creature and ignore the Creator²³. He sees them so carried away by the supposed exalted nature of their science that « they fancy that they are high up and shining with the stars, and in fact they have fallen to the ground²⁴. » For Augustine the astronomers seem to have been useful in merely showing up the ignorance of Manes :

When he was caught out making false statements about the heaven and the stars and the movements of the sun and moon, even though these things are not an integral part of religious doctrine, yet it was clear enough that his presumption was sacrilegious... he attempted to have these statements attributed to him as though he were a divine person²⁵.

Elsewhere too, Augustine rebukes Manes for writing at length on celestial phenomena when these things had very little, or nothing to do with moral virtue : « What then was the point of this Manes writing on these subjects, which are not necessary for the learning of goodness and piety²⁶ ? » While celestial phenomena may not have been necessary for the learning of goodness and piety, they were however very much an integral part of Manichaean doctrine. This religion saw the sun and moon as vessels for transporting the purified light (including human souls) from this world back to the Kingdom of Light. For this reason had the God of Light set them in the heavens :

« The sun and moon he founded, he set them on high, to purify the Soul. Daily they take up the refined part to the height, but the dregs however they erase²⁷. »

22. *Conf.* 5. 3. 6.

23. *Conf.* 5. 3-4 *passim*. The latter chapter contains the memorable didactic example of the tree : « The man who consciously owns a tree and knows how to use it and gives you thanks for it may not know its exact height or how widely the branches spread ; but he is better off than the man who, while he has measured the tree and counted all its branches, neither owns it nor knows and loves its creator. » (*Conf.* 5. 4. 7.).

24. *Conf.* 5. 3. 5.

25. *Conf.* 5. 5. 8.

26. *Conf.* 5. 5. 8, *initium*.

27. *A Manichaean Psalm-Book*, part II, volume II of *Manichaean Manuscripts of the Chester Beatty Collection*, edited by C. R. C. Allberry (Stuttgart 1938), Psalm of the Bema CCXXIII, p. 10, lines 30-33.

It is understandable therefore that the Manichees worshipped the sun and moon.²⁸ Indeed, while Augustine can object to Manes' preoccupation with the heavens, it seems that precisely this aspect of Manichaeism was an early source of fascination for the young Augustine. Thus, in the first description of his joining that sect he observes :

« There was set before me, in my hunger for you, the sun and the moon, beautiful creations of yours, but nevertheless creations of yours and not you yourself²⁹. »

Augustine seems to have been very much a heaven-orientated personality, not only in the religious sense, but also in the physical sense. Thus, in the *Soliloquies* he has Reason address him as follows : « You are not so much delighted by the earth and her beauty, as by the beauty and magnificence of heaven³⁰. » This fascination of the young Augustine with the denizens of the starry vault seems at least partly responsible for his avid interest in astrology during his student-days at Carthage : « I was an eager student of the books of those who make horoscopes³¹. » Indeed, so fervently was he dedicated to that art that even the wisest and best of his friends could not deter him from assiduously following it : « I was still too much impressed by the authority of the astrological writers³¹. » Understandably also, Manichaeism could afford to be indulgent towards astrology, at least as regards the supposed beneficent influence of heavenly bodies upon human lives. But the art of astrology relied upon the science of astronomy which located and identified celestial bodies, as well as seeking out laws for their behaviour. It would seem that the ever-curious Augustine, from a consuming interest in astrology was to be led on to an increasing involvement with astronomy and also thereby, into deepening difficulties in reconciling his discoveries with the doctrines of Manichaeism. Finally, on the subject of astrology and Augustine, it is significant that while he abandoned Manichaeism in his twenty-ninth year³³, it appears that he broke with astrology between his thirtieth and his thirty-second year³⁴. This would seem to imply that astro-

28. *De Genesi contra Manichaeos* I. [III]. 6 ; *Liber de haeresibus* XLVI 'Manichaei' (ad finem) ; *Contra Faustum* 14. 11 ; 16. 10 etc.

29. *Conf.* 3. 6. 10.

30. *Soliloquies* I. 11.

31. *Conf.* 4. 3. 5.

32. *Conf.* 4. 3. 6.

33. The fifth book of the *Confessions* contains the events of Augustine's twenty-ninth year (*Conf.* 5. 3. 3.). At the end of this book he makes the definite decision to quit the Manichees : « I did at least decide that I must leave the Manichees. » (*Conf.* 5. 14. 25.).

34. Thus, in *Conf.* 6. 11. 18 he mentions that he was in his thirtieth year. Again during the events leading up to the conversion-scene, he indicates his age as being at least thirty-one (*Conf.* 8. 7. 17), while thirty-two is the generally accepted value.

logy had a much stronger hold over him than Manichaeism ; a possibility which is not generally recognized³⁵.

Meanwhile it would appear that Augustine's growing knowledge of astronomy increased the danger to his orthodoxy as a Manichaean. Consequently, the problems which he wished to place before the celebrated Faustus upon his arrival in Carthage were essentially those posed by astronomy. Thus he says of his meeting with that famous Manichaean preacher :

« The books of the Manichees are indeed full of lengthy fables about the heaven and the stars and the sun and the moon, and I now thought that he could not possibly give me a reasoned answer to what I wanted to know, which was whether, after comparing all this with the calculations I had read of elsewhere, the facts were as stated in the book of Manes, or if, at any rate, some explanation equally good could be discovered in these books³⁶. »

The Manichaean explanation of the universe and its contents involved a variety of divine beings. Thus, the *Splenditenens* held the world suspended like a chandelier, while the ' King of Glory ' rotates the heavenly spheres that surround the earth, and the whole is supported upon the shoulders of the gigantic ' Atlas '³⁷. Thus, the different phenomena of nature are explainable by a diversity of gods, as Augustine indicates :

« One does battle with the race of darkness ; another constructs the world from the part that is captured ; another standing above, has the world in his hand ; another holds him up from below ; another turns the wheels of the fires and winds and waters beneath ; another in his circuit of the heavens, gathers with his beams the members of your gods from cesspools³⁸. »

It would be an anachronism to say that, in contrast to this fanciful Manichaean account of the universe and its workings, the « philosophers » offered a merely mechanical explanation of the motions of heavenly bodies. Centuries of animism lay ahead before the genius of Galileo and more especially that of Newton (1642-1737) were to pioneer the inanimate view of nature, thus producing what subsequently became known as the « clock-work universe ». Such dramatic developments lay more than a thousand years ahead of Augustine's age.

35. Even Peter Brown in his excellent *Augustine of Hippo ; A Biography*, (Berkeley & Los Angeles, 1969), refers to Augustine as having « dabbled in astrology » (p. 57). Hugh Pope has however observed that « astrology long exercised a fascination for him », in his *St. Augustine of Hippo ; Essays, etc.*, (Image edition, 1961), p. 86.

36. *Conf.* 5. 7. 12.

37. F. C. BURKITT, *op. cit.*, p. 28. Cf. Franz CUMONT, *Recherches sur le manichéisme*, (Brussels 1908), p. 23.

38. *Reply to Faustus the Manichaean* 20. 10.

At worst it can be said that the ancient astronomers were only somewhat less imaginative than the Manichees in trying to account for the motions of the planets by the mysterious movements of invisible spheres in which the planets were embedded. However, for the most part, it would seem that while the astronomers used such spheres in combinations to produce epicycles and eccentric rotations, they did not insist upon the physical reality of their tools of explanation. Here is one way in which they differed from the Manichees, for as Augustine observes : « The Manichees... produced a lot of fabulous absurdities in which we were required to believe because they were not susceptible of proof³⁹. » As far as celestial phenomena were concerned, these were not only explained for the faithful Manichee by a host of divine beings, but a true believer had also to be convinced of the real physical existence of such entities.

Another important advantage possessed by the astronomers was that they could explain celestial phenomena through calculations : « I could see the reason for what they said in calculation⁴⁰. » Among other things, this makes possible the prediction of eclipses, a topic which, judging from Augustine's repeated and lengthy insistence upon it, would seem to constitute the crux of his earnest preoccupation with the astronomers :

« Into all these things they look with the mind and understanding which you gave them ; they have discovered much and many years in advance of the event have predicted eclipses of the sun and moon, setting down the day, the hour, and the extent of these eclipses⁴¹. »

The earliest recorded eclipse of history seems to be the solar eclipse of October 22nd, 2137 B.C.⁴² Interestingly enough too, the Bible contains an account of an eclipse of the sun⁴³. As to the art of predicting eclipses, this may have been a novelty for Augustine personally (whence his preoccupation with it), but it was already an ancient art by the fourth century of the present era. The solar eclipse of 28th May, 584 B.C. seems to have been predicted by Thales the philosopher⁴⁴. This is the first known case of such a successful feat in the West. Others followed. Thus, Helikon, the disciple of the famous Eudoxus, predicted the solar eclipse of May 12th, 361 B.C., for which he was presented with a talent by Dionysius II of Syracuse⁴⁵. Considering therefore that the art of predicting eclipses was already an ancient practice by the time of Augustine, the question can well be asked as to what special significance it held for him personally.

39. *Conf.* 6. 5. 7.

40. *Conf.* 5. 3. 6.

41. *Conf.* 5. 3. 4.

42. Samuel Alfred MITCHELL, *Eclipses of the Sun*, (New York, 5th edition, 1951), 'The Beginnings of Astronomy' *paulo ab initio*.

43. *Book of Amos* 8. 9.

44. DREYER, *op. cit.*, p. 11.

45. *Ibid.* p. 87.

No doubt there were elements in Augustine's wonder which would be shared by most of humanity. Thus, part of the special character of eclipses derives from their rarity (since they occur only once in a period of years), as well as from their seeming independence with respect to other cyclic celestial phenomena. Again, for dramatic grandeur, a solar eclipse with the sudden interruption of daylight, would be far more impressive than an eclipse of the moon. Indeed, for those people ignorant of the cause of a solar eclipse, the phenomenon could be possessed of an ominous character : « Day of doom, says the Lord God, when there shall be sunset at noon, and earth shall be overshadowed under the full light⁴⁶. » Yet another dimension of horror and foreboding would be added in the case of the young Augustine as a Sun-worshipping Manichee. The sacred Sun, in the midst of its course had suddenly succumbed to the forces of Darkness ! For such reasons, it would be safe to assume that when Augustine writes of eclipses, he has in mind principally solar eclipses, which while intrinsically spectacular were all the more significant for Manichees.

There remains too for Augustine the significance of the calculations of the astronomers and their ability to predict an eclipse years in advance of the event ; a feat by which Augustine is all too obviously impressed in the third chapter of the fifth book of the *Confessions*. Apparently, by delving into the treatises on astronomy he had encountered this painful possibility. For him as a Manichee, it proposed the uncomfortable prospect of the knowledge of the astronomers being demonstrably superior to the mystical gnosis of his religion which possessed no such powers of prediction. To be absolutely certain of this inadequacy of Manichaeism seems to be the over-riding reason for his eagerness to meet the celebrated Faustus. Thus does he describe his leading question to that authority :

« The books of the Manichees are indeed full of lengthy fables about the heaven and the stars and the sun and the moon, and I now thought that he could not possibly give me a reasoned answer to what I wanted to know, which was whether, after comparing all this with the calculations I had read of elsewhere, the facts were as stated in the books of Manes, or if, at any rate, some explanation equally good could be discovered in these books⁴⁷. »

The inability of Faustus to vanquish the astronomers and vindicate the Manichaeian worship of Sun and Moon must have left Augustine with the humbling realization that as a Manichee he had been worshipping heavenly bodies indeed, but bodies which were themselves subservient to the calculations and predictions of the astronomers. In modern parlance, he was tempted to see the Sun and Moon not as divine beings, but

⁴⁶. *Book of Amos* 8. 9. Cf. The Roman populace's superstitious reaction to an eclipse, as recounted by Augustine (*City of God* 3. 15.).

⁴⁷. *Conf.* 5. 7. 12.

as mere inanimate masses subject to the laws of motion. In the Manichæan code of morals there was only one sin greater than this, and that was to blaspheme the God of Light Himself. Accordingly, the second offence on the *Khuastuanift*, or formula of confession is as follows : « Blasphemies against the Sun and Moon : To say that the Sun and Moon are dead and that their rising and setting is powerless [i.e. mechanical]⁴⁸. »

Therefore through delving into the books of the astronomers, the curious Augustine had been led on until he was faced with the temptation to commit this penultimate blasphemy. The question therefore is what induced him to succumb to that temptation.

On paper, the abstruse reasonings and involved calculations of the astronomers would recommend themselves less to most people than the bizarre accounts about the divinities of the Manichees. The former demanded laborious logic while the latter offered at least escapist flights of fancy. Yet both claimed to account for celestial phenomena. Why then did Augustine feel compelled to choose the more difficult reasonings over the fantasies of the Manichees to which he had become addicted over a period of nine years ?

Part of the answer to this seems to be that Augustine himself was witness to the impressive grandeur of a solar eclipse. This is intimated on more than one occasion in the text. Thus, writing of the astronomers, he observes «

« They have discovered much and many years in advance of the event have predicted eclipses of the sun and moon, setting down the day, the hour, and the extent of these eclipses. *Their calculations have been proved correct ; everything took place as they had foretold*⁴⁹. »

The last sentence in this extract would seem to indicate that he has in mind a particular case. Again, as if writing from vivid experience, he is impressed by the ability of the astronomers not merely to predict the day of the eclipse years in advance of its happening, but that they can even foretell the very hour in which it will occur. As if that is not enough, they can also predict the very extent of the eclipse, foretelling whether it will be partial or total. Indeed, Augustine is so impressed by these prognostications of the astronomers that he re-iterates these points in the passage subsequent to that cited above :

« They put into writing the rules which they have discovered, and these rules are read today ; on the basis of these rules one can foretell the year, the month, the day, and the hour when there will be an eclipse of the sun or moon and whether the eclipse will be total or partial⁵⁰. »

48. The *Khuastuanift* (i. e. Confession) is an important Manichæan document which was found in Chinese Turkestan. The second offence is cited from BURKITT, *op. cit.*, p. 51.

49. *Conf.* 5. 3. 4. Italics are added.

50. *Ibid.*

Yet further evidence that Augustine has in mind at least one such experienced eclipse is to be found on continued reading :

« Everything will take place as predicted. And men who are ignorant of the subject are full of astonishment and admiration, while those who know will boast of their knowledge and be praised for it⁵¹. »

The above extracts would strongly suggest not merely that Augustine had been witness to one or more solar eclipses, but also that he was familiar with at least the general means by which astronomers can predict such eclipses. In addition there is strongly implied the far more momentous experience (for him as a Manichee) that he had had knowledge of at least one such prediction, then subsequently seen it verified, not merely as regards the extent of the eclipse, but right down to the very hour in which, even years before, it had been predicted to occur. This is the insistent tenor of the cited passages. In fact, one extract seems to imply that Augustine himself had learned the means of predicting such eclipses : « on the basis of these rules one can foretell... when there will be an eclipse⁵². » Actually he almost writes with the confidence of a professional astronomer : « Everything will take place as predicted⁵³. » It would be interesting therefore to look at the known facts of Augustine's life to see what evidence can be gleaned from these facts to corroborate the above implications.

The decisive encounter with the famous Faustus took place during the twenty-ninth year of Augustine's age⁵⁴. Since he was born in 354, the meeting must have taken place in the year 382 or 383. Moreover, as is abundantly clear from the text, Augustine's religious crisis had been developing for some number of years prior to the encounter with Faustus⁵⁵. Augustine made the acquaintance of Faustus when he visited Carthage where Augustine had been teaching for some six years. In this same city the young Augustine had also become deeply involved in astrology during his student-days⁵⁶. Returning there a year after graduating, he undoubtedly had ample opportunity to pursue that interest further. Moreover, since it was the equivalent of a university city he would have been ideally situated not merely to acquire books on astrology and astronomy, but also to become personally acquainted with professionals in both domains. An impending eclipse would have been big

51. *Ibid.*

52. *Ibid.*

53. *Ibid.*

54. *Conf.* 5. 3. 3 ; 5. 6. 10, 11 & 5. 7. 12.

55. *Conf.* 5. 6. 10.

56. *Conf.* 4. 3. 4-6. That the involvement with astrology originated during Augustine's student-days is evidenced by the fact that the Vindicianus who tried to dissuade him from wasting time and effort on this art was himself Proconsul and court-doctor at Carthage (BROWN, *op. cit.* p. 67.).

news in the academic community : « They can see an eclipse of the sun long before it happens⁵⁷. »

Augustine's very first experience of an eclipse would have been on March 15th, 359, when the central path of a partly annular and partly total eclipse passed within 200 miles of Thagaste⁵⁸, where he was then a boy of about five years old. Since an eclipse is visible within 2000 miles of its central path⁵⁹, the effect at Thagaste must have been quite spectacular. What is most significant for present purposes is that he would *not* have been witness to any more eclipses until after he returned to Carthage to teach about the year 376.

The adolescent Augustine had become a Manichee in the year 372 or 373⁶⁰. The celebrated Faustus was to come to Carthage in the year 383⁶¹. Two solar eclipses were to take place between Augustine's return to Carthage and the arrival of Faustus there. The first of these was the partial eclipse of September 8th, 378⁶², whose central path would have passed some 1100 miles south of Carthage, so that its effects would have been quite in evidence there. Also on January 12th, 381, the central path of a second partial solar eclipse passed about 1700 miles south of Carthage⁶³. Again, the effects of this eclipse would have been quite observable there⁶⁴. Well indeed could Augustine write with first-hand experience of the astronomers in the *Confessions* :

« They have discovered much and many years in advance of the event have predicted eclipses of the sun and moon, setting down the day, the hour, and the extent of these eclipses. Their calculations have been proved correct ; everything took place as they had foretold⁶⁵. »

57. *Conf.* 5. 3. 4.

58. Prof. Theodor Ritter VON OPPOLZER, *Canon of Eclipses (Canon der Finsternisse)*, translated by Owen Gingerich, (Dover edition, 1962), Chart 75.

59. George ABELL, *Exploration of the Universe* (second edition, Holt Rinehart and Winston), pp. 171 & 175.

60. Augustine was a Manichee from the age of nineteen (*Conf.* 4. 1. 1.). He would have therefore been in his nineteenth year from after his eighteenth birthday in 372 until he completed his nineteenth year in 373.

61. Actually during Augustine's twenty-ninth year (*Conf.* 5. 3. 3.) which means in 382 or 383.

62. VON OPPOLZER, *op. cit.*, Chart 76.

63. *Ibid.*

64. It could be objected that heavy cloud could have precluded observation of the eclipses. However assuming that the same general weather conditions still prevail, then Carthage would have been in a region of continuous heat with little annual precipitation (10 to 20 inches), most of which occurred in the autumn (*Encyclopaedia Britannica World Atlas* (1957), plates 25, 29 & 30.). Consequently it is most unlikely that continuous heavily clouded weather would have prevailed on the occasions of both eclipses. Even if such a most unlikely possibility had materialized, the *effect* of the first eclipse (a strange darkening during the day) would have still been in evidence.

65. *Conf.* 5. 3. 4.

These two eclipses are the first that Augustine could have witnessed since he was an infant in Thagaste at the age of five⁶⁶. Important among the events of the intervening years is the fact that he had become a Manichee at the age of nineteen⁶⁷ and practised the worship of Sun and Moon as required by that cult. From there he was soon led into an increasing involvement with astrology : « I was an eager student of the books of those who make horoscopes⁶⁸. » This caused him to delve deeper into the explanations for the motions of the heavenly bodies. The growing knowledge of astronomy which resulted provided opportunities for comparisons with the Manichaean fables about the celestial bodies. Augustine came to prefer increasingly the science of the astronomers :

« Now I had read a lot of philosophy, and... I began to compare some of the things said by the philosophers with those interminable fables of the Manichees, and it seemed to me that what the philosophers said was the more probable⁶⁹. »

All that was required for a decisive demonstration of the superiority of the science of the astronomers was the fulfillment of a predicted eclipse. Further, if this transpired as foretold right down to « the day, the hour, and the extent » of the eclipse, its effect upon the doubting Augustine would have been stunning. Two such opportunities to witness the superiority of the science of the astronomers over the supposed mystical gnosis of the Manichees were granted Augustine. The first came on September 8th, 378, and the second on January 12th, 381. The conclusion was inescapable : the supposedly sacred objects of Augustine's Manichaean worship were themselves subject to the predictions of the astronomers !

Some three years after the second of these eclipses the renowned Faustus was to come to Carthage where Augustine was teaching. He had been long assured that that famous Manichaean preacher could easily solve all his difficulties. In view of what had transpired in the heavens (if not elsewhere) the troubled Augustine was impatiently awaiting his arrival : « I had been waiting with a kind of boundless longing for the coming of this man Faustus⁷⁰. » The fame that had preceded Faustus persuaded Augustine that if any Manichee could revive his dying faith, this was the man⁷¹. The crux of the matter was of course the calculations

66. Compare, Von OPPOLZER, *op. cit.*, Charts 75 & 76.

67. *Conf.* 4. 1. 1.

68. *Conf.* 4. 3. 5.

69. *Conf.* 5. 3. 3.

70. *Conf.* 5. 6. 10.

71. *Conf.* 5. 3. 3. : « His reputation had preceded him, and I had been told that he was a really remarkable scholar in all branches of learning and particularly learned in the liberal sciences. » This brings to mind the previous episode regarding Augustine's extravagant expectations about the Roman orator Hiericus (*Conf.* 4.

of the astronomers which anticipated with stunning accuracy the eclipses of Sun and Moon ; the divine beings which Augustine as a Manichee had been taught to worship :

« The books of the Manichees are indeed full of lengthy fables about the heaven and the stars and the sun and the moon, and I now thought that he could not possibly give me a reasoned answer to what I wanted to know, which was whether, after comparing all this with the calculations I had read of elsewhere, the facts were as stated in the books of Manes, or if, at any rate, some explanation equally good could be discovered in these books⁷². »

As the pages of the *Confessions* testify, Faustus did not even attempt to rise to the challenge which was presented to him by the anxious Augustine, and so Manichaeism lost the man which history would have undoubtedly recognized as the foremost proponent of that religion.

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14. 21.) : « I had come to love him because of his very great reputation for learning... but the greater part of my admiration came from the fact that others admired him. »

72. *Conf.* 5. 7. 12. Finally on eclipses, it is noteworthy that while Augustine's conversion occurred towards the end of August, 386 (*Conf.* 9. 2. 2.), Carthage, Rome and Milan had witnessed a spectacular partly annular and partly total solar eclipse on April 15th of that same year (Von OPPOLZER, *op. cit.*, Chart 76). This was the first eclipse subsequent to the two earlier ones which seem to have precipitated Augustine's religious crisis. Writing of that conversion, well could Augustine say : « stored up in the recesses of our thought were the examples of your servants whose darkness you had turned to light. » (*Conf.* 9. 2. 3.).