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Marlowe's cosmology

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MARLOWE'S COSMOLOGY

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PREFACE

Christopher Marlowe is one of the major writers of English drama. His excellence in the use of blank verse, called Marlowe's "mighty line" by Ben Jonson, is not disputed, and there is agreement that he is one of the most important predecessors of Shakespeare. On the other hand, differences in opinion do occur when critics attempt to prove that the playwright's major characters are manifestations of himself or that he is a moralist.

That Marlowe is an extremely subjective playwright is certainly not an infrequent observation, and it is the purpose of this paper to demonstrate one aspect of this subjectivity. By means of analyzing the use of astrology, astronomy, and meteorology in his plays, it will be proved that Marlowe did not use cosmological imagery for simple ornament, but that he used such imagery with direct results in mind, revealing not only his skill as a dramatist but also his thought and learning as an Elizabethan scholar.

A general study of Marlowe's cosmology may by no means be original, for numerous critics have mentioned the subject in varying degrees; however, there is a wide disparity of opinion concerning the relative importance of the subject in relation to the playwright. This study is not exhaustive; it is significant, however, because it attempts to prove by means of biographical and historical backgrounds the idea that Marlowe had an intellect that was always "climbing after knowledge infinite."

In this study there are two obvious omissions: the plays Dido, Queen of Carthage, and The Massacre at Paris. These two plays have been omitted because Dido, Queen of Carthage, according to the title page, was written by Marlowe and Thomas Nashe, and Marlowe's share is not clear; and the text of The Massacre at Paris is available only in fragmentary form.

CHAPTER I

MARLOWE'S SCHOLARLY BACKGROUND

For a complete understanding of Marlowe's cosmology, it is necessary to have some knowledge of his life as well as a familiarity with Renaissance and Elizabethan ideology. Especially during the Renaissance, a writer was obligated to reflect the learning of his age, and to a high degree Marlowe's plays fulfilled this obligation. The study of some of the more significant aspects of both Marlowe's biography and Elizabethan historical background will prove that Marlowe was a controversial individual who lived in an equally controversial age.

Little factual knowledge of Marlowe's early life is known except that he was born the son of a Canterbury cobbler in February, 1564, and that he attended King's School, Canterbury. Records show that Marlowe received a stipend as a King's scholar for his last two years at the school, though he probably attended as a commoner before gaining the scholarship.[1]

The King's School was one of the oldest grammar schools for boys in the kingdom. It is possible that the school was already nine centuries old when Marlowe entered it, for its founding is often credited to Archbishop Theodore in the year 600.[2] The curriculum at King's

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[1] John Bakeless, The Tragicall History of Christopher Marlowe (Cambridge, 1942), I, 44--hereafter cited as Tragicall History.

[2] John Bakeless, Christopher Marlowe (New York, 1937), pp. 40-41.

School was much the same as that found in any English grammar school, and Marlowe's masters were probably either graduates of Oxford or Cambridge. All school boys Marlowe's age were drilled in a Latin grammar by William Lily, high master of St. Paul's. This grammar was taught along humanistic lines to lead to an appreciation of literature. From Lily the boys went on to the study of three works by Erasmus: Institution of a Christian Man, Copia, and Colloquia. For history the boys read Caesar, Sallust, and Livy; for comedy they read Terence and Plautus; for tragedy they read Seneca. Collections and anthologies of the poetry of Ovid, Virgil, and Horace were also available for use in the schools, and Marlowe seems to have had a particular devotion to Ovid, for he later translated sections of the Amores.[3] There remains no record of Marlowe's scholarly achievements at the King's School, but his work was evidently satisfactory or he would not have received a scholarship to Corpus Christi College, Cambridge.[4]

Historical records indicate that Marlowe had a good opportunity to see the drama of his day in Canterbury. Canterbury had a definite interest in drama because as early as 1473/4 records show that a payment of five shillings was given to the players of the Duke of Clarence. Other records indicate that an old pageant of the martyrdom of Thomas à Becket was presented yearly after it was revived during the reign of Queen Mary. As a youth Marlowe may have seen the performances of the

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[3] A. L. Rowse, Christopher Marlowe (New York, 1964), pp. 12-13.

[4] Bakeless, Tragicall History, I, 45.

Lord Warden's Players or those of Lord Leicester's, who visited the city practically every year from the early 1560's onward.[5]

Marlowe, however, did not have to depend solely upon strolling players for his dramatic interest during his youth. The King's School also presented tragedies, comedies, and interludes. Allowing boys to act in classical or neo-classical plays was a favorite Renaissance method of teaching them to speak Latin, and there is a record that Anthony Rushe, headmaster of the King's School (1561-5), received money from the Cathedral Chapter for presenting plays at Christmas.[6] Although there are no records which indicate that plays were presented at the school while Marlowe was a scholar, there are numerous records before and after. It is probable that Marlowe portrayed various parts in plays long before he left Canterbury for Cambridge.[7]

Marlowe might never have been a student at Corpus Christi College if it had not been for the bounty of Matthew Parker, former Scholar, Fellow, and Master of Corpus Christi and Archbishop of Canterbury. Parker, who died in 1575, had founded several scholarships for students from poor families, and Marlowe met the requirements of the Archbishop's will as a "Canterbury scholar" because he was born in Canterbury and educated at the King's School. The tenure for all of the scholarships founded by Archbishop Parker was for three years, but if a student

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[5] Ibid., pp. 31-33.

[6] Frederick S. Boas, Christopher Marlowe (Oxford, 1940), p. 8.

[7] Bakeless, Christopher Marlowe, p. 30.

decided to enter into holy orders, he might keep the scholarship for six.[8] Because Marlowe kept his scholarship for six years, he must have been at least considering the ministry as a career after his graduation.

The English universities had originally been monastic institutions, and much of the ecclesiastical details of university life were still present at the time of Marlowe's matriculation in December of 1580. Such restrictions as the rigid regulation of dress and the prohibited swimming in any water in the County of Cambridge must have galled Marlowe's eager spirit.[9] But all was not regulation and tradition because the universities were undergoing a process of secularization. This process was gradually denying theological studies their original predominance, and as a result of the lessening interest in religion, there was a turn to riotous living which seemed to better suit Marlowe's character.

The statutory curriculum of the early English universities gives some idea of the basic requirements which candidates for an undergraduate degree had to meet. The structure of a liberal arts education had been set during the period of the late Roman Empire, and the most noteworthy aspect of this curriculum is that it was followed closely by both Oxford and Cambridge. "A complete course in the arts would have included studies in the trivium, composed of grammar, logic, and rhetoric; the quadrivium, composed of arithmetic, geometry, astronomy, and music; and

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[8] Bakeless, Tragicall History, I, 49.

[9] Ibid., pp. 52-54.

the three philosophies, namely moral and natural philosophy and metaphysics."[10] During the Middle Ages universities placed far more emphasis upon logic and metaphysics than any of the other subjects because of the recovery of many of Aristotle's works, and in the late sixteenth and early seventeenth centuries, Oxford and Cambridge derived their curriculum by following this pattern of emphasis.

Before an Elizabethan scholar could secure the B.A. degree from either Oxford or Cambridge, he had to be in residence for sixteen terms (or four years), to attend certain lectures, and to perform specified scholastic exercises. The lectures for these scholars usually covered the seven liberal arts and three philosophies as well as some studies in Greek. At Cambridge an undergraduate scholar was expected to study only one subject at a time. In his first year the scholar would attend lectures in rhetoric; the second and third years were given to logic; and in the fourth year he would devote full time to the study of philosophy. According to the statutes, in rhetoric the lecturer was to read either the works of Quintilian, Hermogenes, or Cicero's Orations. In logic the lecturer was to explain Aristotle's dialectical works and Cicero's Topics. And in philosophy the lecturer was to treat "the problems, ethics, or politics of Aristotle, Pliny, or Plato."[11]

The scholastic exercises usually began after the scholar had

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[10] Mark H. Curtis, Oxford and Cambridge in Transition (Oxford, 1959), pp. 85-86.

[11] Ibid., pp. 86-87.

completed his first year in residence. These exercises were in the form of debates performed by the third and fourth year students. A scholar had to observe the debates for one year before he could take an active part. As a part of the graduation requirements, the scholar had to debate at least once each term during his last two years of residence.[12]

Lectures and scholastic exercises, however, were only part of the instructional methods used by the universities. The college tutors, rather than lectures or debates, were perhaps the most important single influence on a scholar's education during the sixteenth century. The studies prescribed by the tutors were more comprehensive than those offered according to the statutes for the universities. The tutors usually not only listed the subjects to be studied and the books to be read for each year of residence, but also prescribed the order the scholars were to use in their readings as well as which books were to be studied thoroughly.[13]

The statutory curriculum for the undergraduate degree did not require the students to take all of the courses included in the trivium, quadrivium, and philosophies. Both Oxford and Cambridge sanctioned the idea that the bachelorship was only the attainment of a standing or status and that scholars would continue their studies and take the master's degree. The curriculum for the mastership at Cambridge was described as follows: "These [meaning the bachelors] shall be constant

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[12] Ibid., p. 89.

[13] Ibid., pp. 107-109.

attendants at the lectures upon philosophy, astronomy, drawing, and the Greek language; and that, which had been before begun, they shall complete by their own industry."[14] That "they shall complete by their own industry" studies which were before left incomplete is perhaps the key to Marlowe's scholastic endeavors, for there is only speculation in regard to the intellectual background he received during his residence at Corpus Christi.

The Audits of Corpus Christi College and the Buttery Book are two sets of documents which prove that Marlowe was in residence at Corpus Christi for six and a half years, but there is only one record which gives any indication of his academic studies. It is known that Marlowe's tutor in rhetoric for his first year was Mr. Johnes, Professor lecturae Dialecticae, but no records of any subject or reading list remain.[15] As previously mentioned rhetoric was the liberal arts course taken by all first year students, and it seems certain that during the remainder of Marlowe's residence he fulfilled all of the course requirements set up according to the statutory curriculum.

Because of the varied learning of his plays, it would be presumptuous to think that Marlowe's intellectual background was founded solely on the various lectures attended during his college days. Even if he had taken courses in all the seven liberal arts and three

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[14] Ibid., p. 91. As quoted from "Statuta Reginae Elizabethae, c. 34," George Dyer, ed., The Privileges of the University of Cambridge (London, 1824), I, 181-182.

[15] Boas, p. 16.

philosophies, there would remain a great deal of scholarly knowledge that could not possibly have been gained from such lectures. On the other hand, if Marlowe is to be characterized as a true scholar, it is more logical to assume that he gained his intellectual breadth by means of individual research, thereby becoming a scholar in the true sense of the word; and no Elizabethan scholar could have been at a more appropriate place than Cambridge.

There were in Cambridge during Marlowe's time two of the finest libraries in the kingdom, and as a true scholar Marlowe probably made good use of them. These libraries were the Corpus Christi College library and the library of the university itself. The Corpus Christi library is particularly significant because it contained the books and manuscripts of Archbishop Parker's magnificent personal collection. Without this collection Marlowe might never have written either Tamburlaine or Edward the Second, for both of these plays owe a part of their inspiration to books from this collection.[16]

It would be hard to prove exactly what books Marlowe read during his six and a half years at Cambridge, but it is interesting to observe what was available for scholarly research. It is definitely known that Archbishop Parker's collection contained a copy of Abraham Ortelius' Theatrum Orbis Terrarum, which was probably used by Marlowe as his geographical guide for the different conquests of Tamburlaine.[17] Also

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[16] Bakeless, Tragicall History, I, 59.

[17] Ibid., p. 61.

available were copies of Paulus Jovius' Elogia virorum bellica virtute and Turicicarum Rerum Commentarii, as well as copies of Baptista Ignatius' De Origne Turcarum Libellus, Baptista Fulgotius' Exemplorum Libra IX, and Pope Pius' Asiae Europaeque elegantiss. descriptio, which were all a part of the same bequest of Archbishop Parker.[18] Because the books by these men contain material that later appeared in Tamburlaine, there is little doubt that Marlowe read them while at Cambridge.

Such books as Aristotle's Logic and Petrus Ramus' Dialectica were available for readings in connection with classes of logic. Ramus' Dialectica is particularly significant because it challenged the traditional Aristotelian system and was probably used as subject matter for the debates held by the third and fourth year students.[19] For studies in cosmology Marlowe probably used Ptolemy's Almagest and Gemma Frisius' De principiis astronomiae et cosmographie, although many other similar texts were available.[20] For history, of which Marlowe was a diligent student, the library contained a copy of Holinshed's Chronicle, the primary source for Edward the Second. For classical studies Marlowe certainly had access to the works of Ovid as well as Virgil's Aeneid and Lucan's De Bello Civili. As previously mentioned Marlowe translated sections of the Amores, and it is now known that he also translated the first Book of De Bello Civili as well as adapted what is often considered

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[18] Ibid., p. 220.

[19] Boas, p. 16.

[20] See Appendix I.

his first play, Dido, Queen of Carthage, from some of the earlier books of the Aeneid.[21]

After taking his B.A. degree in 1584, Marlowe became a shadowy, violent, and controversial figure. His achievement of the master's degree in 1587 was accomplished only by means of a letter of intervention from the Queen's Privy Council. It seems that Marlowe had been absent from the university for an extended period of time, and the university had proposed to deny him his degree. A trip to Rheims can account for his absence from school, but the true purpose of the journey remains a matter of speculation.

It is thought that Marlowe was in some kind of government service and that he had gone to Rheims as a secret agent to report on students from the universities who had gone abroad to Catholic seminaries to become priests or enemies of their country. Because of Philip II's great Catholic crusade against England, it was necessary for the English government to keep an eye on this traffic; and Sir Francis Walsingham, the Secretary of State, employed various people on secret service business to go to the Continent to watch these students. It is known that Walsingham employed his cousin, Thomas Walsingham, on such business, and because Marlowe was a close friend of the young Walsingham, there is no reason to doubt that they were both employed in the same business for the Secretary.[22] It should be noted, however, that regardless of

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[21]Boas, pp. 16-18.

[22]Rowse, pp. 28-30.

Marlowe's purpose in the trip to Rheims, he was able to observe political schemes cloaked by religious controversy. His observations seem to have ripened his cynicism.[23]

After obtaining his M.A. degree, Marlowe went to London where he immediately broke away from all recognized and conventional scholarly occupations, abandoned any ideas he might have had concerning an ecclesiastical career, and flung himself into the splendor, vice, and misery of literary London. The once humble cobbler's son developed an utter disregard for ordinary mankind and delighted in the brilliant and aristocratic circles in which he moved. He demonstrated an obsession for the gloriously impossible, and this seems to be the true key to his character.[24] But Marlowe seems never to have forgotten his humble origins, for it appears natural for him to write about a humble shepherd who became a mighty warrior and conqueror or a simple scholar who obtained the power of commanding the devil himself.

While Marlowe was in London he was a fellow-traveler with what was then thought to be the subversive currents of his age. As a result of his association with some unpopular groups or individuals and various writings attributed to him, he was often called an atheist, a Machiavellian, or an Epicurean.[25] The atheistic charge against Marlowe was the result of his association with Sir Walter Ralegh's School of

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[23]Charles Norman, The Muses' Darling (New York, 1946), p. 8.

[24]Bakeless, Christopher Marlowe, p. 6.

[25]Harry Levin, The Overreacher (Cambridge, 1952), p. 2.

Atheism, now generally called the School of Night because of an allusion in Shakespeare's Love's Labour's Lost in which the King says: "Oh, paradox! Black is the badge of Hell,/ The hue of dungeons and the school of night" (IV, iii, 54-55).[26]

One of the major characteristics of the School of Atheism was its dedication to a serious study of the arts and sciences. There was a devotion by the group to art for art's sake, and all of the members believed that deep study was necessary for the accomplishment of anything worthwhile. The charge of atheism against them should not be interpreted in the modern sense, for it more commonly implied "unorthodox opinions and religious liberalism."[27] In addition to Ralegh and Marlowe, the group had such distinguished members as Henry Percy, the ninth Earl of Northumberland, who was known as the "Wizard Earl"; Thomas Harriot, Ralegh's mathematical tutor, a scholar and scientist who made important astronomical discoveries; Walter Warner, a mathematician; Sir George Carey, the second Baron of Hunsdon, whose family was a patron of Shakespeare's company of players; and the minor poets Matthew Roydon and George Chapman.[28]

During the last decades of the sixteenth century there was a remarkable growth of popular interest concerning cosmology, and the School of Atheism was an example of one of the many groups engaged in

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[26]Ernest A. Strathmann, Sir Walter Ralegh (New York, 1951), p. 264.

[27]Ibid., pp. 263-264.

[28]Norman, pp. 108-109.

scientific investigation with the subject. There is little doubt that the School influenced Marlowe, and Thomas Harriot, one of the charter members, seems to have had a particular influence on the young scholar. Harriot's position as the leader of the scientific experiments and cosmological observations in which the group indulged was a matter of common knowledge among his contemporaries, and he was often credited with the invention of the telescope. Because his influence was exerted through personal association rather than by means of books, his relationship with Marlowe was important.[29] Marlowe had the inquiring mind of a scholar, and although there are no records of any conversations between the two men, they undoubtedly, in the tradition of true Renaissance and Elizabethan scholars, discussed many of the new concepts of cosmology.

Shortly before Marlowe was stabbed to death on May 30, 1593, Richard Baines laid before the Privy Council a paper charging Marlowe with an atheistic lecture. His tragic death at the Deptford tavern might be considered a kinder fate than that which he could have expected if he had been brought to trial, if the charges against him had been proved true, and if he had been punished according to Elizabethan standards. Two of the more dangerous indictments from the Baines document were that Marlowe was in the habit of saying that "the first beginning of Religioun was only to keep men in awe" and that "almost into every

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[29]Francis R. Johnson, Astronomical Thought in Renaissance England (Baltimore, 1937), pp. 226-227.

Company he Comethe he perswades men to Atheism willing them not to be afeard of bugbeares and hobgoblins." There are also references to Christ in which Marlowe reportedly said that "Christ was a bastard and his mother dishonest" and that "he was the sonne of a Carpenter, and that if the Jewes among whome he was borne did Crucify him theie best knew him and whence he Came." Concerning other Biblical personages, Marlowe supposedly said that "Moyses was but a Jugler & that one Heriots /Thomas Harriot/ being Sir W Raleighs man Can do more then he," and that "Moyses made the Jewes to travell xl yeares in the wilderness, (which Jorney might haue bin done in lesse then one yeare)."[30] If Marlowe had been tried, he might have brought several other people under suspicion; if he had been proved guilty for such blasphemous statements, he would certainly have suffered the cruel tortures of Elizabethan punishment.

The actual circumstances of Marlowe's death have long been a controversial subject. If he was a government agent for Sir Francis Walsingham, was he murdered so that government secrets would not be revealed in a public trial which would have been certain because of the Baines document? Or was he murdered by Sir Walter Ralegh or some other member of the School of Atheism to prevent any scandal that would certainly be caused by an inquiry about atheism? Or was he not killed at all, but sent away to Europe to write Shakespeare's plays and to die a natural death?[31] Such questions are controversial, but they are, for

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[30]The Baines Note quotations are reprinted in Paul H. Kocher, "Marlowe's Atheist Lecture," in Marlowe: A Collection of Critical Essays, Clifford Leech, ed. (Englewood Cliffs, 1964), pp. 159-161.

[31]J. B. Steane, Marlowe: A Critical Study (Cambridge, 1964), p. 24.

the most part, filled with fantasy and folly. A more logical answer to the murder question is that Marlowe was killed by Ingram Frizer, a servant to Sir Thomas Walsingham, in a tavern brawl because of an argument over who should pay the bill, not over any government secrets or atheistic convictions that might be dangerous to his friends if brought to light.[32]

As John Bakeless remarked, it is usually very difficult to learn of a dramatist's own character from his plays because he, above all others, is more than likely to be concealed behind his work. By speaking through his characters, a dramatist is usually concealed by them, and in this respect Marlowe is an exceptional playwright.[33] Because Marlowe is a subjective playwright who uses his dramatic characters as a means of speaking in propria persona, the study of his cosmology is particularly significant. Such a study reveals not only his scholarly knowledge in the natural sciences gained from classes and individual research while he was at Cambridge, but also his acquaintance with Thomas Harriot and the contemporary scientific research carried on while he was in London. Cosmology was for Marlowe one of the fields of knowledge that really mattered, and there are numerous allusions to the subject throughout his plays. As Michael Drayton said in his elegy "Of Poets and Poesy":

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[32]Leslie Hotson, "Kit Marlowe's Murder Out," Literary Digest, LXXXV (1925), 27-28.

[33]Bakeless, Christopher Marlowe, p. 5.

Neat Marlow, bathed in Thespian springs
Had in him those braue translunary things,
That the first Poets had, his raptures were,
All ayre, and fire, which made his verses cleere,
For that fine madness still he did retaine,
Which rightly should possesse a Poets braine.

CHAPTER II

ELIZABETHAN COSMOLOGY

For many centuries man has used his cosmological knowledge to determine not only the passage of time or the course of a voyage but also his position in the world, his relation to God, and his ability to learn. The ever-changing firmament has provided man with a visible boundary for his world; it has become for him a basic object of contemplation.

From Herodotus it is learned that the Egyptians were the first to undertake a study of the heavens. In his History he says that they "were the first to discover the solar year, and to portion out its course into twelve parts," and he adds that "they obtained this knowledge from the stars" (Bk. II, Sec. iv).[1] It was with the Greeks, however, that cosmology gained true status as a subject for careful study. Of the many early treatises dealing with the importance of the study of cosmology, Plato's Timaeus gives one of the best accounts. In the dialogue Timaeus explains God's purpose in giving eyes to humans by saying: "The sight . . . is the source of the greatest benefit to us, for had we never seen the stars, and the sun, and the heaven, none of the words which we have spoken about the universe would ever have been invented. . . . God invented and gave us sight to the end that we might behold the courses

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[1]Herodotus, The History of Herodotus, trans. Richard Crawley, in Great Books of the Western World, ed. R. M. Hutchins (Chicago, 1952), VI, 49.

of intelligence in the heaven, and apply them to the courses of our own intelligence which are akin to them, the unperturbed to the perturbed; and that we, learning them and partaking of the natural truth of reason, might imitate the absolutely unerring courses of God and regulate our own vagaries."[2]

As is characteristic of the people in most ages, the beliefs and attitudes of the Elizabethans were inevitably controlled by the concepts brought to them through the recorded learning of earlier ages and through contemporary works with which they were familiar. During the early part of this period, the study of cosmology was a well-developed field of knowledge unthreatened to any great extent by the controversies that dominated the subject toward the beginning of the seventeenth century. For most cosmological phenomena during the period there were definite explanations which were accepted by everyone; allusions to such phenomena required no explanation or justification. Modern scholars, however, schooled only in the post-Copernican cosmology, are likely to be confused by literary references to such things as natal stars, the four Elements, thunder and lightning, and the rainbow.

During the sixteenth century there were sharp distinctions made between the studies of astronomy, astrology, and meteorology, the constituents of cosmology. Similar to modern connotation, astronomy was considered a study of the orbits of planets, and astrology was considered

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[2]Plato, Timaeus, trans. Benjamin Jowett, in Great Books of the Western World, ed. R. M. Hutchins (Chicago, 1952), VII, 455.

an art that attempted to determine the future from the stars.[3] Meteorology, however, for Elizabethans had a different meaning from that which is given the word today. In its modern cosmological sense, the term meteor means a fragment from outer space that enters the earth's atmosphere, and meteorology means the study of such fragments. In Elizabethan usage the term meteor meant any atmospheric phenomena occurring in the region of Air, one of the four Elements; and the study of meteorology included such things as clouds, dew, winds, lightning, comets, rainbows, and other weather processes. Because of the confinement of meteors to the region of Air, meteorology was a distinct study apart from that of astronomy and astrology, whose sources were the celestial bodies.[4]

The theory of the universe generally accepted throughout England until the end of the sixteenth century was called the Ptolemaic system, but cosmological doctrines actually owed far more to Aristotle than to the author of the Almagest. Ptolemy's work was invaluable for mathematicians who were interested in calculating the positions of the various planets, but for explanations of the physical constitution of the heavens, writers turned back to Aristotle and his system of homocentric spheres.[5] Elizabethan cosmology is therefore best characterized as a combination

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[3]Don C. Allen, The Star-Crossed Renaissance (Durham, 1941), p. 53.

[4]Simon K. Heninger, A Handbook of Renaissance Meteorology (Durham, 1960), pp. 3-5.

[5]Johnson, p. 16.

of physical theories of Aristotle with the mathematical constructions of Ptolemy; this cosmology will hereafter be called the Aristotelian-Ptolemaic system.

Elizabethans believed that nature ruled over three domains, each of which was a reflection of the others and a part of the same ordered unity. The three domains were the cosmos, the universal world; the world of created objects on earth; and the world of human government and man in society. The first domain, the created universe, found its best description in the Aristotelian-Ptolemaic system. According to this system, the created universe was viewed as an enormous sphere containing the vast area of the heavens with the earth as its center.[6] The idea that the earth was the center of the created universe was clearly stated in Ptolemy's Almagest. Ptolemy said that "the question of the earth's position . . . could only be understood if we put it in the middle of the heavens as the center of the sphere. . . . The observed order of the increases and decreases of day and night would be thrown into utter confusion if the earth were not in the middle. And there would be added the fact that eclipses of the moon could not take place for all parts of the heavens by a diametrical opposition to the sun, for the earth would often not be interposed between them in their diametrical oppositions, but at distances less than a semicircle" (Bk. I, Ch. v, pp. 9-10).[7]

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[6]Theodore Spencer, Shakespeare and the Nature of Man (New York, 1949), pp. 6-7.

[7]Citations from Ptolemy's The Almagest in my text are from the translation by R. Catesby Taliaferro, in Great Books of the Western World, ed. R. M. Hutchins (Chicago, 1952), XVI, 1-478.

The sphere of the created universe was divided into two unequal parts separated by the minute world of the four Elements of Aristotle and the various mixtures of them which, in the form of minerals, plants, animals, and men, inhabited the globe. Earth was considered the lowest of the Elements; just above Earth was Water, with Air surrounding them both; Fire, the most refined of the Elements, was above Air. This sphere as just described was considered the sublunary world, the world beneath the moon, on which the second or celestial part of the universe exercised a considerable influence.[8] The celestial part consisted of eight concentric spheres above the element of Fire. Ptolemy described the eight spheres as follows: "First then, concerning the order of their spheres, all of which have their positions about the poles of the ecliptic, we see the foremost mathematicians agree that all these spheres are nearer the earth than the sphere of the fixed stars, and farther from the earth than that of the moon; that the three--of which Saturn's is the largest, Jupiter's next earthward, and Mars' below that--are all farther from the earth than the others and that of the sun. On the other hand, the spheres of Venus and Mercury are placed by earlier mathematicians below the sun's" (Bk. IX, Ch. i, p. 270).[9]

Aristotle, to explain the motions of the spheres, assumed that the outermost visible sphere of the fixed stars, as it rotated at the speed necessary to complete one circuit of the earth every twenty-four

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[8]Spencer, p. 7.

[9]See Appendix II.

hours, affected the movements of all the other planetary spheres it enclosed. The planetary spheres, which had their own proportionate motion and moved in an opposite direction, were carried along by the superior force of the sphere of the fixed stars or Primum Mobile.[10] Aristotle considered the Primum Mobile a fifth element because it controlled the circular motion of the other spheres. He said: "If . . . the body moving with this circular motion which is unnatural to it is something different from the elements, there will be some other motion which is natural to it. But this cannot be. For if the natural motion is upward, it will be fire or air, and if downward, water or earth. Further, this circular motion is necessarily primary. . . . On all these grounds, therefore, we may infer with confidence that there is something beyond the bodies that are about us on the earth, different and separate from them; and that the superior glory of its nature is proportionate to its distance from this world of ours" (Bk. I, Ch. ii).[11]

The Aristotelian-Ptolemaic system described the created universe as being geocentric, which was very important for Elizabethans. The belief that the earth was the center of the created universe was the basic idea upon which most Elizabethan thought was built. The order of God's creation of the universe, the influence of the heavens on man, and the theories of the macrocosm and the microcosm were all based on the

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[10]Johnson, p. 38.

[11]Aristotle, On the Heavens, trans. J. L. Stocks, in Great Books of the Western World, ed. R. M. Hutchins (Chicago, 1952), VIII, 360.

geocentric view of the universe. Man thought of himself as being the center of everything; he viewed the world as a vast theatre in which he could sit and contemplate what God had made for him. From the smallest minerals and plants to the largest constellations, everything was created for the same function. Everything was created and existed to work for man.[12]

Man's position in the center of the universe gave him a specific place in what Pope later called the Great Chain of Being. The chain supposedly stretched from the foot of God's throne, located beyond the sphere of the fixed stars in the coelum empyraeum, to the smallest of inanimate objects. Everything was a part of the Great Chain except the four Elements. Because everything was compounded directly from the Elements, the Elements themselves could not be links in the chain. The Elements, therefore, found their position in a supplementary chain connected to the main one.[13] From the coelum empyraeum in descending order, the chain gave each sphere a specific place. The coelum empyraeum gave God and his hosts of angels the highest position. This link was followed by those of the primum mobile, the fixed stars, Saturn, Jupiter, Mars, the Sun, Venus, Mercury, the moon, and the earth. This system of the major links of the chain followed the geocentric pattern of the Aristotelian-Ptolemaic system; it gave man his place in the center of the revolving universe.

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[12]Spencer, p. 10.

[13]E. M. W. Tillyard, The Elizabethan World Picture (New York, 1944), p. 34.

The Aristotelian-Ptolemaic astronomy was definitely influential during the early part of the sixteenth century, and Elizabethans were happy with the ideal order of the universe. By viewing himself as the center of God's world, the Elizabethan led a relatively carefree existence in preparation for the heavenly life to come. However, as it has been remarked, "If the Elizabethans believed in an ideal order animating earthly order, they were terrified lest it sould be upset, and appalled by the visible tokens of disorder that suggested its upsetting. They were obsessed by the fear of chaos and the fact of mutability; and the obsession was powerful in proportion as their faith in cosmic order was strong."[14] Such an upsetting force did become dominant during the period with the advancement of the new astronomical system of Copernicus.

Copernicus' On the Revolution of the Heavenly Spheres was published in 1543, but it was immediately rejected by the church and was read by few men of learning. The great work received little attention until the time of Galileo, who gave the new astronomy factual backing because of his telescopic sightings.[15] It is ironical that such an important work received so little attention when it was first published, for there were several striking inconsistencies in the Aristotelian-Ptolemaic system which were overlooked during the period by men supposedly engaged in the revival of learning of the Renaissance. This lack of interest can be accounted for, however, when it is remembered

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[14]Ibid., p. 13.

[15]John C. Dean, "The Astrology of Shakespeare," Scientific Monthly, XIX (1924), 402.

that Elizabethans were afraid to lose their place in the natural order of things.

Robert Recorde and John Dee, two English scientists who were just completing their university training when the work was published, are credited with spreading the knowledge of the new astronomy. Recorde is particularly significant because his Castle of Knowledge (1556) was the first original treatise on astronomy printed in English, and he was responsible for establishing the custom of using the vernacular for learned, yet popular, scientific works.[16] Various writings by Recorde and Dee, as well as the scholars Digges, Salysburye, and Ascham, helped to give England the distinction of having more original scientific works printed in the vernacular during the period than any country other than Italy.[17]

The major dispute concerning the new astronomy was the fact that Copernicus questioned the old Aristotelian-Ptolemaic cosmological order. In doing this, Copernicus was putting man out of place in the ideal order of nature and causing him to change his opinions concerning his importance in the universe and his relation to the external world.[18] One of the best poetic descriptions of this dispute was later given by John Donne in his poem "An Anatomic of the World: The first Anniversary." In the poem Donne states:

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[16] Johnson, p. 120.

[17] Ibid., p. 1.

[18] Spencer, p. 29.

> And new Philosophy calls all in doubt,
> The Element of fire is quite put out;
> The Sun is lost, and th'earth, and no
> mans wit
> Can well direct him where to looke for it.
> And freely men confesse that this world's
> spent,
> When in the Planets, and the Firmament
> They seeke so many new; they see that
> this
> Is crumbled out againe to his Atomies.
> 'Tis all in peeces, all cohaerence gone;
> All just supply, and all Relation:
> Prince, Subject, Father, Sonne, are
> things forgot,
> For every man alone thinkes he hath got
> To be a Phoenix and that then can bee
> None of that kinde, of which he is, but
> hee. (ll. 205-218)

This dispute was justified in many respects, but a close examination reveals that Copernicus followed many of the basic theories of the older system.

Copernicus agreed with the Aristotelian-Ptolemaic view that all heavenly motions were essentially circular. "We must however confess," he says, "that these movements are circular or are composed of many circular movements, in that they maintain these irregularities in accordance with a constant law and with fixed periodic returns: and that could not take place, if they were not circular" (Bk. I, Ch. iv, p. 514).[19] He disagrees, however, with the relative positions of the various spheres. He says, "It is agreed that their [the spheres'] regular movements appear to us as irregular, whether on account of their circles having

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[19] Citations from Copernicus' On the Revolutions of the Heavenly Spheres in my text are from the translation by Charles G. Wallis in Great Books of the Western World, ed. R. M. Hutchins (Chicago, 1952), XVI, 499-838.

different poles or even because the earth is not at the centre of the circles in which they revolve" (Bk. I, Ch. iv, p. 514).

Where the old Aristotelian-Ptolemaic astronomy had followed a geocentric system, the new Copernican system was heliocentric. The earth in Copernicus' theory was one of the planets and moved around the sun together with the other planets--Mercury, Venus, Mars, Jupiter, and Saturn.[20] Copernicus' order was derived from the length of time which it took each planet to revolve around the sun, whereas the Aristotelian-Ptolemaic order had been mostly guesswork. The beauty of the Copernican system was its simplicity. By exchanging the position of the sun and earth, Copernicus was able to eliminate much of the confusion of the older system; and with its final acceptance in the seventeenth century, the new system became the major astronomical theory and remains so today.

It was during the time of the Alexandrian empire that astrology, the second of the major constituents of cosmology, was developed by the Greeks into the intricate science of divination. The Greeks' studies were strengthened by the best philosophical thought of the time as encountered in the texts of Manilius and Ptolemy, and their astrology formed a new relationship with the philosophical astrology of Aristotle and Plato.[21] The cosmology of Aristotle furnished the very axioms of astrology; his theory of the fifth essence taught that the substance of

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[20]See Appendix III.

[21]Theodore O. Wedel, The Medieval Attitude Toward Astrology (New Haven, 1959), p. 1.

the stars was of a nobler order than that of the sublunary sphere. The Greeks found that this theory fitted admirably in forming a science which ascribed the arbitrament of human destinies to the stars. Likewise, it was Aristotle who had formulated the theory of the four Elements and their various qualities of hot, cold, dry, and moist; and by placing the Elements under the sway of the planets and constellations, the Greeks were able to explain scientifically the power of stellar influences.[22] The astrology practiced by the Greeks, however, was seldom dissociated from necromancy and vulgar magic, and this is the same type of astrology that later plays an important part in Marlowe's Doctor Faustus.[23]

The art of astrology was unusually popular in Elizabethan England, and it played a significant part in the life of many sixteenth century Englishmen. Whether a person was learned or unlearned, pious or impious, orthodox or superstitious, he shared a common belief in stellar influences.[24] Even Queen Elizabeth, who seems to have had strong common sense, had her own astrologer (perhaps John Dee) and followed his advice on important matters. In 1580 she issued an order of prayer so that the wrath of God could be averted. In this prayer she referred to eclipses, comets, and even heavy snow falls as evidence of God's great displeasure.[25]

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[22] Ibid., pp. 3-4.

[23] Ibid., p. 14.

[24] Allen, p. 106.

[25] Dean, p. 400.

For Elizabethans the motivating forces of history were Providence, fortune, and human character; and in the realm of fortune, stars were thought to be responsible for most happenings in the area below the moon.[26] The sovereignty of the humours was the result of the influence of the planets on the Elements, and this combination led to the development of the star-cursed man, who became a favorite object of Elizabethan writers.

There were in Elizabethan England two types of astrologers, the moderate and the judicial. The moderates believed that there was a possibility of stellar influence; they thought that through experimentation the science of astrology could be perfected and the influence of the stars could be correctly established. The judicials believed that the influence of the stars was particularized, that they knew the exact powers of the planets, and that they could make accurate predictions about the future.[27] Although most writers of the period regarded the stars as an irresistible force and thought that man should learn about his natal stars, they were considered followers of the moderate view because they never supported the full claims of the judicials.[28]

Of the many Elizabethan writers who accepted the moderate view of astrology as opposed to the judicial, Sir Walter Ralegh is one of the best examples. In his The History of the World he asserts that the

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[26]Tillyard, p. 48.

[27]Allen, p. 148.

[28]Ibid., p. 169.

stars have direct control over all corporal things, but he says that the stars can only indirectly influence man's soul because it is incorporal. He then says that any effect the stars might have on the corporal part of man or indirectly upon his will can be counterbalanced by prayer and education.[29] This is certainly the moderate view.

The last of the major constituents of cosmology is meteorology, and Elizabethan England's meteorological tradition was founded upon the science of classical Greece as were the astronomical and astrological traditions. Aristotle's Meteorology was the first recorded attempt to explain atmospheric phenomena. The processes that he expounded were simple, yet all-embracing.[30]

> The sun was thought to draw up two sorts of evaporations: (1) a hot and dry "exhalation," potentially like Fire, which rose from Elemental Earth; and (2) a warm and moist "vapor," potentially like Water, which rose from the Watery components of the earth's surface. The various meteors were formed as one (or possibly both) of these evaporations underwent temperature changes, either because of ascension through the three regions of the Air, because of variations in the intensity of heat from the sun, or because of proximity to the sphere of Fire. From the dry exhalation came thunder and lightning, the winds, earthquakes, comets, and other fiery impressions; from the moist vapor developed clouds, rain, snow, hail, mist, dew, and frost. A third group of phenomena, which resulted from the reflection of various celestial bodies by sundry vapor formations, consisted of such displays as halos, rainbows, and multiple suns.[31]

This Renaissance meteorological system played an important part in the writings of many of the major literary figures of the day. Many

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[29] Strathmann, pp. 193-194.

[30] Heninger, p. 8.

[31] Ibid., p. 9. A detailed explanation of Aristotle's theory of atmospheric phenomena is given in Book I, Part iv of his Meteorology.

images from meteorology can be found in the works of such men as Spenser, Jonson, Donne, Shakespeare, and Marlowe. These writers used meteorological imagery for such purposes as the establishment of a scene, the indication of the time of day or the weather, the creation of mood, and the transition of the commonplace into the provocative. Of all the writers of the period, Shakespeare probably used the most meteorological imagery, but Marlowe was the most technical.

As was previously mentioned, the term meteor meant any atmospheric phenomena occurring in the region of Air, but there are several minor technicalities not covered by the explanation of the Aristotelian system just given. These technicalities, as well as Marlowe's general usage of the astronomical, astrological, and meteorological systems, will be explained when lines from his plays can be used as examples.

CHAPTER III

MARLOWE'S ASTRONOMY

Because a study of Marlowe's cosmology is crucial to an understanding of his mind and art, the most important task is to determine which of the astronomical systems he used. Of the two major systems which have been discussed briefly, the Aristotelian-Ptolemaic astronomy represented the old, established idea of the universe, and Marlowe's use of this system would indicate his familiarity with the ancient Greek authorities. The Copernican astronomy, on the other hand, represented the new, revolutionary idea of the universe, and Marlowe's use of this system would indicate his acquaintance with modern authorities and contemporary scientific research. There is, of course, the possibility that Marlowe used both of the major systems at different times in his various plays, or that he used a combination of the two systems, or that he used a system different from those which have been discussed.

The most concentrated exposition of Marlowe's astronomy occurs in Doctor Faustus in a dialogue between Mephostophilis and Faustus. In the thirty-five lines of dialogue, Faustus asks and Mepholtophilis answers the most important questions concerning the structure and motions of the created universe. The dialogue begins with Faustus speaking:

> Come Mephostophilis, let us dispute again
> And reason of divine astrology.
> Speak, are there many spheres above the moon?
> Are all celestial bodies but one globe
> As is the substance of this centric earth?
> Meph. As are the elements, such are the heavens,
> Even from the moon unto the empyreal orb

Mutually folded in each others' spheres--
And jointly move upon the axle-tree,
Whose termine is termed the world's wide pole
Nor are the names of Saturn, Mars, or Jupiter
Feign'd but are erring stars.

Faus. But have they all one motion, both *situ et tempore*?

Meph. All move from east to west in four and twenty hours upon the poles of the world but differ in their motions upon the poles of the zodiac.

Faus. These slender questions Wagner can decide. Hath Mephostophilis no greater skill? Who knows not the double motion of the planets?--That the first is finish'd in a natural day. The second thus: Saturn in thirty years; Jupiter in twelve; Mars in four; the sun, Venus, and Mercury in a year; the moon in twenty-eight days. These are freshmen's suppositions. But tell me, hath every sphere a dominion or *intelligentia*?

Meph. Ay.

Faus. How many heavens or spheres are there?

Meph. Nine: the seven planets, the firmament, and the empyreal heaven.

Faus. But is there not *coelum igneum* and *crystallinum*?

Meph. No Faustus, they be but fables.

Faus. Resolve me then in this one question. Why are not conjunctions, oppositions, aspects, eclipses all at one time, but in some years we have more, in some less?

Meph. *Per inaqualem motum respectu totius.*

Faus. Well, I am answer'd. Now tell me, who made the world?

Meph. I will not. (II, ii, 31-65)[1]

From this particular selection it can be easily determined that Marlowe is not using the Copernican system. The most obvious statement which is different from the Copernican system is Faustus' reference to the "centric earth." The Copernican astronomy views the order of the created universe as being heliocentric; this reference gives a geocentric view of the order. Another statement which is not Copernican is Mephostophilis' answer to Faustus' question, "How many heavens or spheres

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[1]Citations from Marlowe's *Doctor Faustus* in my text are to *The Plays of Christopher Marlowe*, ed. Leo Kirschbaum (New York, 1962).

are there?" When Mephostophilis answers that there are "nine," he is not using the Copernican system because the new astronomy had only six spheres which were Mercury, Venus, the earth, Mars, Jupiter, and Saturn. According to the above references and explanations, there should be no doubt that Marlowe is not using the Copernican system.

When the dialogue is studied according to the Aristotelian-Ptolemaic system, it can be easily proved that Marlowe, in most instances, did use this old, established astronomy. As was previously mentioned, Faustus' reference to the "centric earth" is a geocentric view of the created universe, and the Aristotelian-Ptolemaic system supports the view that the earth is the center of the universe. When Faustus asks Mephostophilis if all celestial bodies are but one globe, he wants to know if the cosmos is spherical. Mephostophilis replies affirmatively when he says, "As are the elements, such are the heavens,/ Even from the moon unto the empyreal orb/ Mutually folded in each others' spheres." Here, Mephostophilis is describing the four Elements of Aristotle. He says that just as the highest Element of Fire encloses the Element of Air, which in turn encloses the Elements of Water and Earth, so the various spheres enclose one another.

When Faustus asks if all the spheres have one motion, "both <u>situ et tempore</u>" (in space and time), Mephostophilis answers by saying that there are two motions, one upon the pole of the world and the other upon the pole of the zodiac. This statement follows the Aristotelian-Ptolemaic system, and the "double motion" of the planets is described in Ptolemy's <u>The Almagest</u>: "There are two different prime movements in

the heavens. One is that by which everything moves from east to west, always in the same way and at the same speed. . . . The other movement is that according to which the spheres of the stars make certain local motions in the direction opposite to that of the movement just described and around other poles than those of that first revolution" (Bk. I, Ch. viii, p. 12). Faustus chides Mephostophilis for his simple answer and says that "these are freshmen's suppositions," which should indicate that the information is basic for any college curriculum; nevertheless, the answer does follow the Aristotelian-Ptolemaic system.

When Mephostophilis says that there are "nine spheres," he is following the Aristotelian-Ptolemaic system. His statement that the "seven planets, the firmament, and the empyreal heaven" comprise the nine spheres is basically the same as the system described in the ancient astronomy. According to Aristotle and Ptolemy, there were seven planets: the moon, Mercury, Venus, the sun, Mars, Jupiter, and Saturn. The sphere which is described by Mephostophilis as the "firmament" is the same as the Aristotelian-Ptolemaic sphere of the fixed stars or primum mobile. (See Appendix II, p. 82) The empyreal heaven is the invisible sphere which was described by Aristotle as something "beyond the bodies that are about us on this earth, different and separate from them." This empyreal heaven was the invisible domain of God.

From the examples given above, it should be evident that Marlowe is using the Aristotelian-Ptolemaic system for this particular dialogue; however, there is disagreement. Mr. F. R. Johnson says that the Mephostophilis-Faustus passage, as well as all of Marlowe's astronomy, is what

should be called a "skeptical" astronomy.[2] Mr. Johnson bases his decision primarily on one statement by Faustus in which the question is asked, "But is there not coelum igneum and crystallinum?" By asking such a question, Mr. Johnson thinks that Marlowe is questioning the old nine-sphere order of the universe. Mr. Johnson says that according to the usual sixteenth century textbook tradition, there were ten moving spheres with the empyrean heaven, the immovable sphere of God, making an eleventh.[3] According to this system, the order of the created universe would be as follows: the coelum igneum, the moon, Mercury, Venus, the sun, Mars, Jupiter, Saturn, the coelum crystallinum, the primum mobile, and the empyrean heaven.

Mr. Johnson says that the two additional spheres, the coelum igneum and the coelum crystallinum, had been added to sixteenth century textbooks to account for two new celestial movements. One of the new movements was considered real, and this was the coelum crystallinum, which accounted for the precession of the equinoxes. The other, the coelum igneum, was considered false; it was added to account for the movement of the Elements in the realm below the sphere of the moon. The coelum igneum was, in fact, considered the sphere of elementary Fire, the highest of the four Elements.[4] According to the Aristotelian-Ptolemaic

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[2] F. R. Johnson, "Marlowe's Astronomy and Renaissance Skepticism," ELH, XIII (1946), 243.

[3] Ibid., p. 244.

[4] Ibid.

system, the sphere of the primum mobile or fixed stars controlled the east-west motion of all of the visible planetary spheres below it. With this new system, the primum mobile remained the sphere of the visible fixed stars, but the coelum crystallinum became the motivating force for the spheres below.

When Faustus questioned the existence of the coelum igneum and the coelum crystallinum, Mephostophilis emphatically answered, "No, Faustus, they be but fables." This, says Mr. Johnson, is Marlowe's position as a member of the skeptical, empirical school of Renaissance astronomical writers, "who refused to accept a system containing any sphere void of visible bodies whereby man could directly observe its motion."[5]

As further proof for his thesis, Mr. Johnson says that the author of the Faust Book (Marlowe's source for the play) was aware of the disagreement among astronomical authorities and mentioned the controversy, but that he was too ignorant of the science to understand the reasons for the differing opinions. "Marlowe, on the other hand," he says, "though by no means a learned astronomer, had an intelligent comprehension of the two principal traditions set forth in astronomical textbooks," and he followed what should be termed the "skeptical" astronomy rather than the conventional astronomy.[6]

Mr. Johnson's arguments for a sixteenth century skeptical

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[5] Ibid., p. 247.

[6] Ibid., p. 243.

astronomy are well-founded, especially in regard to the coelum igneum and the coelum crystallinum which were not a part of the Aristotelian-Ptolemaic order or the Copernican order, but he does leave several points unexplained. He is correct when he says that the author of the Faust Book was "keenly alive to the fact of disagreement among astronomical authorities," but he neglects to explain the astronomy used by the author and assumes that this astronomy is the skeptical astronomy.

Marlowe's idea for the astronomical discussion by Mephostophilis and Faustus comes from Chapters XVIII and XXI in his source. In Chapter XVIII Faustus asks Mephostophilis to teach him the science of astronomy, and he says:

> I find the ground of the science very difficult to attain unto; for when that I confer Astronomia and Astrologia, as the mathematicians and ancient writers have left in memory, I find them vary, and very much to disagree: wherefore I pray thee to teach me the truth of this matter.[7]

This passage indicates that there was disagreement concerning the subject, and in Chapter XXI, in a letter to one of his friends at Wittenburg, Faustus explains the science of astronomy as it was explained to him by Mephostophilis when they traveled through the air to see the whole world:

> We think that the sun runneth his course, and that the heavens stand still; no, it is the heavens that moves his course, and the sun abideth perpetually in his place, he is permanent and fixed in his place, and although we see him beginning to ascend in the orient or east, at the highest in the meridian or south, setting

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[7] The History of the Damnable Life and Deserved Death of Dr. John Faustus in Early English Prose Romances, ed. William J. Thoms (New York, n.d.), p. 812.

> in occident or west, yet is he in the lowest in septentrio or north, and yet he moveth not, it is the axel of the heavens that moveth, the whole firmament, being a chaos or confused thing. . . . Even so the firmaments where in the sun and the rest of the planets are fixed, be moved, turned, and carried with the wind, breath, and spirit of God; for the heavens and firmaments are moveable as the chaos, but the sun is fixed in the firmament.[8]

Mr. Johnson's statement that the author of the Faust Book was "incapable of understanding" the astronomical controversy is somewhat unfounded when the above passages are reviewed according to the Aristotelian-Ptolemaic and Copernican systems. Although the author of the Faust Book does not say that the sun is the center of the created universe (the heliocentric view), he does say that "the sun abideth perpetually in his place," and this is a Copernican view. The idea that the firmaments are "moved, turned, and carried with the wind, breath, and spirit of God" is Aristotelian-Ptolemaic; it is what Aristotle and Ptolemy called the primum mobile or first mover. Perhaps the author of the Faust Book was not "incapable of understanding." Perhaps he recognized, not the controversy of the Aristotelian-Ptolemaic system versus the Renaissance skeptics, but the controversy of the Aristotelian-Ptolemaic system versus the Copernican system. It is possible because the Faust Book was published in 1587, some forty years after the publication of Copernicus' Revolutions of the Heavenly Spheres.

Another major point that Mr. Johnson fails to clarify is the inclusion of the empyrean heaven in the skeptic's order of the universe. He says that they "refused to accept a system containing any sphere void

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[8] Ibid., pp. 824-825.

of visible bodies," but he cannot explain why they accepted the empyrean heaven. As was previously mentioned, the empyrean heaven was the invisible, immovable heaven lying beyond the outermost moving sphere, and it was the realm that contained the throne of God and the abode of the angels.

Because of so many discrepancies, there is good reason to discredit the idea that the Mephostophilis-Faustus passage is an example of Marlowe's "skeptical" astronomy. Further, it is unreasonable to think that Marlowe's entire astronomical system could be based on one line from one play. There are some thirty passages in the five plays which use some type of astronomical data, and of the thirty, only the Mephostophilis-Faustus passage and one other refer to information which might be considered something other than a reference to the Aristotelian-Ptolemaic system. As for Marlowe's allusions to the coelum igneum and crystallinum, they should be considered one of the varied aspects of Marlowe's scholarly knowledge. Mephistophilis' denial of their existence is Marlowe's assertion that he is a follower of the old, established Aristotelian-Ptolemaic system. There is, of course, the possibility that Marlowe included the entire passage in the play for dramatic irony, allowing Mephostophilis to give Faustus false, outdated information; this, however, does not seem feasible, for Marlowe never again uses any actual terms which might be considered a part of something other than the Aristotelian-Ptolemaic system.

The second doubtful passage mentioned in the preceding paragraph is a speech by Orcanes in II Tamburlaine. In the passage Orcanes says:

> Stay, Sigismund. Forget'st thou, I am he
> That with the cannon shook Vienna walls
> And made it dance upon the continent,
> As when the massy substance of the earth
> Quiver about the axle-tree of heaven? [9]
> (1, i, 86-90)

The concluding line is the important part of the controversy as to which system Marlowe used. The line could mean that the earth is not at the center of the celestial sphere, but that it circles the "axle-tree" in the manner of the other planets; or it could mean that the earth is the center of the sphere, but that it rotates on its own axis, which is a part of the axis of the celestial sphere. If the first interpretation is thought to be correct, the Copernican system of heliocentric spheres is the astronomy which Marlowe is using. If the second interpretation is followed, Marlowe is using the old geocentric idea of the Aristotelian-Ptolemaic system. There is no certain answer as to which astronomical system Marlowe uses in this passage, but if it is the Copernican system, he never uses it again.

Marlowe uses astronomical data for many reasons, and his references to the primum mobile are a good example. In The Jew of Malta Marlowe uses a reference to the "first mover" as a part of a passage in which Barabas is cursing the Governors of Malta for taking his money:

> The plagues of Egypt, and the curse of Heaven,
> Earth's barrenness, and all men's hatred
> Inflict upon them, thou great Primus Motor!
> And here upon my knees, striking the earth,
> I ban their souls to everlasting pains

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[9] Citations from Marlowe's II Tamburlaine in my text are to The Plays of Christopher Marlowe, ed. Leo Kirschbaum (New York, 1962).

> And extreme tortures of the fiery deep
> That thus have dealt with me in my distress!
> (I, ii, 166-172)[10]

In Doctor Faustus the Chorus refers to the primum mobile in a passage in which they are describing Faustus' trip through the heavens in his quest for astronomical knowledge:

> Learned Faustus,
> To find the secrets of astronomy
> Graven in the book of Jove's high firmament
> Did mount him up to scale Olympus' top:
> Where, sitting in a chariot burning bright
> Drawn by the strength of yoked dragons' necks,
> He views the clouds, the planets, and the stars,
> The tropics, zones, and quarters of the sky,
> From the bright circle of the horned moon
> Even to the height of primum mobile:
> And whirling round with this circumference
> Within the concave compass of the pole,
> From east to west his dragons swiftly glide
> And in eight days did bring him home again.
> (Ii, ii, 1-14)

In a passage in I Tamburlaine, Tamburlaine uses an indirect reference to the primum mobile in a passage in which he is boasting to Bajazeth of his prowess:

> The chiefest God, first mover of that sphere,
> Enchas'd with thousands ever-shining lamps
> Will sooner burn the glorious frame of heaven
> Than it should so conspire my overthrow.
> (IV, ii, 8-11)[11]

The primum mobile was for Marlowe, as it had been for Aristotle, the firmament or the sphere of the fixed stars; it was the activating sphere

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[10]Citations from Marlowe's The Jew of Malta in my text are to The Plays of Christopher Marlowe, ed. Leo Kirschbaum (New York, 1962).

[11]Citations from Marlowe's I Tamburlaine in my text are to The Plays of Christopher Marlowe, ed. Leo Kirschbaum (New York, 1962).

which gave the east-west motion to the other spheres. For an Elizabethan, it was considered the highest of the visible spheres, and its power as the "first mover" was well known. Any dramatic reference to the sphere would probably cause a feeling of awe in the audience, and Marlowe may have used these passages for this purpose.

As was previously mentioned, Marlowe indicates his familiarity with the double motion of the planets in the important Mephostophilis-Faustus dialogue. There is another reference to this motion, and the passage becomes even more significant when it is understood that Marlowe is using it as a part of a reference to impossibility of an action. The particular passage is in II Tamburlaine, and it is Tamburlaine's answer to Zenocrate after she has asked him when he will stop fighting:

> When heaven shall cease to move on both the poles,
> And when the ground whereon my soldiers march
> Shall rise aloft and touch the horned moon--
> And not before, my sweet Zenocrate!
> (I, iii, 12-15)

Of course this means that Tamburlaine will never stop fighting because one of the motions, that caused by the primum mobile, is divine, and according to Aristotle, things which are divine must be eternal.

There are numerous references throughout the five plays that indicate that Marlowe followed the Aristotelian-Ptolemaic theory which considered the sun as one of the revolving spheres. Many of the passages are used as references to the passing of time, and there is a good example spoken by King Edward in Edward the Second:

> Continue ever, thou celestial sun;
> Let never silent night possess this clime.

> Stand still, you watches of the element;
> All times and seasons, rest you at a stay.[12]
> (sc. xviii, 64-67)

This passage follows Edward's request to Leicester that he be allowed to keep his crown until night. Edward's plea is that the sun remain in its present position thereby assuring perpetual daylight.

Another similar reference is given in Doctor Faustus when the devils are about to take Faustus' soul to Lucifer. Faustus pleads to the sun that it never allow night to come when he says:

> Stand still, you ever-moving spheres of Heaven
> That time may cease and midnight never come:
> Fair nature's eye, rise, rise again and make
> Perpetual day, or let this hour be but a year.
> (V, ii, 138-141)

The arrogant Tamburlaine uses several references to the sun to indicate his greatness. In one passage he boasts of his conquest to Zenocrate by saying:

> I am a lord, for so my deeds shall prove!
> --And yet a shepherd by my parentage.
> But lady, this fair face and heavenly hue
> Must grace his bed that conquers Asia
> And means to be a terror to the world,
> Measuring the limits of his empire
> By east and west, as Phoebus doth his course!
> (I Tamb. I, ii, 34-40)

In the same play Tamburlaine boasts of his invincibleness to several of his followers when he says:

> I hold the Fates bound fast in iron chains,
> And with my hand turn Fortune's wheel about:

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[12]Citations from Marlowe's Edward the Second in my text are to Elizabethan and Stuart Plays, eds. C. R. Baskervill, V. B. Heltzel, and A. H. Nethercot (New York, 1963).

> And sooner shall the sun fall from his sphere
> Than Tamburlaine be slain or overcome.
> (I, ii, 174-177)

These references to the sphere of the sun indicate that Marlowe viewed the universe as being geocentric rather than heliocentric.

It is impossible to turn to many pages of the plays without finding some type of miscellaneous astronomical information. The fact that the moon is dependent upon the sun for its light is stated in Ptolemy's The Almagest: "For the moon always receives its light from the sun; and, when the moon is opposite it, the whole of it appears to us lighted up, because the whole of the bright hemisphere is also at that time turned towards us. But when it is opposite the sun in such a way that it falls into the cone of the earth's shadow which is always revolving opposite the sun, then the moon becomes darkened proportionately . . ." (Bk. IV, Ch. i, pp. 108-109). This fact is well demonstrated in I Tamburlaine when Marlowe has Theridamus say:

> Before the moon renew her borrowed light,
> Doubt not, my lord and gracious sovereign,
> But Tamburlaine and that Tartarian rout
> Shall either perish by our warlike hands
> Or plead for mercy at Your Highness' feet.
> (I, i, 69-73)

In Edward the Second, Gaveston knows that during the summer the sun never sets in the arctic circle: "What need the artic people love starlight,/ To whom the sun shines both by day and night?" (Sc. i, 16-17) In II Tamburlaine, Tamburlaine is familiar with the fact that the stars of the south polar circle are not visible from the northern hemisphere when he says:

> And here the picture of Zenocrate,
> To show her beauty which the world admir'd--
> Sweet picture of divine Zenocrate
> That, hanging here, will draw the gods from heaven,
> And cause the stars fix'd in the southern arc
> (Whose lovely faces never any viewed
> That have not pass'd the center's latitude)
> As pilgrims travel to our hemisphere
> Only to gaze upon Zenocrate.
>
> (III, ii, 25-33)

Most of Marlowe's miscellaneous, astronomical information probably came from textbooks by such authors as Sacrobosco, Frisius, or Valerius, and if it could be proved, a better insight into Marlowe's scholarly studies would be possible. For his major system of astronomy, however, Marlowe used the Aristotelian-Ptolemaic system. His rejection of the Copernican and "skeptical" theories should not be considered an indication that he was not a scholar. Perhaps he used the Aristotelian-Ptolemaic astronomy because it better suited his dramatic needs, or because it was a system which could be more easily recognized by his audiences. His actual reason for using the old system will probably never be known, but his technical knowledge of the astronomy does prove that he is a scholar.

CHAPTER IV

THE STAR-CAST CHARACTERS

During the Elizabethan period there was a close association between the sciences of astrology, psychology, and physiology. This association was the result of a strong faith in the idea that the planets (or stars as they were commonly called) were very influential on man and his disposition. That man was compounded of the four Elements had been established by Aristotle, and medieval astrologers propagated the theory that the temperament of a man was determined by the relations of the planets at the exact moment of his birth. It was thought that the planets influenced the Elements which in turn led to the sovereignty of the humours. The four humours--yellow bile (choler), black bile (melancholy), blood, and phlegm--came respectively from the four Elements--Fire, Earth, Air, and Water. These four humours were continually at odds with each other for the supremacy of the body, a man's temperament being determined by the ascendancy of one of the humours over the others. The resulting complexions of the humours established the idea of the star-cast man, and literary men, especially playwrights, used this idea as a device for enhancing their works.

Closely related to the psychological idea of temperament and the humours is the idea of passions. For the Elizabethan the word passion had no such meaning as that which is associated with the word today. For them passions were powerful and dangerous forces which were always to be feared; they were not something which could be kept in restraint

very easily. The Elizabethans had the idea that almost every individual, no matter how strong, was in constant danger of having his reason overcome by a violent passion which could not be controlled by any means.[1] Marlowe demonstrates his knowledge of this idea in his plays.

In The Jew of Malta it appears that Barabas cannot be comforted after the officers have taken all of his wealth. Two of his Jewish friends realize this, and the first Jew says: "Come, let us leave him in his ireful mood./ Our words will but increase his ecstasy" (I, ii, 213-214). The second Jew realizes Barabas' sorrowful state and says: "On, then. But trust me 'tis a misery/ To see a man in such affliction" (I, ii, 215-216). After the Jewish friends leave, Barabas reveals that he is not a common man and that he is not controlled by simple passions.

> Ay, fare you well.
> See the simplicity of these base slaves,
> Who, for the villains have no wit themselves,
> Think me to be a senseless lump of clay
> That will with every water wash to dirt.
> No, Barabas is born to better chance
> And fram'd of finer mold than common men
> That measure naught but by the present time!
> A reaching thought will search his deepest wits
> And cast with cunning for the time to come:
> For evils are apt to happen every day.
> (I, ii, 218-228)

This passage reveals that Barabas is not "fram'd" of the same four Elements as a common man and that he is not controlled by the passions which control most people. In another section of the same play, Barabas

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[1]Carroll Camden, "Marlowe and Elizabethan Psychology," PQ, VIII (1929), pp. 70-71.

tells Ithamore that he has to cast off passions if he expects to be cunning:

> Hast thou no trade? Then listen to my words,
> And I will teach that shall stick by thee:
> First, be thou void of these affections--
> Compassion, love, vain hope, and heartless fear.
> Be mov'd at nothing. See thou pity none.
> But to thyself smile when the Christians moan.
> (II, iii, 173-179)

This speech indicates that Barabas is familiar with the idea that passions are dangerous. He assures Ithamore that he must be "void of these affections" if he expects to accomplish any evil deeds which might benefit him.

The characterization of King Edward in Edward the Second is completely different from that of Barabas, for Edward is unable to control his passions. In a passage following the exile of Gaveston, Edward's closest friend, Edward says, "Anger and wrathful fury stops my speech" (Sc. vi, 42). The loss of Gaveston has a lasting effect on Edward, and his passions do not subside easily as is indicated a few scenes later in a speech by his wife, Queen Isabella: "Look, Lancaster, how passionate he is,/ And still his mind runs on his minion" (Sc. vi, 3-4)! In another passage in which Edward is overcome by the intrigue of his wife and Mortimer, he indicates once again that he cannot control himself when he says:

> Leicester, if gentle words might comfort me,
> Thy speeches long ago had eased my sorrows,
> . . . . . .
> For such outrageous passions cloy my soul,
> As with the wings of rancor and disdain
> Full often am I soaring up to heaven,
> To plain me to the gods against them both.
> (Sc. xviii, 5-22)

Not only is King Edward unable to control his passions but also he is a very unfortunate ruler. He loses his friend Gaveston, his wife, his kingdom, and finally his life. When he at last realizes that death is inevitable he says:

> O day, the last of all my bliss on earth!
> Center of all misfortune! O my stars,
> Why do you lour unkindly on a king?
> Comes Leicester, then in Isabella's name
> To take my life, my company, from me?
> Here, man, rip up this panting breast of mine,
> And take my heart in rescue of my friends!
> (Sc. xvii, 61-67)

When Edward blames his misfortune on his natal stars, he is following one of Marlowe's most frequently used astrological ideas. Marlowe believed in the idea that there was an alliance between fortune and the stars, and he attributed all fortune, whether good or bad, to the stars in the spheres above the earth.

The idea that the stars and fortune work together in determining man's destiny is best illustrated by the two parts of the play Tamburlaine. Tamburlaine is presented as an enormous and energetic man lusting for military dominion. He believes in his own destiny and links his invincibility with the impelling power of the stars. In a dialogue with Magnetes in I Tamburlaine, Tamburlaine expresses his desire for the captured Zenocrate in a speech in which he says that she is more valuable to him than the Persion crown which has been promised him:

> Zenocrate, lovelier than the love of Jove!
> Brighter than is the silver Rhodope!
> Fairer than whitest snow on Scythian hills!
> Thy person is more worth to Tamburlaine

> Than the possession of the Persian crown
> Which gracious stars have promised at my birth
> (I, ii, 87-92)

Tamburlaine's reference to the crown which his "gracious stars have promised" is an indication that he believed in his own destiny and its control by his natal stars. In another passage in the same play, Tamburlaine tells Theridamas that defeat is impossible when he says that "For Will and Shall best fitteth Tamburlaine,/ Whose smiling stars gives him assured hope/ Of martial triumph ere he meet his foes" (III, iii, 41-43).

In II Tamburlaine, Tamburlaine continues his self-glorification and belief in his own destiny when he confronts Orcanes after a challenge that they fight singlehandedly:

> Villain! the shepherd's issue (at whose birth
> Heaven did afford a gracious aspect
> And join'd those stars that shall be opposite
> Even till the dissolution of the world,
> And never meant to make a conqueror
> So famous as is mighty Tamburlaine)
> Shall so torment thee and that Callapine--
> That like a roguish runaway suborn'd
> That villain there, that slave, that Turkish dog,
> Too false his service to his sovereign--
> As ye shall curse the birth of Tamburlaine!
> (III, iv, 79-89)

This speech presents Tamburlaine at his bombastic best, for he is telling Orcanes that the position of the stars at his birth was more favorable than they could ever be again. He is saying that the stars which were in conjunction at his birth and gave him the most "gracious aspect" that could ever be given are now in opposition. He says that the world will end before such stars could ever be in conjunction again.

There are other characters in the two Tamburlaine plays who believe that Tamburlaine's destiny is controlled by the stars. In I Tamburlaine in a dialogue between Menaphon and Cosroe, Cosroe replies to Menaphon's physical description of Tamburlaine by saying:

> Well has thou portray'd in thy terms of life
> The face and personage of a wondrous man.
> Nature doth strive with Fortune and his stars
> To make him famous in accomplish'd worth.
> And well his merits show him to be made
> His fortune's master and the king of men,
> That could persuade at such a sudden pinch,
> With reasons of his valor and his life,
> A thousand sworn and overmatching foes.
> (II, i, 31-39)

Here Cosroe is explaining that Tamburaline has a combination of three forces which help to make him invincible: nature, which has given him an excellent combination of Earth, Air, Fire, and Water; fortune, which has given him luck; and the stars, which have determined his destiny. With such a combination Cosroe cannot envision any chance for a defeat of Tamburlaine. In the same play Bajazeth indicates that Tamburlaine's natal star even controls his sword: "The heavens may frown, the earth for anger quake,/ But such a star hath influence on his sword/ As rules the skies and countermands the gods" (V, i, 231-233).

Although there is only one reference to natal stars in Doctor Faustus, it comes at a rather significant time. When Faustus is about to be taken away to hell, he makes one final plea:

> You stars that reign'd at my nativity,
> Whose influence hath allotted death and Hell,
> Now draw up Faustus like a foggy mist
> Into the entrails of yon laboring cloud
> That when you vomit forth into the air,

My limbs may issue from your smoky mouths--
But let my soul mount and ascend to Heaven!
(V, iii, 159-165)

Faustus realizes that his natal stars played a part in his decision to sell his soul to the devil; he is here pleading that these same stars carry him away and allow his soul to go to heaven.

Marlowe uses references to the natal stars not only as a part of speeches in which a character is boasting or pleading but also as a part of speeches in which one character is describing another. This latter aspect is particularly significant because in the Tamburlaine plays he was unable to use any of his sources in the characterization of the minor characters. Compelled to fall back upon his originality in making his minor characters distinct, Marlowe uses his knowledge of natal stars and astrology when he allows Cosroe to characterize Mycetes.[2]

At the beginning of I Tamburlaine, Mycetes and Cosroe are discussing some of the problems of Persia:

Myc. Brother Cosroe, I find myself aggriev'd,
Yet insufficient to express the same,
For it requires a great and thund'ring speech:
Good brother, tell the cause unto my lords.
I know you have a better wit than I.
Cos. Unhappy Persia, that in former age
Hast been the seat of mighty conquerors,
That in their prowess and their policies
Have triumph'd over Afric and the bounds
Of Europe, where the sun dares scarce appear
For freezing meteors and congealed cold:
Now to be rul'd and governed by a man,
At whose birthday Cynthia with Saturn join'd,
And Jove, the Sun, and Mercury denied
To shed their influence in his fickle brain!

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[2]Johnstone Parr, Tamburlaine's Malady (Kingsport, 1953), p. 24.

Now Turks and Tartars shake their swords at thee,
Meaning to mangle all thy provinces.
Myc. Brother, I see your meaning well enough
And through your planets I perceive you think
I am not wise enough to be a king.
But I refer me to my noblemen
That know my wit, and can be witnesses.
I might command you to be slain for this.
(I, i, 1-23)

Cosroe, playing the part of an adept astrologer, feels that not only is Mycetes an unfortunate ruler but also somewhat of a fool. In his speech several stars are mentioned which probably have something to do with his political misfortunes as well as his mental weakness. It is mentioned that Saturn was in conjunction with the moon (Cynthia) at the time of Mycetes' birth and that the planets Jupiter, Mercury, and the sun were in such a position that they had no adverse effect on Mycetes' mental faculties. Saturn, as previously mentioned, was considered by most astrologers to be the most powerful of the malefic planets, and the moon was almost equally powerful. Mars was considered another evil planet, and if any planet came in conjunction with one of the evil planets, a terrible influence would be the result. Jupiter, the sun, and Mercury were considered benevolent planets. Any influence that these planets might shed would be good. Because Mycetes' birthday came on a day in which Saturn was in conjunction with the moon, and because Jupiter, Mercury, and the sun had no influence on his birth, the devastating results should be evident to any audience or reader of the play.

Mycetes is a foolish king, and he is characterized as such in several passages spoken by Cosroe and one spoken by Tamburlaine. After Cosroe decides to desert his brother and join forces with Tamburlaine,

he remarks that Mycetes' army will fall ". . . when the princely Persian diadem/ Shall overweigh his weary witless head/ And fall like mellowed fruit . . ." (II, ii, 45-47). In another passage Cosroe tells Tamburlaine to "Go, valiant soldier, go before and charge/ The fainting army of that foolish king" (II, iii, 61-62). When Tamburlaine first meets Mycetes, he greets him with the following question: "Are you the witty King of Persia" (II, iii, 88)?

Mycetes himself indicates his stupidity during the battle with Tamburlaine because of one particular incident. In a soliloquy Mycetes says:

> In what a lamentable case were I
> If nature had not given me wisdom's lore,
> For kings are clouts that every man shoots at,
> Our crown the pin that thousands seek to cleave.
> Therefore in policy I think it good
> To hide it close. A goodly stratagem!
> --And far from any man that is a fool.
> So shall I not be known. Or if I be,
> They cannot take away my crown from me.
> Here will I hide it in this simple hole.
> (II, iii, 71-80)

In this passage Mycetes has decided to leave the scene of the battle because he thinks that his crown makes him conspicuous and that everyone is shooting at him. He thinks that his idea of hiding his crown in a hole is brilliant because no one will be able to take it away from him or recognize him. Of course this strategy proves fatal because his army is defeated while he is absent and Tamburlaine catches him hiding the crown and takes it away from him. Mycetes is obviously stupid, and these passages which characterize him as a foolish king and present Cosroe as an astrologer are perhaps the best examples of Marlowe's use

of astrological ideas for technical purposes and not for mere ornament.

The technical knowledge used in references to natal stars, however, is not the only astrological information Marlowe uses in determining a character, for he also uses references to the four Elements. Such references to the Elements in Elizabethan literature are many, and their primary function is to link the plans of men with the plans of the heavens.[3] Marlowe uses three such references in his plays, and he follows the general function of the references in all three passages. In one of the passages in I Tamburlaine, Cosroe, who has gained the Persian throne because he sided with Tamburlaine against his brother, thinks that he is just as powerful as Tamburlaine:

> And since we all have a suck'd one wholesome air
> And with the same proportion of elements
> Resolve, I hope we are resembled,
> Vowing our loves to equal death and life.
> Let's cheer our soldiers to encounter him--
> That grievous image of ingratitude,
> That fiery thirster after sovereignty--
> And burn him in the fury of that flame
> That none can quench but blood and empery!
> . . . . . .
> Then strike up, drum! And all the stars that make
> The loathsome circle of my dated life,
> Direct my weapon to his barbarous heart
> That thus opposeth him against the gods
> And scorns the powers that govern Persia!
> (II, v, 25-40)

Cosroe thinks that his reasoning is sound because he knows that they both breathe the same air and were formed of the same elements; therefore, he asks his natal stars to help him kill Tamburlaine. Cosroe is mistaken, however, for the result of the ensuing battle is his death.

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[3] Tillyard, p. 59.

Cosroe's failure to defeat Tamburlaine is the result of a lack of influence from the heavens. Although they were both framed from basically the same elements, Tamburlaine's natal stars had destined him to be a world conqueror and his elements were more properly balanced for the character of a conqueror. Tamburlaine explains Cosroe's defeat to him by saying:

> The thirst of reign and sweetness of a crown
> That caus'd the eldest son of heavenly Ops
> To thrust his doting father from his chair
> And place himself in the empyreal heaven,
> Mov'd me to manage arms against thy state.
> What better precedent than mighty Jove?
> Nature that fram'd us of four elements,
> Warring within our breast for regiment,
> Doth teach us all to have aspiring minds.
> (II, v, 52-60)

Here Tamburlaine is saying that it was not a part of heaven's plan for Cosroe to be a conqueror. His reference to nature and the Elements indicates that nature intends for everyone to have "aspiring minds," but only those who are guided by heavenly influence and those who are framed in the correct proportion can in reality be conquerors.

The third reference to the Elements is in the play Edward the Second. This reference spoken by Spencer concerns his grief before King Edward has been taken to Killingworth Castle where he is to be executed: "Rent, sphere of heaven, and, fire, forsake thy orb!/ Earth, melt to air! Gone is my sovereign,/ Gone, gone, alas, never to make return" (Sc. xvii, 101-103)! Spencer is upset because the king is gone; his statement calls for a war of the Elements which would result in the destruction of the world. The Elements were opposed to each other, and Elements such as Fire and Water were kept from a mutual destruction

because the Element of Air was between them. When Spencer calls for Fire to leave its orbit and the Earth to turn into Air, he is pleading that the heavenly influences allow the Elements to destroy themselves thereby destroying the world.

Such references to natal stars and the Elements are good examples of Marlowe's scientific knowledge, but they alone do not make him a great dramatist or scholar. There is, however, one example of technical knowledge which is unique and does illustrate good scholarship and dramatic skill. This example is Marlowe's version of Tamburlaine's death.

In writing the two plays about Tamburlaine Marlowe found in his sources many of the physical qualities and mental characteristics of his leading character, but he did not find in the sources the method of Tamburlaine's death that he used. According to the sources of the play, Tamburlaine died a natural and peaceful death in Samarcand.[4] In Marlowe's version of the story, Tamburlaine dies after a battle from what is often thought by modern readers to be an unknown sickness. When several passages from the two Tamburlaine plays are studied according to the Elizabethan idea that various passions can produce physiological changes in the body, this unknown malady in reality turns out to be an ascendency of the humour choler.[5]

Special credit should be given to Marlowe for his two plays about Tamburlaine. Although they are not considered his best plays, they are

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[4]Parr, p. 5.

[5]Roy W. Battenhouse, Marlowe's "Tamburlaine" (Nashville, 1961), p. 217.

significant because they are the best examples of Marlowe's dramatic ingenuity. Writing two five-act plays on the same subject and maintaining the same characterizations and themes in both must have been an arduous task, and Marlowe by necessity had to be constantly inventive and new. The various cosmological images previously discussed are good examples of Marlowe's inventiveness and scholarly knowledge, but the best example of his ingenuity is the death of Tamburlaine. Considering that the play Tamburlaine is a morality play and that Tamburlaine's major trait of arrogance is evil, Marlowe could not allow his leading character to die a natural death; therefore, it was necessary for Marlowe to invent some reasonable manner by which he could dispatch his hero and still stay within the bounds of historical expediency. Marlowe doubtlessly decided that the conqueror of Tamburlaine should be Tamburlaine himself, and he therefore allowed his hero to die from a malignant distemper caused by his arrogance and fiery temperament.

If Tamburlaine's character is examined, it is found that there are numerous extenuating circumstances leading to his death. These circumstances are further examples of Marlowe's scholarly knowledge because there were a number of sixteenth century treatises which described the choleric man, and Marlowe could have used any of them. Although it would be impossible to prove that Marlowe had a particular book in his hand when he described Tamburlaine's character, he as well as other Elizabethans were certainly familiar with the characteristics of a choleric man, and Tamburlaine definitely fits the various descriptions.[6]

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[6]Carroll Camden, "Tamburlaine: Choleric Man," MLN, XLIV (1929), p. 435.

As previously mentioned, Marlowe presents Tamburlaine as an enormous and energetic man lusting for military conquest. Tamburlaine's faith in his own destiny has been well illustrated by his references to his natal stars, and a reading knowledge of the plays should indicate that he was extremely cruel, proud, and wrathful. The best physical description of Tamburlaine is given in I Tamburlaine in a speech by Menaphon:

> Of stature tall, and straightly fashioned,
> Like his desire, lift upward and divine:
> So large of limbs, his joints so strongly knit,
> Such breadth of shoulders as might mainly bear
> Old Atlas' burden: 'twixt his manly pitch
> A pearl more worth than all the world is plac'd,
> Wherein by curious sovereignty of art
> Are fix'd his piercing instruments of sight,
> Whose fiery circles bear encompassed
> A heaven of heavenly bodies in their spheres,
> That guides his steps and actions to the throne
> Where honor sits invested royally:
> Pale of complexion, wrought in him with passion,
> Thirsting with sovereignty, with love of arms:
> His lofty brows in folds do figure death,
> And in their smoothness amity and life:
> About them hangs a knot of amber hair,
> Wrapped in curls, as fierce Achilles' was,
> On which the breath of heaven delights to play,
> Making it dance with wanton majesty:
> His arms and fingers, long, and sinewy,
> Betokening valor and excess of strength--
> In every part proportioned like a man
> Should make the world subdued to Tamburlaine.
> (II, ii, 7-30)

Menaphon's descriptions of Tamburlaine which characterize him as having a pale complexion and fiery eyes, and being a lover of arms, a contemplator of death, and a thirster for sovereignty are all good examples of the qualities of a choleric man. In The Touchstone of Complexions (1576) it is pointed out that a pale complexion is one of the

characteristics of a choleric temperament: "First of Yelowe Choler is engendered Pale, or of the colour of a Pomecytron, meane betwene greene and yelowyshe."[7] Passages in which Tamburaline is described as having fiery eyes are found in several places in the two plays, and this characteristic is another symptom of the choleric temperament. Again in The Touchstone of Complexions this symptom is described: "Angre (which is a passion so lyke to fury and madnesse, as nothing in the world more) what force it hath . . . appeareth chiefly by countenaunce, colour, grymme bisage, cruel and fiery eyes, puffing and wrynkled nostrilles, byting lyppes, enraged mouth. . . ."[8] John Davies of Hereford's description of the choleric man also fits Tamburlaine's character as is seen in the following: "The Chollericke is hasty, and inclinde/ To Envie, pride, and prodigalitie;/ As Herc'les-hardy, though with anger blinde."[9]

In I Tamburlaine Agydas is the first to recognize symptoms of Tamburlaine's malady:

> I stand aghast!--but most astonied
> To see his choler shut in secret thoughts,
> And wrapt in silence of his angry soul.
> Upon his brows was portray'd ugly death,
> And in his eyes the furies of his heart
> That shine as comets, menacing revenge,
> And cast a pale complexion on his cheeks.
> (III, ii, 69-75)

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[7]The Touchstone of Complexions, trans. by Thomas Newton from the Latin of Lemnius, as quoted in Roy W. Battenhouse, Marlowe's "Tamburlaine," p. 219.

[8]Ibid., p. 220.

[9]Sir John Davies, Microcosmos, as quoted in Carroll Camden, "Tamburlaine: Choleric Man," p. 431.

Agydas does not say that Tamburlaine is distempered at this particular point, but he does recognize the symptoms of the humour when he refers to Tamburlaine's "angry soul," his thoughts of "ugly death," and his "pale complexion"; and he points out that these symptoms are "wrapt in silence" at this time.

As previously mentioned, the humour choler comes from the element of Fire, and it should also be noted that Fire has two corresponding qualities, hot and dry. Tamburlaine's temperament is often described by references to its hot temperature; and according to Renaissance writers, the most dangerous form of choler, choler adust, is caused by excessive heat.[10] In I Tamburlaine the Governor of Damasco recognizes the fact that Tamburlaine has a hot temperament, and as a means of appeasement, he offers Tamburlaine a gift of four virgins:

> Therefore, for these our harmless virgins' sakes,
> Whose honors and whose lives rely on him,
> Let us have hope that their unspotted prayers,
> Their blubbered cheecks, and hearty, humble moans,
> Will melt his fury into some remorse,
> And use us like a loving conqueror.
> . . . . . .
> Therefore in that your safeties and our own,
> Your honors, liberties, and lives were weigh'd
> In equal care and balance with our own,
> Endure as we the malice of our stars,
> The wrath of Tamburlaine, and power of wars--
> Or be the means the overweighing heavens
> Have kept to qualify these hot extremes,
> And bring us pardon in your cheerful looks!
> (V, i, 18-47)

Tamburlaine's malady has probably reached the stages of choler adust at this time because he rejects the governor's offer, slaughters the virgins

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[10] Battenhouse, p. 220.

on the walls of Damascus, and massacres the remaining citizens of the town.

In II Tamburlaine after the death of Zenocrate, Tamburlaine's violent and unmerciful onslaughts reach a noticeable peak. He burns the town in which Zenocrate died, devises harsh punishments for his enemies, murders his own son, and completely destroys all of the inhabitants of Babylon. The King of Jerusalem gives an indication that Tamburlaine will be punished for his cruelty when he says:

> Thy victories are grown so violent
> That shortly heaven fill'd with the meteors
> Of blood and fire thy tyrannies have made
> Will pour down blood and fire on thy head,
> Whose scalding drops will pierce thy seething brains
> And with our bloods revenge our bloods on thee!
> (IV, i, 140-145)

And shortly thereafter, the King of Soria exclaims:

> May never spirit, vein, or artier, feed
> The cursed substance of that cruel heart!
> But, wanting moisture and remorseful blood,
> Dry up with anger and consume with heat!
> (IV, i, 178-181)

This speech by the King of Soria gives the best indication of what is going to happen to Tamburlaine; it points out that the excessive heat of Tamburlaine's temperament will dry up all of his blood and he will die.

Tamburlaine rebukes the King of Soria for his remarks and brags that he will continue to be the terror of the world, but shortly thereafter in a dialogue with Techelles he realizes that something is wrong:

> Tamb. . . . I feel my self distempered suddenly . . .
> Tech. What is it dares distemper Tamburlaine?
> Tamb. Something, Techelles, but I know not what . . .

> But forth, ye vassals, whatsoe'er it be,
> Sickness or death can never conquer me!
> (V, i, 216-220)

Tamburlaine's men realize that their leader is distempered, and Theridamas in particular seems to know the nature of Tamburlaine's illness:

> Weep, heavens, and vanish into liquid tears!
> Fall stars that govern his nativity,
> And summon all the shining lamps of heaven
> To cast their bootless fires to the earth
> And shed their feeble influence in the air--
> Muffle your beauties with eternal clouds!
> For Hell and Darkness pitch their pitchy tents,
> And Death with armies of Cimmerian spirits
> Gives battle 'gainst the heart of Tamburlaine!
> Now in defiance of that wonted love
> Your sacred virtues pour'd upon his throne
> And made his state an honor to the heavens,
> These cowards invisible assail his soul
> And threaten conquest on our sovereign.
> But if he die your glories are disgrac'd,
> Earth droops and says that hell in heaven is plac'd!
> (V, iii, 1-16)

Here Theridamas has specifically asked Tamburlaine's natal stars to use their influence to overcome the "armies of Cimmerian spirits" as they battle against Tamburlaine's heart.

Tamburlaine himself seems to know that he is going to die, but he does not realize that his violent passions are the cause of his illness. Even after his men have pleaded that he stop fighting, he continues to think of himself as the terror of the world. When he hears that the armies of the Callapines are ready to attack him, he rejoices that he can again vent his anger and says:

> Come, let us march against the powers of heaven,
> And set black streamers in the firmament
> To signify the slaughter of the gods!

> Ah, friends, what shall I do? I cannot stand.
> Come carry me to war against the gods
> That thus envy the health of Tamburlaine.
> (V, iii, 48-53)

Tamburlaine does not realize that he is endangering himself ever more by these violent actions, and Theridamas warns him that he must stop his violence: "Ah, good my lord, leave these impatient words/ Which add much danger to your malady" (V, iii, 54-55).

Before Tamburlaine goes to fight the Callapines, he and his physician discuss his illness:

> Phy. Pleaseth Your Majesty to drink this potion
> Which will abate the fury of your fit
> And cause some milder spirits govern you.
> Tamb. Tell me, what think you of my sickness now?
> Phy. I view'd your urine, and the hypostasis
> Thick and obscure doth make your danger great;
> Your veins are full of accidental heat,
> Whereby the moisture of your blood is dried.
> The humidum and calor, which some hold
> Is not a parcel of the elements
> But of a substance more divine and pure,
> Is almost clean extinguished and spent;
> Which, being the cause of life, imports your death.
> Besides, my lord, this day is critical,
> Dangerous to those whose crisis is as yours:
> Your artiers which alongst the veins convey
> The lively spirits which the heart engenders,
> Are parch'd and void of spirits, that the soul
> Wanting those organons by which it moves,
> Cannot endure, by argument of art.
> Yet, if Your Majesty may escape this day,
> No doubt but you shall soon recover all.
> (V, iii, 78-99)

Although Tamburlaine does make the Callapines run away, he does not recover; and just before he dies he admits that the gods have defeated him when he says: "In vain I strive and rail against those powers/ That mean t'invest me in a higher throne,/ As much too high for this disdainful earth" (V, iii, 120-122).

In an analysis of Tamburlaine's distemper, it can be easily seen that as a result of his intense passions, he causes an excess of febrile heat in his body. This heat parches his arteries and dries up the radical moisture or humidum of his blood which is necessary for the preservation of his natural heat or calor. A combination of humidum and calor in the blood gives rise to what is called spirits. If there is a depletion of either humidum or calor, the soul stops functioning, bodily activities stop, and death is inevitable. Although Tamburlaine does not realize it, the more violent he becomes, the more malignant his bodily conditions become. By means of his own ignorance, he hastens his own death. But the question might arise as to what Tamburlaine's powerful natal stars are doing while he suffers his agony. The stellar powers desert him at a time when he needs them most probably because the calor and the spirits are identical with the essence of the stars. To understand what happened in the heavens, however, it is necessary to have an understanding of critical days, which were mentioned by Tamburlaine's physician.[11]

Critical days were the days when the malignancy of a distemper was suddenly altered for better or for worse. Most ancient authorities believed that the moon influenced critical days, and this belief allowed medieval astrologers to erect elaborate systems for the diagnosis of different sicknesses. Treatises on the subject give evidence that this system was carried over into Elizabethan times. When a physician who

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[11]Parr, p. 19.

believed in this system arrived at the bedside of a sick patient, he would cast a horoscope for the patient according to the moment when the distempered person first experienced his sickness.[12] The result of what might happen if the moon were in conjunction with Saturn on a critical day can be used as an example of this system of diagnosis. As previously noted, Saturn was thought to be the most malefic of all of the planets, and the moon was just about as bad. If on a critical day the moon was in conjunction with Saturn, the illness would more than likely result in death. Although Tamburlaine's physician does not directly state it, he must have cast a horoscope for the conqueror, for he mentions critical days and says that Tamburlaine might recover if he can live through the day.

The science of astrology was obviously important for Marlowe as should be evidenced from the preceding character analyses and references to natal stars. The science was also important for Doctor Faustus, the character who probably most closely resembles Marlowe himself. When Faustus becomes ravished with the desire for magical knowledge, he prepares himself for the practice of magic and necromantic skills not only with books about occult lore but also with books about astrology. His friends Cornelius and Valdes tell him that astrology must be one of the basic parts of his study. Cornelius explains:

> The miracles that magic will perform
> Will make thee vow to study nothing else.
> He that is grounded in astrology,

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[12] Ibid., pp. 20-21.

> Enrich'd with tongues, well seen in minerals,
> Hath all the principles magic doth require.
> (I, i, 128-132)

Faustus' friends are correct according to the Renaissance point of view, for in proclaiming astrology a requisite of magic they are supported by perhaps the most renowned occulist of the sixteenth century, Henry Cornelius Agrippa. Agrippa, who is often mentioned as the physician of the Queen of France, was famous for his De occulta philosophia (1531) in which he affirmed all of the occult sciences, such as astronomy, astrology, and necromancy.[13] Faustus says that he hopes he "Will be as cunning as Agrippa was,/ Whose shadows made all Europe honor him" (I, i, 109-110). Faustus did become as cunning as Agrippa, for in a later passage after he has taken his tour of the universe with Mephostophilis, the Chorus says that some of his friends ". . . put forth questions of astrology/ Which Faustus answer'd with such learned skill/ As they admir'd and wond'red at his wit" (IV, i, 9-11).

Marlowe's use of astrology and the related fields of psychology and physiology certainly gives a good indication of his scholarly knowledge. His use of first principles, such as Aristotle's four Elements, proves that he was familiar with ancient sources, and his knowledge of passions and the famous Henry Cornelius Agrippa prove that he was definitely abreast of current information. His varied uses of the references to natal stars and his characterizations by means of horoscopes indicate his ingenuity and prove that his astrological knowledge was not used for simple ornament.

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[13]Allen, p. 56.

CHAPTER V

METEOROLOGICAL IMAGERY

It is impossible to turn to many pages of Marlowe's plays without encountering a great deal of miscellaneous cosmological information. Most of this miscellaneous information is in the form of meteorological imagery. When this imagery is examined, it gives a further insight into Marlowe's scholarly background and knowledge. The images add richness and forcefulness to each of the passages of which they are a part, but they never seem artificial or forced. Even when the images reveal highly technical knowledge, they are never irrelevant.

As previously noted, modern readers of Marlowe's plays are likely to be puzzled by or even to disregard references to such phenomena as thunder, lightning, dew, or the rainbow; but to an Elizabethan audience, such references had significant meanings, and many of them such as meteors or earthquakes were thought to be dire portents of some coming disaster. Marlowe, in a passage from II Tamburlaine, uses a combination of technical knowledge and the common Elizabethan notion that meteors portend disaster when he has Tamburlaine curse the town in which Zenocrate died:

> So burn the turrets of this cursed town!
> Flame to the highest region of the air,
> And kindle heaps of exhalations,
> That being fiery meteors may presage
> Death and destruction to th' inhabitants!
> Over my zenith hang a blazing star,
> That may endure till heaven be dissolv'd,
> Fed with the fresh supply of earthly dregs,
> Threat'ning a death and famine to this land!
> (III, ii, 1-9)

In this passage Marlowe is using the idea that meteors presage disaster, and at the same time he is using an aspect of his technical knowledge concerning meteors, evaporations, and exhalations.

As explained earlier, Elizabethan England's meteorological tradition was founded primarily on Aristotle's Meteorologica, the book which first attempted to explain atmospheric phenomena. According to the system of Aristotle, unless there was some unusual condition, evaporations always tended to rise because of some power of the sun or planets to attract them upward. Evaporations from the heavy Elements of Water and Earth were transmuted by heat from the sun to lighter substances that naturally sought a position in the arrangement of the four Elements consonant with their new characteristics. During their upward course, the evaporations passed through three distinct regions of the Element Air. These regions were the lowest, which was heated by a reflection from the sun; the cold middle region with its congealed, watery meteors; and the uppermost region, which was warmed by its proximity to the sphere of Fire.[1] Tamburlaine's speech means, therefore, that the flames of the burning town will rise in the form of evaporations to the top of the region of Air and will there kindle meteors whose function it is to presage dire events. The "blazing star" over Tamburlaine's head will be kept lighted by the other fires that he will light on earth.

Another example of the same technical idea of evaporations is presented by Marlowe in a speech by Bajazeth from I Tamburlaine.

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[1]Heninger, p. 41.

Shortly before Bajazeth brains himself, he says:

> Let ugly Darkness with her rusty coach,
> Engirt with tempests wrapt in pitchy clouds,
> Smother the earth with never-fading mists!
> And let her horses from their nostrils breathe
> Rebellious winds and dreadful thunder-claps.
> (V, i, 294-298)

This passage indicates Marlowe's knowledge of the idea that the rising and setting of the sun resulted in daily temperature variations in the lowest region of the Air which surrounds the earth. As a result of the rising and setting of the sun, the lowest region cooled rapidly after sunset and tended to coagulate into meteors any evaporations which had not ascended above it. Night was therefore considered the period of dampness and vapor phenomena.[2]

In Greek religion it was believed that Zeus had originated as a sky and weather god, and he was worshipped specifically as the controller of thunder and lightning.[3] Elizabethan literature gives Zeus the same characteristics as were given him in Greek religion, and the close association between Jove and lightning gives a precise meaning to a line in Doctor Faustus. After Faustus has rejected all other scholarly careers and has chosen magic, he declares: ". . . Emperors and kings/ Are but obeyed in their several provinces,/ Nor can they raise the wind or rend the clouds" (I, i, 53-55). If by magic or other means Faustus can "rend the clouds"--that is, generate thunder and lightning--then he will be a Jove. As Faustus himself says, he will "gain a deity" (I, i, 58).

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[2] Ibid., p. 42.

[3] Ibid., p. 84.

Later, the Evil Angel encourages Faustus to pursue magic so that he might be ". . . on earth, as Jove is in the sky,/ Lord and commander of these elements" (I, i, 71-72). The connection between Jove and thunder and lightning is also referred to in I Tamburlaine when the hero declares:

> Our quivering lances shaking in the air
> And bullets like Jove's dreadful thunderbolts,
> Enroll'd in flames and fiery smoldering mists,
> Shall threat the gods more than Cyclopian wars.
> (II, iii, 18-21)

During Marlowe's lifetime there were two technical theories concerning the cause of thunder and lightning, and he used both of them in his plays. One of the theories held that thunder and lightning was caused by the collision of clouds driven together by the winds.[4] An example of this theory can be found in I Tamburlaine in a passage in which Agydas says:

> As when the seaman sees the Hyades
> Gather an army of Cimmerian clouds
> (Auster and Aquilon with winged steeds,
> All sweating, tilt about the watery heavens,
> With shivering spears enforcing thunder claps,
> And from their shields strike flames of lightning).
> (III, ii, 76-81)

Here Agydas refers to the Hyades, stars which supposedly bring rain, gathering an army of Cimmerian or black clouds. After the mass of black clouds have been formed, Agydas says that Auster and Aquilon, the southwest and north winds, will drive them together causing thunder and lightning.

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[4]Kocher, p. 235.

The other theory concerning the cause of thunder and lightning is stated in Leonard Digges' Prognostication Everlasting (1555). This theory holds that:

> . . . thunder is an exhalation, hot and dry, mixt with moisture caryed up to the middle region (of the air), there thicked and wrapped into a cloud, of this hotte matter coupled with moystnes, closed in the cloud, groweth a strife, the heate beatinge, and breaking out the sides of the cloude wyth a thundringe noyse: the fyre then dispersed, in the lightninge.[5]

This theory is based primarily on the Aristotelian explanation of astronomical phenomena which was reviewed earlier. The major difference between the two theories is Digges' use of moisture as one of the causes of thunder by its mixture with the hot and dry exhalations rather than a temperature change being the cause as is stated by Aristotle. An example of the Digges' theory can be found in a speech by Tamburlaine in I Tamburlaine in which he says:

> My sword struck fire from his coat of steel,
> Even in Bithynia, when I took this Turk--
> As when a fiery exhalation
> Wrapt in the bowels of a freezing cloud,
> Fighting for passage, make the welkin crack,
> And cast a flash of lightning to the earth.
> (IV, ii, 41-46)

In this speech Marlowe indicates his technical knowledge of the Digges' theory when he refers to the idea that lightning results from the conflict between a "fiery exhalation" and a "freezing cloud" or moistened cloud which encloses the exhalation.

The same Digges' theory of thunder and lightning is used in

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[5]Leonard Digges, Prognostication Everlasting, quoted in Paul H. Kocher, Christopher Marlowe, p. 236.

Doctor Faustus in Faustus' prayer to his natal stars for salvation from the dreaded pact he has made with the devil.

> You stars that reign'd at my nativity,
> Whose influence hath allotted death and Hell,
> Now draw up Faustus like a foggy mist
> Into the entrails of yon laboring cloud
> That when you vomit forth into the air,
> My limbs may issue from your smoky mouths--
> But let my soul mount and ascend to Heaven.
> (V, ii, 159-165)

In this passage Faustus begs his stars or planets to exhale him in the form of a mist upward to the sky into a cloud. Once he is in the cloud, he hopes that his elemental parts (Earth, Air, Fire, and Water) will be compacted into a thunderstone or lightning so that his soul will be pure for admission into heaven. Marlowe's familiarity with these theories gives once again an insight into his scholarly background. It is particularly significant that he was familiar with the Digges' theory because it illustrates his understanding of contemporary scientific developments.

Although Marlowe uses many meteorological images in his five plays, the two plays about Tamburlaine contain more images than any of the others. In I Tamburlaine the first prologue assures the audience that they will ". . . hear the Scythian Tamburlaine/ Threat'ning the world with high astounding terms" (ll. 4-5); and in carrying out this promise, Marlowe draws upon a full repertory of wondrous meteors.

Tamburlaine himself usually describes the meteorological images in the plays, especially when he is boasting about his control over the entire sublunary world. A lengthy example of such boasting is given in I Tamburlaine in a speech by the conqueror when he steps upon

Bajazeth as a footstool for his throne.

> Now clear the triple region of the air,
> And let the majesty of heaven behold
> Their scourge and terror tread on emperors.
> Smile stars, that reign'd at my nativity,
> And dim the brightness of their neighbor lamps!
> Disdain to borrow light of Cynthia,
> For I, the chiefest lamp of all the earth,
> First rising in the East with mild aspect,
> But fixed now in the meridian line,
> Will send up fire to your turning spheres,
> And cause the sun to borrow light of you!
> My sword struck fire from his coat of steel,
> Even in Bithynia, when I took this Turk--
> As when a fiery exhalation
> Wrapt in the bowels of a freezing cloud,
> Fighting for passage, make the welkin crack
> And cast a flash of lightning to the earth.
> But ere I march to wealthy Persia,
> Or leave Damascus and th' Egyptian fields,
> As was the fame of Clymene's brain-sick son,
> That almost brent the axel-tree of heaven,
> So shall our swords, our lances, and our shot
> Fill all the air with fiery meteors:
> Then when the sky wax red as blood,
> It shall be said I made it red myself,
> To make me think of nought but blood and war.
> (IV, ii, 30-55)

This speech is filled with visual images which would make an audience hold Tamburlaine in awe. Tamburlaine is at his egotistical best when he describes himself appearing in the East brighter than the sun. He compares his battle with Bajazeth to a battle between clouds and fiery exhalations which result in destructive lightning; he ends his speech with the claim that his weapons and artillery will fill the air like fiery meteors which presage bloodshed and war. Marlowe likes especially descriptions dealing with any type of fiery impression as should be evidenced from this passage, and he again uses such an image in II Tamburlaine in a speech in which Tamburlaine is boasting to the vanquished

kings of Turkey:

> I will persist the terror of the world,
> Making the meteors that like armed men
> Are seen to march upon the towers of heaven
> Run tilting round about the firmament
> And break their burning lances in the air
> For honor of my wondrous victories!
> (IV, i, 201-206)

Some of the other cosmological information used by Marlowe in his plays are references to various constellations and a reference to the Milky Way. The first of three constellations described by Marlowe is the Hyades. The Hyades, as previously mentioned, is usually thought to be a constellation of storm-raising qualities. Marlowe certainly considers it as an omen for a storm when he says: "As when the seaman sees the Hyades/ Gather an army of Cimmerian clouds" (III, ii, 76-77). Another constellation mentioned is Bootes, which is mentioned in II Tamburlaine when Tamburlaine says: "The sun, unable to sustain the sight,/ Shall hide his head in Thetis' watery lap,/ And leave his steeds to fair Bootes' charge" (I, iii, 168-170). The third constellation mentioned is Orion which is referred to in Doctor Faustus when Faustus says that the night is "Longing to view Orion's drizzling look" (I, iii, 2). Orion is evidently another example of a constellation which has storm-raising qualities.

Marlowe reverts to his technical knowledge of Aristotle when he uses his reference to the Milky Way. According to Aristotle the Milky Way was one of the phenomena of exhalations and was the result of an ignition of numerous exhalations drawn up to the region just below the

sphere of the element of Fire.[6] Following mythological tradition, Marlowe refers to the Milky Way as the highway to Jupiter's palace as is indicated by the following passage from II Tamburlaine:

> Then in my coach, like Saturn's royal son
> Mounted, his shining chariot gilt with fire,
> And drawn with princely eagles through the path
> Pav'd with bright crystal and enchas'd with stars,
> When all the gods stand gazing at his pomp,
> So will I ride through Samarcanda streets,
> Until my soul, dissevered from this flesh,
> Shall mount the milk-white way, and meet Him there.
> (IV, iii, 125-132)

Here Tamburlaine is planning his triumphal march back to his native city, Samarcand. The thought of Jupiter riding the Milky Way turns Tamburlaine's eyes toward heaven, and he concludes the speech by declaring that he hopes his soul will mount the "milk-white way" to meet its maker.

Marlowe's meteorological imagery is noteworthy, therefore, for its variety. Not only does he use the imagery to add vividness and forcefulness to particular passages, but also to expound technical knowledge from the ancient Aristotelian theories and the contemporary Digges theories. Incidental information from Greek religion and mythology also give variety to his plays and indicate that he is certainly a scholarly dramatist.

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[6] Heninger, p. 102.

CHAPTER VI

CONCLUSION

Marlowe's cosmology is definitely an important subject because it touches the deepest stores of his thought and learning. For him it seems that cosmology was one of the fields of human knowledge that really mattered, and his extensive use of the subject indicates that he certainly knew a great deal about the sciences of astronomy, astrology, and meteorology.

This study proved that Marlowe's astronomical system was that of the Aristotelian-Ptolemaic, but at the same time it was pointed out that in two instances he used two other systems, the Copernican and the Renaissance skeptical astronomies. It should be emphasized again, however, that Marlowe's rejection of the later Copernican and skeptical astronomies in no way proves that he was not a scholar. His Cambridge background of astronomy was founded in the ancients, and most Elizabethans during the period refused to accept any new system which might destroy their old order of the universe. It should be obvious that Marlowe made his choice of astronomical systems and chose the older astronomy because it better suited his temperament and dramatic needs. The mere mention of the two later astronomies indicates that he was certainly a scholar who kept abreast of contemporary scientific investigation.

Marlowe's astrology is perhaps the most important aspect of his cosmology, for it proves that he used cosmological allusions, not for simple ornament, but with direct purposes in mind. His technical

knowledge of the four Elements and the four humours proves once again his knowledge of the ancient scholars, and his use of the psychological and physiological ideas of passions prove that he was familiar with current scientific knowledge. His use of natal stars to determine the temperament and characteristics of many of his characters is certainly not an ornamental use of astrology, and when he dispatches his hero Tamburlaine by means of a malady caused by his humours, he is definitely indicating a technical knowledge of the science.

The meteorological imagery of the plays is perhaps used in an ornamental fashion, but here again Marlowe demonstrates his skill as a dramatist because of his varied usage of the images. Marlowe cleverly conceals his technical knowledge of the causes of thunder and lightning, but such knowledge is revealed when certain passages are studied according to the theories of Aristotle and Leonard Digges. His references to various constellations and to the Milky Way are used at significant times in the plays, and they certainly add vividness and richness to the passages of which they are a part.

One particular speech by Tamburlaine in I Tamburlaine is very appropriate as a conclusion to this study of Marlowe because it includes most of the ideas presented. In a dialogue with Cosroe he says:

> Nature that fram'd us of four elements,
> Warring within our breasts for regiment,
> Doth teach us all to have aspiring minds:
> Our souls, whose faculties can comprehend
> The wondrous architecture of the world,
> And measure every wandering planet's course,
> Still climbing after knowledge infinite,
> And always moving as the restless spheres,
> Wills us to wear ourselves, and never rest,

> Until we reach the ripest fruit of all,
> That perfect bliss and sole felicity--
> The sweet fruition of an earthly crown.
> (II, v, 58-60)

This speech clearly represents a characterization of Marlowe himself. Marlowe believed that he was "framed" by the four Elements of Aristotle. He also believed that "Nature" taught everyone to have "aspiring minds." As a sixteenth century scholar he was expected to "comprehend" the cosmological systems of the period. He knew that he should always reach "after knowledge infinite." He always moved as the "restless spheres" in his search for knowledge, not only of cosmology but also of all subjects. It is a pity that during his life he never attained "the ripest fruit of all," an "earthly crown" of fame as a scholar.

APPENDIX I

The following is a list of the cosmological textbooks most widely used in England while Marlowe was at Cambridge. The dates given are for the earliest known edition. The last three works contain information about the Copernican system.

1. Gemma Frisius, *De principiis astronomiae et cosmographie* (1530)
2. Joannis de Sacrobosco, *Libellus de sphaera* (1531)
3. Peter Apian, *Cosmographia* (1539)
4. Oronce Fine, *De mundi sphaera, sire cosmographia* (1542)
5. Joannis de Sacrobosco, *Sphaera Ioannis de Sacro Bosco, emendata Eliae Vineti* (1556)
6. Cornelius Valerius, *De sphaera, et primus astronomiae rudimentis libellus utilissimus* (1558)
7. Christopher Clavius, *In sphaerum Ioannis de Sacrobosco commentarius* (1570)
8. Francesco Giuntini, *Commentarius in Sphaeram Ioannis de Sacrobosco* (1577-8)
9. Michael Maestlin, *Epitome astronomiae* (1582)[1]

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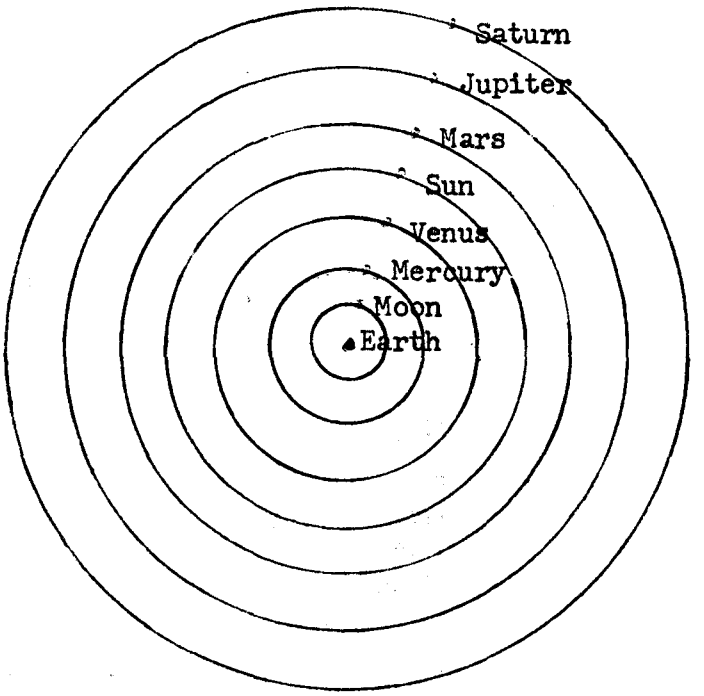
[1] Francis R. Johnson, "Marlowe's Astronomy and Renaissance Scepticism", *ELH*, XIII (December, 1946), 243-4.

APPENDIX II

The Aristotelian-Ptolemaic System
of Geocentric Spheres



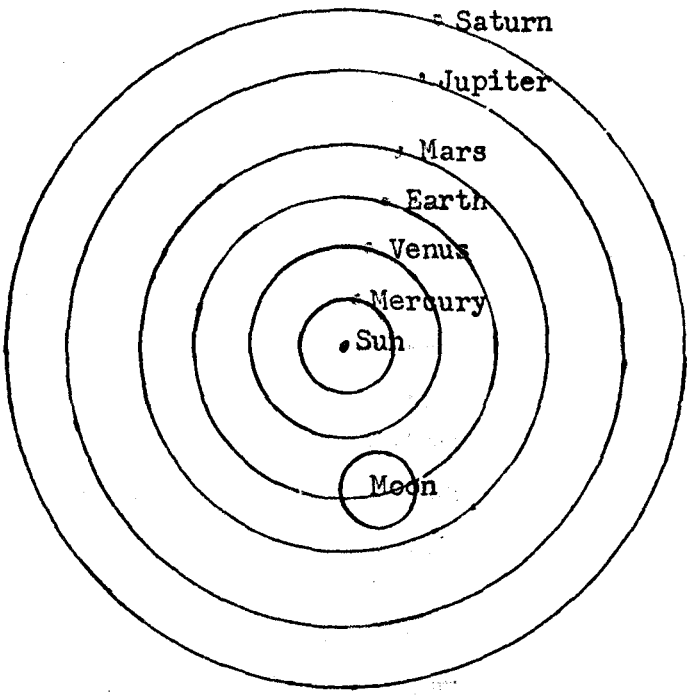
This is a diagram of what the Elizabethans thought to be the created universe. For them it was an enormous sphere that contained the vast area of the heavens (from the moon upward), with the earth as its center. This vast area was divided into two unequal parts, the sublunary world and the celestial heavens. Below the moon was the minute part, the area of the four Elements. Earth was the lowest of the Elements, with Water, Air, and Fire following respectively. The second part, the celestial heavens, contained eight visible, concentric spheres. The

moon, Mercury, Venus, the sun, Mars, Jupiter, and Saturn were seven of the spheres. The eighth sphere was that of the fixed stars of primum mobile above Saturn. Above the fixed stars was the invisible area of God's domain, the coelum empyraeum.

Each of the visible spheres of the planets and stars were of different sizes, growing larger as they proceeded from the earth. They also revolved at different speeds around the earth, moving in an east to west direction around it. By moving at a different speed, a planet would obviously, at some time, come in conjunction with some other planet, and this was an important fact for astrologers. If, for example, Saturn came in conjunction with Mars, anyone born when such an event occurred would be destined for a cruel fate because Saturn was considered an evil planet.

APPENDIX III

The Copernican System of
Heliocentric Spheres



The Copernican system made the sun the center of the world and the earth a planet with a yearly revolution around the sun. The system also placed the moon in the same orbit as the earth, thereby taking away some of its supposed astrological powers as an independent sphere. The theory that the revolving sphere of the fixed stars controlled night and day was discounted and the stars became truly fixed. Earth was assigned the control of night and day, and it was also given two motions, the revolution around the sun and the rotation on its own axis. It should be easily seen that this new system dealt a severe blow to Elizabethan man's intellectual pride.

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