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MUSIC IN MEDIEVAL AND RENAISSANCE ASTROLOGICAL IMAGERY

BY

ZDRAVKO BLAŽEKOVIĆ

VOLUME I

A dissertation submitted to the Graduate Faculty in Music
in partial fulfillment of the requirements for the degree of
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The City University of New York

1997

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Abstract

MUSIC SYMBOLISM IN MEDIEVAL AND RENAISSANCE ASTROLOGICAL IMAGERY

by

ZDRAVKO BLAŽEKOVIĆ

Advisor: Professor Barbara Russano Hanning

The *Introductorium maius in astronomiam* by the Arabic astronomer Abū Maʿšar (787-886) was twice translated into Latin during the 12th century, and eventually became one of the most important astrological treatises used in the West during the Middle Ages and the Renaissance. The translation done by Hermann of Dalmatia, between 1140 and 1143, was abridged and illustrated in the late 12th or early 13th century by Georgius Zothorus Zaparus Fendulus. Six preserved copies of this illustrated abridgment, produced between 1220-40 and ca. 1500 (Paris, BNF lat.7330, 1220-40; London, BL Sloane 3983, 1325-50; New York, Morgan M.785, ca. 1400; BNF lat.7331, 1450-92; BNF lat.7344, 1488-91; and Smith-Lesouëf 8, ca. 1500), demonstrate the place of music in the astrological context and provide guides for the decoding of its symbolism.

The first part of Fendulus's abridgment illustrates Abū Maʿšar's description of the three astrological systems related to the zodiacal signs: (1) the Greek firmament based on the writings of Ptolemy (*sphaera graecanica*); (2) the Indian system of decans by Varahamihira (*sphaera indica*); and (3) the system of Teukros (*sphaera barbarica*). Associated with music are the second and third decans of Gemini, the

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second decan of Cancer, and the first decan of Capricorn as well as the constellations of Perseus, Hercules, Amphion, Satyr, Idol, Musa, and Bridemif. The Ptolemaic sphera does not have musical associations because the constellation of Lyra is identified as the eagle (Vultur). The second part of the abridgment interprets the planetary influences, among which Venus and Mercury are associated with music.

A total of 148 instruments depicted in all six manuscripts provides evidence of (1) the development of instruments from the early 13th to the end of the 15th century (harp, harp-psaltery, delta psaltery, rectangular psaltery, lute, hurdy-gurdy, fiddle, rabel, mandora, rebec, pipe, shawm, pipe and tabor, trumpet, tambourine, kettle drum, and cymbals); (2) their technical characteristics and variants in regions where the manuscripts were produced (southern Italy, the Low Countries, Paris); (3) performance practices (a rare image of the delta psaltery being played); (4) the terminology for instruments, as depicted instruments were labeled with their Latin names (Paris, BNF lat.7330 includes the earliest image of the harp accompanied with its name); and (5) the symbolic and mythological meaning of music in medieval and Renaissance astrological systems.

The first chapter of this work introduces the cultural background of Fendulus's manuscripts. The following three chapters discuss the music-related images and their symbolism found in the three astrological systems related to the zodiacal signs, as they are inherited from antiquity, transmitted to Indian and Arabic astrology, and finally developed in the West until the end of the Renaissance. In the fifth chapter the iconography of Venus and Mercury in the Arabic sources is explored, along with the

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roles which Fendulus and Michael Scotus played in the development of the Western iconography of the planets, and the artistic genres which originated from the iconography of the planets (the planets' children, the garden of love, and the occupations of the months). The final chapter considers the cultural and organological significance of the illustrations in Fendulus's abridgment and demonstrates how medieval astrological and mythological traditions were not a direct extension of antiquity, but a newly created conglomerate concept rooted both in Eastern and Western sources.

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54. Master of the *Hausbuch*, Children of Mercury (1500-30). Waldburg-Wolfegg Castle, Austria 515

55. Hans Sebald Beham, Children of Mercury (1531) 516

56. Venetian school, Children of Mercury (16th century). Paris, BNF, Cabinet des Estampes 517

57. Brussels workshop, Children of Mercury (tapestry, ca. 1570). Munich, Bayerisches Nationalmuseum 518

58. Master of the *Hausbuch*, Children of the sun (1500-30). Waldburg-Wolfegg Castle, Austria 519

59. Hans Sebald Beham, Children of the sun (1531) 520

60. Netherlandish school, Children of the sun (end of the 15th century). Paris, BNF, Cabinet des Estampes 521

61. Netherlandish school, Children of the sun (16th century). Oxford, Bodleian, Rawlinson D.1220, f.30v 523

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Abbreviations of Libraries

Ambrosiana	Milan, Biblioteca Ambrosiana
BL	London, British Library
BNF	Paris, Bibliothèque Nationale de France
Bodleian	Oxford, Bodleian Library
BRA	Brussels, Bibliothèque Royale Albert Ier
BS	Munich, Bayerische Staatsbiblithek
ML	Florence. Biblioteca Medicea-Laurenziana
Morgan	New York, Pierpont Morgan Library
ÖNB	Vienna, Österreichisch Nationalbibliothek
Rijksuniversiteit	Leiden, Bibliotheek der Rijksuniversiteit
Staatsbibliothek	Berlin, Staatsbibliothek Preußischer Kulturbesitz
Vatican	Vatican City, Biblioteca Apostolica Vaticana
Walters	Baltimore, Walters Art Gallery

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Abbreviations of Manuscripts

Fendulus A BNF, lat.7330

Fendulus B BL, Sloane 3893

Fendulus C Morgan, M.785

Fendulus D BNF, lat.7331

Fendulus E BNF, lat.7344

Fendulus F BNF, Smith-Lesouëf 8

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PREFACE

Astrology is an art of symbols. Not having explicit icons of its own, it adopted for the presentation of this symbolism various images from mythology and everyday life. Throughout the centuries, these figures developed into a coded language used to explain the significance of celestial movements and forces projected on the sublunar world. To an ordinary person of our time, astrology does not mean more than the horoscope printed in a daily tabloid. In earlier millennia, this was not the case, and the stars were considered to have a far more important role in people's lives. Therefore, an investigation into the past meanings associated with celestial constellations cannot be dismissed as unimportant fiction. Symbols were an essential part of an extensive and detailed intellectual system implemented in medieval thought that was in turn reflected overwhelmingly in the arts. This study is an attempt to decode some of those symbols along the lines defined by E.H. Gombrich, who instructed us that "the historian's task

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is to establish the precise meaning of the symbols used by the artist."[1]

Astrological systems used a broad variety of objects to encode the symbolic meaning presented by the clear sky: imagined figures from mythology, animals, and objects used in everyday life. A viewer would not have been able to recognize, in images that bore no relation to the real world, the messages that the astrologer intended to communicate. This makes the imagery in celestial atlases and illustrated astrological treatises important evidence of how these objects were perceived by their contemporaries.

During their long development, astrological ideas were transmitted through different cultures, religions, and customs, each of them adding its own layers of meaning. The tradition which started in the Chaldean and Egyptian civilizations was disseminated to Greco-Roman Antiquity. From there, it reached into Indian civilization, migrated into the Arabic culture, and eventually was brought to the European West during the Middle Ages. Each civilization related celestial movements and their meaning to its own coded system. In the repeated process of the adoption of systems from earlier traditions, each new civilization took over some symbolic elements without change. Other codes were updated according to the new meanings with which they were associated in different semantic contexts. Finally, in utilizing the systems over a period of time, each tradition supplemented the old symbols and developed new codes. Over more than two millennia, astrology grew into a complex symbolic language, which brought the many characteristics of its indigenous cultures to the West.

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[1] Ernst H. Gombrich, "The *Primavera,*" *Gombrich on the Renaissance. II: Symbolic Images* (London: Phaidon Press, 1972) 39.

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The Europeans of the Middle Ages used several traditions for their astrological predictions. Abū Maʿšar's original treatise *Introductorium maius in astronomiam* from the ninth century,[2] its translation into Latin by Hermann of Dalmatia, produced 1140-43, and finally the illustrated abridgment of the treatise made by Georgius Zothorus Zaparus Fendulus at the end of the twelfth or early thirteenth century each applied a new reading of these traditions. Fendulus's illustrated abridgment of Abū Maʿšar's treatise is our main source for this study since, in its extensive body of illustrations, it intermingles the complexity of multiple astrological traditions. This study shows how the European West employed several of those traditions during the Middle Ages. Eventually, some of them were forgotten (*sphaera indica* and *sphaera barbarica*) and others—which better corresponded with the tradition of Greco-Roman Antiquity—were pursued. It is commonly believed today that the medieval astrological tradition developed as a direct extension of Antiquity. However, the astrological, mythological, and symbolic traditions were translated from Antiquity to the Middle Ages in a broad circle, touching diverse cultures such as those of India, Persia, and the Arabic regions. What reached Europe in the twelfth century was a conglomerate of different traditions, comprised of Western and Eastern characteristics in equal measure.

Pictorial art in Fendulus's abridgment plays the role of a communicative language which explains through its imagery the subtle meaning of the codes verbalized in the text.

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[2] The title of the Arabic original is *Kitāb al-madkhal al-kabīr ʿalā ʾilm aḥkām an-nujūm* [The large book introducing the science of making judgments from the stars]. In the present study the title of the treatise is used in its Latin form, *Introductorium maius in astronomiam*, known in medieval and Renaissance literature.

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The illustrations reflect how the codes were understood by the artist and by his contemporaries. Fendulus's original illustrations are lost, but six preserved copies of his atlas, which were sequentially produced between 1220-40 and the last years of the fifteenth century, can provide an insight into his symbolism. Due to the fact that every new manuscript was copied from another copy and not from the original prototype, the later copies became distanced from their original source since, needless to say, copyists occasionally also misread and misinterpreted their models. The closer we are to the lost archetype of the atlas, the more meaningful and authentic are the symbols. The link between an object and an idea, which today we read into Fendulus's images, might have represented a different concept to the original artist and his audience. Symbols were also often associated with multiple meanings, relying on the viewer's ability to make mental connections between the image and the symbol. In these cases, it was up to the atlas's user to choose a meaning appropriate to his own needs. For all those reasons, the interpretation of images might sometimes be subjective, and not provide definitive explanations for all of the elements involved.

An artwork, as a product of the rational mind, contains many complex symbols whose meanings are to be approached here through a systematic investigation of contemporary texts. In interpreting the iconography included in the six copies of Fendulus's original abridgment, we will be concerned primarily with the content of the imagery and not the issues of artistic style, value, or the creative process. The ideas which the symbols represent depend on the context in which the signs were originally read. Therefore, our research is focused primarily on interpreting signs and symbols on

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the basis of all available sources about the depicted subject. Such a contextual approach was fashioned in general art-historical research by Erwin Panofsky, and later adopted for music by Emanuel Winternitz.

In the field of music theory, very little was translated from Arabic into Latin during the Middle Ages,[3] so that the information about music found in astrological, medical, and philosophical contexts is particularly important. Not being specifically related to music, Abū Ma'šar's text and Fendulus's abridgment escaped notice by musicologists. They received only marginal attention in several picture books focusing on the technical elements of the depicted instruments, but their musical aspects, as a constituent part of the broader astrological context, have never been studied.[4] The abridgment is a rich source for an investigation of the symbolism associated with music, providing information both about its place in the medieval societies where the copies of Fendulus's manuscript were produced and in the societies which carried out the

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[3] Cf. Charles Burnett, "European Knowledge of Arabic Texts Referring to Music: Some New Material," *Early Music History* XII (1993) 11. A reason for such a small number of translations, in his opinion, was that Europeans considered everything that was important for music theory to be contained already in the writings of Boethius.

[4] Certain pages of Fendulus's manuscript, or parts thereof representing isolated instruments, are considered in: Hortense Panum, *The Stringed Instruments of the Middle Ages: Their Evolution and Development*. Rev. and ed. by Jeffrey Pulver (London: William Reeves, 1940) 376; Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik in Mittelalter*, Musikgeschichte in Bildern. III: Musik des Mittelalters und der Renaissance 3 (Leipzig: VEB Deutscher Verlag für Musik, 1969) 180-181, fig. 112; Albert P. de Mirimonde, *Astrologie et musique* (Geneva: Minkoff, 1977) 218-220; Jeremy Montague, *The World of Medieval & Renaissance Musical Instruments* (Woodstock: Overlook Press, 1980) 25; Martin van Schaik, *The Harp in the Middle Ages: The Symbolism of a Musical Instrument* (Amsterdam and Atlanta: Rodopi, 1992) 36 and illus. 3.

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dissemination of the four astrological traditions included in it.

The aim of the present study is to rediscover the meaning of music-related depictions found in the astrological context. Fendulus's abridgment is the one chosen for this study because it combines all of the different astrological traditions current in the European Middle Ages and, together with Abū Ma'šar's original treatise and Hermann's translation, it eloquently articulates the astrological context in which the symbols were then used and in which they can be explained today in a meaningful way. The symbolism of music employed in the astrological context also provides evidence of how the codes were understood in a non-astrological context. In numerous places, one can recognize the shift of stereotypes of music and musicians from the social to the astrological matrix. Besides illuminating the text from the viewpoint of a social history of music, Fendulus's images have importance in an organological context. Most of the depicted instruments are labeled with *tituli* containing their names in Latin, and therefore the manuscripts provide positive evidence as to which instrument was designated by a given term at the time the image was made.

The focus of the dissertation is (1) an iconographical investigation of music-related depictions in the six copies of Fendulus's abridgment; (2) their comparison with other medieval and Renaissance astrological depictions; (3) a study of music symbolism in the medieval and Renaissance astrological contexts; and (4) an organological investigation of the depicted instruments. The first chapter introduces the cultural background of Fendulus's manuscripts. The biographies of Abū Ma'šar, the author of the *Introductorium maius in astronomiam*, and Hermann of Dalmatia, who translated the

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treatise from Arabic into Latin, are briefly presented. Finally, the transmission of Fendulus's illustrated abridgment of the *Introductorium maius* in its six known copies will be described. The Chapters Two, Three, and Four explain the appearances of music in the constellations of the *sphaera barbarica* (the second decan of Aries, the second and third decans of Gemini, the first decan of Cancer, the second decan of Leo, the second decan of Virgo, the first and the second decans of Libra, the first decan of Scorpio), the four Indian decans considered to be interested in or attracted to music (the second and the third decans of Gemini, the second decan of Cancer, and the first decan of Capricorn), the constellations of Lyra/Vultur from the Ptolemaic sphera (which is usually represented as a musical instrument but not in Fendulus's iconography of the sky). Chapter Five explores the dissemination of the music symbolism related to Venus and Mercury, from the Arabic tradition to the West, the contributions of Fendulus and Michael Scotus to this tradition, and how the place of music in the astrological context of Mercury and Venus changed until the end of the fifteenth century. The final chapter summarizes the cultural significance of the illustrations in Fendulus's abridgment.

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CHAPTER ONE

PROLOGUE

Medieval astrology was both a science and a philosophy. With its metaphysical and scientific aspects it was an important concept in the search for truth. Celestial bodies were investigated through scientific observations and calculations, but they were also seen to influence an individual's fate. Until the end of the Renaissance, everyone looking to the sky was bound both to mathematical exactitude of astral motion as well as to the superficial astral power suitable and applicable to oneself. Ptolemy (fl. A.D. 121-151)—one of the most prolific astronomers in Antiquity—not only wrote his *Tetrabiblos*, dealing entirely with the magical power of the constellations, but also the *Almagest*, in which he mathematically defined all currently known celestial formations and which remained the standard astronomical textbook for the next thirteen centuries.

During the first half of the twelfth century, intellectual interests started focusing intensively upon philosophy, law, mathematics, medicine, and the natural sciences—including astronomy. In turn, astronomy and astrology had links to ethics, philosophy, and science. One of the favorite medical subjects was the investigation of the four

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humors, which were considered closely related to the planets and their influences. The fact that astronomy was one of the Seven Liberal Arts—as a part of the quadrivium with arithmetic, geometry, and music—testifies to its significance in medieval society. As astrology was closely connected to all aspects of medieval science and an essential part of the culture, no historian can avoid encountering it.[1]

In doing any significant astrological investigation, it is necessary to know a fair amount about the motions of the heavenly bodies. Therefore, during Antiquity and the Middle Ages, no one made any real attempt to separate astrology from astronomy, and the two words were used synonymously.[2] In Antiquity astronomy was considered a science that helped in predicting weather, keeping time, and determining the beginnings of seasons. The belief that the positions of stars and planets could influence human character also became prevalent. Ptolemy's mathematical study of the celestial bodies in *Almagest* was probably intended to facilitate prognostication based on planetary motion. Isidore of Seville (560?-636) was one of the first writers to distinguish the two words in his *Etymologiae* (III:27). He considered *astronomia* (etymologically deriving from *astro* and *nomos*) to refer to laws or customs of the heavenly bodies and *astrologia* (*astro* and *logos*) to refer to their influences.[3] Astronomy, with its theoretical aspect applied to

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[1] Cf. Jean Seznec, *The Survival of the Pagan Gods: The Mythological Tradition and Its Place in Renaissance Humanism and Art*. Trans. by Barbara F. Sessions. Bollingen series 38 (Princeton: Princeton University Press, 1972) 45.

[2] Jim Tester, *A History of Western Astrology* (New York: Ballantine Books, 1987) 125.

[3] Isidore considers the *astronomia* to deal with "the turning of the heavens, and the rising, settings and motions of the stars, and why they are called what they are." He

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man's life through practical astrology, remained an equally respectable and complementary aspect of astrology until the end of the Middle Ages.

Over time, the celestial dome was transformed into a dictionary of symbols which included a reference for everyone's needs and interests. From its beginning, and particularly during Greco-Roman times, astrology was constantly intermingling with mythology and religion. The positions and movements of the heavenly bodies were meaningful in relation to the mythological figures believed to be inhabitants of the sky. With the diffusion of astrological theories throughout different civilizations, the interpretation of the stars' meaning changed. Each new civilization accepted the older theories, adjusted them to its own needs, and added to them new, original elements. Ideas and symbols were written down and diffused, mutually influencing each other. Cultural and artistic exchanges, in which astrological traditions participated, covered an immensely wide geographical space, and a time span of more than two thousand years. Constellations on the celestial dome became an encyclopedia of mythology and symbolism in which music was not omitted, although there has been to date almost no

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distinguishes physical astrology, which deals with "the courses of the sun and moon, or the fixed seasons of the stars," from superstitious astrology which is "pursued by the *mathematici*, who prophesy by the stars, and who distribute the twelve heavenly signs among the parts of the soul and body, and attempt to foretell the births and characters of men from the courses of the stars." (DE DIFFERENTIA ASTRONOMIAE ET ASTROLOGIAE: Inter Astronomiam autem et Astrologiam aliquid differt. Nam Astronomia caeli conversionem, ortus, obitus motusque siderum continet, vel qua ex causa ita vocentur. Astrologia vero partim naturalis, partim superstitiosa est. Naturalis, dum exequitur solis et lunae cursus, vel stellarum certas temporum stationes. Superstitiosa vero est illa quam mathematici sequuntur, qui in stellis auguriantur, quique etiam duodecim caeli signa per singula animae vel corporis membra disponunt, siderumque cursu nativitates hominum et mores praedicare conantur.) Isidore of Seville, *Etymologiarum sive originum* (Oxford: Oxford University Press, 1911) III:27.

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study of music symbolism in this context.

After the breakup of the Western Roman Empire, astronomy—although remaining in the structure of the Seven Liberal Arts—did not have as great an importance in Western scholarship as had earlier been the case. In the late fourth and early fifth centuries, textbooks of astrology vanished in the West.[4] Fortunately, Greek knowledge, virtually forgotten in the West, had by that time reached India, China, and Japan. Arabic scholars later adopted it from the Indians and brought it to Spain and Italy, ensuring its survival.

Ancient Greek learning returned to the West by way of the Arab centers in Spain and through southern Italy. Following the earliest translations produced there, the Platonic cosmology was definitely revived by authors working in conjunction with the school of Chartres (William of Conches, Bernard Silvester, Thierry of Chartres, Hermann of Dalmatia). The process of translating Arabic scholarship was initiated with medical treatises and the mathematical arts in the late-eleventh and twelfth centuries. In the second quarter of the twelfth century, a massive body of Arabic literature on astronomy was translated in Spain. Ptolemy's *Almagest* was translated from the Greek in Sicily, ca. 1160 (Vatican, Reg.Lat.2056), and again from the Arabic in 1175, which made possible the full revival of ancient astronomy.[5]

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[4] Cf. J. Tester, *op. cit.*, 113.

[5] Cf. Charles Haskins, *Studies in History of Medieval Sciences* (Cambridge and London, 1924) 82-96.

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Abū Maʿšar Ǧaʿfar ibn Muhammad ibn ʿUmar al-Balhī (Albumasar Abalachi) and his treatise *Introductorium maius in astronomiam*. Among the translated treatises, one which laid down the basis for Western astronomy during the Middle Ages and the Renaissance, was the *Introductorium maius in astronomiam* by the Arabic astronomer Abū Maʿšar. The treatise, written in Baghdad in A.H. 234 [A.D. 848],[6] had an extensive influence on the development of both astrology and astronomy in the West and the East. Abū Maʿšar Ǧaʿfar ibn Muhammad ibn ʿUmar al-Balhī (known also by the Latin name of Albumasar) was born in or near Balkh in Khurasan, now northern Afghanistan, on 10 August A.H. 173 [A.D. 787] and died almost a centenarian, in al-Wāsit, Central Mesopotamia, on 8 March A.H. 272 [A.D. 886], having become the principal authority in astronomy and astrology among the Arabs.

He began his scholarly career at the caliphate court of al-Maʿmūn (A.H. 199-219 [A.D. 813-833]) in Baghdad, focusing his studies on the *ḥadīth* (the sayings ascribed to Muhammad). In A.H. 211 [A.D. 825], Abū Maʿšar met Abū Yūsuf Yaʿqūb ibn Ishāq al-Kindī (ca. A.H. 182-258 [A.D. 796-873]), the prolific astronomer, who influenced his interests in mathematics, arithmetic, geometry, music, astronomy, and astrology.[7]

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[6] The date can be found on fol. E5v of the 1489 edition, written as 1160 of the Alexandrian era (A.D. 848). Cf. Richard Lemay, *Abu Ma'shar and Latin Aristotelianism in the Twelfth Century: The Recovery of Aristotle's Natural Philosophy through Arabic Astrology* (Beirut: The American University, 1962) xvii.

[7] Al-Kindī wrote on a number of subjects, including astronomy, astrology, and the astrolabe. In *De radiis* [On (stellar) rays] al-Kindī was concerned with establishing a metaphysical basis for magic on a sort of Stoic philosophy of cosmic sympathy, physically expressed as 'rays' between objects, and especially between and from heavenly bodies, which led him to a firm stellar determinism. He believed that "whoever has acquired the knowledge of the whole condition of celestial harmony will know the past

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Accordingly, he produced several treatises, which, when later translated into Latin, renewed Western medieval knowledge and reintroduced ancient philosophy into Europe. In the astrological works Abū Maʿšar assimilated Greek, Indian, and Persian traditions. After his death, he was the most celebrated of all ninth-century Baghdad astrologers, although he has also been accused of plagiarism.[8] Upon their translation into Latin, in the twelfth century, his works became a primary source of knowledge about astrology and astronomy in the West and remained in use until the end of the Renaissance.[9] Richard Lemay explained that the twelfth-century translations of Abū Maʿšar's works "became an important and hitherto unnoticed channel through which Aristotelian natural philosophy entered the West some twenty years before any specific work of Aristotle's

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and the present and the future." Cited in J. Tester, *op. cit.*, 159.

[8] Cf. Lynn Thorndike, *A History of Magic and Experimental Science during the First Thirteen Centuries of Our Era* (New York: Macmillan, 1929) I, 649.

[9] Although Abū Maʿšar was the foremost astronomer and astrologer throughout several centuries, he was also considered a charlatan by some. This nature was described in the drama *L'astrologo,* by Italian writer Giovanni Battista della Porta, written in the 1570s and published 1606 in Venice. This drama was in turn a basis for the comedy *Albumazar* by Thomas Tomkins (ca. 1580-1634) and first performed at Trinity College in Cambridge, on 9 March 1615. *Albumazar* was staged several times during the Stuart period, and reprinted in 1634. Cf. Lynn Hulse, "Matthew Locke: Three Newly Discovered Songs for the Restoration Stage," *Music & Letters* LXXV/2 (May 1994) 209-213. In the period between the Italian and the first English version of *L'astrologo*, the Spanish playwright Félix Lope de Vega Carpio included the name of Abū Maʿšar in at least four of his comedias: *La difunta pleitiada* (1593-95), *El primer rey de Castilla* (1598-1603), *El secretario de sí mismo* (1604-06) and *La descichada Estefanía* (1604). Cf. Frederick A. de Armas, "Saturn in Conjunction: From Albumasar to Lope de Vega," *Saturn from Antiquity to the Renaissance*. Ed. by Massimo Ciavolella and Amilcare A. Iannucci (Toronto: Dovehouse, 1992) 151-172.

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natural philosophy was actually translated into Latin."[10]

Abū Maʿšar's principal work, known by the Latin title *Introductorium maius in astronomiam* [Greater Introduction to Astronomy], provided a philosophical basis for astrologers throughout the Middle Ages and the Renaissance. The treatise consists of eight *maqālāt* (*libri* in the translation of Hermann of Dalmatia, or *tractati* in the translation of John of Seville), each subdivided into several chapters, in which Abū Maʿšar compiled and explained the entire knowledge of astrology and astronomy of his time.

Abū Maʿšar was a member of the third generation of the Pahlavi-oriented intellectual elite, who played a large role in the activities of the libraries and translation institutions in Baghdad.[11] He was well informed about different intellectual trends and mingled them with his complex cultural heritage, becoming a leading exponent of the theory that all different national systems of thought are ultimately derived from a single revelation.[12] Those ideas are reflected in the *Introductorium maius*, which combines various astrological ideas into an eclectic synthesis, occasionally appropriating the

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[10] R. Lemay, *op. cit.*, 40.

[11] Cf. David Pingree, "Abū Maʿšar al-Balkhī, Jaʿfar ibn Muhammad," *Dictionary of Scientific Biography* (New York: Charles Scribner's Sons, 1970) I, 32. Caliph Al-Maʿmūn was a patron of the Greek science and of philosophic rationalism. He founded in Baghdad the *Bait al-hikma* [House of Wisdom] to which learned men of all Islam were invited to devote themselves to the translation and study of Greek classical philosophy. Under his successor, Al-Muʿtasim (fl. A.H. 219 [A.D. 833]–A.H. 228 [A.D. 842]), a basic corpus of translations from Greek and Syriac writings were created. Cf. Carl Cowl, "The *Risāla fī hubr tāʾlīf al-ʿalhan* of Jaʿqūb ibn Ishāq al-Kindī (790-874)," *The Consort: Annual Journal of the Dolmetsch Foundation* 23 (1966) 130.

[12] Cf. D. Pingree, *ibid.* 32.

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qualities of an encyclopedia. These qualities are particularly noticeable in the sixth book of the treatise (the part which constitutes the focus of our study) where he presented the Indian system of decans,[13] the Ptolemaic constellations, and the *sphaera barbarica* side by side.[14]

The first book of the treatise deals with the explanation of the basic astrological facts and the justification of astrology as a science. In the nine chapters of the second book the fixed stars, the signs of the zodiac, and the nature of constellations are described. The third book focuses on the description of the influences of the sun and the moon on the world below, and the physical changes that they cause. With its daily motion, the sun influences waters, air, and earth, as well as temperature. Vegetation receives the ability to grow and mature. The motion of the moon is related to the changes of winds and tides. The fourth book describes the nature of the other five planets, which influence the sublunar world, as does the sun and the moon. These changes are slow, and can be recognized only over a long period of time. Abū Ma'šar follows the Aristotelian conception of the organization of the universe: the motion of the celestial bodies is circular, and therefore perfect, whereas the motion of terrestrial elements (earth, air, water, and fire) are in two directions (up and down) and therefore imperfect.

The second part of the treatise (books five to eight) deals primarily with the

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[13] The term "decan" derives from the division of each zodiacal sign into three parts of ten degrees. The system and its history will be fully explained in Chapter 3. For the reader's convenience, explanations of less common astrological terminology is provided in the glossary in Volume II.

[14] The *sphaera barbarica* is the Egyptian description of the heavens extensively modified by the Roman astronomers. The system will be fully explained in Chapter 2.

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principles of astrological technique, relationships between the planets and the zodiac, and their positions in the sky. The fifth book describes the lordship of the planets over the signs and their parts. The following book focuses on the relation between the signs and their influence on man. The seventh book talks about the strengths of the planets and their relation to each other. The final book considers astrological issues. Chapters six and seven are especially significant with respect to our investigation of the later, illustrated abridgment of the *Introductorium maius*, attributed to Georgius Zothori Zapari Fendulus, as they contain parts of the text included there. These sections of the text will be considered in detail in the following chapters.

Abū Ma'šar's treatises have particular importance in the history of science, since they summarized the entire knowledge of astronomy and astrology that developed during a period of over a thousand years. A study of the *Introductorium maius* reveals that its author incorporated elements of astrology, mythology, and science from Chaldeans, Egyptians, Greeks, Indians, and Persians. Therefore, when focusing on Abū Ma'šar's work, it is necessary to look into all astrological traditions that led to his theories.

The *Introductorium maius* interprets the influences of heavenly bodies on the sublunar world along the lines of Aristotelian physics and cosmology, and therefore it was a particularly important agent in the dissemination of Aristotle's doctrine. At the time the treatise was translated in Spain, Aristotle was not known in the West, and this translation introduced him to Europe at large.[15]

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[15] Pierre-Marie Duhem, "Du temps au la scolastique latine a connu la physique d'Aristotle," *Revue de philosophique* (August 1909) 63-178.

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Astrology was, for Abū Ma'šar, a discipline rooted in natural science. It had the highest position among the sciences because it transcended the evidence comprehensible by the senses.[16] Abū Ma'šar considered the motion of heavenly bodies to be the source of all activities in the physical universe. In the first book of the *Introductorium maius*, he defined the two aspects of the same discipline: one aspect, the astronomy, investigates the physical motion of the heavenly bodies (their latitude, longitude, declination, magnitude, and distances from one another); the other aspect, the astrology, deals with the nature of heavenly bodies and their influence on events in the sublunar world (the change of seasons, the transformation of the four terrestrial elements). Astrology and astronomy are closely related, because events in the sublunar world strictly depend on the circles and spheres in which the heavenly bodies move. From these principles derives Abū Ma'šar's astrological perspective, summarized by Eugenio Garin as "the rigid astral determinism, [in which] . . . there is no room for man and his initiative, . . . celestial determinism is unalterable; all human choice is impossible."[17] Astrology is, for Abū Ma'šar, the most important and superior science because it deals with the causes of all events. However, in the first part of the *Introductorium maius*, he explains the universe in terms of physical science, trying to create a scientific basis for astrology.

There is no record of the intermediary source which Abū Ma'šar used in describing the Indian decans, thirty-six divine spirits believed to influence individual

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[16] R. Lemay, *op. cit.*, 48-49.

[17] Eugenio Garin, *Astrology in the Renaissance: The Zodiac of Life* (London: Routledge & Kegan Paul, 1983) 20.

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destiny. A possible intermediary might have been the Indian astrologer Kanaka (also known under the names of Kankah or Beneka), who visited the caliphate court of al-Mansur in Baghdad in A.D. 767. Kanaka probably brought to Baghdad astrological works by the Indian astrologer Varāhamihira, which Abū Ma'šar used in his own description of the Indian decans, and also in a book on decans that he himself compiled.[18]

Another of Abū Ma'šar's astrological works, the eight-book treatise known in Latin as *De magnis coniunctionibus annorum revolutionibus ac eorum profectionibus*,[19] considers planetary conjunctions and contains rules for predictions.[20] It enjoyed great popularity among authors of astrological predictions and interpretations of history. As did *Introductorium maius*, this work follows the lines of astral fatalism. Abū Ma'šar shows how all sublunary events, including human activities (individual, social, political, religious, moral) are under the influence of the stars' movements.[21] The first Latin edition of the treatise was printed by Erhard Ratdolt in Augsburg, in 1489, and reprinted in 1515. His third important treatise, *Flores astrologiae*—a collection of astrological axioms and aphorisms—was printed for the first time in a Latin translation, in Venice,

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[18] Cf. Wilhelm Gundel, *Dekane und Dekansternbildern: Ein Beitrag zur Geschichte der Sternbilder der Kulturvölker* (Glückstadt and Hamburg: J.J. Augustin, 1936) 87-88.

[19] The original Arabic title is *Kitāb al-qirānāt*. In Latin translation, the work was first printed in Venice, 1515.

[20] To Ptolemy *conciunctio* (or *synods*) is the coupling of the sun and the moon. Planetary conjunctions in general, and in particular those of Saturn, Jupiter, and Mars, are considered to be a determinant of events and to be to the world what the horoscope is to man: they are the signs and the causes of great historical events. Cf. E. Garin, *op. cit.*, 21.

[21] Cf. R. Lemay, *op. cit.*, xxxi.

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in 1488.

Hermann of Dalmatia and his translation of Abū Ma'šar's *Introductorium maius*. During the first half of the twelfth century, interest in astrology was substantial in Europe, and a great number of the Arabic astrological works were translated at that time into Latin. Among them is Abū Ma'šar's principal treatise, *Introductorium maius*, which remained the main source of knowledge of the stars in the Middle Ages and the Renaissance. During a period of only ten years, the treatise was translated into Latin twice: by John of Seville (Johannes Hispalensis) in 1133, and by Hermann of Dalmatia in 1140-1143.[22] Hermann's translation was the one printed later in three editions.[23] This is also the version which has more importance in our investigation because it served as a basis for Fendulus's depictions, the focus of the present study.

Hermann of Dalmatia (Hermannus Dalmata, Sclavus, de Carinthia, Secundus, and Nellingaunensis; ca. 1110-after 26 February 1154) was both the translator of about fifteen works and the author of an original philosophical treatise. Charles Burnett

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[22] Hermann's translation was entitled *Introductiorium maius in astronomiam*; and the translation of John's *Liber maior introductorius ad scienciam indiciorum astrorum.*

[23] The Augsburg edition was printed by Erhard Ratdolt in 1489 and 1495, and the Venice edition by Jacobus Pentius Leucensis (de Leucho) in 1506. The Arabic original of Abū Ma'šar's work is known in twenty-one manuscript copies, the translation made by Hermann of Dalmatia in eleven, and the translation of John of Seville in thirty-seven. For a list of manuscripts containing the original Arabic text see, Fuad Sezgin, *Geschichte des arabischen Schrifttums. VII: Astrologie-Meteorologie und Verwandtes, bis ca. 430 H.* (Leiden: E.J. Brill, 1979) 141-142; and for a list of manuscripts containing Hermann's translation from the Arabic, see Charles Burnett, "Arabic into Latin in Twelfth-Century Spain: The Works of Hermann of Carinthia," *Mittellateinisches Jahrbuch* XIII (1978) 126.

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described him as one of the most interesting translators working in Spain in the middle of the twelfth century.[24] Little is known about the life of Hermann of Dalmatia. He was long thought to be a native of Istria (Croatia), but the Slovene scholar Vlado Nartnik identified his birthplace to be Sv. Peter Soverščega, near Villach.[25] He probably received his early education in one of the numerous Benedictine monasteries in Istria, probably at the Abbey in Sv. Petar u Šumi or the monastery of St. Ivan in Medulin. Between about 1130 and 1134 he studied at Chartres with Thierry (Theodoric) of Chartres, known for his collection of texts about the *septem artes liberales*, entitled *Heptateuchon*. Hermann proceeded with his studies in Paris, and in about 1135 he began a trip with the Englishman Robert of Ketton through the Mediterranean region: along the Adriatic coast he first went to Greece, then to Constantinople, and possibly further to Baghdad. In Asia Minor he mastered the Arabic language. Between 1135 and 1138, he returned to the West through Damascus and Antioch. In 1138 he arrived in Spain, and in Toledo began his work on translations of the Arabic astrological and astronomical writings. In the spring of 1142 he went to Salamanca (where he met King Alfonso VII) and León. In 1143, he arrived in Toulouse and then Béziers, where he completed his original treatise *De essentiis* and on the first of June the first version of the translation of Ptolemy's *Planisphaera*.[26]

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[24] C. Burnett, "Arabic into Latin," 100.

[25] I thank Charles Burnett for this information.

[26] Cf. Franjo Šanjek, "Herman Dalmatin (oko 1110-posl. 26.II.1154): Bio-bibliografski prilozi," in: Herman Dalmatin, *Rasprava o bitima* (Pula: Čakavski Sabor, 1990) I, 7-80.

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The body of works which Hermann translated is large. Among them there is a group whose translation closely follows the original texts, and another, larger group that includes works which he commented upon, explained, or freely compiled from material from several sources. The largest number of translations deals with astronomy and mathematics: Ptolemy's *Planisphaera* (1143), Theodosius's *De sphaeris*, al-Khwārizmi's *Tabulae astronomicae* (ca. 1140), Euclid's *Geometria, arithmetica et stereometria* (ca. 1140, also known under the title *Elementa*), and Abū Ma'šar's *Introductorium maius in astronomiam*. With these translations he introduced the Arabic knowledge of mathematics and astronomy to the West. Several of his translations and compilations were intended for practical use. A compilation of two astrological works, *De occultis* and *De indagatione cordis* (after 1140), describes the planets and their influence on human life. In 1138 he translated a work on physics, *Fatidica* (also known as *Pronostica*, *De revolutionibus*, and *Sextus astronomie liber*) by the ninth-century Jewish astrologer Sahl ben Bishra. The work explains the influence of the universe on man and his environment, and describes how to forecast weather according to the planets and the position of the moon. The other text on meteorology and weather forecasting is Hermann's compilation of several Arabic and Latin texts, known under the title *Liber imbrium*. A third group of translations includes Islamic religious texts. In 1142-1143, Hermann took part in the earliest translation of the *Qur'an* from the Arabic into Latin,[27] and he also translated two other texts: a collection of popular legends concerning the prophet Mohammad, *De*

[27] The translation was initiated by Peter the Venerable of Cluny. Peter of Toledo and Robert of Ketton also participated in the project.

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generatione Mahumet, and a dialogue between a Jew and Muhammad, *Doctrina Mahumet*.

According to Charles Haskins, Hermann's translation of *Introductorium maius* is less slavish than the one by John of Seville, and it is also considered more condensed and elegant.[28] He reduced repetitions in the text and kept the translation focused on its essential meaning. He updated the text, incorporating his own interpretations and explanations of the text, in order to make it more comprehensible for readers of a culture, religion, and geographical region different from those for whom the original Arabic text was intended. Therefore, in Hermann's translation of the *Introductorium maius* one can find a number of references resonating with the Catholic West that were not present in the original Arabic treatise.[29]

The most essential of Hermann's translations are Ptolemy's *Planisphaera* and the translation of Abū Maʿšar's *Introductorium maius*, which introduced almost all the relevant elements of Aristotelian natural philosophy to the Latin-Christian West and subsequently awoke interest in it.[30]

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[28] Cf. C. Haskins, *op. cit.*, 43.

[29] Charles Burnett objects that Hermann even "had the arrogance to add musical examples from Boethius' *De institutione musica* to his translation of Abu Ma'shar's *Introductorium maius*." Charles Burnett, "European Knowledge of Arabic Texts Referring to Music: Some New Material," *Early Music History* XII (1993) 12.

[30] In addition to Hermann, the circle of philosophers who participated in the twelfth-century introduction of Aristotelianism to the West were Adelard of Bath (ca. 1080-ca.1145), John of Seville, William of Conches (1080-1145), Bernard Silvester, Roger of Hereford (active ca. 1170), Daniel of Morley (active ca. 1180), Raymond of Marseilles, Hermann's friend Robert of Chester, Alfred of Sarashel, Alanus de Insulis, and Raul Longchampes. Cf. R. Lemay, *op. cit.*, xxiv.

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Hermann's most important original work was the philosophical treatise *De essentiis* (1143), which offers an insight both into the cultural context in which these translations were made and into the period when alchemy and rational astrology were introduced into the West. *De essentiis* is the first notable application of Arabic astrology to Latin metaphysical speculation, merging with the neo-Platonic traditions of Chartres.[31] The treatise contains a few references to music, namely to the relationship between acoustic harmonies and the harmonies in the movements of celestial bodies.[32]

Other translations of the *Introductorium maius*. Abū Ma'šar summarized ancient knowledge of stars, and in turn his works were a source for later Western astrology. Abū Ma'šar's treatise has come to us in twenty-one manuscript copies of the Arabic original, in an anonymous medieval Greek translation, and through the two already mentioned Latin translations, which in turn were used as sources for further dissemination. Ibn Esra (also known by the Latin name Avenarius; ca. 1093-1167) translated the treatise into Hebrew.[33] Hagin von Mecheln translated Ibn Esra's version into French in 1272,[34] and his text was in turn a source for the 1293 Latin translation

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[31] R. Lemay, *op. cit.*, 18.

[32] Cf. Stanislav Tuksar, "Musico-theoretical Fragments by Two Mediaeval Scholars: Herman Dalmatinac and Petar Pavao Vergerije, Sr.," *International Review of the Aesthetics and Sociology of Music* XIII/1 (1982) 93-106.

[33] Cf. W. Gundel, *op. cit.*, 92-93, 175.

[34] Cf. *ibid.*; and Lynn Thorndike, *A History of Magic and Experimental Science*, II, 926. In describing the genesis of the translation, Thorndike stated that the treatise was an original work by Ibn Ezra, not realizing that the text was actually a translation of Abū

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by Pietro d'Abano.[35] Ibn Esra's translation was used in the fourteenth and fifteenth centuries for a translation into Catalan by Martin d'Osca: this translation was used in the fifteenth century by Ludovicus de Angulo as the basis for the compilation of a new book on decans. Angulo's text is now known in two Latin manuscripts[36] and in a French translation by the Bishop of Angers, Jean de Beauvais (1479).[37] A treatise by Guido Bonatti (before 1220-ca. 1297) entitled *De astronomia* (after 1262, or after 1277) is based on Abū Maʿšar's work. The earliest preserved copy of Bonatti's manustrip dates from the fourteenth century, and it contains illustrations of decans in initials and roundels.[38]

The large number of surviving copies of the *Introductorium maius* produced in various parts of Europe (Italy, France, the Low Countries, and Germany) between the twelfth and fifteenth centuries, as well as further translations into other languages, attest to its continuing popularity through the Middle Ages and the Renaissance. Abū Maʿšar's *Introductorium maius* thus had a great influence upon a number of medieval natural philosophers: Raymond of Marseilles, William of Conches, Bernard Silvester, Thierry of Chartres, Clarenbald of Arras, John of Salisbury, Daniel of Morley, and Hermann of

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Maʿšar's text.

[35] Lynn Thorndike mentions that all copies of the treatise which he examined include a passage saying "that when Peter d'Abano the Paduan found this work 'in Gallic idiom, through the unskillfulness of the translation from the Hebrew defective in many ways, corrupt, and sometimes poorly arranged and failing to make sense, as far as he could he brought it back in the Latin tongue to Abraham's [Ibn Esra's] original meaning'." L. Thorndike, *ibid.*, II, 927.

[36] St. Gall, Stiftsbibliothek, cod.vad.427; and BNF lat.6561.

[37] The only copy is BNF fr.612.

[38] ÖNB cod.2359.

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Dalmatia.[39]

Georgius Zothorus Zaparus Fendulus and his abridgment of the *Introductorium maius*. In the late twelfth or early thirteenth century, the otherwise unknown Georgius Zothorus Zaparus Fendulus extracted parts of Abū Maʿšar's treatise describing the constellations and planets, and provided them with illustrations.[40] Knowledge of Fendulus's involvement in the production of the abridgment comes exclusively from the opening of the text: "In nomine domini pii e misericordissimi. Incipit prologus viri cognomine Georgii Zothori Zapari Fenduli. G. sacerdotis atque philosophi translatus de Persica lingua in Latinam liber Albumazaris;" there is no other proof to support his authorship.[41] In investigating the origins of Fendulus's abridgment, current scholarship has not succeeded in locating any details about the author's life.[42] The Czech authors Emma Urbánková, Karel Stejskal, and Josef Krása suspected that

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[39] Cf. R. Lemay, *op. cit.*, passim.

[40] David Pingree dated the *Liber Albumazarus* in the fourteenth century, probably not knowing the earliest copy of this manuscript, BNF lat.7330, which is dated as early as 1220-1240. Cf. D. Pingree, "Abū Ma'šar al-Balkhī, Ja'far ibn Muhammad," *Dictionary*, I, 36.

[41] The same incipit, with minor variations in abbreviations, opens five preserved copies of the manuscript (BNF lat.7330 and lat.7331; Morgan M.785; BL Sloane 3893; and Smith-Lesouëf 8). Manuscript BNF lat.7344 is incomplete; the opening folio is missing.

[42] Cf. Vicky Armstrong Clark, *The Illustrated "Abridged Astrological Treatises of Albumasar": Medieval Astrological Imagery in the West* (Ph.D. dissertation, University of Michigan, 1979) 32-34. A reference that she traced in the *Recueil des plus célèbres astrologues* by Simon de Phares from 1494 does not tell us anything about his life or origins.

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Fendulus was a pseudonym for Hermann of Dalmatia, but they did not present sufficient evidence to support this theory.[43] An opposing view argues that the prologue of the abridgment states that the treatise was translated from Persian, and Hermann, who translated Abū Maʿšar's treatise from the Arabic, would not have made such an error. Since Hermann did sign most of his other works and translations, it is unlikely that he would have used a pseudonym in this case. According to Marie-Thérèse Gousset, the epithet *palatinus* which follows Fendulus's name in the inscription inserted in the portrait of a man on the opening folio of the manuscript BNF, lat.7330 [fig. I:1], implies that he should be placed in the context of the Sicily of the Norman kings, when William II (reigned 1166-1189) encouraged the spread of the Arabic sciences.[44]

The organization of Fendulus's abridgment of the *Introductorium maius*. For his abridgment of Abū Maʿšar's treatise, Fendulus used the Latin translation by Hermann of Dalmatia. The abridgment is essentially a picture book, containing 76 full-page depictions of the three astrological systems known at the time (*sphaera barbarica*, Indian

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[43] Emma Urbánková and Karel Stejskal, *Pasional Přemyslovny Kunhuty* (Prague: Odeon, 1975) 97-107; Karel Stejskal and Josef Krása, "Astralvorstellungen in der Mitteralterlichen Kunst Böhmens," *Sbornik prací Filosofické Fakulty Brnenské University* F8 (1964) 61-85; Josef Krása, *Die Handschriften König Wenzels IV* (Prague: Odeon, 1971) 194-215.

[44] Marie-Thérèse Gousset, "The Writing in the Sky," *FMR* X/41 (December 1989) 128.

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decans, and Ptolemy's constellations) and the seven planets.[45] Fendulus's abridgment is a kind of encyclopedia of images related to astrology, and its incomprehensibility for laymen has continued to spawn misidentifications.[46]

All six preserved manuscripts of Fendulus's abridgment, produced between 1220-1240 to about 1500, share identical content and structure. They begin with a prologue in which Fendulus describes the need for such an illustrated book.[47] He describes how he went to Cechin[48] in order to study the stars. He found his predecessors' Latin and Greek works about the stars to be inaccurate, because of many slips on the part of the copyist which had not been corrected. Therefore, he decided to correct them. To do that he went to Babylon and settled in Caroboliny. There he translated the book of King Maymon and Calista of Babylon from Persian into Latin. Then he moved to Damascus,

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[45] The description and chronology of the six original manuscripts illustrated by Fendulus have been established by V.A. Clark, *op. cit.* The present chapter summarizes Clark's main points and the characteristics of the manuscripts necessary for the understanding of their iconographical and iconological analysis and the symbolism they contain.

[46] In the volume on music education published in the *Musikgeschichte in Bildern* series, the manuscript BL Sloane 3983 is, for example, misunderstood and described as an illustrated lexicon in which the fourteenth-century author explained certain terms through pictures. The astrological context of the manuscript is entirely missing from this commentary. Cf. Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik in Mittelalter*, Musikgeschichte in Bildern. III: Musik des Mittelalters und der Renaissance 3 (Leipzig: VEB Deutscher Verlag für Musik, 1969) 180-181, fig. 112.

[47] This description opens each of the six Fendulus manuscripts. Its translation is included in: Lynn Thorndike, "Notes on Some Astronomical, Astrological and Mathematical Manuscripts of the Bibliothèque Nationale, Paris," *Journal of the Warburg and Courtauld Institutes* XX (1957) 139-140.

[48] In different manuscripts, also spelled "Techin," "Cethin," or "Cethim."

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where he translated the *Tables of Maymon* from Chaldean into Latin and emended Abū Maʿšar's treatise, which was in a corrupt state. He located 1,029 stars in the sky, which he afterwards depicted in the present volume. This prologue constitutes all the evidence we have on the creation of the abridgment of Abū Maʿšar's treatise and its illustrations. There is no further evidence that would support or contradict this account.

The prologue of Fendulus's abridgment is followed by an introduction consisting of book II, chapters 1-4 of Abū Maʿšar's *Introductorium maius*.[49] The planets and constellations are listed here, together with their effect on earthly life. References are made to the Arabic, Persian, Chaldean, and Indian elements of astrological thought.

As mentioned earlier, Abū Maʿšar's treatise is divided into eight books, each further subdivided into several chapters. The core of Fendulus's abridgment contains, in its first half, book VI, chapter 2, of the *Introductorium maius*, entitled "De 12 signis et de figuris eorum et que stellae orientur in eis et que sunt significationes eorum," which is devoted to the twelve signs of the zodiac. In this chapter, Abū Maʿšar provided a parallel description of three different astrological systems: (1) the Greek firmament based on the writings of Ptolemy (second century A.D.); (2) a system of Indian decans developed chiefly by the Hindu astrologer Varahamihira (sixth century A.D.); and (3) the system codified by Teukros, an astrologer from Asia Minor (first century A.D.), who mingled Egyptian with Greek and Babylonian astronomy.

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[49] According to the 1489 edition of Abū Maʿšar's treatise in the Latin translation by Hermann of Dalmatia, the titles of the four included chapters are: De numero stellarum et inequalitate atque nominibus numerisque imaginum universi coeli; Quare 12 imagines inter omnes alias rerum ducatum obtinuerunt; Quare he imagines numero 12 sunt; and De compositione harum imaginum.

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Each Fendulus manuscript, when preserved intact, contains in its first part about sixty pages that include Abū Maʿšar's text from book VI, chapter 2, and its depictions. It is organized into twelve sections—one for each sign of the zodiac—each five pages long. Its organization is based on the pre-Copernican astrological assumption that the sun moves around the earth along the ecliptic, in the course of which appears a belt of twelve signs of the zodiac. Each section in Fendulus's celestial atlas opens with a full-page illustration of the zodiacal symbol and a page-long fragment from Abū Maʿšar's text describing corresponding constellations and Indian decans. The description is followed by three pages of depictions. Each sign—occupying thirty degrees of the celestial ecliptic and corresponding to a thirty-day period when the sun is in this particular arc—is described and illustrated in three segments, each being ten degrees. Fendulus represented every such ten-degree arc on one page, which is horizontally divided into three parts. The bottom third includes depictions of Ptolemaic constellations which are visible in either the southern or northern sky above the ten-degree arc of the ecliptic (*sphaera graecanica*). The middle section includes illustrations of the Indian system of decans (*sphaera indica*), where each decan dominates with its astrological influences during the ten-day period. Finally, at the top of the page are illustrated constellations that—according to the system developed by Teukros—simultaneously rise to the north and to the south of the celestial equator at the time when the sun is in the corresponding ten-degree arc of the ecliptic (*sphaera barbarica*). When constellations of the *sphaera barbarica* rise north or south of the celestial equator, they are called *paranatellonta*.

The following figure is a composite of four pages depicting the sign of Aries and

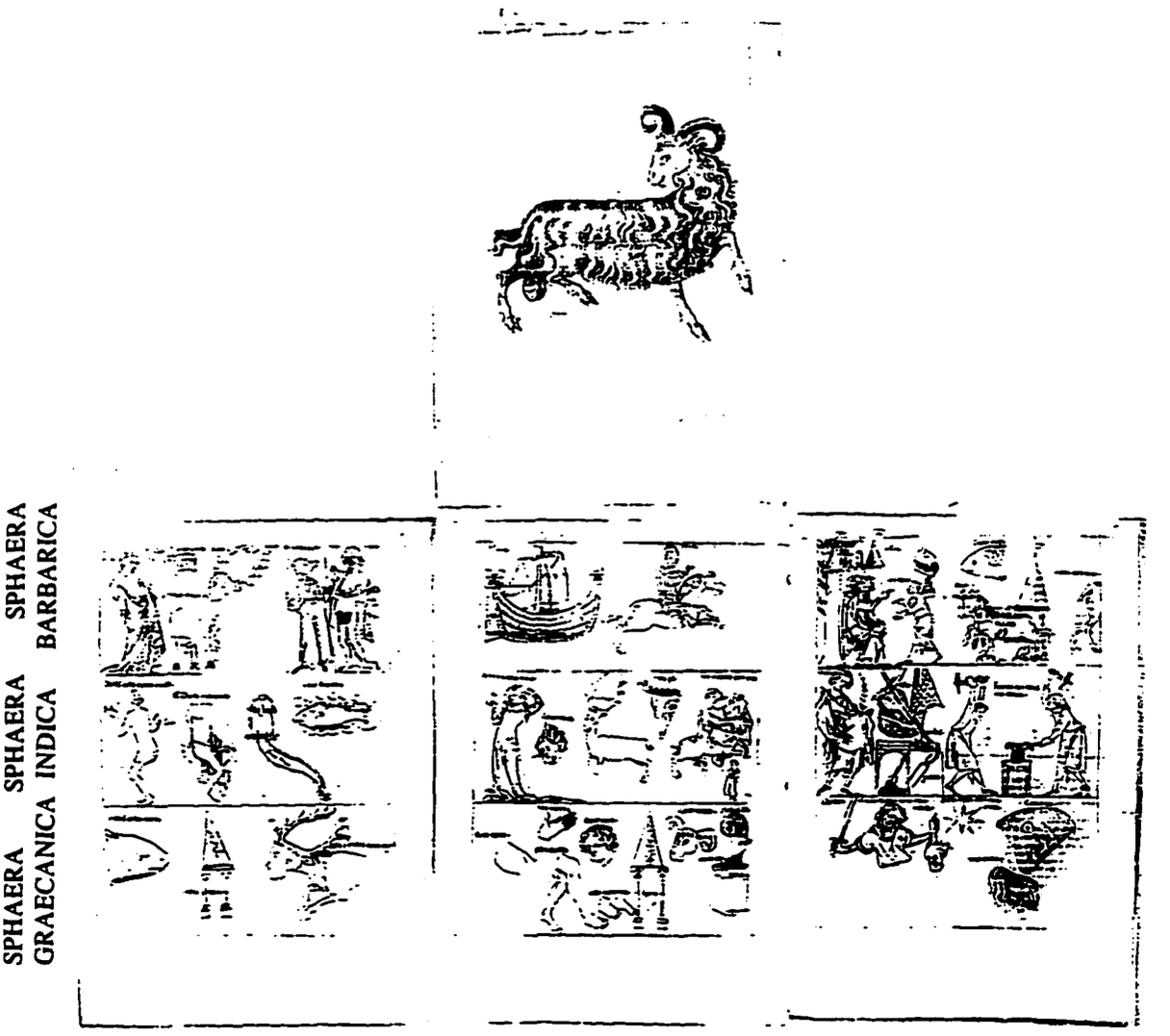
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its three decans in the manuscript BL Sloane 3893, which will demonstrate the organization of the illustrations in the Fendulus manuscripts. At the top is the sign of the zodiac that opens each section. The three pages reduced and combined below it represent the astrological and astronomical situation in the sky corresponding to the period of thirty days when the sign is dominant. Surveyed vertically, the images indicate synchronously the influences in different astrological systems. The top third includes depictions of the constellations rising above the horizon according to the *spaera barbarica*, in the bottom third are constellations belonging to the *sphaera graeca*, and in the middle are Indian decans dominant during the observed period. Exceptionally, when the illustrators did not have sufficient space in the section for all constellations belonging there, they included them in the lower or upper section. For example, the harp (*harpes Persei*) and the head of Medusa (*caput Medusae*), depicted in the space appropriate to the second Indian decan, belong to the Ptolemaic constellation of Perseus and should be included in the lower part of the page. In turn, the progression of images in one horizontal section indicates astrological influences in each of the three systems in their temporal sequence.

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ARIES

30° of ecliptic = 30 days



FIRST DECAN
10° of ecliptic = 10 days

SECOND DECAN
10° of ecliptic = 10 days

THIRD DECAN
10° of ecliptic = 10 days

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With his illustrations, Fendulus had experimented and produced a new kind of celestial atlas. His projection of the sky was quite different from the manuscripts of the Aratea type, which represented a series of pictures of isolated constellations, or, accompanied by the planisphere, showed all celestial phenomena at a given time.[50] In Fendulus's atlas, astromythological figures belonging to the *sphaera graecanica* and *sphaera barbarica* are divided by an imaginary meridian connecting every tenth degree of the ecliptic and the zenith. Each page in the manuscript contains solely the depiction corresponding to a ten-degree arc of the sphere. Some of the larger constellations in the sky, however, occupy several imaginary ten-degree sections and therefore their parts are represented through an appropriate number of sections in the manuscript. Thus, it is possible to see the entire map of a constellation only by combining figures in consecutive segments. Observed in their continuity, the three horizontal streams are a kind of triple parallel narrative, each representing a particular astrological concept independent from

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[50] The *Leiden Aratea* (Leiden, Rijksuniversiteit, MS Vossianus lat.Q.79) is a ninth-century copy of a treatise on mythology based on the *Phainomena* written by the Greek poet and philosopher Aratus of Soli (315-245 B.C.). In 1154 hexameter verses Aratus summarized the astronomical and meteorological knowledge of his day. His text was translated into Latin by Cicero (ca. 43 B.C.) and by Germanicus Julius Caesar (15 B.C.-19 A.D.). The latter translation was used in the Leiden manuscript. The prototype of the illustrations was probably created in the mid-fourth century as the earliest and later copied several times. The Leiden manuscript is possibly a faithful copy of mid-fourth century exemplar. It originally contained 44 full-page miniatures representing the constellations. The other manuscripts with illuminations of the Aratea type are ÖNB, cod. 387; Vatican, Reg. Lat. 309 and Reg. Lat. 123. The manuscript Bibliothèque de Boulogne-sur-Mer, cod. 188 is a direct copy of the Leiden Aratea, copied in the northern French abbey of St. Bertin between 986 and 1008. Cf. Renée Katzenstein and Emilie Savage-Smith, *The Leiden Aratea: Ancient Constellations in a Medieval Manuscript* (Malibu: The J. Paul Getty Museum, 1988); Koert van der Horst, Villiam Noel, and Wilhelmina C.M. Wüstefeld, *The Utrecht Psalter in Medieval Art: Picturing the Psalms of David* ('t Goy: HES Publishers, 1996) 200-01.

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the other, but at the same time they are linked by their simultaneous appearance in the sky and their influences over the sublunar world. The format which Fendulus designed for his presentation of the three systems, as far we are aware, is unique in the astrological iconography. The thirty-six segments of the celestial sphere are arranged by their temporal sequences in the identical way to a visual representation of any literary form describing an action which takes place over a period of time. Fendulus could have gotten the idea for this type of presentation from narrative representations depicted on walls of Christian basilicas of the late eighth and early ninth centuries onward. Such a disposition ideally served his purpose.

Depictions of astromythological figures do not include the stars that correspond to them, and they have little scientific value because the positions of the constellation figures bear no resemblance to their true positions in the sky. The constellations are sometimes depicted as being ten or twenty degrees off in relation to the zodiac, or a ten-degree segment depicts constellations as being close together when, in fact, they are far apart in the sky. As in the depictions of the Aratea type, the constellations here are never placed in the positions that they occupy in the sky, but instead are represented in a relation to the viewer. The difference, however, is that isolated representations of constellations in the Aratea manuscripts usually are preceded by a celestial map representing all the constellations with their relationship to each other, which we do not find in Fendulus's manuscripts.

No illustrations of the Indian astrological system of decans or the *sphaera barbarica* (an eclectic mixture of the Egyptian, the Babylonian, and the Roman sphere)

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have been preserved in Western sources from the time between Antiquity and the thirteenth century. Their dissemination occurred via verbal rather than pictorial sources and Fendulus's manuscripts are probably the earliest sources in which they became illustrated. There is nothing in the entire imagery of his manuscripts which resembles the representations of the Indian gods, and it seems that their depictions derived exclusively from the text and not from other iconographic sources. Elements of Indian mythology that can be detected in the background of Abū Ma'šar's description are not to be found in these illustrations. All Fendulus's images of the Indian decans are entirely Westernized.

So far, the introduction and the first part of Fendulus's abridgment have been discussed. The second and final section in each of Fendulus's manuscripts is focused on the characteristics of the planets and their influences. The introduction to this section is taken from book I, chapter 2 of the *Introductorium maius*, entitled "De siderum motus effectu." After that follow seven sections, each devoted to one planet. As in the first half, each planet is explained with a page-long text followed by four images: the planet's house, counter-house, exaltation, and dejection (in all, 28 pages of depictions). The introductory page of text for each planet consists of two parts, the first taken from Abū Ma'šar's book VII, chapter 9, entitled "De naturis stellarum septem et proprietatibus ducatuum per universa rerum genera," and the second part from book VIII, chapter 3, entitled "De partibus stellarum."

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Transmission of Fendulus's abridgment of the *Introductorium maius*. Fritz Saxl classified the medieval illuminated astrological manuscripts into four categories according to their relationship to Greco-Roman or Hellenistic-Arabic science.[51] The first group comprise manuscripts based on the tradition of the *Aratea* manuscripts. To the second group belong astrological manuscripts with elements of the *Aratea*, merged with the Hellenistic-Eastern tradition. Saxl calls them Scotus manuscripts.[52] The third category includes the Eastern and Western manuscripts with representations of the sky based on the Hellenistic and Sufi traditions. The fourth group—which Saxl calls Bonatti manuscripts after the most important manuscript in the group, *Liber astronomiae* by Guido Bonatti (ÖNB, cod. 2359)—are late medieval manuscripts illustrated with genre scenes of people's futures and fates, illustrations of the planets' children, and the planetary gods as they ride horses or drive chariots. To this group belong all six Fendulus manuscripts discussed here (the original illustrations of Fendulus's abridgment of the *Introductorium maius* and its copies) as well as the sources possibly generated by Fendulus's manuscripts, such as the illustrations in *Astrolabium planum* by Pietro d'Abano and the fresco cycle in the Salone at Padua.

The six Fendulus manuscripts (here labeled Fendulus A to Fendulus F) are datable

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[51] Fritz Saxl, *Verzeichnis astrologischer und mythologischer illustrierter Handschriften des lateinischen Mittelalters. II: Die Handschriften in der National-Bibliothek in Wien* (Heidelberg: Heidelberger Akademie der Wissenschaften, 1927) 7.

[52] Michael Scotus (1175?-1234?) worked at the court of Frederick II (reigned 1215-1250), and has a particular importance in European astrology. In his cosmology, constellations are depicted with completely new images unknown to northern-antiquity (the drill, the flag, the lyre player) together with the traditional Cassiopeia, Medusa, or Andromeda.

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between the first half of the thirteenth and the end of fifteenth century. In chronological order they are:

BNF lat.7330, produced between 1220 and 1240 (Fendulus A);

BL Sloane 3983, datable between 1325 and 1350 (Fendulus B);

Morgan M.785, from about 1400 (Fendulus C);

BNF lat.7331, produced possibly between 1450 and 1460 (Fendulus D);

BNF lat.7344, copied shortly after 1488 (Fendulus E);

Smith-Lesouëf 8, made at the end of the fifteenth century (Fendulus F).

The drawings in all six manuscripts are similar in their overall composition, each departing from its model only in details, such as the position of the figures and their clothing, the layout of the architecture, or the color.

Fendulus A, the earliest surviving manuscript among the copies of Fendulus's illustrated abridgment, was produced between 1220 and 1240, possibly for the court of Frederick II, Holy Roman Emperor and King of Sicily and Jerusalem (1194-1250).[53] The manuscript includes three male portraits (f.1r, 36v, and 41v). The sitter on folios 36v and 41v is the same and the images differ only in their execution: the portrait on f. 36v is a line drawing, while the one on f. 41v is fully colored.[54] The sitter on folio 1r is

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[53] The manuscript is fully described in: François Avril, et al., *Manuscrits enluminés d'origine italienne. II: XIII^e siècle* (Paris: Bibliothèque Nationale, 1981-1984) 160-162, pl. P, cxvi-cxviii. Cf. also, F. Avril, et al., *Dix siècles d'enluminure italienne: VI^e-XVI^e siècles* (Paris: Bibliothèque Nationale, 1984) 51-52.

[54] Clark did not devote any particular attention to the identification of the two sitters, although she does mention them in her discourse on the characteristics of the manuscript Fendulus A. In the catalogue of the manuscripts, she refers to both sitters as representing the "author" (V.A. Clark, *op. cit.*, 198), giving the impression that they

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clearly different person than on ff. 36v and 41v.

The man in the first portrait is sitting behind a book stand, writing the title of his book which is placed on it: *Incipit liber astrologiae viri cognomine Georgii Zapari Zothori Fenduli sacerdotis philosophi atque palatini* [fig. I:1]. He is wearing a purple cloak draped over a tunic decorated with orphreys. In his left hand is a diopter, similar to the one Euclid holds in the portrait with Hermann the Lame (Hermanus Contractus), made by Matthew Paris, monk and chronicler of St. Albans (d.1259) in the manuscript of his *Chronica maiora* [fig. I:2],[55] or in the miniature in the thirteenth-century MS 1186 at the Bibliothèque de l'Arsenal in Paris, representing three astronomers, among whom one is observing the sky with an astrolabe and holding a diopter in the other hand.[56] Since the person is actively involved with writing the title and Fendulus's name on the manuscript, one could assume that the person is Fendulus himself, as indicated by Clark, François Avril, and Marie-Thérèse Gousset.[57] However, there is nothing known about Fendulus, and this identification is possible but it cannot be proven. The other option

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depict the same person. Elsewhere, discussing the artistic characteristics of the portrait on f.41v, she states that it represents Abū Maʿšar (p. 42). The portrait from f.41v is also reproduced in: David C. Lindberg, *The Beginnings of Western Science* (Chicago: Chicago University Press, 1992) 278, where it was incorrectly dated within the 14th century.

[55] Bodleian Ashmole, MS 304, f.2v. For the correct identification of the person in the portrait, I am thankful to Charles Burnett of the Warburg Institute. Franjo Šanjek, however, in his introduction to the Croatian translation of Hermann's *De essentiis* identified the person as Hermann of Dalmatia. Cf. F. Šanjek, *op. cit.*, I:49.

[56] Cf. the reproduction in D.C. Lindberg, *op. cit.*, 270.

[57] Cf. F. Avril, et al., *Manuscrits enluminés*, 160, pl. cxvii; Marie-Thérèse Gousset and Jean-Pierre Verdet, eds., *Georgius Zothorus Zaparus Fendulus: Liber astrologiae* (Paris: Herscher, 1989) 13; M.-T. Gousset, "The Writing in the Sky," 128.

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—that the sitter might be King Frederick II—does not seem likely. The sitter has a beard, which was not fashionable in thirteenth-century Italy, and Frederick II is shaved on all known portraits.[58]

There is no dispute among scholars, however, that the manuscript is South Italian and was produced during the reign of Frederick II. His Sicilian court was a center of intellectual activity, was provided a place to work for Michael Scotus, who translated some of Aristotle's treatises there; Leonard of Pisa (Fibonacci), who introduced Arabic numerals and algebra to the West; and several other Jewish, Christian, and Islamic scholars. The King himself was acquainted with mathematics, philosophy, natural history, and was also interested in poetry, medicine, and architecture. He patronized a number of Arabic artists and encouraged their art in Sicily. In 1224 he founded the University in Naples, where he assembled a large collection of Arabic manuscripts and translations of Greek philosophers.

The manuscript reveals the use of strong color and rigid lines, which Fritz Saxl attributes—together with the intermingling of eastern and western iconographical elements —to the twelfth-century southern Italian book-illumination style.[59] In his opinion, depictions of the constellations indicate an earlier source while the iconography of the

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[58] Cf. Peter Cornelius Claussen, "Creazione e distruzione dell'immagine di Federico II nella storia dell'arte: Che cosa rimane?," *Federico II: Immagine e potere*, ed. by Maria Stella Calò Mariani (Venice: Marsilio, 1995) 70.

[59] Cf. Fritz Saxl and Hans Meier, *Verzeichnis astrologischer und mythologischer illustrierter Handschriften des lateinischen Mittelalters. III: Handschriften in englischen Bibliotheken* (London: The Warburg Institute, 1953) I, lxiii; and V.A. Clark, *op. cit.*, 44.

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planets reflect the influence of Michael Scotus.[60] Erwin Panofsky agreed with Saxl and traced the origin of the manuscript to southern Italy during the first half of the thirteenth century.[61] Marie-Thérèse Gousset, in her essay introducing the facsimile edition of the manuscript, also agrees with such an attribution.[62]

The portrait on f. 36v and 41v is different in terms of expression [fig. I:3]. The figure at the beginning of the treatise is active, fully engaged in writing the title, while the other sits facing the viewer, without undertaking any particular action. He holds in his left hand a book which reads *Albumasar Philosophus*, identifying the figure as Abū Ma'šar. The picture in its immobile frontality resembles representations of Christ—for example, the late-eleventh or early-twelfth-century image of enthroned Christ at the Sant' Angelo in Formis,[63] or even much older images such as Christ in the *Godescalc Evangelistary*, produced between 781 and 783 at the Court of Charlemagne [fig. I:4].[64] During the Middle Ages, Abū Ma'šar was considered to be the foremost authority in astronomy and his treatise was among the most fundamental scientific sources. His teaching was adopted as the basis for all astrological and astronomical calculations, and therefore he was shown on the portrait in a frontal position, which symbolized his

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[60] Cf. F. Saxl and H. Meier, *Verzeichnis*, III:I, lxii-lxvi.

[61] Cf. Erwin Panofsky, *Early Netherlandish Painting: Its Origins and Character* (Harvard: Harvard University Press, 1966) I, 107.

[62] M.-T. Gousset and J.-P. Verdet, eds., *Georgius Zothorus Zaparus Fendulus*, 81-82.

[63] Cf. V.A. Clark, *op. cit.*, 42.

[64] BNF nouv.acq.lat.1203, f.3r.

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authority. Abū Maʿšar's gesture here symbolizes his teaching in a similar way, as the artists approached the execution of the portraits of Christ, who was seen as the foremost authority in Christian teaching.[65] Abū Maʿšar's dispensing of the treatise has equal semantic value as Christ holding the Evangelistary.

The manuscript measures 27.5x19 cm and contains 77 luxuriously decorated parchment folios which include 96 full-page illustrations, four full-page drawings, 31 illuminated initials, and three partially illuminated initials. Judging by its red leather binding, the manuscript has been in France since the fourteenth century. In the sixteenth century it belonged to Étienne Tabourot, seigneur des Accords (Dijon, 1549-1590), whose motto, *A tous accords*, and name appear on f.1 and f.58v. Later it was in the collection of Philippe Hurault, Bishop of Chartres (1598-1620), and finally in 1622 it was acquired for the Bibliothèque Royale in Paris.[66]

The manuscript Fendulus B is datable to the second quarter of the fourteenth

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[65] Abū Maʿšar's significance for astronomy was considered so great that he was sometimes even identified with the science. Talking about astronomy among the Seven Liberal Arts, the twelfth-century poet Alanus de Insulis (Alan of Lille, d.1202) wrote in his *Anticlaudianus*: "Last in line comes the maiden who, first in beauty, first in style, has a first-rate mind within her breast. . . . Her gaze is fixed on the stars, her eyes leading the way for the mind to track down the secrets of the heavens. . . . A sphere equips her hand . . . her dress, glowing with gems and proud with gold, seems to rival the stars in splendor. . . . An incribed scroll rings forth her praise, and in the script gathers together those who, launched in the mind's bark, sailed off to the abodes above and examined the secrets of the heavens. There Albumazar consults the stars, the poles, the heavens and the seven planets and brings back their advice to the earth." Alanus de Insulis, *Anticlaudianus, or, The God and Perfect Man*. Transl. by James J. Sheridan (Toronto: Pontifical Institute of Medieval Science, 1973).

[66] Cf. M.T. Gousset, "The Writing in the Sky," 128.

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century,[67] and it has not been preserved intact. Four folios are missing, among them the page illustrating the first decan of Libra, which is important in relation to music.[68] Folios 9-11 are bound in the wrong sequence, and some images were altered at a later date. This manuscript has a particular importance in the series, since it shows originality in execution of images. The differences between A and B are greater than between any other two manuscripts in the series. In several places where the text was misread in Fendulus A, images were corrected and adjusted to conform to the text.[69] Much more than in Fendulus A, the figures in Fendulus B are depicted with an attention to detail. The manuscript's dimensions are 27x18.6 cm, and it today consists of 49 folios with 72 full-page illustrations. Erwin Panofsky suggested that the volume was produced in Bruges,[70] but V.A. Clark locates its origin in or near Paris between 1325 and 1350.[71] There are three German names written in the manuscript, none of which has been identified, which prompted Clark's argument that this manuscript must have been for

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[67] For the full description of the manuscript and its contents, cf. F. Saxl and H. Meier, *Verzeichnis*, III:I, 247-268.

[68] V.A. Clark mistakenly identifies the missing pages for Libra as the second and third decans, instead of the first and second. Cf. V.A. Clark, *op. cit.*, 47.

[69] The artist dropped the unnecessary instrument in the second Indian decan of Cancer where singing was supposed to be represented; in the first decan of Scorpio in the *sphaera barbarica*, a trumpet was changed into a cymbalum as is mentioned in the Latin text; and in the first Indian decan of Capricorn the trumpet, seen in Fendulus A but not mentioned in the text, is dropped from the picture.

[70] Cf. E. Panofsky, *Early Netherlandish*, 107.

[71] Cf. V.A. Clark, *op. cit.*, 55 and 200.

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some time in the German lands.[72]

The manuscript Fendulus C is a copy of Fendulus B.[73] It was produced about 1400 for Lubrecht Hautscild, Abbot of the Augustinian house of Saint Bartholomew at Eeckhout near Bruges;[74] he in turn presented it, on 7 June 1403, to Jean, Duke de Berry.[75] The Duke de Berry became associated with the Abbey in December 1402, when he became "frater ad succurrendum." The Abbot and the Duke exchanged presents several times. Among them was Fendulus C, which the Abbot gave to the Duke after he was appointed ambassador from Flanders to the court of Charles VI (1368-1422), King of France, in May 1403.[76] By 1790 the manuscript was in the possession of The Baron de Joursanvault, who concocted a new title page.[77]

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[72] V.A. Clark, *op. cit.*, 47. The annotations are: "Ex libris Eustachij Wiltheim" (f.1r), "Reinerus Wiltz" (f.27v), "Johannes Litelin Caspar Lüdelin" (f.35r), and the initials "G.L." (f.4r).

[73] Fendulus C is fully described in the typewritten catalogue of manuscripts from the Morgan collection kept in the Library's reading room. For an inventory of music-related iconography in the manuscript cf. Terrence Ford and Andrew Green, *RIdIM/ RCMI Inventory of Music Iconography. III: The Pierpont Morgan Library— Medieval and Renaissance Manuscripts* (New York: Research Center for Musical Iconography, 1988) nos. 804-812. This list is, however, incomplete.

[74] On the last page of the manuscript (f.52v) is a note "Libertus abbas Brugensis predictas ymagines atque signas ordinavit."

[75] Cf. V.A. Clark, *op. cit.*, 56.

[76] Cf. *ibid.*, 57.

[77] The title page reads: Astrologiae liber Georgii Zothori Zapari Fenduli G^ci sacerdotis atque phisici ex Albumazari codicibus Maymonis Regis Calistae tabulis de Chaldaeo in latinum versis multisque aliis voluminibus antea incorrectis decerptus, de persica lingua in latinam a supradicto Georgio translatus, tandemque ab Auberto Brugensi abbate figuris ac imaginibus adornatus.

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The manuscript consists of 52 folios on parchment, measuring 24.5x18.75 cm. It includes 76 fully illustrated pages and 24 colored initials in the same layout as manuscripts Fendulus A and B. In depicting the figures, detail is emphasized more than in any of the earlier illustrations. The artist paid particular attention to everyday life, and numerous objects used at the time (tools, household equipment) are added to the figures.

The manuscript Fendulus C became a source for two later French manuscripts, Fendulus D and F.[78] Both manuscripts are artistically inferior to the preceding ones. Fendulus D, which Panofsky dated between 1450 and 1460, is an academic, formulaic, and unimaginative copy of Fendulus C.[79] It includes 77 full-page miniatures on 63 vellum folios, their dimensions being 28.25x19 cm. The manuscript had probably been acquired around 1460 by a certain Jehan Roussel, whose name is written both inside the front cover and at the end of the dedicatory poem.[80] Abū Maʿšar's text is preceded by a dedicatory poem in French to an unnamed king, which could be either Louis XI (1423-1483) or Charles VIII (1470-1498). The poem is written by Regnauld le Queun, who has been identified as a court poet of the last half of the fifteenth and the first quarter of the sixteenth centuries. It seems that Jehan Roussel later presented the manuscript to the king, adding a dedicatory poem which he commissioned from Le Queun. The manuscript

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[78] The manuscript is described by L. Thorndike in "Notes on Some Astronomical," 139-140, as well as in V.A. Clark's dissertation.

[79] E. Panofsky, *Early Netherlandish*, I, 400.

[80] Inside the front cover: "Albumazaris liber, Imaginum multarum liber, Pour Maytre Jehan Roussel;" at the end of Regnauld Le Queux's poem (f.2v): "Por M. I. Roussel;" and at the last written leaf of the manuscript (f.61v): "hec de ventorum collateratione pro magistro Io. Roussel."

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was certainly in the royal library when it was loaned from there in 1492, the date stated at the end of the manuscript.[81]

The manuscript Fendulus E is in poor condition. Only about half the manuscript is still extant, and during the binding folios were arranged out of order. Fragments from two other unidentified works on astrology are bound together with Fendulus's abridgment. This is the only manuscript in the series in which Fendulus's images are surrounded by the figures of decans copied from the 1488 edition of the *Astrolabium planum* by Johannes Angelus, printed by Erhardt Ratdolt in Augsburg. This is an indication that the manuscript was produced shortly after 1488, probably in Paris. Among its 36 vellum folios there are 30 pages of Fendulus miniatures and texts related to the zodiac. Thirty-one images of planets and signs of the zodiac are included in the text, which follows Fendulus's abridgment. A variation in the arrangement of some figures and lack of some others, as well as an entirely different tradition in representing the planets suggest the possibility of another model. The images are mostly simple and they seem to be produced by a lesser artist. This copy is the only one which does not have included the rubrics describing the constellations of the *sphaera barbarica*, the Indian decans, and the Ptolemaic constellations together with their images.

The sixth manuscript, Fendulus F, is closely related to Fendulus D and, judging from some details which appear only in these two manuscripts, F is probably a direct copy. On its opening folio there is written the name of a certain "Medardus Pynothus,

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[81] Rex Karolus VIII dedit michi Parisius 23 Iunii Anno Domini 1492 cum aliis libris.

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Medicus," about whom V.A. Clark has not found any information, although she assumes that he belonged to the circle of the French court.[82] The manuscript has 39 folios on vellum with 49 full-page miniatures, 21 illuminated initials, and a number of large initials. Several pages are cut out of the manuscript, leaving it incomplete. The manuscript was probably produced at the end of the fifteenth century and Panofsky has characterized it as "late Gothic baroque."[83]

The Fendulus manuscripts were copied over a span of almost three centuries and this fact, in addition to their appearance in several countries (southern Italy, France, the Low Countries, and the German countries), indicates their broad popularity and wide use. The six preserved manuscripts probably were not the only copies in use at the time. The 1461-1484 manuscript in the Bibliothèque Royale in Brussels now contains only the textual part of Fendulus's abridgment, although it is certain that at one time it also included miniatures because the text cannot stand alone.[84] Besides the manuscripts listed, there were certainly some others which are lost entirely.

Other astrological iconographical sources contemporary to the Fendulus manuscripts. Fendulus's images continued their influence in several other series of depictions, and they might have been a direct or indirect model for other medieval astrological representations. Although Europeans were probably not aware of the full

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[82] Cf. V.A. Clark, *op. cit.*, 72.

[83] Cf. E. Panofsky, *Early Netherlandish*, 400.

[84] Cf. V.A. Clark, *op. cit.*, 65.

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historical metamorphosis and mythological characteristics and attributes of the decans, they did recognize their importance in astrology at the time to some degree. The interior of the Palazzo della Regione (known as "Il Salone") in Padua and the fresco cycle in the Salone dei Mesi in the Palazzo Schifanoia in Ferrara were based not only on elements of Teukros's *sphaera barbarica* but also on the Indian decans. They might have been early copies of Fendulus's illustrations.

On the walls of the Palazzo della Ragione in Padua is a vast pictorial program of over 300 individual religious and astrological subjects. The palace was first erected in 1166, and in 1306 it was redesigned. In 1420 the palace burned down in a fire, but it was immediately restored and redecorated with new frescoes. It is believed that the program for the original frescoes had been made by Pietro d'Abano (1250-1316) and painted by Giotto di Bondone (ca. 1266-1337).[85] It is impossible to guess how the present frescoes differ from the original decoration. Fritz Saxl established that the present frescoes are closely related to the miniatures illustrating the *Liber astronomiae* of Guido Bonatti in the manuscript ÖNB cod.2359, dated in the fourteenth century, and Johann Engel's 1488 edition of d'Abano's *Astrolabium planum*.[86] The frescoes include 333 sections organized in three horizontal zones in which are distributed representations of occupations of months, influences of the planets according to the position against the

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[85] Cf. Antonio Barzon, *I cieli e la loro influenca negli affreschi del Salone in Padova* (Padova: Seminario, 1924) *passim*; and, Pier Luigi Fantelli and Franca Pellegrini, eds., *Il Palazzo della Ragione in Padova* (Padova: Editoriale Programma, 1990) *passim*.

[86] Cf. F. Saxl, *Verzeichnis*, II, 49-68.

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zodiac, constellations, and the twelve apostles. The cycle includes several depictions of music making.

Another remarkable astrological cycle, and one of the grandest secular Renaissance paintings in Italy, are frescoes in the Salone dei Mesi at the Schifanoia in Ferrara.[87] The palace was originally built in 1385-1391 by order of Alberto d'Este V. It had about thirty rooms intended to accommodate guests at the Ferrarese court. In 1467-1470, Borso d'Este (1413-1471) carried out alterations to the palace, adding another floor of luxurious apartments and two huge halls, the Salone degli Stucchi and the Salone dei Mesi.

The Salone dei Mesi is a hall 24 meters long, 11 meters wide, and 7.50 meters high, with twelve fresco panels representing the months of the year. From the original work, only the panels representing March, April [fig. I:5], and May on the east wall and June, July, August, and September on the north wall have been preserved. The other panels on the west and south walls were destroyed in the eighteenth century, when all the frescoes were repainted. The frescoes were completed in 1470 by a group of Ferrarese artists, although only two are known by name: Francesco del Cossa (March and April) and Ercole de' Roberti (September). For a long time, Cossa was considered the leader of the team of painters who worked on the frescoes. Later investigation

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[87] The Schifanoia cycle is extensively described in Aby M. Warburg, "Italienische Kunst und internazionale Astrologie im Palazzo Schifanoja zu Ferrara," *Atti del X congresso internazionale di storia dell'arte* (Rome, 1922) 179-193; Paolo d'Ancona, *The Schifanoia Months at Ferrara* (Milano: Edizioni del Milione, 1954); and Anna Maria Visser Travagli, *Palazzo Schifanoia e palazzina Marfisa a Ferrara* (Milano: Electa, 1994) *passim*.

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showed that there was a group of painters, but they were probably not led by Cossa. In a document dated 25 March 1470 Cossa complained that he should be paid more for his work than the other painters, because his work was superior to theirs.[88] Borso's refusal to grant him more compensation suggests that Cossa did not have overall responsibility for the execution of the frescoes. Based on some elements of style, Cosmè Tura, the court painter at the time, is considered to be the artist who developed the composition of the cycle.[89] Although he did not execute the decoration, Tura possibly sketched it and at least drew some cartoons for it. The author of the astrological cycle at the Schifanoia must have been Pellegrino Prisciani, a teacher of astronomy at Ferrara and a historian to the Este family. His name is also mentioned in the document by Cossa in which he requested a raise.

The section for each month is divided into three horizontal bands. The top band represents gods and goddesses which preside over each month (Minerva, Venus, Apollo, Mercury, Jupiter, Ceres, Maia, Mars, Diana, Vesta). The gods are represented sitting in chariots and surrounded by various symbols.

In the second band, Indian decans are represented. In the center of the band, the sign of the zodiac is depicted with the second decan above it. The first and third decans are placed on each side of the sign of the zodiac. The decans are represented with their characteristics reduced to the most fundamental, and they are simpler than in Fendulus's

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[88] The document is published in its entirety in P. d'Ancona, *op. cit.*, 92-93.

[89] Cesare Gnudi, "Critical Notice on the Recent Restoration," in: P. d'Ancona, *op. cit.*, 98-106; Stefano Zuffi, *Cosmè Tura e la scuola ferrarese a Schifanoia* (Milan: Electa, 1995).

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manuscripts. Each decan is here represented by a single person on a neutral dark blue background. For instance, the third decan of Virgo, whose image is traditionally represented by a woman together with the place of worship in which she is going to pray, is replaced in Ferrara by a woman kneeling in prayer. Looking at the Schifanoia decans, one finds that the original sources seem remote. The monstrous, old-Egyptian figures have disappeared, and the decans have achieved an entirely new, Renaissance appearance. The second decan of Virgo, originally described as a man with a hawk's wings and head, is represented as a man striving to soar upwards in flight, with his palms and face turned in movement.

Paolo d'Ancona correctly noted that the system of decans resulted "from two different astrological traditions."[90] In designing images of the decans for the Salone, Prisciani merged elements of the Indian decans and Teukros's sphera. For example, the second Indian decan of Taurus (the month of April), in the Schifanoia is a squatting nude with a padded turban on his head, holding a key in vertical position. One can find a similar figure in the corresponding decan in Fendulus's manuscripts, but included among the paranatellonta of the *sphaera barbarica*. Fendulus's figure is a male nude sitting in a boat and holding a key in a vertical position [fig. I:6]. Another similarity between the Fendulus manuscript and Schifanoia decans appears in the first decan of Taurus (the month of April). Here, Schifanoia has a woman with long curly hair and a child gazing upon her, the image similar in posture to that of the first decan in Fendulus's manuscripts [fig. I:7].

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[90] Cf. P. d'Ancona, *op. cit.*, 36-37.

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The lower zone of the frescos represents a narrative with episodes from Borso d'Este's life.

Besides Fendulus's illustrated manuscripts, there are some other illustrations of the Indian decans and the *sphaera barbarica* made on the basis of Abū Maʿšar's text. For King Wenceslaus of Germany (1361-1419; Holy Roman Emperor, 1378-1400; and as Wenceslaus IV King of Bohemia, 1378-1419), a lavishly illustrated manuscript was produced containing Pietro d'Abano's translation of Abū Maʿšar's treatise (now in BS Clm.826). The manuscript includes illustrations which combine constellations of the *sphaera barbarica*, the Indian decans, and Ptolemaic spheres in the same frame. A space assigned to illustrations of a ten-day period is relatively small (ca. 7x7 cm) and each includes an extensive number of figures. They are not explained with rubrics as in Fendulus's manuscripts, nor are the three systems separated. These illustrations do not have the clarity of map-like presentation as in Fendulus's depictions and, without knowing the text, it is impossible to distinguish which figure belongs to a particular system.

On the basis of Abū Maʿšar's text, the fifteenth-century Spanish astronomer Ludovicus de Angulo compiled a new list of decans in his *Liber de figura seu imagine mundi*. Angulo's text with miniatures is extant in two copies in Latin (St. Gall, Stiftsbibliothek, cod.vad.427; and BNF lat.6561), and a copy of a French translation made in 1479 by Jean de Beauvais, Bishop of Angers (BNF fr.612).[91]

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[91] Cf. W. Gundel, *Dekane und Dekansternbilder*, 88-89.

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Introductorium maius was later used as a basis for several sets of images showing the children of the planets, among which are the six best known series of woodcuts from the fifteenth and early sixteenth centuries. The earliest one, dated about 1460, was possibly engraved by the Florentine Maso Finiguerra (1426-1464). Fritz Saxl identified that the texts about the nature of the planets, included below the prints, are taken from Hermann's translation of the *Introductorium maius*.[92]

Abū Ma'šar's *Introductorium maius* with Fendulus's pictorial interpretation has a special place in the history of medieval astrology and astronomy. It continued the ancient astrological traditions forgotten in Europe at the time of its translation, and it also connected this with the Indian astrological tradition—which had not been widely known in Europe. The treatise is a synthesis of the thousand-year sedimentation of knowledge on astrology and its interchange between East and West.

Many of the constellations have been associated with myths since Homeric times. Almost every astrological work written through Antiquity encouraged this tendency. During the Hellenistic period, the sky was invaded by gods. This astromythology was standardized by Eratosthenes (284-204 B.C.) in his *Catasterismi*, where he associated each constellation with its significance in the astrological system. Astronomy at this point became fused with mythology, and from that time on no distinction has been made

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[92] Cf. Fritz Saxl, "The Literary Sources of the *Finguerra Planets*," *Journal of the Warburg Institute* II (1938-39) 72-74. The prints are reproduced and described in: Arthur M. Hind, *Early Italian Engraving: A Critical Catalogue with Complete Reproduction of All the Prints Described* (New York: M. Knoedler & Comp., 1938; rep. Nendeln: Kraus, 1978) 77-83; plates 114-131. For more about the Finguera prints, see Chapter 5.

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between astronomer and mythographer.[93]

Since Abū Maʿšar's treatise recapitulated all early medieval knowledge about stars, it in turn had enormous importance for astrology and astronomy between the twelfth and sixteenth centuries. The original treatise, together with Fendulus's abridgment, summarized the vast astrological tradition embracing an extensive system of symbols and, among them, even archetypal images whose origins are lost in the earliest times of Judeo-Greek civilization. Their diffusion until Abū Maʿšar's day—over large geographical regions, different cultures, and a long time span—made them extremely complex and the interpretation of their meaning complicated. With the migration of peoples these symbols changed their meanings. To understand a particular symbol it is not sufficient to know where the symbol originated: one must also understand its meaning in a given context. Various readings of the system of symbols in different traditions make their number infinite and their full understanding often impossible.[94] The visual concept of constellations was always extremely vague, and its construction depended on the imagination of the person watching the sky. That left a wide margin for the flexibility of the constellations' iconographical representations and for the various interpretations

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[93] J. Seznec, *op. cit.*, 38.

[94] The Greek sphere was subject to changes and additions until as late as the eighteenth century. At that time, constellations were no longer associated with mythological figures, but with other elements that seemed to be sufficiently impressive. In 1751-1752, French astronomer Abbé Nicolas Louis de Lacaille made a survey of the southern sky and designed fourteen completely new constellations featuring scientific and artistic instruments: La Machine Pneumatique, La Boussole, Le Chevlet et la Palette, Le Reticule Romboide, L'Horologe, Les Burins, Le Fourneau, L'Atelier du Sculpteur, Le Microscope, Le Telescope, L'Equerre et La Règle, Le Compas, L'Octans Reflexion, and Montagne de la Table.

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of mythological tales. The symbolism inherited from these various traditions continued to live in Europe during the Middle Ages. The present investigation does not analyze the meaning of cosmic harmony and *musica mundana* for medieval and Renaissance music theorists; rather it explores the symbolism that medieval and Renaissance astronomers and astrologers associated with music.

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CHAPTER TWO

SPHAERA BARBARICA

The transmission of the *sphaera barbarica*. The system named by the Greeks *sphaera barbarica* and depicted in the top horizontal stream of Fendulus's illustrations, as shown in the figure given on page 31 in Chapter 1, referred in Antiquity to any non-Greek description of the heavens. It included an eclectic mixture of the Egyptian sphere, elements of Babylonian astronomy, constellations described by Ptolemy, and the heavenly map of the Romans. The system was codified for the first time by the astronomer Teukros in the first century A.D.[1] He supplemented or replaced the traditional Greek

[1] There is very little information about Teukros; several ideas about his background are offered in the literature. Boll believed Teukros to be a Greek astronomer from Asia Minor, who lived in the first century A.D., but also suggested that the author of the book about the *sphaera barbarica* might be Teukros of Kyzikos (known as having written a book on alchemy), Tinkelos from Babylon (who wrote about the decans and planets), or finally, Tinqueros the Babylonian (who had also written a book about the influence of decans and planets on human destiny). Cf. Franz Boll, *Sphaera: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder* (Leipzig: Teubner, 1903) 8-10.

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constellations by exotic ones.[2] His sphera was not exploited much over the centuries, neither in astronomy nor astrology, and many of the constellations' positions in the sky are today not known.

Teukros explained the astrological influence of his constellations through a system of paranatellonta. The word "paranatellonta" (παρανατελλοντα) comes from the Greek *para* (παρα; together) and *anatellein* (ανατελλειν; to rise), and it refers to the stars and constellations simultaneously rising to the north and to the south of the celestial equator. Paranatellonta never appear individually, but always in relation to the zodiac. It is significant that they are temporal and not spatial sequences. The stars or constellations of paranatellonta related to a single zodiacal sign (or its decan) do not belong to the same 30° (or 10°) of the ecliptic. Rather, they rise simultaneously anywhere in the sky during the period which is determined by the temporal sequence of that particular sign (or decan). According to Franz Boll, Teukros combined in the paranatellonta two different systems: one in which the paranatellonta were related to the decans, and the other in which they were related to the zodiac.[3]

The earliest lists of the paranatellonta were probably compiled in ancient Egypt, in order to determine the time at night when the zodiacal constellations were invisible beyond the horizons. It is possible that already at that time a link was established between each paranatellonta and its astrological influence over the sublunar world, but

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[2] Cf. Jean Seznec, *The Survival of the Pagan Gods: The Mythological Tradition and Its Place in Renaissance Humanism and Art*. Trans. by Barbara F. Sessions. Bollingen series 38 (Princeton: Princeton University Press, 1972) 38.

[3] F. Boll, *op. cit.*, 13-14.

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Teukros was supposedly the first to use the paranatellonta methodically for astrological purposes, assigning to each a significance regarding the destiny of the universe, peoples, and individuals for every degree of the zodiacal belt.[4]

Our knowledge of Teukros is limited and his system of paranatellonta has been reconstructed only after combining several later sources.[5] One of its versions, which Boll calls the first Teukros text, was established through its copy included in a manuscript by the early-sixth-century astrologer Rhetorios (Berlin, Staatsbibliothek cod.gr.173 [Phillipps 1577], fol.139-146) and a sixth-century excerpt included in a fourteenth-century compilation of astrological texts (ÖNB phil.gr.108, f.249v-256). The other group of sources for Teukros's description of the paranatellonta was traced by Boll in three related manuscripts: (1) fragments included in the fourteenth-century astrological manuscripts BNF gr.2506 (f.119v-120) and BNF gr.2424 (f.134v-135) containing descriptions of the paranatellonta related to Aries, Taurus, Gemini, and Cancer; (2) the tenth- or eleventh-century manuscript at ML XXVIII:34 (f.134v-136v) containing paranatellonta related to all twelve zodiacal signs; and (3) the fourteenth-century manuscript at the Vatican, gr.1056 (f.28r), containing an abridged list for all twelve signs. Excerpts from Teukros's text had also been found in the fourteenth- or fifteenth-century copy of the manuscript originally written by the Greek astrologer Antiohus (about 300 A.D.; ÖNB phil.gr.179, f.41-65). On the basis of Abū Maʿšar's usage of the Greek

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[4] Cf. J. Tester, *A History of Western Astrology* (New York: Ballantine Books, 1987) 43.

[5] Cf. F. Boll, *op. cit.*, 5-52.

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and Persian names of the stars in describing *sphaera barbarica*, Boll argues that most of the text about paranatellonta in the *Introductorium maius* is taken from a Persian translation of Teukros's text, completed in 542.[6]

Of particular importance for the description of the Indian decans, as well as the *sphaera barbarica* and their reception in the early centuries A.D., is a collection of writings known as *Hermetica*. This collection was initially attributed to Hermes Trismegistus, which is the Greek name for the prophet deified by the Egyptians as the god Thoth. Later scholarship established that the writings were not that old, probably dating from the second or third century A.D. They were written in Egypt by people familiar with some Greek philosophy, particularly Platonism. Their writings—represented as the thought of Hermes—embodied their own teaching, which they held to be the supreme and essential truths toward which Greek philosophy pointed. This corpus is not a unified work but a collection of several *libelli*, each written by one or several anonymous writers.[7]

Abū Ma'šar learned the Hermetic teachings either directly from the Sābi'ans of Harrān or through his tutor al-Kindī. The northern Mesopotamian city of Harrān was an important center of Hermetic teaching at the time of Abū Ma'šar. In A.D. 830 they took

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[6] Cf. *ibid.*, 16.

[7] Cf. introduction by Walter Scott to *Hermetica: The Ancient Greek and Latin Writings which Contain Religious or Philosophic Teaching Ascribed to Hermes Trismegistus*. Trans. and ed. by Walter Scott (Oxford: Clarendon Press, 1924) I, 1-16.

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the name of Sābi'ans, the unspecified religion mentioned several times in the Qur'an.[8] In order to make their religion legal in the Islamic world, it was necessary for them to adopt a scripture on which their religion was to be based, and they chose the *Hermetica*.[9] Some of the Harrānians achieved high and influential positions in Baghdad between 850 and 1050, and from them Abū Ma'šar was able to learn about the *Hermetica*. There is a testimonial to al-Kindī's familiarity with Hermetic teaching in An-Nadīm's book *Fihrist-el-'Ulm*.[10] In book IX, chapter 1, he quotes al-Kindī's pupil Ahmad ath-Thayyib (d. 898), who gives an account of the Sabians taken directly from al-Kindī, also a tutor to Abū Ma'šar.[11] Here it states explicitly that al-Kindī "has seen a book, the teaching of which is accepted by the Sabians, and which consists of treatises of Hermes."[12]

The *Hermetica* describes the cosmos as a series of concentric spheres: the sphere of the fixed stars and the seven spheres of the planets. The lowest sphere is that of the moon, which is the barrier between the heavens and the sublunar world. In the sphere of the fixed stars reside star-gods, previously installed there. When descending to earth, the soul goes through the seven spheres of the planets, receiving certain characteristics

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[8] "Surely those who believe, and thus who are Jews, and the Christians, and the Sabians, whoever believes in Allah and the Last Day and does good, they shall have their reward from their Lord, and there is no fear for them nor shall they grive." Surah, II:62.

[9] Cf. W. Scott, "Introduction" to *Hermetica*, I, 97-111.

[10] "Catalogue of learned men and their writings," written in 897. Cf. W. Scott, ed., *Hermetica*, IV, 248-250.

[11] The excerpt from An-Nadīm's *Fihrist* is included among the *Testimonia*, in: W. Scott, ed., *Hermetica*, IV, 248-250.

[12] *Ibid.*, IV, 250.

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from them, and later returning these to the planets in the course of its ascent upon release from the body. Being "stripped of all that was wrought upon him by the structure of heavens, he [the soul] ascends to the substance of the eighth sphere, being now possessed of his own proper power; and he sings together with those who dwell there, hymning the Father; and they that are there rejoice with him at his coming."[13] The eighth sphere is the highest or outermost of the heavenly spheres in which the fixed stars move. The fixed stars of the eighth sphere, their paranatellonta, and those astrological circumstances in the sky which influence the sublunar world are described in detail in the fifteenth-century manuscript BL, Harley 3731, believed to belong to the corpus of Hermetic teaching.[14] The description of the fixed stars includes Greek constellations, seventy-two additional bright stars, and a great number of constellations as they were perceived in Egyptian astronomy. The *sphaera barbarica* is described in chapter XXV of the manuscript, entitled "De stellis fixis, in quibus gradibus oriuntur signorum."[15] It is described at great

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[13] W. Scott, ed., *Hermetica*, I, libellus I:26a.

[14] The manuscript, which also includes a list of decans and Ptolemaic constellation, is transcibed and annotated by Wilhelm Gundel as *Neue astrologische Texte des Hermes Trismegistos: Funde und Forschungen auf dem Gebiet der antiken Astronomie und Astrologie*, Abhandlungen der Bayerischen Akademie der Wissenschaften: Philosophisch-historische Abteilung, Neue Folge 12 (Munich: Bayerischen Akademie der Wissenschaften, 1936).

[15] In his edition of the Hermetic texts, Walter Scott argues in favor of the existence of two classes thereof: one dealing with religious and philosophic teaching, and the other "concerning astrology, magic, alchemy, and kindred forms of pseudoscience" (W. Scott, *op. cit.*, I, 1). The text, edited by Gundel, belonges to the second category; even he himself questions whether or not the title *Incipit liber Hermetis Trismegisti*, written above the first chapter, applies to the entire work or only to the first chapter which lists thirty-six decans. Even if the origin of the list of paranatellonta included in BL Harley 3731 is questionable, it might have roots close to Hermetic teaching, and it contains a

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length, occupying approximately one sixth of the manuscript's content.

In describing the *sphaera barbarica* in the *Introductorium maius*, Abū Maʿšar followed the principle of the ecliptic's division in 10° arcs, exactly as he did there with the *sphaera indica* and *sphaera graecanica*. His description of the paranatellonta was not astronomically accurate, and he did not define the ascents of the constellations with the actual angle of the ecliptic as the paranatellonta are defined in the Hermetic tables of BL Harley 3731. He considered it to be sufficiently precise to relate them to a period congruent with a certain decan.

As we mentioned, Teukros's system of paranatellonta has never been widely accepted in medieval Western astrology. Sources preserved in Western libraries are scarce—only half a dozen. Abū Maʿšar's adoption of the system, which he took from Persian sources and each description of paranatellonta begins with the words *iuxta Persas* —in the manner of the Persians—might indicate that the *sphaera barbarica* was used in the early Middle Ages more often than later. Since Fendulus based his illustrations on Abū Maʿšar's text, he did not omit paranatellonta from his atlas. Therefore his images are rare relics of a forgotten astrological system, which makes them particularly important for understanding not only the dissemination of ancient astrology but also the metamorphosis of mythology, always closely related to astrology, as well as the history of symbolic ideas.

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description of *sphaera barbarica* as it was meant in the quote from the opening *libellus* of the *Hermetica*.

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Fendulus's depictions of paranatellonta related to music. The *sphaera barbarica* is represented in Fendulus's manuscripts in the top third part of each page. Fendulus followed the arrangement of constellations already established in Abū Maʿšar's treatise, and placed into a single section on the page all images related to paranatellonta rising during the period of a certain decan. With such a disposition of the constellations, his work is a kind of celestial atlas showing the rising constellations in relationship to the zodiac. A comparison between the positions of Abū Maʿšar's and Fendulus's paranatellonta and the Hermetic list shows that the majority of constellations in Fendulus's atlas are depicted a few degrees off the places where they should appear according to the *Hermetica*.

The constellations of the *sphaera barbarica* in Fendulus's manuscripts involving music, which will occupy our attention in the present chapter, are the following:[16]

I. The second decan of Aries: A harp labeled "harpes Persei."

II. The second decan of Gemini: Hercules playing a pipe.

III. The third decan of Gemini: Amphion playing a pipe.

IV. The first decan of Cancer: A satyr playing a tambourine and serving Amphion; the first of the three ladies (Graces) singing lauds.

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[16] Each of Abū Maʿšar's descriptions of constellations in *sphaera barbarica* related to music, a translation of Abū Maʿšar's text from Arabic into Latin, and their depictions by Fendulus, is discussed in the following text. The facsimiles of relevant pages from the six Fendulus manuscripts and related illustrations may be found in Volume II. An English translation of Abū Maʿšar's Arabic text and Hermann's Latin translation of Abū Maʿšar's text in its versions used by Fendulus, see in Appendix 1. — Each decan, i.e., ten-day period, is related to a certain number of paranatellonta, which varies from one to the other. Abū Maʿšar listed for each period all paranatellonta rising at that time. In our text are interpreted only those constellations which have a significance for music.

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V. The second decan of Leo: An idol dancing with a tambourine.

VI. The second decan of Virgo: Musa playing tambourine and pipe.

VII. The first decan of Libra: A horseman musician.

VIII. The second decan of Libra: A charioteer and a basket which Fendulus mistook for a pipe.

IX. The first decan of Scorpio: A pair of cymbals (a mistranslation by Hermann of the Arabic term for health).

Each of Fendulus's images is rooted in the medieval astrological tradition, but the relationship between constellations and mythology goes back to Antiquity, when groups of stars were not only associated with mythological heroes, but also with heroes' characteristics. As was the zodiac, extrazodiacal constellations were believed to be influential on the sublunar world. Depending on their positions in the sky—whether they were ascending or descending above the horizon—their power and influence changed.[17] Abū Maʿšar's original descriptions of the *sphaera barbarica*, *indica*, and *graecanica* do not include fatalistic predictions related to the stars or the constellations. He focussed his attention here on the positive, astronomical identification of rising constellations within a certain time period, rather than attempting to offer astrological interpretations. Abū Maʿšar may have assumed that his readers were familiar with the symbolism of the

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[17] In describing the paranatellonta, Manilius began his *Astronomica* with the following words: "I must tell of the powers peculiar to all these constellations, their influences both when rising and when they sink into the waves, and which degree of the zodiac brings each of them back above the horizon." Marcus Manilius, *Astronomica*. Ed. and trans. into English by G.P. Goold (London: William Heinemann; Cambridge, Mass.: Harvard University Press, 1992) V:27-29.

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constellations, and that he therefore did not need to describe them. However, in Fendulus's visual interpretation of Abū Maʿšar's text, the original, unexpressed, symbolic meanings of the constellations were appropriated by the images. In such a context, *Hermetica* in Harley 3731—which does include a brief qualification of the influence of each paranatellonta—can help to explain the symbolism in Abū Maʿšar's descriptions as well as establish a relationship between Fendulus's images and their meanings.

I. Paranatellonta rising with the second decan of Aries.[18]

The constellation of Perseus appears in both *sphaera graecanica* and *sphaera barbarica*. In Teukros's text Perseus does not have great importance[19] but, in spite of this, Fendulus extended the constellation's images over several decans, beginning during the middle period of Aries and spreading to the end of the following period of Taurus. In the second decan of Aries, parts of Perseus and his attributes are represented through both the *sphaera graecanica* (Perseus's head and right hand in the lower stream) and the *sphaera indica* (the head of Medusa and the harp—which replaced the scimitar—in the middle stream) since the large number of constellations rising during this paranatellonta did not leave enough space in the section usually reserved for the *sphaera barbarica*. The constellation continues in the following decan in the space reserved for the *sphaera*

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[18] Fendulus A: f.7r; Fendulus B: f.4v; Fendulus C: f.4v; Fendulus D: f.8v (see facs. 1-4, pp. 319-322).

[19] Cf. F. Boll, *op. cit.*, 108.

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graecanica, with the figure of Perseus shown from the waist up, holding a sword in his right hand and Medusa's head in his left (*Perseus cum manu sinistra tenens caput Meduse*). In the *sphaera graecanica*, in the first decan of Taurus the left side of Perseus's body is represented; in the following decan, his right knee (*Perseus genu*) is shown, and finally, in the third decan, his entire body.

Music in mythology is associated only indirectly with Perseus. Ovid mentions in the *Metamorphoses* that, after Perseus liberated Andromeda, "incense in abundance fed the flames, garlands hung from the roof, and everywhere was heard the sound of lyres and pipes, and singing that gives happy proof of joyful hearts."[20] The harp (*harpes Persei*), included by Fendulus among the illustrations of the second decan of Aries, therefore has, in mythological terms, no relationship to Perseus. The depiction is the result of a misreading and misunderstanding of Hermann's Latin translation. The word "harpa" had been used during the Middle Ages for a large number of diverse objects ranging from a harrow, a corn sieve, an instrument of torture, and a shelf for drying corn, to the musical instrument itself.[21] In fact, the Latin term *harpe, -es* or its Greek equivalent ἅρπη, signified a sickle-shaped sword scimitar, the kind that Perseus received from Hermes before the fight with the Gorgon Medusa. This became one of his standard attributes, which he was depicted as holding in celestial atlases. In these atlases he is represented as a nude youth wearing the *talaria* (winged sandals) with a light scarf

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[20] Ovid, *Metamorphosis*. Trans. by Mary M. Innes (London: Penguin, 1955) 114.

[21] Cf. Martin van Schaik, *The Harp in the Middle Ages: The Symbolism of a Musical Instrument* (Amsterdam and Atlanta: Rodopi, 1992) 16.

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thrown around his body. In his left hand he often holds the Gorgoneion (the head of Medusa-Guberna) and in his right the *harpe*, the sickle-shaped sword, or the scimitar.[22] The word *harpe* is used both in the Greek description of Perseus's paranatellonta in the manuscript Vatican, gr.1056 (f.28v)[23] and in Hermann's translation of Abū Ma'šar's text. Not properly understanding the text and not being sufficiently familiar with the mythology, Fendulus depicted the *harpe* as a musical instrument, instead of a scimitar. This substitution of the scimitar with the harp indicates that Fenudlus based the imagery here on the textual source, rather than following the iconographic tradition. However, on the following page showing the constellations of the third decan of Aries, there is a traditional representation of Perseus, holding the sword in his right hand and Medusa's head in his left. Since the text calls here for the entire figure of Perseus, Fendulus was able to return to the established iconographic tradition and show him in his usual posture rather then inventing a new image.

The misrepresentation of sword as a harp was transmitted through all of the later copies of the Fendulus manuscripts, what indicates how the illustrators in most cases did not verify the images with the textual introduction, but copied the illustrations directly from an earlier model. The introduction describes the sword as *harpes Persei* which was modified to *arpes Persei* in the *titulus* accompaning the image of a harp appearing in all four manuscripts that contain a representation of this section of the sky (see facs. 1-4,

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[22] Cf. Richard Hinckley Allen, *Star Names: Their Lore and Meaning* (New York: Dover, 1963²) 329.

[23] Cf. F. Boll, *op. cit.*, 57.

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pp. 319-322).

The misunderstanding of the term indicates not only that Fendulus and his copyists were not sufficiently proficient in Latin; it also reveals Hermann's thorough knowledge of the language since, in translating Abū Maʿšar's Arabic text, he employed a word which was normally used in poetry.[24] The earliest evidence of the Latin word *harpa* as a term for the musical instrument can be found in a poem by Valentinus Fortunatus (ca. 530-601), bishop of Poitiers.[25] Since that time, the word has been used to signify the instrument in Latin and in other European languages, but it is not clear what kind of instrument the term signified. For example, all that is known about the German word *Harpe* is that it was used during the period from about 800 to 1350 for an instrument which was different from the *lyre*.[26] Regino of Prüm, in his *Epistola de harmonica institutione* (ca. 900), includes the *harpa* among the *tensibilia* (stringed instruments), but he did not provide a specific description of the instrument.[27] In the Anglo-Saxon *Vita Sancti Dunstani* (presumably written around the year 1000) the term "cithara" was interpreted to be a harp. During the Middle Ages, "salterium" was interpreted as having several different meanings, among which was included the

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[24] Cf. Mirko Divković, *Latinsko-hrvatski rječnik za škole*, 2nd edition (Zagreb, 1900; and facsimile ed. Zagreb: Naprijed, 1980) 465.

[25] "Romanusque lyra, plaudat tibi barbarus harpa, Graecus Achilliaca, crotta Britannus canat" (And may the Roman bring you homage with the lyra, the German with the harpa, the Greek sing Achilles's songs, and the Briton sound the crotta). M. van Schaik, *op. cit.*, 19.

[26] Cf. *ibid*, 20.

[27] Cf. *ibid.*, 21.

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instrument known today as the harp.[28] According to Martin van Schaik, the earliest literary source indicating how the harp was played—and therefore positively determining the object and its name—is the anonymous German *Roudlieb* epic, datable to the period between the years 1043 and ca. 1075.[29] Van Schaik argues that "from the beginning of the thirteenth century, the term harp seems to have been used consistently in poetry as the name for the musical instrument, the harp."[30]

Although the manuscript Fendulus A is not the first iconographic source for the harp, it is certainly an important one, and it can be viewed as a proof of Van Schaik's argument.[31] If the scribe understood the word *harpe* as the musical instrument—not the scimitar—it means that the term was more commonly used for the instrument than the sword. This, in turn, proves that at least by the time Fendulus A was produced (1220/40), the term "harp" was accepted in the Latin language of southern Italy to imply

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[28] Cf. *ibid.*, 21. In the Utrecht Psaltery (Utrecht, Rijksuniversiteit, MS 819), the text of the Psalm 149 reads (f.83r): "Laudent nomen eius in choro, in tympano et psalterio psallant ei, quia bene placitum est." The accompanying illustrations shows however a harpist.

[29] The lines 38-39 from the fragment IX reads: "Pulsans mox leva digitis geminis, modo dextra tangendo chordas dulces reddit nimis odas" (He played the sweetest songs, now plucking the strings with two fingers of the left hand and then again with the right hand). Cf. *ibid.*, 22.

[30] *Ibid.*

[31] Iconographic sources for the harp preceding the earliest Fendulus manuscript, and those contemporary to it include: York Psalter, Glasgow, University Library, Hunterian MS 229, f.21v (c. 1175); the Bible of St. Alban (England), Morgan M.791, f.170 (1215-20); an English psalter, Morgan G.25, f.3v and 5v (1225); a French Bible, Morgan G.11, f.166 (1240). These images are not accompanied by a rubric which names the instrument.

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the same instrument which we today understand to be the harp.

Each of Fendulus's six manuscripts includes, in various sections, several images of the harp of the late medieval and early Renaissance types (the second paranatellonta of Gemini, the planets of Venus in her house and Mercury in exaltation in Fendulus A; see Chapter 5). The instrument with a unique shape, characteristic of a much older type—reminiscent of a Greek harp without the forepillar—is the *harpes Persei* in the earliest manuscript, Fendulus A. This type one can find, for example, on the ivory cover of the Dagulf Psalter attributed to the Palace School of Aix-la-Chapelle (late eighth century [fig. II:1][32]), or in the Utrecht Psalter[33] (ca. 825) and its copy, the Canterbury Psalter (before 1170 [fig. II:2][34]). Probably on the basis of the small number of extant images of such an instrument, the authors of the article on the harp in *The New Grove* argue that "there is no trace of such a harp in European use."[35] However, although the material evidence of the use of the instrument is scarce, such an adamant statement,

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[32] Paris, Musée du Louvre, MS 370.

[33] Utrecht, Bibliotheek der Rijksuniversiteit, MS 32.

[34] Cambridge, Trinity College MS R.17.1, f.144. For reproductions of instruments from the earlier Utrecht Psalter, cf. Suzy Duffrene, *Les illustrations du Psautier d'Utrecht: Sources et apport carolingien* (Paris: Ophrys, 1978) pl. 100.

[35] Ann Griffiths, Joan Rimmer, Sue Carole de Vale, "Harp," *The New Grove Dictionary of Musical Instruments*. Ed. by Stanley Sadie (London: Macmillan; and New York: The Grove Dictionaries, 1984) I, 135. — Further instruments of this type are included in manuscript Pommersfelden, Graf-von-Schönbornsche Schloßbibliothek, no. 334, f. 148v and BL Harley 4951, f.295v. Both instruments are shown in the context of King David. Cf. Hugo Steger, *David Rex et Propheta: König David als vorbildliche Verkörperung des Herrschers und Dichters im Mittelalter, nach Bilddarstellungen des achten bis zwölften Jahrhunderts*. Erlanger Beiträge zur Sprach- und Kunstwissenschaft 6 (Nuremberg: Carl, 1961) tabl. 14 and 19.

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while possible, must be met with skepticism.

The harp in Fendulus A (see facs. 1, p. 319) has a strong horizontal bar serving as a bridge and holding ten strings. The bridge is joined with the forepillar at a right angle. The third side of the instrument is outlined only with a slightly curved single line. The bridge has four tuning pegs inserted vertically from above, probably represented out of proportion; their number does not correspond to the number of the strings. Four small circles on the forepillar, drawn symmetrically at an equal distance from one another, are probably meant to represent sound holes. The artist was possibly making the image from memory, and confused the positions of the resonator and the front side of the instrument, reversing the two. The instrument which he used mentally as a model possibly had the resonator in its traditional place holding the strings, with the opened front lacking a pillar. That would explain why the instrument in the manuscript has its lower side outlined with a single line; in thinking of a nonexistent pillar, the artist drew this. If the positions of the pillar and the resonator were reversed, the instrument would look like the one in the Dagulf Psalter [fig. II:1]. There are some images of the harp with the resonator shown together with the pillar, but they are rarities [fig. II:3].[36] Locating the sounding body of the instrument in the pillar does not produce the best sonic result, since there it does not have direct contact with the strings.

The next manuscript in chronological order, Fendulus B, shows a gothic harp with five strings and five pegs on the bridge. Although this instrument has some features in

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[36] King David plays one such harp on the miniature in the psalter produced in northeastern France or Flanders in the second half of the thirteenth century (Morgan G.2, f.1v).

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common with the one in the previous manuscript, the image is not slavishly copied. As in the earlier image, the strings on the lower side go into a thin bar. The resonator, placed in the position where the harp's pillar should be, is carefully depicted here with its carved rosette. This type of instrument is held parallel to the body (as opposed to the perpendicular position), as was the harp which King David holds on the image in the B-initial of Psalm 1 in the Carilef Bible, from Normandy, written between 1081 and 1095 [fig. II:4].[37]

The last two images of the "harpes Persei" (Fendulus C and D) are almost identical, and it is certain that the artist of the latter used Fendulus C as its model. This is an instrument with a strongly curved forepillar and six strings stretched between the neck and the boxed resonator.

II. Paranatellonta rising with the second decan of Gemini.[38]

Before discussing the astrological and mythological significance of the paranatellonta rising with the second and third decans of Gemini, it is necessary to show the relationship between music and the constellation of Gemini itself. Gemini has been understood throughout history to be more influential on the arts and music than any other sign of the zodiac. Its association with music originated partially in Gemini's astrological

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[37] The library of Durham Cathedral, MS A.II.4 (Carilef Bible), f.65r. Cf. R.A.B. Mynors, *Durham Cathedral Manuscripts to the End of the Twelfth Century* (Oxford: Oxford University Press, 1939).

[38] Fendulus A: f.12r; Fendulus B: f.12v; Fendulus C: f.9v; Fendulus D: f.13v; Fendulus E: f.18r (see facs. 5-9, pp. 324-328).

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relationship with the planet Mercury which is, in traditional astrology, considered to influence artistic and scientific creativity. Gemini and Virgo are signs ruled by Mercury —which will also be indicated in the later part of Fendulus's abridgment where he discusses Mercury's characteristics—and therefore they share many of this god's characteristics. Ptolemy described the Gemini constellation as having "the same quality as Mercury and, to a lesser degree, as Venus." Furthermore, "the bright stars in the thighs [are] the same as Saturn; of the two bright stars in the heads, the one in the head in advance [is] the same as Mercury; . . . the one in the head that follows, the same as Mars. . . ."[39] Ptolemy's predecessor, Manilius of Antioch (early first century A.D.) was even more specific, saying in his *Astronomica* that Gemini influences native musicians: "From the Twins come less laborious callings and a more agreeable way of life, provided by varied songs and voices of harmonious tone, slender pipes, the melodies inborn in strings and the words fitted thereto: those so endowed find even work a pleasure."[40]

The importance of Mercury and Gemini as symbols for the sciences and the arts can be found throughout the Middle Ages and the Renaissance. The illustration on the title page of the first English edition of Euclid's *The Elements of Geometrie*, published in London in 1570, includes the Pythagorean union of the sciences—represented by numerous symbols for geometry, arithmetic, astronomy, and music [fig. II:5].[41] In a

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[39] Ptolemy, *Tetrabiblos*. Edited and translated into English by F.E. Robbins (London: William Heinemann; Cambridge, Mass.: Harvard University Press, 1971) I:9.

[40] Manilius, *op. cit.*, IV:152-155.

[41] The same engraving was used as the title page for several other editions, such as *The cosmografic Glasse* by J. Day (1559) and Thomas Morley's *A Plaine and Easie*

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prominent place among them, in the lower center of the page, Mercury is included with his emblems: a winged hat and a caduceus. On his right and left are images of Gemini and Venus. To banish any doubts about Mercury's identity, the artist inscribed the title "Mercvrivs" under the picture, supplemented with the sign for Mercury above it. Mercury and his two zodiacal signs are not here a segment from the complete representation of the heavens or the zodiac, but symbols for the sciences and the arts. The only other two planets represented on the page are the sun and the moon in the top left and right corners, but the iconographical approach to them is rather different. It was not important here whether the figures were recognized as the two planets, and the viewer could easily miss recognizing their meaning; there are no emblems, names, or signs here. The zodiacal signs over which the sun and the moon rule—Leo and Cancer—are not represented traditionally as astrological symbols, but rather as two animals, a lion and a crab; if the reader did not know that the sun rules Leo or the moon Cancer, he or she probably would not make a connection between the illustration and the zodiacal sign.[42]

Gemini's symbolic and mythological relationship with music is also reflected in the numerous calendar illustrations, both those in lavishly illustrated manuscripts produced for a single patron and those printed in a large number of copies intended for

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Introduction to Practicall Musicke (1597). The monogram "I.B." in the lower left corner stands for John Bettes (1530-ca. 1580).

[42] Albert P. de Mirimonde, in his interpretation of the two figures, failed to recognize the lion and the crab as zodiacal signes and did not see the sun and the moon as the planets but as allegories of alchemy. Cf. Albert P. de Mirimonde, *Astrologie et musique* (Geneva: Minkoff, 1977) 90-91.

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commoners. The calendar for each month used to be accompanied with an illustration which served as a reminder for farmers and traders about their activities in the fields, fairs which took place at certain dates, and celestial activities. The iconography of the monthly occupations was additionally influenced by the characteristics of the dominant zodiacal sign, until it become standardized.[43]

Gemini is the most influential sign between 21 May and 20 June. Therefore, the month of May became associated with music, which was often iconographically translated in calendars into a music-making scene (see the Book of Hours of the Duchess of Burgundy [Adélaide de Savoie], from northern France, first half of the fifteenth century [fig. II:6];[44] and the month of May in a calendar for the year 1641 [fig. II:7][45]). From

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[43] Throughout his book *Astrologie et musique,* Mirimonde, showing the occupation of the month of May, uses the term "les »enfants« de Gémeaux." The concept of the "planets' children" is normally used in the context of the planetary iconography, where the activities of the children represent characteristic influences of the planets and not for occupations of months. — The following are traditional tasks for each months (the most often depicted activity is given in italics): January: *feasting*, keaping warm; February: *keeping warm*, chopping wood, pruning, breaking ground, and feasting; March: *pruning*, breaking ground; April: *picking flowers*, hawking; May: *hawking*, riding, courting, making music; June: *moving*, shearing sheep; July: *reaping*, moving; August: *threshing*, reaping, winnowing; September: *treading grapes*, harvesting grapes, sowing, ploughing; October: *sowing*, treading grapes, harvesting grapes, ploughing, thrashing for acorns; November, *thrashing for acorns*, slaughtering a pig or an ox, baking; December: *slaughtering a pig*, baking, roasting pigs. Cf. Roger S. Wieck, *Time Sanctified: The Book of Hours in Medieval Art and Life* (New York: Braziller; Baltimore: The Walters Art Gallery, 1988) 45-54.

[44] Chantilly, Musée Condé, MS 1362 (cat. 76). Cf. Jacques Pierre Meurgey Tupigny, *Les principaux manuscrits à peintures du Musée Condé à Chantilly* (Paris: Société Françoise des Reproductions des Manuscrits à Peintures, 1930) 97-98.

[45] *1641 Kalendarium* (Vienna: G. Gelbhaar, 1641), Budapest, Orzagos Széchényi Könyvtar, RMK I.710. — Cf. R.S. Wieck, *op. cit.* for further examples of music-making scenes depicted in calendars with the month of May (Book of Hours from 1524, Walters

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calendars the occupations of months evolved into a separate subject for engravings, produced by artists in series of twelve illustrations, one for each month (see Étienne Delaune [1518-95], the month of May [fig. II:8] and Maarten de Vos [1535-1606], the month of May [fig. II:9]). Leisure time with music-making as an occupation of the month of May was extended also to the preceding month of April, for example in the late-sixteenth-century Book of Hours of King Manuel of Portugal [fig. II:10].[46] Eventually, music became identified as the characteristic occupation of the entire springtime. An engraving showing an allegory of spring from about 1600, attributed to the Dutch painter Maarten de Vos, represents a lute player beneath an oak [fig. II:11]. He is an embodiment of the happy life, surrounded by books and other symbols of leisure, games, and sports, and a purseful of money. A viol and bow, a cittern, and partbooks for singing lie on the flowery grass.[47]

Franz Boll traced the identification of Gemini with various mythical twins. The earliest personification was with Apollo and Hercules. In later metamorphoses they become associated with Amphion and Zethos, Theseus and Pirithous, Triptolemus and Jason,[48] and finally, Castor and Pollux. The identifications with Castor and Pollux, and

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Art Gallery, no. 449; Book of Hours, from ca. 1515, Morgan, M.399).

[46] Lisbon, Museu Nacional de Arte Antiga.

[47] Cf. Karel Moens and Iris Kockelberg, *Muziek & Grafiek: Burgermoraal en muziek in de 16de- en 17de-eeuwse Nederlanden* (Antwerp: Pandora, 1994) 65.

[48] Munich, BS Clm.10270. Cf. F. Boll, *op. cit.*, 111.

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Apollo and Hercules, are among those most often used.[49] An important aspect of the symbolism which has constantly been attached to Gemini was a duality between mortality and immortality, and no matter which aforementioned pair of mythological twins represent the constellation, one of them is mortal and the other immortal. As far as the most often-used personification of the twins is concerned, for example, Castor is mortal since he is the son of Tyndareos, the king of Sparta—and Pollux, born of Zeus, was granted immortality. This dual characteristic is found in numerous images, representing one of the twins carrying a sickle, the emblem of mortality, while the other has a musical instrument (most frequently a lyre), associating him with the higher realm of immortality. Here are listed some images that include Gemini and a lyre:

— thirty-nine miniatures from the Carolingian codex Leiden *Aratea*, a manuscript which strongly influenced medieval and Renaissance astrological iconography, depicting the constellations, the seasons, and the planets, among them Gemini with a club and lyre [fig. II:12];[50]

— a map of the Copernican universe, included in the *Atlas coelestis seu Harmonica Macrocosmica* by Andreas Cellarius (published in Amsterdam as late as 1661), where zodiacal signs are slavishly copied from Leiden *Aratea* [fig.

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[49] On the map of the north celestial planisphere by Thomas Hood (published in London by Thobie Cooke of 1590), Gemini is described as "Apollo, quibusdam Castor" and "Hercules, quibusdam Pollux." Cf. a reproduction of the map in: Carole Stott, *Celestial Charts: Antique Maps of the Heavens* (New York: Crescent Books, 1991) 56-57. Cf. also Richard Hinckley Allen, *Star Names: Their Lore and Meaning* (New York: Dover, 1963[2]) 222-237.

[50] Leiden, Rijksuniversiteit, MS Vossianus lat.Q.79.

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II:13], testifying the importance which the *Arateia* iconography enjoyed for almost seven hundred years;[51]

— an etching by Jacques II de Gheyn (1565-1629), from ca. 1600, representing the same Carolingian image [fig. II:14];[52]

— manuscripts of the Michael Scotus tradition, from 1392-93, in which the twins with a lyre and a sickle are a standard illustration [fig. II:15];[53]

— the manuscript Bodleian, Laud. Misc. 644, written in northern France between 1268 and 1274, showing the twins carrying a lyre and a sickle which is hardly visible in the wrinkled cloth [fig. II:16];

— the *Phaenomena* by Aratus of Soli (copied by Giovanni Marco Cinico in Naples, 1469), including the planisphere of the northern sky with the constellation of Gemini again represented with a lyre but without the sickle [fig. II:17];[54]

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[51] The other maps with the *Aratea* figures included in *Atlas coelestis* represent the Ptolemaic view of the universe, the Copernican system (where the left and right Gemini figures are inverted), and Tycho Brahe's view of the universe. For reproductions cf. Carole Stott, *op. cit.* Same figures from the *Aratea* Andreas Cellarius used also later in a map of planetary orbits in the Ptolemaic universe, published in 1668. Cf. Warren Kenton, *Astrology: The Celestial Mirror* (New York: Thames and Hudson, 1989) tabl. 16.

[52] BNF, Cabinet des Estampes. It seems that discussing this image A.P. de Mirimonde did not notice neither its importance nor the importance of the Aratea manuscript from where the image was copied since he mentioned it as "un manuscrit astrologique" missidentifing it as being of the Arabic origin, rather than Carolingian. Cf. A.P. de Mirimonde, *op. cit.*, 205.

[53] Such an image is, for example, included in ÖNB cod.2352, f.8r (1392-93), and cod.2378, f.4v (ca. 1400).

[54] Morgan M.389, f.3v.

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— a similar image of Gemini, found in the further text of the same manuscript (f.23v) [fig. II:18];

— the 1489 Augsburg edition of Abū Maʿšar's *De magnis coniunctionibus*, which includes a woodcut of Gemini holding lyre and sickle [fig. II:19];

— the 1494 edition of Johann Engel's revision of *Astrolabium planum* by Pietro d'Abano, printed in Venice by Johann Emericus de Spira [fig. II:20].

Similar attributes were associated with Gemini in early Indian astrology. In a first-century A.D. listing of the twelve zodiacal signs, the twins are described as "a couple (a woman and a man) holding a lyre [vīnā] and a club (respectively). . . . Its places are those of dancers, singers, artisans, and women, and (places for) playing games, sexual intercourse, gambling, and recreation."[55] Gemini is described in the same tradition in the modern *Jatakadeshmarga* by Podumanai Chomadiri, who writes that the sign of Mithuna (Gemini) is half-male and half-female, joined together with a mace and a lute in their hands.[56]

Music was among the most characteristic symbols of the mythological figures associated with Gemini and with the constellations rising as its paranatellonta.[57] Almost

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[55] David Pingree, ed., *The Yavanajātaka of Sphujidhvaja* (Cambridge, Mass: Harvard University Press, 1978) I:16. — The vīnā from the original Sanskrit text is mistranslated as "lyra."

[56] Cf. Podumanai Chomadiri, *Jatakadeshmarga*. Trans. by S.S. Sareen (New Delhi: Sagar Publications, 1992) 2.

[57] Besides Hercules and Apollo, or Amphion and Zethus, whose involvement with music is described in length, a relationship between Dioscuri Castor and Pollux who presided at the Spartan Games—and because they invented the war-dance and war-like music were considered the patrons of all bards who sing of ancient battles—will be

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every figure in the sequence of paranatellonta between the middle period of Gemini and the end of the following sign, Cancer, has a relation to music. It seems as if all ancient mythology in relation to music is presented here. The duality of Gemini's mortal and immortal characteristics in Abū Maʿšar's description penetrates through the figures in the paranatellonta rising with the second and third decans: Hercules and Apollo. Apollo was a god embodying the classical Greek spirit, standing on the rational side, as opposed to Hercules, a human without divinity, personifying courage and physical strength. Ptolemy in *Tetrabiblos* referred to "the two bright stars in the heads" of the twins as the star of Apollo ("one in the head in advance") and the star of Hercules ("one in the head that follows").[58]

The identification of Gemini with Hercules and Apollo originated approximately at the same time that the Greeks became familiar with Babylonian astronomy. Boll traced their origin to the Babylonian god Nirgal.[59] In the two versions of Teukros's text, both Hercules and Apollo are described as holding the lyre.[60] Abū Maʿšar, however, changed their attributes: in the second decan, an unidentified man is playing a flute made of gold while Hercules is described as kneeling next to him; in the third decan, Apollo is

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discussed in the following chapter on the Indian decans.

[58] Ptolemy, *Tetrabiblos*, I:9. — In discussing Hercules, one should be aware of the difference between Hercules as identified as one of the twins in the second paranatellonta of Gemini and as the Ptolemaic constellation (also known as Engonasin) unrelated to Gemini.

[59] H. Boll, *op. cit.*, 125.

[60] This is the case in ÖNB cod. phil.gr.108; and Berlin, Staatsbibliothek, cod.gr.173 (Phillipps 1577). Cf. F. Boll, *op. cit.*, 17.

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retained—but instead of a lyre, he is playing a golden flute. Possibly not knowing that Hercules himself had musical attributes, and therefore that his playing would not be contrary to tradition, Abū Maʿšar returned Hercules to his traditional pose in which he is kneeling on his right knee without assigning him a musical instrument. The musical attributes were given to an unspecified man on the side. In his translation Hermann returned to the tradition, saying that Hercules is resting on his knee and plays a golden pipe, but Fendulus again departed from the description (see facs. 5-9, pp. 324-328) and included here an unidentified man playing a pipe and facing a snake, which is fleeing from Hercules on a tree (*serpens vel coluber ascendens arborem fugiens Herculem*). If we read the inscription that Fendulus included next to the picture of the man playing the pipe in the context which provides the text introducing the entire zodiacal sign (*vir aureo canens calamo, persica lingua Tervueles, graeca Hercules dictus*), then the unnamed man is revealed as Hercules himself.[61]

To understand properly the second paranatellonta of Gemini one has to go back to its roots. The original description of the paranatellonta indicates that Gemini has always been considered important and influential for musicians. Besides Hercules the musician, the same paranatellonta was occasionally also related to two other mythical musicians: Thamyris, lamenting the loss of his lyre,[62] and Orpheus. In turn, its

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[61] In manuscripts Fendulus A, C, and D the image is labeled "Vir aureo canens calamo;" while the manuscript Fendulus B gives "Vir aureo tenens."

[62] Cf. R.H. Allen, *op. cit.*, 241. Thamyris once engaged in a musical contest with the Muses—the agreement being that, if he won, he would enjoy them all, but if he were vanquished he would be bereft of whatever they wished. Since it was decided that the Muses were better than he, they relieved him both of his eyes and of his minstrelsy. Cf.

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association here with Hercules indicates that his abilities as a musician were understood at one time to be more prominent than we realize today. In *Hermetica*, Hercules's paranatellonta is described as having an effect on man's musical future, this being the most explicit textual explanation of his influence on music. The description says that Hercules and the tail of Delphinus, ascending between the first and second degrees of Gemini, bestows upon those born at that time an interest in musical science and its discipline.[63]

The myth of Hercules (Heracles)[64] says that he was trained not only in astronomy, archery, charioteering, the art of war, and philosophy, but also in singing and in playing the lyre. His music teacher was Eumolpus, and he was tutored in literature by Linus, a son of the river-god Ismenius. The legend of his youth tells us that once, when Ismenius was absent, Linus gave him a lyre lesson as well. For Hercules's stubbornness in not wishing to change the principles in which he had been grounded by Eumolpus, Linus started biting him. This angered Hercules, and he killed Linus with a blow of his

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Apollodorus, *The Library*, with an English translation by James George Frazer (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1976) I:3.3.

[63] "A primo gradu usque ad secundum oritur cauda Ceti et Hercules. Vocatur Ventus, quod, quibus fuerint horoscopi, fiunt negotiatores ad loca plura euntes et in alienis frequenter vitam habentes. Fiunt enim musici amatores scientiae et disciplinae." W. Gundel, *Neue astrologische Texte*, 55.

[64] For Hercules—known in Greek mythology as Heracles—we use here the Roman equivalent of the name because that is the one used in Teukros's description of the paranatellonta.

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lyre.[65] The story of Linus may be indicative of Hercules's poor musical performance and of his annoyance with Linus's more stringent requirements,[66] but, on an another level, the myth may be indicating the idea of artistic autonomy of expression. Once formed, an artistic credo should not be changed under pressure from another artist, even when the latter is better recognized. Students often do not agree with their teachers, and teachers are sometimes not able to understand new theories championed by their pupils. The dialectic between the work of older and younger generations is a catalytic force in the arts, and the myth could be interpreted as a metaphor for the subordination of pedagogy to students' ideas, which require respect by their advisors as long as the approach to the problem is correct. This view can be supported by the continuation of the myth. At the trial for the murder of Linus, Hercules quoted a law of the Cretean legislator Rhadamanthys which justifies forcible resistance to an aggressor, and he was acquitted.[67]

Among several myths linking Hercules with the serpent, the one represented in the second paranatellonta of Gemini is related to his eleventh labor. He was required by Eurystheus, king of Tityans, to fetch the golden apples—Hera's wedding gift from

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[65] Cf. Robert Graves, *The Greek Myths* (London: Penguin, 1960) 119.g. The episode is depicted on the red-figure drinking cup by the Douris Painter, from about 480 B.C. (Munich, Staatliche Antikensammlung, 2646).

[66] Cf. Elhanan Motzkin, "The Meaning of Titian's *Concert Champêtre* in the Louvre," *Gazette des Beaux-Arts* CXXXII/1460 (September 1990) 61; and Alexandra Goulaki-Voutira, "Heracles and Music," *RIdIM/RCMI Newsletter* XVII/1 (Spring 1992) 2-14.

[67] Apollodorus, *op. cit.*, II:4.9.

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Mother Earth—from a tree in the garden of Hesperides on Mount Atlas, guarded by the serpent Ladon. Although he asked Atlas to pick up the apples, relieving the latter of his burden of supporting the Universe for a while, Hercules killed Ladon himself. In one version of the myth he killed Ladon with an arrow shot over the garden wall, and in the other slew him with his club.[68] Hera was so saddened by the killing of Ladon that she set his image among the stars as the constellation of the Serpent.[69] The story was a popular source for an iconographical interpretation of Hercules sitting or standing under the tree around which the snake was entwined [fig. II:21].[70]

In astronomical sources, there are two parallel iconographic traditions in the representation of Hercules, each based on a different set of his attributes. In the iconographic tradition of the Ptolemaic sphera, Hercules, dressed in a lion's skin, is kneeling and holding his club, which he earned from his first labor. This is the image of him most often represented and commonly recognized as a symbol of strength and the athletic spirit. Teukros's *sphaera barbarica* shows Hercules as a musician, his other nature, which is more rarely associated with the hero.

The characterization of Hercules as a musician is particularly interesting because

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[68] Cf. R. Graves, *op. cit.*, 133 passim; cf. James Hall, *Dictionary of Subjects and Symbols in Art* (New York: Harper & Row, 1974) 150.

[69] Hyginus, *Poetic Astronomy*, II:3.

[70] Such an image of the Hercules constellation is included in manuscripts of Michael Scotus's *Liber introductorius*: Morgan M.384, fifteenth century; ÖNB cod.2352 (f.12v) 1392-93; and ÖNB cod.2378 (f.6r) from ca. 1400. This iconography, well known already during Roman times, might have also been a source of the tradition that the Tree of Wisdom in the Garden in Eden was an apple tree. Cf. J. Hall, *op. cit.*, 150.

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he is rarely shown in Greek iconography, and there are only a few such representations from the Middle Ages and the Renaissance. Among the thousands of depictions of Hercules which dominate sixth-century B.C. Athenian iconography, there are about forty vases, dating from between 530 and 500 B.C., representing him performing on a kithara or, less frequently, on the lyre or pipes.[71] On a Roman coin of 66 B.C., Hercules is represented wearing a lion's skin over his shoulder and playing a lyre; this was probably a depiction of a statue from a temple near the Circus Flaminius, which Ovid described at the end of his *Fasti* (VI:797-812).[72] This tradition was revived in Renaissance iconography, and there are several known images from the mid-sixteenth century of Hercules Musagetes, playing a lyre.[73]

While the two traditions of Hercules competed in the astrological arena between Antiquity and the early modern period, the concept of Hercules as an athlete won out. After the Barbarians invaded the West, the tradition of Hecules as a musician was forgotten. He remained famous exclusively for his athletic spirit, heroism, and use of force; this image reached Abū Maʿšar, and he—probably unaware that Hercules the musician was a common alternate concept—described him in his traditional posture of a kneeling man (identical to his appearance in the Ptolemaic sphere). His original musical attributes became hidden in the image of an unspecified musician. Fendulus followed the idea only up to a point, and depicted an unidentified musician with a pipe next to a snake

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[71] Cf. A. Goulaki Voutira, *op. cit.*, 2.

[72] Cf. *ibid.*, 8.

[73] Cf. *ibid.*, 9-11.

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fleeing from Hercules. Hercules is not in the picture, and the snake has meaning for the reader only because of the accompanying text.

In Abū Maʿšar's text, the man plays a golden flute. Hermann, in his translation, uses for this instrument the word *calamus*, which might be linguistically a root of the English word "shawm."[74] In the earliest manuscript Fendulus A (see facs. 5, p. 324), the musician is playing a simple pipe shown without details. Fendulus B has a musician with a rather long wind instrument, which becomes even longer in the later manuscripts, reaching almost to the player's knee. A significant change to the instrument is made by the copyist of Fendulus C. His instrument has on its lower end a barrel-shaped extension, looking like a bass shawm. Such an instrument is copied in detail in Fendulus D. The copyist of the latest manuscript, Fendulus E, included a simple oboe-type instrument with a conical opening at the end.

In the manuscript containing Pietro d'Abano's translation of Abū Maʿšar's paranatellonta, produced for King Wenceslaus of Germany, a musician is already introduced in the illustration for the *first* decan of Gemini[75] where, in the original Abū Maʿšar text, no mention is made of music or a musician. The image includes a man holding a portative organ, with a snake on his left. This image anticipates the text "vir habens instrumentum auri musicum cum quo organitat," which appears in D'Abano's translation of the second decan of Gemini. At the end of the fifteenth century Johann

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[74] Cf. Jeremy Montagu, *The World of Medieval & Renaissance Musical Instruments* (Woodstock: Overlook Press, 1976) 40.

[75] Cf. Munich, BS Clm.826.

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Engel (1463-1512) prepared an edition of Pietro d'Abano's text, which was published in several editions.[76] Images, which in the manuscript of Pietro d'Abano's translation contain depictions of paranatellonta belonging to the entire ten-day period, are separated in Engel's edition into one image for each day. Like the Munich, BS Clm.826, the musician is here placed in the fourth day of the period of Gemini, i.e., in the period of the first decan rather then the second or third. A lutenist is described by a gloss "Homo canens in lutinis," whose astrological influence is explained as "Homo gaudium faciens hominibus" [fig. II:22].

The middle band of the Salone dei Mesi frescoes at the Palazzo Schifanoia in Ferrara, represents—in most cases—the Indian decans, but the two figures in the center of the section assigned to Gemini strikingly resemble the tradition which Abū Ma'šar followed in the *sphaera barbarica*: a man is playing a shawm next to Hercules, who is crouching on his knees [fig. II:23].[77] As Hercules is represented without his traditional attributes, Paolo d'Ancona suggested that "the artist had collected his references from a tradition and from texts where, whilst the iconographic precept of the kneeling man had been preserved, all the other associations with the classical demigod had been forgotten."[78] Instead of being provided with the lionskin and the club, he is made

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[76] Johann Engel, *Astrolabium planum in tabulis ascendens* (Augsburg: Erhard Ratdolt, 1488; Venice: Johann Emericus de Spira, 1494; Venice: Luca Antonio de Giunta, 1502).

[77] The appearance of the instrument might have been changed in later restorations of the painting.

[78] Cf. Paolo d'Ancona, *The Schifanoia Months at Ferrara* (Milan: Edizioni del Milione, 1954) 52.

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identifiable by his characteristic kneeling posture inherited from the astral image of Ergonasin. As in Fendulus's manuscript, Hercules himself is not playing, but the man next to him holds a shawm.

Except Hermann, none of the medieval and early modern authors who studied Hercules's astrological meaning thought of breaking with the (only) known tradition and reestablishing in the *sphaera barbarica* his original image as a musician. At the same time, all of the authors dealing with Hercules felt uncomfortable representing him with the lion's skin or club, because his dominant influences in this context were of a musical nature and not of heroism and strength. That led to a compromise in which Hercules's flute was given to an anonymous musician, and Hercules himself was either replaced with the snake, or shown in his traditional characteristic posture. Hermann was the only one who, in his translation of *Introductorius maius*, revised the appearance of the paranatellonta and identified the musicians as Hercules.

III. Paranatellonta rising with the third decan of Gemini.[79]

The third paranatellonta of Gemini is related to Apollo in all the sources of Teukros's list, in Abū Maʿšar's *Introductorium maius*, and in *Hermetica*. The astral influences described in *Hermetica* during this period are favorable to athletes, warriors, soldiers, prison officers, musicians, and dancers.[80] Amphion, instead of Apollo, appears

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[79] Fendulus A: f.12v; Fendulus B: f.13r; Fendulus C: f.10r; Fendulus D: f.14r; Fendulus E: 18v (see facs. 10-14, pp. 330-334).

[80] "Vicisimus quintus gradus cum fuerit horoscopus, facit athletas, eosdem maxime pugillatores vel luctatores coronatos, quandoquidem milites vel custodes carce(r)is; fiunt

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for the first time in Hermann's translation of *Introductorium maius*.

The legend of Amphion and Zethus, twin sons of Zeus and Antiope, says that in his youth Zethus was involved in cattle-breeding, in contrast to Amphion, who practiced minstrelsy (for Hermes had given him a lyre).[81] Later, when they were building the lower city of Thebes—after having expelled King Lais—Zethus often taunted Amphion for his devotion to the lyre, saying that playing on the lyre was distracting him from useful work. The legend continues, "Zethus on his shoulders was lifting the peak of a steep mountain, like a man toiling hard, and Amphion after him, singing loud and clear on his golden lyre, moved on, and a rock twice as large followed his footsteps."[82] The hundred-gated city of Thebes was founded by Heracles during his eleventh labor, after he killed the snake Ladon, fetched the fruit from the golden-apple tree, and defeated the

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quidam musici vel saltatores, laeduntur vero circa caput, quod iuxta oritur stella lucida, quae est in capite praecedentis Geminorum, naturae Iovis et Mercurii." Cf. W. Gundel, *Neue astrologische Texte*, 57.

[81] Apollodorus, *op. cit.*, III:5.5.

[82] Apollonius Rhodius, *The Argonautica*, with an English translation by R.C. Seaton (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1959) verses I:735-741. — Nonnos described the same episode as "There was Zethos carrying a load of stones on his chafing shoulder, and working hard for his country; while Amphion played and twanged the harp, and at the tune a whole hill rolled along of itself as if bewitched and seemed to dance even on the shield. It was only a work of art, but you might have said, the immovable rock went lightly skipping and tripping along! When you saw the man busy with his silent harp, striking up a quick tune on his make-believe strings, you would quickly come closer to stretch your ear and delight your own heart with that harp which could build a wall, to hear the music of seven strings which could make the stones to move." Nonnos, *Dionysiaca*, with an English translation by W.H.D Rose and notes by L.R. Lind (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1962) XXV:413-428.

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Lybian King Antaeus.[83]

Exchanging Apollo for Amphion in this paranatellonta, Hermann emphasized the immaterial, transcendent power of music. His decision for both leading figures in the two Gemini paranatellonta—Hercules and Amphion—was not to make them divine figures, but humans. Apollo's divine playing is perfect by definition, but humans are—with sufficient talent and practice—also able to achieve a level at which their music has a magical power identical to that of divine sounds. The message of the myth about Amphion implies a transcendental power of music, able to move even stones, and seems more suitable in this astrological context. Amphion's music possesses a magical power which is above the material Newtonian world belonging to Zethos. In discussing Amphion, Joscelyn Godwin goes as far as saying that "Amphion's myth seems to have preserved a record of something on which occultists, at least, are in approximate agreement: the existence in ancient times of secret forces which mankind has now lost. Music, or at least sound, appears to have had some part to play in this."[84] This is the context in which we should understand Hermann's replacement of Apollo with Amphion.

Another important question is, why is Amphion—described in the legend as moving stones with the sounds of his lyre—called a *timpanista* in Hermann's interpretation, with string and wind instruments at his side? The answer is that, while

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[83] Cf. R. Gates, *op. cit.*, 133a-n.

[84] Cf. Joscelyn Godwin, *Harmonies of Heaven and Earth: The Spiritual Dimension of Music from Antiquity to the Avant-Garde* (Rochester, Vt.: Inner Traditions International, 1987) 12. Godwin did not make a connection here between Amphion and *sphaera barbarica*.

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Abū Maʿšar described Apollo here playing a *sanj* and a golden flute, Hermann considered the Arabic term *sanj* to be a percussion instrument and consistently translated it with the Latin word *timpanum*.[85] Originally, the sanj was an open-stringed, harp-like instrument, whose thirteen to forty strings were plucked by the fingers of both hands.[86] It was used by the Arabs between the seventh and tenth centuries.[87] In about the tenth century, the meaning of the term "sanj" changed and became the generic denominator

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[85] Except in this paranatellonta, the term appears four more times. In the first paranatellonta of Cancer, Abū Maʿšar has described Musa playing a sanj and a flute. Hermann dropped Musa, but left a satyr striking a tambourine. In the second paranatellonta of Virgo, Abū Maʿšar has Musa again playing a sanj and a pipe which Hermann changed into a *musicus timpanum percutiens pariter et calamo canens*. In the first paranatellonta of Libra, Abū Maʿšar mentioned Musa playing a sanj, but Hermann changed it into a *musicus timpanum percutiens calamo canens*. The term "sanj" also appears in the second Indian decan of Gemini, where it is again translated as *tympanum*.

[86] Lois Ibsen al Faruqi, *An Annotated Glossary of Arabic Musical Terms* (Westport and London: Greenwood Press, 1981) 294-295.

[87] Cf. Christian Poché, "Wanj," *The New Grove Dictionary of Musical Instruments* (London: Macmillan; New York: New Grove Dictionaries, 1984) IV, 838. — In the Arabic astronomical context, the term "sanj" had the same meaning as "lyre" in the Ptolemaic constellation. The constellation of Lyra was, in Arabic languages, known as Al sanj, which was in turn a root for several other names used in medieval Europe for this constellation: Asange, Asenger, Asanges, Asangue, Sangue, and Mesanguo. Cf. R.H. Allen, *Star Names*, 281. Therefore it was to be expected that an illustration of the sanj might be included in a copy of *The Book of the Fixed Stars* (Suwar al-Kawākib al-Thābitah), by the Arab astronomer ʿAbd al-Rahmān b.ʿUmar al-Sūfī (whose earliest copy, produced by al-Sūfī's son in A.D. 1009-10, is known as Bodleian MS Marsh 144), which is extremely significant for the Arabic astronomical imagery. Unfortunately for music historians, the image representing the constellation of Lyra, unlike other depictions, is highly schematized. It appears only as an outline of the constellation and does not provide useful organological information. Cf. Emmy Wellesz, "An Early Al-Sūfī Manuscript in the Bodleian Library in Oxford: A Study in Islamic Images," *Ars Orientalis: The Arts of Islam and the East* III (1959) 1-26, pl. 27.

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for cymbals.[88] This is the meaning that Hermann—who traveled through the Arabic lands in the 1130s studying the Arabic languages—used in his translation. Since he studied the spoken language of his time rather than Abū Maʿšar's several-centuries old language, his consistent translation of the term "sanj" as a percussion instrument was a mistranslation of the original meaning which Abū Maʿšar put forth three centuries earlier, but which was not inaccurate for the first half of the twelfth century. Hermann possibly did notice that his translation went against the established mythological tradition, and therefore he inserted into the translation an additional explanation emphasizing that Amphion is to the Arabs "musicum timpanistam interpretant."

Besides exchanging the stringed sanj with a percussion instrument, he also departed from the Arabic original in another respect. If Hermann had simply replaced Apollo with Amphion, the latter would have played a percussion instrument and a flute, terms which could also be read as pipe and tabor, the combination emerging in the performance practice of his time. He provided such a translation for the second paranatellonta of Virgo, in which Abū Maʿšar's Musa, with a sanj and pipe, became a musician playing a tambourine and pipe; later in the course of iconographic transmission through Fendulus's manuscripts, this was articulated as pipe and tabor. Instead, Hermann gave only a tambourine to Amphion. Two other instruments—a stringed instrument and a pipe—were described as being placed next to him.

Amphion's characterization did not change in Fendulus's *titulus* (*musicus qui timpanista dicitur*), but he adopted new attributes in this image (see facs. 10-14, pp. 330-

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[88] Cf. L.I. al Faruqi, *op. cit.*, 295.

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334). In the earliest image (Fendulus A), he holds a pipe in his right hand and touching tambourine (*timpanum*) with his left. A stringed instrument (*viola*) is isolated in the corner next to him. The same depiction is copied in Fendulus B. The pipe in Fendulus A does not have bores, but the one in Fendulus B has more bores than a musician can cover with the fingers of one hand, and it was clearly an instrument designed to be played with both hands. The earliest tambourine (in Fendulus A) does not have jingles and, while the musician holds a shawm, he could not easily produce a beaten sound at the same time. The tambourine in Fendulus B has five jingles and a snare. This instrument is easier to imagine being played with one hand, because it could at least be shaken. The illustrator of Fendulus C noticed that the musician playing both instruments at the same time is not convincing, and his Amphion holds the shawm with both hands for the first time. The tambourine is placed on a stand next to him. This setting is copied in both later manuscripts (Fendulus D and Fendulus E).

In looking at variations of Amphion's musical activities outside of the context of the entire atlas, it might seem surprising that, in changing the musical elements, Fendulus replaced the mythologically incorrect percussion instrument with an equally incorrect wind instrument rather than with a stringed one. This is particularly curious since all three groups of instruments are included in the composition. However, when the content of the manuscript is considered in its entirety, it becomes clear that Fendulus avoided representing any string instrument in a musician's hands; by contrast, all wind instruments are, without exception, depicted being held. Throughout the atlas, string instruments are always drawn in the iconographical composition isolated from each

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musician, symbolizing the astrological context of theoretical music. Wind instruments are associated with practical music, the art of performance rather than with theoretical speculation. Thus, a string instrument cannot be represented as being played and, in turn, an unplayed instrument cannot symbolize the power of music, which is so important in the mythological characterization of Amphion. Therefore, he is shown here playing a shawm in order to fit into Fendulus's general concept of music in the atlas, rather than playing a string instrument, which would correspond to the mythological context.

This paranatellonta is the only place in the atlas where all three families of instruments are included (*tensibiles*, *inflatiles*, and *percussionales*), which makes it unique. Abū Maʿšar had here a sanj and a pipe. Hermann, being unaware that the sanj is a harp-like instrument, included an additional string instrument in the composition to make up for what he considered to be a deficiency.

In Fendulus A, the string instruments are represented with a fiddle (labeled *viola*). Its body consists of three equally large circular parts, separated by double waists. It remains one of the rabel, a traditional instrument which is still played in some provinces of central Spain [fig. II:24A-B].[89] The number of strings on the rabel varies from one

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[89] For rabel cf. Stevie Wishart, "Echoes of the Past in the Present: Surviving Traditional Instruments and Performance Practices as a Source for Performers of Medieval Secular Monody," in: Tess Knighton and David Fallows, eds., *Companion to Medieval and Renaissance Music* (New York: Schirmer Books, 1992) 210-222; Consolación González Casarrubios and Maria Elisa Sánchez Sanz, "El rabel," *Narria: Estudios de artes u costumbrei populare*i 9 (1978) 21-25; and, Manuel S. López, "El rabel en Asturias," *Revista de folclore* V/2 (1985) 88-93. Hortense Panum classified this type of an instrument as the guitar-fiddle. Hortense Panum, *Stringed Instruments of the Middle Ages: Their Evolution and Development*. Rev. and ed. by Jeffrey Pulver (London: William Reeves, 1940) 381-385.

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to four; Fendulus's however has four pegs clearly visible in the diamond-shaped pegboard. The identical instrument, with three strings, was given to the planet Mercury, when he is shown in his exaltation in the manuscript's section focused on the planets (see facs. 78, p. 409). Fendulus B includes at this place an oval fiddle. Although it seems as if the instrument has four strings, there are only three tuning pegs depicted.[90] In the manuscripts Fendulus C and D the instrument developed further, mirroring the shape of a late-fourteenth-century fiddle. Finally, the instrument in Fendulus E is again different in form, but the image is not legible enough to decipher all of its characteristics.

It is curious that none of the instruments included here was represented with a bow, although they were bowed instruments and not meant to be plucked. The corresponding Indian decan, represented below the *sphaera barbarica,* includes several instruments; among them, in Fendulus A, is a three-stringed pear-shaped lira (also labeled *viola*) with a bow (*arcus viole*) appearing next to it. In Fendulus B the lira evolved into an oval fiddle identical to the instrument shown above on the same page in the *sphaera barbarica*, but it has a bow included next to it since the evolution of this instrument began in Fendulus A as the lira with a bow. As the transformation of the fiddle in the *sphaera barbarica* started without the bow, all of its successors were also shown without one, although beginning with Fendulus B the instruments in both the

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[90] The instrument is reproduced and described in: H. Panum, *op. cit.*, 376. In the caption for the picture, Panum mislabeled the instrument as a "four-stringed, short-necked oval fiddle with bow" in spite of the fact that only three pegs are visible. Jeremy Montague wrote a similar caption in *The World of Medieval & Renaissance Musical Instruments*, where two-thirds of the page from the manuscript Fendulus B (cf. plate II) is reproduced. He labeled the instrument a "four-stringed oval fiddle."

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sphaera barbarica and *sphaera indica* had an identical shape.[91]

The constellations of Delphinus and Satyr are placed in the *Hermetica* in the last two degrees of Gemini (29°-30°).[92] Aside from Gemini, Delphinus also appears as the paranatellonta rising with Sagittarius (21°-23°) and Capricorn (22°-27°). In the latter two signs, it is without Satyr. In Abū Maʿšar's list, Delphinus remained at the end of the third decan of Gemini, but Satyr is moved forward to the beginning of the first decan of Cancer. Fendulus reduced the appearances of Delphinus to only one, at the end of the third Sagittarius decan and, as he ignored its musical attributes, Sagittarius is not included in this survey.

However, the example of Delphinus shows how Greek mythology influenced the astrological characterization assigned to various constellations, or at least how mythology shared some common roots with astrological predictions. The *sphaera barbarica*—described in ML XXVIII:34—includes Delphinus as being related to Sagittarius, and this influences swimming ability and provides good waters for sailing. However, when related to Gemini—which is the zodiacal sign extensively involved with music, as explained earlier—Delphinus produces not only sailors, swimmers, and gourmets, but also

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[91] Hortense Panum in her book on stringed instrument included a reproduction of the fiddle from the *sphaera barbarica* in the Sloane 3983, but she added to the picture a bow from the instrument in the corresponding Indian decan. Cf. H. Panum, *Stringed Instruments*, fig. 315, p. 376.

[92] "A vicesimo nono usque ad tricesimum oritur Delphinus et Satirus," W. Gundel, *Neue Astrologische Texte*, 57.

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musicians.[93] Delphinus's association with music probably comes from the ancient belief that the dolphin is a music-loving animal—a belief which was the basis of the myth about Arion, a legendary master of the lyre, the inventor of the dithyramb in Dionysus's honor and "the greatest singer in the world" during the seventh century B.C.[94] While he was returning from the competition at the music festival in Taenarum in Sicily, sailors plotted to throw Arion overboard and take the money that he won at the competition. In his helplessness, Arion besought them to stand by and watch him while he sang. When he finished "The High Shrill Song," a special and well-known song written in honor of Apollo, he cast himself into the sea. The tale says that his song attracted music-loving dolphins, one of which picked Arion up on its back and brought him safely to the beach at Taenarum.[95] In a later interpretation of the event, Arion became a son of Poseidon and the nymph Oneaea. Finally Hyginus, in *Fabularum liber*, says that the image of Arion and his lyre was set among the stars.[96] In the iconographic tradition, the Delphinus is often depicted carrying on his back Arion playing his lyre or a boy playing an instrument.[97] Fendulus however did not interpret it in such a way because,

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[93] Cf. W. Gundel, *Neue astrologische Texte*, 176.

[94] Herodotus, *The History*. Trans. by David Grene (Chicago and London: The University of Chicago Press, 1987) I, 24.

[95] Cf. *ibid.*

[96] "Apollo autem propter artem cytherae Arionem & Delphinum in astris posuit." Hyginus, *Fabularum liber*, 194.

[97] Cf. fresco of Arion charming the Dolphin at the Palazzo Ducale in Mantua; Arion being carried ashore by a dolphin which has been charmed by his music, woodcut from L. de Narvaez, *Los seys libros del delphin* (Valladolid, 1538); "A boy on a dolphin playing the violin" attributed to Girolamo Mocetto (fifteenth-sixteenth century; The

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astronomically, the constellation of Delphinus was seen as a simple outline of the animal, without a musician. But its mythological characteristics, in the musically charged environment of Gemini, took on astrological significance.

IV. Paranatellonta rising with the first decan of Cancer.[98]

The sequence of the paranatellonta related to music, which begins with the second decan of Gemini, continues to the first decan in Cancer, which contains a description of Satyr. It is not certain which group of the stars Satyr was meant to represent. Franz Boll identified it as a predecessor of Orion in the southern Ptolemaic sphera.[99] In the Egyptian sphera, the satyr was described as a headless demon, and its origin can be traced back to the images in the graveyard of Thebes, of the seventy-four sun gods, which have solar discs instead of heads.[100] It is difficult to determine the extent to which Fendulus was familiar with the origins of astromythology, and it might be unwise to assume that he knew about the origin of the satyr. However, in the earliest manuscript copied from the Fendulus's prototype (Fendulus A), the satyr's hair remains as the sun's rays spreading in every direction (see facs. 15, p. 336). This is the only case of such a depiction of a figure's hair in the manuscript, and the image is changed in later copies

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Ashmolean Museum).

[98] Fendulus A: f.14r; Fendulus B: f.14v; Fendulus C: f.11v; Fendulus D: f.15v; Fendulus E: f.15v (see facs. 15-19, pp. 336-340).

[99] Cf. F. Boll, *op. cit.*, 288.

[100] Cf. W. Gundel, *Neue astrologische Texte*, 224; and, F. Boll, *Sphaera*, 221.

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in which the satyr is depicted as a bearded man. Boll further suggested that the identification of the headless demon with the satyr dates from the Hellenistic period.[101] In Teukros's text, the figure is described as a satyr hiding his head in his own hands.

In Abū Maʿšar's Arabic original, the satyr was not assigned any particular action. He faces backwards, holding an iron club with a copper top. Musa (Arabic equivalent for Moses) is described next to him, playing a sanj and a flute. Hermann changed the description, dropping Musa from the paranatellonta and giving to the satyr a tambourine.

The rhythmic element associated with the satyr was present as early as in the *Hermetica*, although in a different form. A faun, a satyr with a staff, and a dog rise there between 13° and 18° of Gemini. Their influence is spread over fighters and all others involved with rhythm and training.[102] The appearance of a satyr between 13° and 18° of Gemini is dropped from Abū Maʿšar's description of the paranatellonta;[103] instead, he appears in the first decan of Cancer. The satyr was related to this paranatellonta prior to Abū Maʿšar's time, but it appears here with a new signifier. The staff, which was in the *Hermetica* a signifier of his influence over those involved with rhythm, was replaced by Hermann with a tambourine, a signifier which makes his astrological meaning more explicit and does not leave any room for ambiguity. That Hermann's mistranslation of

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[101] F. Boll, *ibid.*

[102] "A tertio decimo usque ad octavum decimum gradum oritur Faun, Satirus cum baculo et Canis. Facit pugnatores et omnia, quae rhythmum et exercitium participant." W. Gundel, *Neue astrologische Texte,* 56.

[103] The satyr appears again in *Hermetica* between 29° and 30° of Gemini, this time accompanied Delphin; that appearance is the one Abū Maʿšar described as the paranatellonta in the first decan of Cancer.

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Musa's sanj matched the satyr's astrological characteristics happened accidentally.

Fendulus's *titulus* accompanying the image of the satyr says that, in beating a tambourine, he is serving Amphion. This is another characterization which has been made explicit here for the first time, although earlier it was latent in the astrological context. From its earliest description by Abū Maʿšar, the satyr was looking backward, which is an indication of his relation to the preceding paranatellonta, in which Amphion was the main ruler. Traditionally the satyr is considered an escort to major gods (Bacchus, Dionysus) and it is not outside his mythological characteristics to serve Amphion.

The tambourine is the instrument most often represented in Fendulus's atlas. It appears in the paranatellonta of the third decan of Gemini, the first decan of Cancer, the second decan of Leo, and the second decan of Virgo, in addition to the second Indian decan in Gemini, and the second Indian decan in Cancer. The tambourines in the earliest image, Fendulus A, are shown schematically with two concentric circles, without jingles or any other details included. The tambourine which Satyr holds in Fendulus B has eight jingles and a snare. The instruments in three later manuscripts are supplied with a large number of jingles. The satyr is holding it from below in his left hand and beating with his right.

Toward the end of the initial decan of Cancer, the satyr is followed by the first of the three Virgins (Charities, Graces). The Three Virgins are associated in the sky with the three bright stars similar in size, placed closely together in Orion's belt, and

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ascending with the constellation of Cancer.[104] In various descriptions of the heavenly dome, the three stars were also associated with some other notions, such as "the three Wisemen," "the three mowers," "the three Marias," or "the three Magdalens."[105]

Abū Ma'šar's original text and Hermann's translation say only that the satyr is followed by the first of the three Virgins. Fendulus supplemented the image with a *titulus* saying that the *prima puella de tribus virginis cantans laudes*. The other two Virgins (in the second and third decans of Cancer) are not described doing any particular action. Their usual medieval attributes—apple, rose, and myrtle—still present in the earliest Fendulus manuscript (Fendulus A) eventually degenerated in the later manuscripts into an unspecified flower, a palm frond, and a lily.

The representations of the Virgins (Graces) here do not follow iconographical tradition, according to which all three of them hold one another by the arms, two being seen from the front and the third from the back. By Fendulus's time, their ancient iconography was forgotten. The Pompeian fresco which resembles Seneca's description from *De beneficiis* (I:3:2) was unknown in the Middle Ages; Fendulus's Graces do not stand in a circle, and their arms are not linked. Separating them from one another through three decans, and therefore into three separate images, Fendulus's illustrations departed from the model to an extreme which makes this representation impossible to compare to any of the other medieval or Renaissance sources. None of the three is

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[104] F. Boll, *op. cit.*, 272-273; W. Gundel, *Neue astrologische Texte*, 248.

[105] Cf. W. Gundel, *ibid.*, 248.

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represented turning her back to the observer, and they are all completely dressed.[106] The singing of lauds by the first Virgin is also a departure from tradition. The Virgins are usually identified with giving, receiving, and returning, but never with singing. Fendulus might have confused her characteristics with those associated with the woman assigned to the second Indian decan of Cancer (depicted directly below the second Virgin) who is going to the house of the god to pray and sing.

V. Paranatellonta rising with the second decan of Leo.[107]

The origin of the idol as a constellation and its transmission prior to Abū Maʿšar's time is not clear. Gundel suggested that the image of the idol in the paranatellonta originated in a misunderstanding of the Greek texts describing the constellations of the three heroes (Ophiuchus, Heracles, and Boötes), among which was situated—in an undetermined place in the sky—a dancer or in some sources a tambourine

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[106] A similar departure from the ancient iconographic tradition can be seen in the manuscript illumination of the *Ovide moralisé*, ca. 1380 (BNF fr.373, f.207 [Cf. Erwin Panofsky, *Renaissance and Renascences in Western Art* (New York: Harper & Row, 1972) fig. 56]; the *Tarocchi* engraving of Venus (A:43) from the 1460s; or the title page of Franchino Gafurius's *Practica musice*, printed in 1496. The graces here stand side by side. The return to the ancient tradition and—according to Seznec—the original posture of the three Graces occurred for the first time in Francesco Cossa's fresco in the Sala dei Mesi, at the Schifanoia of Ferrara [fig. I:5]. Cf. J. Seznec, *op. cit.*, 209. In the post-Renaissance iconography they were again occasionally represented standing side by side; for example, Peter Paul Rubens, "L'education de Marie de Médicis" (1621-25) and Charles Simon Pradier, "Les trois Grâces" (1832), both at the Musée du Louvre.

[107] Fendulus A: f.17r; Fendulus B: f.17v; Fendulus C: f.14v; Fendulus D: f.18v; Fendulus E: f.14r; Fendulus F: f.5v (see facs. 25-30, pp. 348-353).

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player.[108] In ML XXVIII:34 a figure described ascending in the second paranatellonta of Leo is a dancer holding a tambourine.[109] In the later tradition, the dancer was exchanged for an idol; that is the tradition followed by Abū Maʿšar in his *Introductorium maius*.

The idol was a frequently used subject in medieval manuscript illuminations and a common part of programs for cathedral reliefs, windows, and wall paintings. The medieval image of the fallen idol is based on the Apocryphal Gospel of Pseudo-Matthew.

> The Holy Family "came to the region of Hermopolis and entered the city called Sotinen. Since there was no-one they knew whom they could ask for hospitality, they entered a temple which was called 'Capitol of Egypt.' In this temple stood 365 idols to which on appointed days divine honor was paid in idolatrous rites. But it came to pass that when the blessed Mary entered the temple with the child, all the idols fell to the ground so that all lay on their faces completely overturned and shattered. Thus they openly showed that they were nothing."[110]

Idolatry has been commonly defined in medieval iconography by positioning the idol on a column, within a little shuttered niche, or standing on an altar. It was usually elevated to the eye-level height of the viewer, suggesting an object of worship. The figure has often been shown in a falling position symbolizing a wide range of evil spirits, such as fallen idols in the Egyptian temple or rebel angels at the beginning of time. This figure, inverted in space, was one of the most powerful semiotic strategies available to

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[108] Cf. W. Gundel, *Neue astrologische Texte*, 242.

[109] Cf. F. Boll, *op. cit.*, 260.

[110] Edgar Hennecke, *New Testament Apocrypha*. Ed. by Wilhelm Schneemelcher (Philadelphia: Westminster Press, 1963) I, 412-413.

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the medieval artist. Anything more sinful than an idol could hardly be imagined.[111]

The dancer-as-idol from Abū Maʿšar's text resonated well with the medieval Catholic tradition at the time Hermann translated the treatise, and it was certainly meaningful to the viewer of Fendulus's images. Abū Maʿšar describes the constellation as an idol loudly shouting and raising his hands high. Hermann followed Abū Maʿšar's description and left the idol without moral qualification, because the notion of an idol was charged with a strong and precisely defined meaning that did not require any additional explanation. In illustrating Hermann's translation, Fendulus chose a different path by distancing himself from Abū Maʿšar's text and partially even from the medieval iconographic tradition. He produced a distorted image of the idol, not characterizing him as a figure of worship but as a pious figure who himself worships the gods. With the words *Ydolum elevatum clamans deos*, the *titulus* shifted the emphasis from idolatry to praising the gods, in spite of the fact that an idol praising the gods was a contradiction in terms. Fendulus's figure does not follow the Gothic tradition of representing the devil: the idol is not falling, he does not have diabolic horns, nor a shaggy, hairy body, or tail; he does not bite his tongue, and he is not a grotesque and ugly figure (see facs. 25-30, pp. 348-353). All elements defining the figure visually as an idol have been eliminated, except the column (which is a traditional descriptor for idolatry). However, the semantics of the column have been changed. It is elevating the figure only a little above the imaginary eye level of the viewer. Fendulus's idol is neither an object of worship nor

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[111] Cf. Michael Camille, *The Gothic Idol: Ideology and Image-Making in Medieval Art* (Cambridge: Cambridge University Press, 1989) 5.

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does it represent a fallen angel, faith, or fabrication. His figure is turned left with hand raised high resembling more a worshiper than a dancer (Fendulus A).

Why has the traditional image of the idol as a representation of evil been changed? From Abū Maʿšar's and Hermann's descriptions, we know only that the idol is a dancer and musician, and that it would not be unusual from the medieval iconographical point of view to relate these actions to evil forces. It is not uncommon for the idol to be represented standing on a table dressed as a minstrel.[112] Since Fendulus himself made the *titulus*, it is clear that he purposely avoided the association of dancer-musician with a negative message and suggested that making music or dancing did not necessarily draw souls away from God. The figure of the idol depicted in Fendulus A—the earliest-produced image among the preserved manuscripts, and therefore possibly the closest to the prototype—stands motionless, only pointing with his left hand toward the musical instrument. The idol does not play music in any of the six manuscripts, but simply points toward the instruments. This is an important semantic element of the image, indicating that there is nothing wrong with music-making if one leaves time for God.

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[112] Cf. a representation of the story of Daniel and the Babylonian dragon depicted in the church of Gryta (Uppland). The god Bel stands, dressed as a minstrel, on a table. Cf. Eva Helenius-Öberg, "The Music of Sin: The Image of Evil in Medieval Mural Paintings," *Proceedings of the First British-Swedish Conference on Musicology*. Ed. by Ann Buckley (Stockholm: Royal Swedish Academy of Music, 1992) 147. The same story is depicted in the early fifteenth-century Dutch manuscript in Morgan M.385. Daniel is about to slay the dragon and destroy the image of Bel, who is standing on a table, playing a shawm-like wind instrument. Cf. Terance Ford and Andrew Green, *RIdIM/RCMI Inventory of Music Iconography. III: The Pierpont Morgan Library. Medieval and Renaissance Manuscripts* (New York: Research Center for Musical Iconography, 1988) no. 793.

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Abū Ma'šar's description of the idol and Hermann's translation mention that he is holding a tambourine of the kind that dancers use. The tambourine here is not a mistranslated sanj, but is an authentic percussion instrument. Fendulus reinterpreted the image and, in the *titulus* accompanying the idol's image, supplemented the percussion instrument with several new instruments which the idol is playing to accompany his sung praise to God (*psalterium, tibia, timpanum, et alia huiusmodi*). All instruments are on an equal plane here and to Fendulus it does not matter whether an instrument was, like the psaltery, traditionally associated with angels and heavenly virgins, or—like the pipe and tabor in a combination known as *fistula et tympanum*—considered the devil's instruments. Different kinds of instruments associated here with the idol indicate that Fendulus attempted to avoid the association of negative characteristics with music in the most general sense.

All three groups of instruments are mentioned in the *titulus*, but Fendulus A depicts only a tambourine, a rectangular psaltery, and a fiddle. The fiddle has three strings and a body resembling the figure eight, similar to some types of the Spanish traditional instrument rabel [fig. II:24].[113] The first part of this manuscript includes three depictions of a fiddle and, interestingly, every instrument has a different shape. The fiddle in the third decan of Gemini has a three-part body, the fiddle in the second decan of Cancer has an elongated oval shape, and finally, this instrument has a two-part bottle-shaped body. This variety of different types of string instruments, all labeled by the same Latin name *viola*, might look unusual by our standards when the point of reference is the

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[113] Cf. Stevie Wishart, *op. cit.*, 214-215.

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violin family of instruments. However, the variety here may be indicative of the wide spectrum of fiddles used during the Middle Ages. This variety disappeared in later manuscripts where all fiddles were similar in shape.

Below the fiddle is a psaltery of a rectangular shape used in Europe in the twelfth and thirteenth centuries. The instrument has nine strings and five tuning pegs on one side. The image neither shows the sounding board nor whether the instrument has soundholes. Iconographical sources for this type of instrument are rare, but there are several known to exist (a painting belonging to the Chapter at Würzburg from the twelfth or thirteenth centuries);[114] the miniature with the cantiga 80 in the manuscript of the *Cantigas de Santa María*, from about 1260 [fig. II:25];[115] a wall painting in the Cappella Palatina, Palermo, middle of the twelfth century [fig. II:26]). The technical disadvantages of an instrument with strings of identical length drove the rectangular psaltery from the scene by about 1300, when it was replaced by a psaltery of a "pig's snout" shape.

When Fendulus B was produced in the mid-fourteenth century, the rectangular psaltery was already outdated in Europe, and the artist probably did not know what the image in the earlier manuscript was supposed to represent. As mentioned earlier, the illustrator of Fendulus B did make an attempt to adjust the images to the text, and he added here an image of the "pig-snout" psaltery he was familiar with from contemporary performance practice, but did not remove the older form of the psaltery. Instead he removed the fiddle. Although the image of the rectangular psaltery is still present in

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[114] Reproduced in H. Panum, *op. cit.* 151.

[115] El Escorial, Real Monasterio de San Lorenzo, b.I.2=El, f.96v.

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Fendulus B, the instrument is not only reduced in detail, which was already lacking in its model, but also it is transformed and difficult to identify. It is arguable whether the artist of Fendulus B reduced the otherwise playable instrument to its main elements or whether he did not actually know what the image represented. Curiously enough, the rectangular psaltery remained in the paranatellonta's depiction through the remaining four manuscripts, even though it disintegrated to such a degree that it is imposible to recognize its function as an instrument. A handle is added to the instrument on one side, which has at its end a ring upon which the instrument is hung. The frame of the instrument is put on short legs. The instrument, which is supposed to be a rectangular psaltery, looks like a gridiron and there is no doubt that such an instrument could not have been used for producing an organized sound.

The appearance of the gridiron as an instrument is however not unusual in iconography. For example it is included in two grotesques, attributed to Hieronymus Bosch (ca. 1450-ca. 1516), where it symbolizes sinfulness. The etching *A Feast in a Mussel*, made by Hieronymus Cock after a drawing attributed to Bosch (printed in 1562), includes a monk singing from a songbook and playing a gridiron with his fingers [fig. II:27], and the Cock etching also made after Bosch, *A Celebrating Group* (printed in 1562), contains a woman holding a gridiron and jingling its bars with a long fork.[116] A musician playing a gridiron can be also found on the painting by Maarten de Vos called

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[116] Cf. Frank Dobbins, "*Le concert dans l'œuf* et la musique dans la tradition de Jérôme Bosch," *Musiques Signes Images: Liber amicorum François Lesure* (Geneva: Minkoff, 1988) 99-116.

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The Dance around an Agg[117] and on the etching *Dancing Masks with Noisy Instruments* by Jacob De Gheyn (1565-1629). The first two images are allegories of music-making and the gridiron is represented in a parodistic context, having a symbolic significance. The latter two images, however, probably do reflect some actual entertainments when the gridiron was used for making a joyful noise in a charivari ensemble.

As we mentioned earlier, of all artists involved with the six Fendulus manuscripts, only the one working on the Fendulus B made an attempt to update his images and adjust them according to the text. Therefore it should not be surprising that all artists following Fendulus B copied the gridiron, which has no place in the original astrological context of this paranatellonta, without change. However, symbolism associated with the gridiron in two of Cock's etchings after Bosch opens a possibility that some of the users of the later copies of Fendulus's abridgment, not being aware of the original symbolism which Fendulus assigned to this idol, associated the gridiron with idol's sinfulness.

This episode in the transmission of a musical image provides a rare opportunity to demonstrate the importance of studying sources in their continuity and the necessity of investigating sources used as models as far back as possible. Looking at the appearance of the thing supposed to be a rectangular psaltery in Fendulus C, nobody would be able to determine its identity even with the help of the *titulus* reading *psalterium*, especially since the "pig-snout" shaped psaltery was added to the composition along with the instrument resembling a gridiron. Identification of the instrument would

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[117] An etching of this painting, made by Crispin de Passe, is reproduced in Albert P. de Mirimonde, *op. cit.*, 158.

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not have been accomplished by going back only one generation of manuscripts; it was necessary to look at the earliest preserved manuscript (Fendulus A), where the instrument had not yet degenerated.

VI. Paranatellonta rising with the second decan of Virgo.[118]

In Teukros's and Antiochos's texts, Musa playing a lyre is mentioned in relation to three zodiacal signs (paranatellonta rising with the first decan of Cancer, the second decan of Virgo, and the first decan of Libra), but it is not positively known which heavenly constellation it represents.[119] Boll has not been able to trace any Greek mythological legend about Musa playing a lyre which relates to this constellation and argues that the astro-image of Musa was entirely unknown to the Greek astronomical concept.[120] Musa is supposedly positioned in the sky close to Satyr. Since Satyr can represent only the constellation situated next to Orion (or is even the identical constellation), that is also the place to look for Musa.[121]

In the Hermetic catalogue, there are two paranatellonta which include a lyre, and both might be related to the constellation of Lyra.[122] Gundel's study showed that they

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[118] Fendulus A: f.19v; Fendulus B: f.20r; Fendulus C: f.17r; Fendulus D: f.21r; Fendulus E: f.10r; Fendulus F: f.7r (see facs. 33-38, pp. 358-363).

[119] Cf. F. Boll, *op. cit.*, 273-274.

[120] *Ibid.*, 105, 283.

[121] *Ibid.*, 274.

[122] Between 7° and 8° of Cancer (*A septimo usque ad octavum gradum oritur Praesepe at Lyra lyrizans. Quidam vero dicunt, quod in octavo et non sit nubecula*) W. Gundel, *Neue astrologische Texte*, 58; and between 7° and 10° of Virgo (*A septimo*

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do not represent the same constellation: the one from Cancer should be located in the left hand and elbow of Charioteer, and the other in the left or right wing of Virgo. The origin of the lyre associated with Virgo is seen in Eratosthenes's identification of Virgo as Egyptian Isis.[123] This opens up the possibility that Isis—depicted on the Egyptian map of the sphere holding a systrum—was later exchanged with muse, one of the nine sister goddesses, who is playing a lyre. Eventually, Abū Maʿšar misunderstood the muse and transformed the figure into Musa (Moses).[124] While translating Abū Maʿšar's treatise, Hermann obviously felt uncomfortable in determining the precise position of the Musa constellation. The first time when Abū Maʿšar included Musa in the vicinity of Satyr, Hermann dropped it from his translation. In the present paranatellonta, where Musa is the main rising constellation, he changed his description into that of an anonymous musician. The third time Musa appeared in the sky, in the first paranatellonta of Libra, Hermann replaced it with a horseman musician.

In all of his three appearances in Abū Maʿšar's text, Musa is playing a sanj and a pipe. As described above in the discussion of the third paranatellonta of Gemini, Hermann was consistent in translating the term "sanj" as a percussion instrument. The unspecified percussion instrument played together with a pipe resonated with the pipe-and-tabor combination which was emerging at just about Hermann's time in performance practice throughout Europe. From the three appearances of Musa with the sanj and pipe

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gradu usque ad decimum oritur Deferens parvam Lyram), *ibid.*, 62.

[123] W. Gundel, *Neue astrologische Texte*, 249.

[124] Cf. F. Boll, *op. cit.*, 274.

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in Abū Maʿšar's text, Hermann retained the combination only in the present paranatellonta.

In his *Liber introductorius* Michael Scotus included a constellation called "figura sonantis canonem" (the figure of the sounding canon), situated in the sky in the position of Musa.[125] With a description of the figure's astrological influences one family of manuscripts of the *Liber introductorius* includes the constellation's picture in the form of a man playing a trapezoid qānūn in a vertical position against his chest [fig. II:28].[126] In some other manuscripts the figure is depicted as a woman playing the lyre. This latter image closed the circle and brought the constellation back to the initial point where the constellation had been, in Teukros's and Antiochos's sphera, presented as a muse.[127]

Michael Scotus characterized the person "conceived or born under this sign [as one who] will always have a happy life. He will become an actor and a player of instruments, and he will be more poor than rich. Nevertheless he will be well dressed

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[125] Cf. F. Boll, *op. cit.*, 274.

[126] Such an image is found in, for example, BS Clm.10268, f.82v; ÖNB cod.2352, f.19v and cod.2378, f.8v; and Morgan M.384, f.23r. The qānūn is a plucked zither of the Middle East, with 50 to 100 strings strung over a shallow trapezoidal or half-trapezoidal box.

[127] The manuscripts in which the constellation is represented as a woman playing the lyre are Ambrosiana, cod.I.90 sup (f.231r), BL Add.41600 (f.49r), and London, Wellcome Institute, ms. 509 (f.25r). Cf. Ulrike Bauer, *Der Liber Introductorius des Micahael Scot in der Abschrift Clm 10268 der Bayerischen Staatsbibliothek München: Ein illustrierter astronomisch-astrologischer Codex aus Padua, 14. Jahrhundert* (Munich: tuduv-Verlagsgesellschaft, 1983) 61.

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as he goes around."[128] Discussing this constellation, Charles Burnett borrowed the opinion of Ulrike Bauer that the constellation "does not appear in Michael's Latin sources and may be an invention of his."[129] He did not, however, take into consideration Boll's argument that the "figura sonantis canonem" might be identical with the constellation of Musa described by Abū Maʿšar.

In musicological literature, the earliest iconographical source of the pipe and tabor is thought to be an image included with cantiga 370, in the manuscript of the *Cantigas de Santa María*, from about 1260 [fig. II:29].[130] The first image of the pipe and tabor in the Low Countries has been found in the Psalter of Guy de Dampierre, Count of Flanders, datable to the last quarter of the thirteenth century.[131] Although represented without detail, the image of a musician with pipe and tabor in Fendulus A precedes both sources by several decades, and therefore assumes the place of the earliest known depiction (see facs. 33-38, pp. 358-363). Its additional importance to the six Fendulus manuscripts is the opportunity it provides for the study of the images in chronological

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[128] Translation according to Charles Burnett, "European Knowledge of Arabic Texts Referring to Music: Some New Material," *Early Music History* XII (1993) 10. — Burnett's transcription of the passage from Munich, BS Clm.10268, f.82v is as following: "Figura sonantis canonem habet stellas multas ... Conceptus vel natus sub isto signo semper laetam ducet vitam. Fiet ystrio cum pulsacione instrumentorum, et erit plus pauper quam dives, et tamen bene vestitus ibit."

[129] Cf. *ibid.*; and U. Bauer, *op. cit.*, 63-64.

[130] El Escorial, Real Monasterio de San Lorenzo, MS b.I.2=E1, f.333r.

[131] BRA MS 10607, f.35. Cf. Wim Bosmans, *Eenhandsfluit en Trom in de Lage Landen* (Peer: Alamire, 1991) 22 and 74.

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succession. Depictions of pipe and tabor prior to about 1440 are scarce; there are no more than a dozen documented examples so far.[132] Therefore, the series of images in Fendulus's manuscript, produced prior to 1450, significantly supplements this number.[133]

In Fendulus A, a man in profile is beating a drum with his right hand fully opened, holding a pipe in his left hand. The drum has the shape of a tambourine without jingles, identical to the one in images labeled *tambourine*. It is not clear how the tambourine is tied to the waist of the musician. The pipe has a conical shape, twisted upward, and its holes are not visible. The images of the pipe in the three following manuscripts (Fendulus B, C, and D) are identical to Amphion's shawms in the paranatellonta of the second decan in Gemini. Each of the instruments has a double reed. Musicians hold them in the middle, and it is clear that they have more holes than the musician can play with the fingers of one hand. The shawm in Fendulus C and D has a barrel-shaped extension appearing to be the bass shawm. The instrument's companion is not a drum but a tambourine, with jingles and a snare held from above. It could be shaken and beaten against the musician's knee.

In the last two manuscripts (Fendulus E and F), the combination comes close to the usual form of pipe and tabor. The pipe is rather long, but this was not unusual during the last decade of the fifteenth century. Instead of jingling the tambourine and beating it against his knee, the musician has hung it on his left wrist and beats it with his fully

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[132] Cf. W. Bosmans, *op. cit.*, 74-75.

[133] About ninety iconographical sources for pipe and tabor are dated to the period between 1450 and 1650, when three of Fendulus's manuscripts were produced. Cf. *ibid.*, 75.

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opened hand. The classic pipe-and-tabor situation, with a drum instead of a tambourine beaten with a stick, is included for the first time in the Fendulus F, from about 1500. The pipe is long, held with the right hand, and the drum is hung on the musician's wrist.

The combination of shawm and tambourine, rather than pipe and tabor, makes this image exceptional. A comparison of the two series of images with the shawm and tambourine—Amphion in the third decan of Gemini, and the musician of the present paranatellonta—is interesting and indicative. Although the instruments in the two images in Fendulus A look identical, there is an important difference. Amphion in Fendulus A is holding a pipe in his right hand and his left hand is placed on the tambourine. The text does not say that Amphion would play both instruments together and, in later transmission, he grasps his shawm with both hands, leaving the tambourine on a stand. Iconographical sources do provide evidence of the pipe being held in the right hand and the tabor in the left, but the reverse situation—shown in the image of Musa—outnumbers it more than twice.[134] After Fendulus A, which was produced when the practice might still have been ambigous and not yet fully established, each of the shawm-and-tambourine situations developed in a different direction. Holding the tambourine in the left hand (as Amphion does) was found to be awkward, and the tambourine ended up on a stand, in contrast to its being placed in the right hand, which eventually resulted in the pipe-and-tabor combination.

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[134] Cf. W. Bosmans, *op. cit.*, 74.

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VII. Paranatellonta rising with the first decan of Libra.[135]

Abū Maʿšar's description includes Musa—mentioned earlier in the paranatellonta rising with the first decan of Cancer and the second decan of Virgo—with a sanj and a pipe. In Virgo, Musa was sitting on a podium playing a sanj and pipe, whereas here he has only a sanj. Hermann changed Musa in this paranatellonta to a musician sitting on a horse, striking a tambourine and playing on a pipe (*musicus equus sedens tympanum percutiens calamum canens*). In Fendulus A, a tambourine (*tympanum*) is placed in front of the horseman, and it is clear that he is not drumming (see facs. 39, p. 365). He is holding a long signal horn in one hand and the reins in the other. In the later manuscripts this changed and, although the *titulus* is still describing *musicus tympanum percutiens calamo canens*, the horseman in Fendulus C is drumming a single kettledrum with his left hand and holding the pipe, which he does not play, in his right. This image is copied unchanged into Fendulus D. In the latest manuscript, Fendulus F, the image was adjusted to the text, and the horseman is shown here for the first time playing the pipe and tabor. His instruments are identical to the pipe and tabor shown a few folios earlier in the manuscript, in the paranatellonta of the second decan in Virgo.

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[135] Fendulus A: f.21v; Fendulus C: f.19r; Fendulus D: f.23r; Fendulus F: f.8r (see facs. 39-42, pp. 365-368).

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VIII. Paranatellonta rising with the second decan of Libra.[136]

The second paranatellonta of Libra is one of the most complex, including a large number of constellations. Hermann reduced their number and Fendulus followed this tendency in his imagery even further. In spite of this reduction, the paranatellonta had to be depicted in twice as much space as the others. For our research, the important element is the *vir agitator*, depicted with a small whip in one hand and a pipe in the other, standing by a chariot, depicted in the space of the *sphaera graecanica* of the first decan of Libra (see facs. 39-42, pp. 365-368). The image corresponds neither to Abū Maʿšar's text nor to Hermann's translation.

Fendulus's figure carries in his hand a small whip, the traditional emblem of the Charioteer. In the other hand he has a pipe, not mentioned in texts prior to Fendulus's depiction. The *titulus* for the image says that Bridemif plays a pipe and holds a whip (*vir agitaus Brimeditus calamo cantat flagellum tenet in manu*).[137] Normally the *titulus* would

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[136] Fendulus included all paranatellonta with musical significance for space reasons with the first decan of Libra, and therefore the facsimile of the second decan of Libra is not included.

[137] In all copies of the Fendulus manuscript, the word is spelled "Brimeditus." It seems that a number of mistranslations and misrepresentations of this constellation had already begun in Abū Maʿšar's *Introductorium maius*. He identified the constellaion with the Greek name Ενίοχος ("reinholder"), which was by some Latin authors the constellation of the Charioteer (Auriga) (R.H. Allen, *op. cit.*, 84). The name "Bridemif" is to be found in Abū Maʿšar's text explained as the Persian equivalent of Charioteer. In the 1489 edition of Hermann's translation, the constellation is clearly called "Bredemif." Allen uses the spelling "Bridemif" (cf. *ibid.*, 278). Thomas Hyde (1636-1703) argued that the word should be "Birdūn" (packhorse), and that it was actually intended for the Centaurus appearing with its chest in the sky at the same time (cf. *ibid.*, 278-279). The Charioteer was normally personified as Erichtonius, legendary son of Vulcan and Minerva, who invented a four-horse chariot (cf. *ibid.*, 84). In the paranatellonta rising with the third decan of Taurus, Fendulus depicted Charioteer sitting

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have been taken from Hermann's text, but here it cannot be found in the main body of the work. The text says that Bridemif carries a whip and a red basket (*flagellum tenens et canistrum rubeum*), not the pipe. It seems that Fendulus confused the Latin word for "basket" (*canistrum, -i*) with the word for "pipe" (*canna, -ae*). This mistranslation, however, does not provide any new evidence for organology, as the earlier one does for the harp. The pipe was transmitted through all of the manuscripts, which is another indication of how rarely the illustrators analyzed the text for its correspondence to the images.

In order to display the great number of images belonging to the paranatellonta of the second decan of Libra, Fendulus included the musician with a whip and pipe in the space normally assigned to Ptolemy's sphera, at the bottom of the page. The musician in Fendulus A holds a straight pipe without any detail. Fendulus C and D include a shawm, which the man holds in his right hand. The last manuscript, Fendulus F, has a musician playing a pipe identical to the one held by the horseman in the previous paranatellonta. It is a long pipe, which could have been played with one hand even if the man did not have his other hand occupied with the whip.

IX. Paranatellonta rising with the first decan of Scorpio.[138]

As in the paranatellonta of the second decan of Libra, where the basket is

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in a two-wheeled wagon and holding a billy-goat in his right hand.

[138] Fendulus A: f.24r; Fendulus B: f.23v; Fendulus C: f.21v; Fendulus D: f. 25v; Fendulus E: f.17v; Fendulus F: f.10v (see facs. 43-48, pp. 370-375).

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mistranslated as a pipe, the influence of the constellation rising with the first decan of Scorpio has been mistranslated too. The difference is that the earlier mistranslation occurred in Fendulus's pictorial interpretation, but the error here originated in Hermann's misunderstanding of the Arabic word. Hermann translated the constellation which Abū Ma'šar described as influencing one's health as *cymbalum*, because both words have a similar spelling in Arabic.[139]

Judging from Fendulus A—which is closest to the prototype—this part of the Abū Ma'šar-Hermann text was not meaningful enough to Fendulus, and just as he did with the *harpes Persei* in the paranatellonta rising with the second decan of Aries, he misunderstood the instrument. Just as he confused there a scimitar with a harp, he mistook here a cymbalum for a kind of a simple long straight trumpet with a bell bent back in the shape of a J, similar to the Etrusco-Roman instrument lituus. Next to the instrument is included a *titulus* saying *cynbalum* (see facs. 43, p. 370).[140] As we mentioned earlier, Fendulus A was produced in southern Italy about 1220/40 and we might speculate that the word *cynbalum* was not used there at this time. The Franco-Flemish copyist of Fendulus B a century later, exchanged the trumpet for cymbals and in all manuscripts copied after that point, the *titulus* above the image reads *cymbalum* matching the depicted instrument. The fact that the copyist of the Fendulus B changed

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[139] This mistranslation has been pointed out in Dyroff's translation of the Arabic text of *Introductorium maius* into the German. Cf. F. Boll, *op. cit.*, 521, note 13; and F.Saxl, *Verzeichnis*, II, 62.

[140] Hermann's Latin translation written in the introduction to the illustrations reads *cibalum*.

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not only the instrument but also corrected its name in the *titulus* from *cynbalum* to *cymbalum* might indicate that he knew the instrument and the correct form of its name.

Cymbals, like the ones included here, could be often found in thirteenth- and fourteenth-century visual representations, normally played by women and angels [fig. II:30]. They are usually held horizontally, just as it is shown in Fendulus B. This brings out again an interesting point about the instrument's terminology. Hélène La Rue argues that the word *cymbalum,* singular, was used to mean the large steeple bells of churches, often bells that signaled the hours of the Office, or refectory bells; in plural, for cymbals, chime bells on a frame, and bells used in clocks.[141] This, however, does not conform with Fendulus's illustration, because in their *titululi* the pictures showing cymbals are clearly labeled with the singular form of the word, proving once again the ambiguity of the instrument's name.

At this point it is interesting to return to Johann Engel's edition of Pietro d'Abano's *Astrolabium planum,* because it shows the importance of studying the dissemination of manuscripts. In the course of their copying, some elements get changed and misinterpreted, which is not always easy to recognize from an isolated source studied out of context. In addition to the paranatellonta of the third day of Gemini [fig. II:22], with its lute player, the only other paranatellonta related to music in d'Abano-Engel's revision of Abū Maʿšar's treatise is a harp assigned to the fourth day of the Scorpio period [fig. II:31]. The *titulus* calls the image "Cythara una leticiam signans."

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[141] Cf. Hélène La Rue, "The Problem of the Cymbala," *The Galpin Society Journal* XXXV (March 1982) 89-98.

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Hermann's mistranslation of Abū Maʿšar's description of the paranatellonta thus changed the notion about its astrological influences: the word for health, from the Arabic original of *Introductorium maius,* was transformed into the cymbals which in turn evolved into a harp. For this reason its influences came to be understood in d'Abano-Engel's revision as "homo iocundus erit."

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Throughout history, astronomers were combining archaic magic, symbolism, and mythology with astronomical rationality. The sky has always been perceived with the visual sense, and subsequently mentally evaluated and finally endowed with a symbolical and magical dimension. The nine paranatellonta belonging to the *sphaera barbarica* which are associated with music have symbolic significance in Fendulus's manuscript. Medieval and Renaissance users of the atlas, interpreting the images' significance on the basis of a single manuscript, were not aware of the corruptions that had occurred during the transmission of the astrological ideas from Antiquity to their own time. Readers of the atlas at the court of Paris, or in the Augustinian Abbey near Bruges, or at any other place, normally did not have a chance to compare sources and to trace their translations back to ancient times.

A comparative analysis of Fendulus's atlas with its sources—Abū Maʿšar's *Introductorium maius* and its translation by Hermann of Dalmatia—as well as a comparison of different copies of the atlas itself, indicate that everyone participating in the process of transmission changed some aspects of earlier models. Efforts to make the

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system not only easier to comprehend but also astrologically more accurate for contemporaries were, in many ways, counterproductive. The example of the instruments included in the atlas show that a great many have their origins in mistranslations of the original astronomical and astrological concepts. Perseus's harp was supposed to be his scimitar. Musa was originally playing a sanj, which was transformed here into a percussion instrument, eventually the tambourine; health took on the appearance of a trumpet; and a basket was transformed into a pipe. On another level, astromythological figures associated with heavenly constellations, and from the earliest times linked to music, were given new identities; Musa received in each of his three appearances a different likeness (musician, satyr, and horseman), and Apollo was transformed into Amphion. Among the astral musicians only the idol survived different revisions and can claim authenticity, although one should not insist on determining its exact position in the heavens.

The importance of the images in the Fendulus manuscripts lies in the understanding of astrological ideas related to music during medieval and Renaissance times, and in the history of those ideas during earlier periods as well as the centuries that followed. Images which originated in Fendulus's manuscripts were later transmitted and accepted in other astrological systems. Pietro d'Abano's *figurae coeli* in the *Astrolabium planum* of 1488 include instruments in several places as a direct consequence of Abū Maʿšar's text and of Fendulus's images. During the process of transmission, originally misrepresented figures became associated with a new symbolism and were accepted as legitimate elements of the astrological system. This makes Fendulus's atlas an important

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link in the transmission of astrological symbolism.

The figures in Fendulus's atlas can be iconographically systematized into two categories: (1) a group of symbols not properly understood, and therefore either iconographically misrepresented or dropped from the system; and (2) a group of figures whose symbolism was meaningful, and their iconography regularly updated along the lines of contemporary understanding at the time of the manuscript's production. Abū Ma'šar's constellation of Musa playing a sanj and a pipe in the second decan of Virgo was not sufficently meaningful to Hermann and Fendulus; therefore, they replaced him with an unspecified musician. This musician retained his original symbolism, but the explicit association with an unfamiliar figure was avoided. In contrast, when the characteristics of an astromythological figure resonated with its contemporary perception, the figure was adjusted to fit astrological requirements or updated according to the current tradition. Amphion was understood to be a musician who signified the existence of musical forces beyond the physical world, and this characteristic ensured him a place in the system. The meaning of each depiction in Fendulus's atlas becomes to us, who are distanced from its original weltanschauung by almost eight hundred years, most comprehensible when we compare the different sources which were involved in the transmission of the ideas; only in this way can we solve the meaning of the often puzzling images in Fendulus's atlas.

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CHAPTER THREE

SPHAERA INDICA

In contrast to the Ptolemaic constellations of the *sphaera graecanica*—in which all mythological figures are related to star groups recognizable in the sky—the Indian decans are mental symbols not associated with particular celestial bodies but with a period of time. They are deities of a purely spiritual nature, believed to influence an individual's destiny. From ancient Egypt to the European Middle Ages and the Renaissance, the thirty-six decans were associated with gods of both cosmic and sublunar power. Aside from their astrological meaning, the constellations of both the *sphaera graecanica* and the *sphaera barbarica* have, in various celestial maps and atlases, astronomical relevance; in contrast, the meaning of the Indian decans is exclusively astrological.[1]

The origin of the Indian decans goes back to ancient Egypt, around 2100 B.C.

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[1] Wilhelm Gundel, *Dekane und Dekansternbilder: Ein Beitrag zur Geschichte der Sternbilder der Kulturvölker*, Studien der Bibliothek Warburg 19 (Glückstadt and Hamburg: J.J. Augustin, 1936) 184.

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Thirty-six constellations were used then for measuring time during the night. Eventually, those constellations lost their function as nightly time-keepers, but became identified with divine characteristics considered to be influential during a certain period of the year.[2]

One of the contributions of the Egyptians to astronomy was the calendar in which a year was divided into twelve months, each having thirty days. In order to differentiate among the astrological influences, each ten-day period was placed under the aegis of an arbitrary selected deity called a *decanus*. Those thirty-six decans were associated with 360° of the ecliptic, and therefore each decan was allocated its 10° arc. When the zodiacal belt of the Babylonians (wherein each sign was allocated to a 30° arc of the ecliptic) infiltrated Egypt, the two systems merged. Each decan became associated with the 10° arc of a particular zodiacal sign, attaining a new status as a divider of the zodiac, but also retaining its original divine and mystical nature. It was believed that the decans influenced the good and bad destinies of humans, bringing them illness and health, wealth and misery, as well as meteorological and other earthly catastrophes.

From ancient Egypt, decans were transmitted to Greece and subsequently accepted in Indian and Arabic astrology, reaching the European West during the Middle Ages.[3]

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[2] Cf. David Pingree, "The Indian Iconography of the Decans and Horās," *Journal of the Warburg and Courtauld Institutes* XXVI (1963) 227.

[3] Decans had not vanished completely from Europe by the early centuries A.D., but their importance had drastically diminished. In the fourth-century work *Nuptiis Philologiae et Mercurii,* Martianus Capella described the decans as being entirely personified: "Philology herself leaped down from the planaquin and saw enormous fields of light, the springtime of heavenly peace; she discerned at one moment the many varied aspects of the decan gods...." William Harris Stahl and Richard Johnson, eds. and trans., *Martianus Capella and the Seven Liberal Arts* (New York: Columbia University Press, 1977) §200. — Decans were also known in the Chinese and Japanese astrological

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Each culture created its own lists, changing the relationship between the decans, their characteristics, and the periods of time during which their influences were the most effective.

After the system was accepted in one tradition, it was adjusted according to the local needs and interests of people who adopted the decans as deities. The symbols which the decans represent were not elements generated from the decans' physical characteristics, but spiritual qualities present only in the minds of their worshipers. Each new cultural matrix in which the decans were received changed their functions; a symbol, being accepted in a new tradition, became associated with a new meaning. That makes the metamorphosis of an isolated decan through different cultures hard to follow and renders difficult the tracing of various influences that guided its transformation. It is often hard to understand why the characteristics of one decan suddenly became associated with a diametrically opposite decan. Wilhelm Gundel argues that no inner logic can be established in the lists of decans of Antiquity and therefore images were constantly subject to a new format and content.[4]

The metamorphosis of the decans' divine characteristics was usually gradual. Once adopted by a new tradition, the decans were durable for a period of time, retaining their old characteristics, but subsequently degenerating. They kept their names but, after becoming part of a new tradition, together with new characteristics and attributes, they

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literature, but their images in these traditions are not related to the topic investigated here.

[4] Cf. W. Gundel, *Dekane und Dekansternbilder*, 142.

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adopted new names. There are instances of a deity switching its affiliation with a zodiacal sign without changing its own characteristics, or of the same decan being associated with more than one sign.

In the beginning, the decans were associated with characteristics of ruling authorities and deities. In their subsequent development, they retained magical characteristics, but became more like the people in the society in which they were worshiped. In Hellenistic astrology, decans were often mere substitutes for other terrestrial deities influential on the fate of humans. At this time, the decans had degenerated into protectors of specific earthly occupations, such as adversaries, judges, and servants, acquiring new magical attributes and becoming associated with new moods, desires, occupations, activities, and tasks. They were categorized as female, male, or animal, and described as wearing contemporary garments.

In order to clarify the symbolism of the Indian decans related to music in Fendulus's abridgment, their history prior to Abū Maʿšar's time, with particular emphasis on the presence of musical elements, will be presented briefly on the following pages.

Literary sources for the Indian decans. Among the earliest textual sources for decans are the Greek *Salmeschoiniaka* (Σαλμεςχοινιακα) fragments (mid-second century B.C.) and the *Testamentum Salomonis* (first century B.C.).[5] Although a Greek source,

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[5] Although the Egyptian tradition of decans precedes the Greek one, the earliest Greek source, *Salmeschoiniaka,* is older than the earliest preserved source describing the Egyptian tradition. The name "Salmeschoiniaka" is explained as a "picture book," but

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the *Salmeschoiniaka* is a catalogue which originated in Egypt, additionally incorporating Babylonian elements.[6] Egyptian mythology is primarily recognized through the decans' names. In these two lists music is present through the characteristics of the god Thoth, an Egyptian equivalent of Hermes/Mercury. He was included in the lists as the thirty-fourth decan (the first decan of Pisces). Diodorus of Sicily described Thoth as the first

> "to observe the orderly arrangement of the stars and the harmony of the musical sounds and their nature. . . . He also made a lyre and gave it three strings, imitating the seasons of the year; for he adopted three tones, a high, a low and a medium; the high from the summer, the low from the winter, and the medium from the spring."[7]

Thoth was also considered to be the god of magic, to whom was attributed the invention of the science of astronomy and astrology, mathematics, geometry, medicine, and the letters of the alphabet—from which sprang the arts of reading and writing. In the *Testamentum Salomonis* he is symbolically represented by the letters α and β, which can be understood to be parallel to the α and Ω, the Christian symbols representing Christ. For his knowledge of letters and his gift of knowing what is right or in balance, he was considered to be the recorder of souls before they go to Osiris.

One of the most important literary sources for the decans' tradition in Antiquity is *Hermetica*, already introduced in the preceding chapter on the *sphaera barbarica*. The

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also as a "book of birth places" and "book of the great bear." Cf. Franz Boll, *Sphaera: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder* (Leipzig: Teubner, 1903) 378; and W. Gundel, *Dekane und Dekansternbilder*, 86.

[6] W. Gundel, *Dekane und Dekansternbilder*, 86.

[7] Diodorus of Sicily, *The Library of History*. Trans. by C.H. Oldfather (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1960) I.16.1.

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decans are described here as spirits inhabiting the space between the circle of the outward body enclosing the universe and the zodiac, separating one circle from the other.

> "They bear up, as it were, the circle of the Universe, and look down on the circle of the zodiac. . . . The decans stand round about all things in the Kosmos as guardians, holding all things together, and watching over the good order of all things. . . . They are free and exalted above all things; and as careful guardians and overseers of the universe, they go round it in the space of a night and a day."[8]

A decan has its strongest influence over events in the sublunar world during the period when the sun is in its 10° arc. Decans influence heavenly bodies, but they also have power over individual men, communities, and events on the earth, such as the overthrow of kingdoms, revolts, famines, pestilences, the overflowing of the sea, and earthquakes. They are obeyed by celestial spirits, which in *Hermetica* are called *liturgi*. These are under the control of the decans as servants and private soldiers, and they help to maintain order in the universe. The *liturgi* are floating in the ether, filling all the region of that element.[9] According to *Hermetica,* each decan is in charge of one part of the human body, while together they are responsible for sickness and health.[10] Each decan has a particular influence over one planet. In *Hermetica*, the first decan of Aries is linked with Mars (*Primum quidem decanus Arietus habet faciem Martis*[11]), the second with the sun,

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[8] Walter Scott, ed., *Hermetica: The Ancient Greek and Latin Writings which Contain Religious or Philosophic Teachings Ascribed to Hermes Trismegistus* (Oxford: Clarendon Press, 1924) I, 410/411-418/419.

[9] Cf. *ibid.*, I, 162.

[10] Cf. W. Gundel, *Dekane und Dekansternbilder*, 271.

[11] Wilhelm Gundel, *Neue astrologische Texte des Hermes Trismegistos: Funde und Forschungen auf dem Gebiet der antiken Astronomie und Astrologie*, Abhandlungen der

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and the third with Venus, followed by Mercury, the moon, Saturn, and Jupiter, after which comes Mars again, and so on. The cycle repeats several times.

The decans included in *Hermetica* appear as gods from the Egyptian pantheon, but there are also some with Hebrew names, indicating that the system was subject to a Hebrew influence.[12] Among the gods there are some described with a human body and an animal head: five of these decans have a dog-like head, resembling the jackal-headed Anubis, the god acting as a guide to the souls of the dead. Four decans are each represented with the head of a snake, one decan is represented with that of a pig, and the others with bull, goat, donkey, crab, weasel, or crocodile heads.

Decans in Antiquity were personified with preexisting gods, and were identified according to the characteristics and visual appearances of the latter. In the Indian, Arabic, and medieval Western traditions, they were distanced from the religious environment. Although they were adjusted to fit local beliefs, after Antiquity the decans never again succeeded in matching the characteristics of the local deities. There are similarities between the local gods and the decans, but generally they formed a tradition distanced from Hinduism, Islam, or Christianity. They were believed to have had influence over the sublunar world, but they were not worshipped as gods. In contrast to the decans of Egyptian origin, those in the Indian, Arabic, and Latin traditions do not

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Bayerischen Akademie der Wissenschaften: Philosophisch-historische Abteilung, Neue Folge 12 (Munich: Bayerischen Akademie der Wissenschaften, 1936) 19, "De prima facie Arietis."

[12] The list of decans in the *Liber Hermetis Trismegisti* includes some Hebrew names: Sabaoth (the second decan of Aries), Azuel (the third decan of Gemini), Michael (the third decan of Virgo), and Jao (Jaus; the first decan of Taurus).

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have names; instead, they are only generically called the first, the second, and the third decan of an appropriate zodiacal sign.

Because of their characteristics and magical influences, the decans were most appropriately represented as icons. However, it is ironic that the majority of today's preserved sources are textual descriptions of decans rather than iconographic sources. The earliest imagery of decans are the round and the long reliefs of the zodiac from the second-century A.D. temple in Dendera, Egypt, and the Roman stone fragment, *Tabula Bianchini* (today at the Musée du Louvre). Fendulus's imagery, created after Abū Ma'šar's text, is the earliest iconographical source of decans in the medieval West.

After Antiquity, the history of the decans continued in India and, for our research, this part of the tradition has a much greater importance, since Abū Ma'šar based his list on the Indian sources. The earliest surviving Sanskrit text on horoscopy (*horāskandha*) is Sphujidhvaja's *Yavanajātaka* [The Horoscopy of the Greeks], compiled in 269/270 A.D.[13] The Sanskrit text, a versification of a prose translation from Greek by a certain Yavaneśvara in 149/150 A.D.,[14] is one of the fundamental sources for early Indian horoscopy.[15] The second and third chapters of *Yavanajātaka* describe the system of

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[13] Cf. David Pingree, ed., *The Yavanajātaka of Sphujidhvaja* (Cambridge, Mass. and London: Harvard University Press, 1978) 2 vols.; *idem*, "The Indian Iconography of the Decans and Horās," *Journal of the Warburg and Caurtauld Institutes* XXVI (1963) 223-254.

[14] Cf. D. Pingree, ed., *The Yavanajātaka*, I:3.

[15] Cf. *ibid.*, I:5.

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horās[16] and *drekānas*, two parallel systems that complement each other.

There is an incomplete correspondence between Sphujidhvaja's description in *Yavanajātaka* and the remnant materials from the Greco-Egyptian tradition. The second and third chapters of *Yavanajātaka* are not only a versification of a prose translation of an older Greek text, but also "a Hindu, and specially a Śaiva interpretation of illustrations which adorned the Alexandrian manuscript that Yavaneśvara set out to translate."[17] It is significant that Sphujidhvaja was either an interpreter of images included in the original manuscript of Yavaneśvara, or that *Yavanajātaka* is a Hindu description of the images which Sphujidhvaja adopted and perhaps extended. A majority of the attributes that decans have in medieval Western iconography can be found in *Yavanajātaka* beneath their Indian characteristics.[18]

Four of the horās in Sphujidhvaja's *Yavanajātaka* have importance in terms of music, dance, and the arts. The second horā of Taurus is "a youthful woman . . . [who] knows the rules of . . . the arts" (II:8). The first horā of Gemini "holds a lyre [vīnā][19] in his hand. . . . He is an artistic man . . . whose nature it is to love singing, dancing,

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[16] The system of horās divides each zodiacal sign into two halves (each equals a 15° arc of a sign), and associates each half with a certain deity. This system might have some elements rooted in the Egyptian tradition, but it is considered to be a creation which originated in the Hellenistic imagination. Cf. D. Pingree, "The Indian Iconography," 227; also, Fred Gettings, *The Arkana Dictionary of Astrology* (London: Arkana, 1985) 237-238.

[17] D. Pingree, "The Indian Iconography," 228.

[18] *Ibid.*, 228.

[19] Throughout his edition of *The Yavanajātaka*, Pingree mistranslated the original vīnā as lyra.

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and listening [to music]. Seated on a cane chair he composes poetry" (II:10). The second horā in Virgo is "a pleasing man . . . eloquent and clever in crafts, dances" (II:25). The first horā in Aquarius "knows many desired arts" (II:43). Among Sphujidhvaja's decans only two are related to music. The second decan in Gemini is a black woman who delights in the arts, in singing, and in story-telling. Holding a vīnā, she is pleased and delighted (III:9). The third decan in Sagittarius is a bearded man with a black body, and he is fond of music (III:28).[20]

The subsequently preserved list of Indian decans was compiled in the sixth century by the Indian astrologer Varāhamihira,[21] and it is included in his larger astrological work entitled *Brihatjātaka*. It seems that Abū Maʿšar used *Brihatjātaka*'s list of decans, although without indicating any particular source as a basis for his list. It is also uncertain whether he used Varāhamihira's text directly or through an intermediary source.

Varāhamihira compiled his list on the basis of the *Yavanajātaka*, amalgamating several systems of Greek decans from the Hellenic period.[22] He also merged the

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[20] Cf. D. Pingree, ed., *The Yavanajātaka*, I:11-19.

[21] Varāhamihira was one of the most important Indian astrological writers, living in the last quarter of the fifth and the first quarter of the sixth centuries. He dealt with all three branches of Indian astrology and astronomy (*jyotisa*): (1) in the field of tantra (mathematical astronomy), he wrote a treatise called *Pañcasiddhāntika*, which is considered to be his most important work completed ca. śaka 427 (A.D. 505); (2) to the category of *hōra* (horoscopy) belong three works: the *Brhatjātaka*, also known in the abridged version entitled *Laghujātaka*, the *Brhadvivahapatala* (abridged as *Svalpavivāha-patala*), and the *Brhadyatrā* (abridged as *Svalpayātrā*); and (3) to *samhitā* (mundane astrology) belongs the *Brhatsamhita* (abridged as *Samāsa*).

[22] Cf. D. Pingree, "Introduction" to *The Yavanajātaka*, I:5.

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characteristics of the horās with those of the decans, thereby creating a single unified system. Comparing the decans from *Brihatjātaka* with those found in *Yavanajātaka,* the latter shows an increase in the number of male decans and a change in the decans' assignment to planetary lords. Directly or indirectly, Varāhamihira took some elements from the Egyptian sources.

Decans related to music and the arts are associated in Varāhamihira's list with several zodiacal signs. The third decan of Aries is described as "a man cruel in disposition, skilled in arts, of a reddish colour, active but foiled in his attempts, and with a raised hand holding a stick. He wears red garments and is angry" (XXVII:3). This decan is under the influence of Jupiter. The final decan of Gemini is "a man decked in ornaments, rich in jewels, fastened with a mail coat and a quiver, and carrying a bow. He is skilled in the arts of music and dancing and is a poet" (XXVII:9). The decan is dependent on Saturn. Finally, also related to music is the middle decan of Capricorn, which is "a woman skilled in all arts. [She is] with eyes broad as the petal of a lotus, dark-blue in colour, aspiring for various things, decorated with ornaments and wearing ear ornaments made of copper, gold or iron" (XXVII:29). This decan is under the influence of Venus.[23]

Sphujidhvaja's *Yavanajātaka* and Varāhamihira's *Brihatjātaka* created a bridge for the decan's tradition between Antiquity and the Arab world championed by Abū Maʿšar. The system of decans, which Abū Maʿšar included in his *Introductorium maius*, as was

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[23] Varahamira, *Brihatjātaka*. With an English translation, notes, and examples by V. Subrahmanya Sastri (Bangalore: Sadhana Press, 1961) 514-542.

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mentioned earlier, is based on the list compiled by Varāhamihira. Approximately twenty of Abū Maʿšar's decans are closely related to those of Varāhamihira, another five contain elements that belong to different decans in Varāhamihira's text, and the rest are newly created.[24] The description of decans in Abū Maʿšar's list is more elaborate and detailed than those in any of the preceding lists: besides their appearance, they are also described with their occupations and activities, their thoughts and desires.

Another list of decans from Abū Maʿšar's time was compiled by the astrologer Zahel.[25] His list is more condensed than Abū Maʿšar's, and the decans are described without their mental occupations or desires. Music is included in Zahel's list as a symbol only when a decan is actually holding an instrument, and not to indicate one fond of playing or singing. The second decan of Gemini in Zahel's list is described as a young girl holding a pipe (*fistula*); the third decan of Gemini is described as looking for a weapon—exactly as in Abū Maʿšar's list—but is not interested in music; and finally, the first decan of Libra is an angry man holding a pipe.[26]

Parallel to the tradition generated in Europe on the basis of Abū Maʿšar's astrological writings was a stream of Arabic treatises, which placed the decans in a

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[24] Vicky Armstrong Clark, *The Illustrated "Abridged Astrological Treatises of Albumasar:" Medieval Astrological Imagery in the West* (Ph.D. dissertation, University of Michigan 1979) 141.

[25] The list is preserved in the fifteenth-century manuscript Vatican, lat.4085 (f.132) and translated from Latin into German by W. Gundel, *Dekane und Dekansternbilder*, 336.

[26] Cf. W. Gundel, *Dekane und Dekansternbilder*, 366.

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magical context.[27] For a period of time the two systems remained distinct, but during the late twelfth and thirteenth centuries they influenced each other and subsequently merged. In the group of sources of the magical tradition, among the earliest works is *Picatrix*, a Latin translation of the Arabic treatise *Ghāyat-al-hakīm* [Goal of the Sage].[28] The original eleventh-century work was translated in the late 1250s from Arabic into Spanish at the court of Alfonso X, el Sabio, King of Castile and Leon (1221-1284).

The work is a compilation of occult writings, which includes recipes for astrological magic and talismans, and discusses issues such as how to converse with the spirits of the planets. Music in the context of decans was, however, not a great concern for the compiler of the *Picatrix*, since the second decan of Cancer is the only one which has music included among its characteristics. The decan is described as a woman of pretty appearance, with a crown of green basil on her head. She holds a water lily in her hand. She enjoys singing and friendship. This is a decan of festivity, happiness, politeness, convenience, and acceptability.[29] It should not be forgotten that *Picatrix* describes, besides the decans, a large number of other images, some of which do include music, and an engraver of talismans was able to find, if he needed music, enough of its appearances in other places in the catalogue.

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[27] Cf. a chart of the main sources for decans in *ibid.*, 92-93.

[28] For the purpose of this study, *Picatrix* has been used in its Latin version: David Pingree, ed., *Picatrix: The Latin Version of the 'Ghāyat Al-Hakīm'* (London: The Warburg Institute, 1986), and in its German translation: G. Bing, ed., *'Picatrix' das Ziel des Weisen von Pseudo-Maǧrīṭī*. Trans. into German from the Arabic by Hellmut Ritter and Martin Plessner (London: The Warburg Institute, 1962).

[29] Cf. G. Bing., ed. *'Picatrix' das Ziel des Weisen*, 136.

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An important list of decans belonging to the medieval magic tradition is the one compiled by Heinrich Cornelius Agrippa of Nettesheim (1486?-1535) and included in his famous treatise *De occulta philosophia libri tres* (Venice, 1531).[30] Agrippa described the universe in three spheres: the lowest one, which includes the elemental realm of matter; the middle, the celestial realm of intelligence; and above all, the god. The three realms correspond to the three types of magic: natural, celestial, and ceremonial. Each type of magic encompasses one or more of the arts and sciences. Natural magic includes medicine and natural philosophy, celestial magic covers astrology and mathematics and, finally, ceremonial magic includes theology. In the second realm Agrippa included musical harmony, its power, and relationship to the planets.

The fundamental element in Agrippa's perception of the universe is the image. At the top of the universe's pyramid is the god, "the beginning and end of all power," who gives images of his ideas to his ministers—the intelligences who communicate them to the heavens and the stars (I:13). Celestial bodies exert their influence on the sublunar world. The images they beam are so powerful that they can control not only natural forces but also whatever is "opportunely framed under a certain constellation" (II:35). The number of celestial images is indefinite. The zodiac alone has 360 images "according to the number of the degrees, whose forms Petrus de Abano hath described" (II:37). Besides these images, the zodiac includes an additional thirty-six decans, which Agrippa

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[30] An English edition issued under the title *Three Books of Occult Philosophy, or, Of Magick*. Trans. by J.F. (London: Gregory Moule, 1651). The list of decans is included in the second book *Of Occult Philosophy*, chapter XXXVII: "Of the images of the faces, and of those images which are without the zodiac."

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calls "faces." In addition to the images of the zodiac, there are "general figures . . . and very many particular ones according to the number of faces and degrees" which produce images (II:37). The general figures are the constellations and the particular ones are the constellations' parts. The kind of influence that these images beam to the sublunar world depends on the mutual interaction among the celestial bodies. In his perception of the universe, Agrippa placed on the same footing images of decans, which are spiritual figures floating between the god and the sublunar world, those planets and fixed stars which can be visually perceived, and mental images which one creates in one's mind in an effort to procure a certain result (II:49).

In Abano's list the second and third faces (decans) of Gemini, the third face of Cancer, and the first face of Libra are related to music. In the second face of Gemini "ascendeth a man in whose hand is a Pipe, and another being bowed down, digging the earth and they signifie infamous and dishonest agility, as that of Jesters and Jugglers; it also signifies labours and painful searching" (II:37). In the third face of Gemini are "ascending a man seeking for Arms, and a fool holding in the right hand a Bird and in his left a pipe, and they are the significations of forgetfulness, wrath, boldness; jests, scurrilities, and unprofitable words" (II:37). In the third face of Cancer "ascendeth a man, a Hunter with his lance and horn, bringing out dogs for to hunt; the signification of this is the contention of men, the pursuing of those who fly, the hunting and possessing of things by arms and brawlings" (II:37). The series of decans related to music finishes with the first face of Libra where ascends "an angry man, in whose hand is a Pipe, and the form of a man reading in a book; the operation of this is in justifying

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and helping the miserable and weak against the powerful and wicked" (II:37).

The instruments which the decans hold in their hands symbolize their occupations. The pipe of the second face of Gemini might indicate the profession of a traveling musician. For the third face of Gemini, the pipe and bird that he holds are symbols which support his description of a fool. The same connection occurs in the third face of Cancer, in which the horn is representative of the hunter's profession.

The symbols of musicians in two faces of Gemini indicate the social position that musicians were assigned by Agrippa. In both faces, the musicians do not share flattering characteristics: the musician is described once as a juggler, perceived as a symbol for infamous and dishonest agility; the second time he is called an offensively rude person who uses unprofitable words. In most lists, the third decan of Gemini is an armed man interested in music and the arts. He is the personification of a medieval knight, skilled both in battle and the arts. However, Agrippa may have believed that the negative characteristics which he associated with a musician could not be related to an armored man, who is supposed to signify characteristics such as forgetfulness, wrathfulness, and boldness; therefore, he split the image of the decan into two figures—a man seeking arms and a fool—each having his own set of characteristics.

The tradition of the Indian decans was not widely entertained after the Middle Ages and the Renaissance. The last author in the West who dealt with the decans was the Jesuit writer Athanasius Kircher (1602-1680), who included a list of decans in his multivolume *Oedipus aegyptiacus*, published in 1653. The work was intended to survey the entire ancient Egyptian tradition, history, and culture. Decans are therefore included

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here as a part of Egyptian history and culture, rather than as an astrological element of significance for Kircher's contemporaries.[31] One important source for Kircher in writing this history was the *Hermetica*. The majority of decans were taken verbatim from there, with the result that this list is the only one in modern times in which the decans are again associated with their names. Besides their descriptions, Kircher's list also contains information about how each decan will influence a child born during the period of its rule.[32]

Four of Kircher's decans are described as having an instrument. The third decan of Aries, here called Horus, is a falling figure carrying a lyre.[33] A child born under his influence is gentle, with a refined mind and a passion for knowledge. The first decan of Cancer, called Apollun, is a leaping man holding a kithara.[34] A child born during his influence will have extended amorous adventures. Gundel suggested that this decan might be a version of the celestial image of the satyr (which is described by Abū Maʿšar as the paranatellonta rising with the first and third decans of Gemini).[35] The first decan of

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[31] Athanasius Kircher, *Oedipus aegyptiacus*, II:2, chapter VII: "Mathematica hieroglyphiaca. V: De signorum zodiaci genijs virilibus" (Rome, 1653), particularly table III, 182-186.

[32] The list is presented in *Oedipus aegiptiacus* in tabular form, with the following headings: "Characteres cum tribus decanis"; "Planetae dominantes, & promissiones"; "Imagines hieroglyphicae singularum"; "Praedictiones, & euentus sub ijs naturum"; and "Ephori, horoscopi."

[33] Figura deiecti vultus, lyram portans.

[34] Vir cytharam manu gestans in actu saltantis.

[35] Cf. W. Gundel, *Dekane und Dekansternbilder*, 157.

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Capricorn, called Soda, is described as a woman sitting with Pan who holds a syrinx[36] and the child born during this period constantly seeks out pleasure and vain games. Finally, the second decan of Aquarius, called Vucula, has the appearance of a youthful Apollo holding a kithara.[37] The child born during his influence is endowed with exceptional beauty of the body and spirit.

Abū Maʿšar's and Hermann's decans in Fendulus's iconographical interpretation. Now that a general survey of the decans' history in textual sources and their musical attributes has been presented, let us take a closer look at the iconography of the four decans associated with music in the Abū Maʿšar-Fendulus list (the second and the third decans of Gemini, the second decan of Cancer, and the first decan of Capricorn). Hermann's translation of Abū Maʿšar's Arabic text is taken as the textual starting point here, since that is the version which Fendulus used as the basis for his illustrations. Fendulus interpreted symbols found in Abū Maʿšar's and Hermann's text, applying to them values and meanings contemporary to his time. The importance of the illustrations in the six manuscripts produced from Fendulus's prototype lies in the evidence they provide about medieval receptivity towards ancient ideas, the place of music itself in medieval society, the reception of the Indian concept of music in Arabic astrology and its further transmission to the European West, and finally gives clues how these ideas were understood or misunderstood in a new cultural environment. Through

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[36] Foemina sedens cui Pan syringam porrigit.

[37] Figura Apollinis sedentis forma invenili, cytharam tenentis.

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the six copies of Fendulus's illustrated text it is possible to trace the development of a single idea through history, and see how this idea changed both within different cultural traditions and over a rather long period of time.[38]

Each of Abū Maʿšar's decans has his or her own characteristic appearance, activity, and occupation, but he or she also thinks, and has desires and various moods. Fendulus's task was to depict the decans with all their characteristics—including some abstract categories, such as their thoughts. He approached the depiction of such content by turning each part of the *sphaera indica* into a narrative composition. Consistently, throughout almost all thirty-six images in the manuscript, a decan is placed on the left side of the middle band on the page, which is reserved for the representation of the *sphaera indica*. The figure is appropriately dressed and occupied with an action assigned to it in Abū Maʿšar's text as interpreted by its Latin translation. The elements in each decan's mind are represented toward the right side of the section. For example, the second decan of Libra is described as a man with the appearance of an eagle. He is naked, thirsty, and has weak arms. He is about to fly to the sky in order to take care of women and children. Fendulus's image includes a man-eagle on the left side and a woman and child on the right. Women and children are not strictly an element of the decan, but only an explanation of his characteristics as a protector. A shift away from such a pattern occurred only when constellations from the *sphaera graecanica* or the

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[38] The facsimiles of relevant pages from all six Fendulus manuscripts and related illustrations may be found in Volume II. An English translation of Abū Maʿšar's Arabic text and Hermann's Latin translation of Abū Maʿšar's text in its versions used by Fendulus are given in Appendix 2.

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paranatellonta of the *sphaera barbarica*—sections placed in the parallel bands below and above—interfered with the *sphaera indica*.[39]

I. The second decan of Gemini.[40]

In the Latin version of *Hermetica*, the second decan of Gemini is placed under the influence of Mars and is described as an *ancipiter* (double king). He is striding, wearing armor, and has a bow and arrow in his left hand and a rabbit between his feet.[41] *Hermetica* is possibly borrowing here from another tradition. The Lepus (hare) is a Greek constellation in the southern sky placed between the feet of Orion, and therefore, the rabbit between the decan's feet could imply an identification of the decan with Orion [fig. III:1].[42]

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[39] V.A. Clark argues that "the objects related to the activities or thoughts of the decans" are included there "in order to fill the space on the page," which is an unfair judgment. These objects are included in order to visualize the decans' characteristics, and to reveal in visual form their oracular responsibilities. They are substantial elements of decans which Fendulus considered to be fully represented only with these objects. Cf. V.A. Clark, *op. cit.* 143.

[40] Fendulus A: f.12r; Fendulus B: f.12v; Fendulus C: f.9v; Fendulus D: f.13v; Fendulus E: f.18r (see facs. 5-9, pp. 324-328).

[41] Secundus decanus Geminorum habet faciem Martis. Nomen est ei Samurois, habens formam ancipitris, transioens, armatus, in sinistra manu arcum tenens et sagittas et cum utrisque pedibus calcat lepores. Hic dominutur climati Persidis. W. Gundel, *Neue astrologische Texte*, 19.

[42] Cf. the image of Orion in the manuscript Leiden, Rijksuniversiteit, MS Vossianus lat.Q.79, f. 58v. In Greek mythology Orion was a hunter of gigantic stature. Once drunk he tried to rape the princess of Chios, but her father blinded him as punishment. An oracle then told Orion to go east, to the furthest edge of the world, where the rays of the rising sun would heal his sight. His sight was subsequently restored. In Renaissance celestial maps, the constellation of Orion was usually represented as a hunter with a

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In the third-century Sanskrit *Yavanajātaka,* the image of the second decan of Gemini was different from that in Abū Maʿšar's interpretation. The decan carrying a bow and arrows, from *Hermetica*'s second decade, was associated by *Yavanajātaka*'s author Sphujidhvaja with the preceding ten days of that period. The new second decan is described in *Yavanajātaka* as "a black woman whose girdle is beautiful and whose garments are brightly colored. She delights in the arts, in singing, and in story-telling. Holding a lyra [vīnā], she is pleased and delighted. Her brows are lovely, and she is graceful."[43]

This decan has two newly introduced elements, which are found later in the decans of Abū Maʿšar and Fendulus. This is the first source in which the second decan of Gemini is related to music and is said to be black in color. However, Sphujidhvaja certainly had a dark-skinned Indian woman in mind rather than an African, into which the decan was later transformed. In Indian mythology, darkness is the color of the ether, the formless, and the pervasive substance of the spatial universe. Thus, it is a symbol of the god Visnu, who is represented by black or dark blue.[44]

In Varāhamihira's list the second decan of Gemini again has the appearance of a warrior from *Hermetica.* The decan is described as "a man standing in a garden, clad in armour and armed with a bow; he is valiant and is a professional warrior. He has got

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rabbit between his legs. In one hand he holds a club and a cow's skin in the other.

[43] D. Pingree, ed., *The Yavanajātaka*, III:9.

[44] Alain Daniélou, *The Myths and Gods of India* (Rochester, Vt.: Inner Traditions International, 1991) 159.

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a face like that of Garuda. He likes sporting, he is fond of his children. His mind is always towards ornaments and wealth."[45]

The black woman from *Yavanajātaka* has been changed into Garuda in *Brihatjātaka*. Varāhamihira did not explicitly mention the decan's color. It was self-evident to his contemporaries that the color of Garuda would be molten gold. Garuda is a bird, which Visnu rides upon when awake. He is half-vulture, half-man, and its name means "Wings of Speech." Garuda usually personifies courage and he is depicted as an immense, strong bird, equal in splendor to the god of fire. He has the head of an eagle, a red beak, and feathered wings, together with a large belly and two arms like that of a man.[46] The bow that he holds was considered the destructive-aspect-of-the-notion-of-individual-existence (*tāmasākamkāra*) and, in the Hindu religious tradition, was associated with disintegrating tendencies; he is also the origin of the senses.[47]

Abū Ma'šar took bits of the decan's appearance from all of the previous lists, updating and localizing them in order to make the decan more comprehensible to readers of his time. He transformed the fantastic god-beast Garuda, whose characteristics did not have the same meaning where Abū Ma'šar lived as they did for the Hindus, into a knight in armor. His decan is described as a black man with a leaden wreath on his head, and wearing the suit of armor. The decan holds a bow and arrow in his hand; he likes games

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[45] Varahamira, *Brihatjātaka*, XXVII:8.

[46] A. Daniélou, *The Myths and Gods*, 160-162.

[47] *Ibid.*, 156.

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and jokes. He sings and plays a sanj,[48] just as Spujidhvaja's black woman plays a vīnā.

In the transformation of the decan, diverse traditions were confused. Garuda from *Brihatjātaka*, with characteristics that followed Indian religious tradition, became in Abū Ma'šar's list a black man identified with the color of the griffin, a fantastic mythical creature believed to live in India.[49] In translating the text, Hermann let his imagination run even more freely and the man with the griffin's color became a *vir forma ethyopis*. Any member of a mythical or actual people having dark skin was, in the Middle Ages, described as Ethiopian.[50]

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[48] For more about Herman's mistranslation of the term "sanj," see Chapter II of this dissertation, the description of the paranatellonta ascending with the third decan of Gemini.

[49] The griffin is not the only fantastic beast found in the East because of an inaccurate perception of India. Mentioned in reference to the paranatellonta rising during Aries is the cynocephalus, a dog-faced person belonging to people who worshipped the ox and believed to be living on an island near India. Cf. Rudolf Wittkower, "Marvels of the East: A Study of the History of Monsters," *Allegory and the Migration of Symbols* (New York: Thames and Hudon, 1977) 73.

[50] In his original treatise, *De essentiis*, Hermann even made a direct reference to this saying that the "nearness to the Sun darkens the Ethiopians." Hermann of Carinthia, *De essentiis*. Trans. and edited by Charles Burnett (Leiden: E.J. Brill, 1982) 74rH. The confusion between India and Ethiopia originated in the earliest descriptions of the ancient world. At the beginning of the fourth century B.C., Ktesias from Knidos—the royal physician at the court of Artaxerxes Mnemon of Persia—completed a treatise on India, which was used for centuries until medieval times (cf. R. Wittkower, *op. cit.*, 46-74). Ktesias here combined many fabulous stories about the East, which he found in the works of the ancient writers from Homer onwards, and he called the Indians Ethiopians. Herodotus, in his *History*, tells the story of the peoples of central Asia who under Aristeas's authority, saying that "above the Issedones there lived a tribe of Arimaspians, being men with one eye, and, above these, the griffins that guard the gold, and above these, the Hyperboreans, whose land reaches to the sea. All of these peoples, beginning with the Arimaspians and excepting only the Hyperrboreans, containually make war upon their neighbors." Herodotus, *The History*. Trans. by David Grene (Chicago: University of Chicago Press, 1987) IV:13. This tradition remained alive until the Middle Ages, and

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It seems at first glance that the appearance of a knight in armor holding a bow and arrows has nothing in common with the Indian Garuda as described in *Brihatjātaka*. They appear as totally divergent figures, but their hidden symbolism unveils some common characteristics that are atemporal and elevated above the qualities that would make them valid in a single tradition. Garuda's Egyptian equivalent, the god Horus, was represented with the head of a hawk. During the time the Hellenes were ruling Egypt, Greek religious ideas entered the Egyptian faith, influencing the national gods of the latter at that time; thus, Horus was identified with Apollo.[51] One can understand the appearance of the Indian Garuda as an inverted image of Horus, and from there the substitution of Horus with Apollo is only a step further.

Naturally, Fendulus's decan was not the Hellenistic Apollo, but its updated, medieval image of a man in armor with a bow and arrows[52] (see facs. 5-9, pp. 324-328). The similarity of the decan's appearance and traditional Apollo's representations have already been noticed by Gundel.[53] He linked them exclusively by virtue of the bow and arrows, although some other similarities can be traced by purely iconographical comparison. The Apollo depicted in the much later, north-Italian manuscript version of the anonymous *Albricus sive Libellus de imaginibus deorum* from about 1420 [fig. III:2])

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these creatures were believed to be inhabitants of India.

[51] "In the Egyptian language, Apollo is Horus, Demeter is Isis, and Artemis is Bubastis." Herodotus, *op. cit.*, II:156.

[52] Apollo used a bow and arrow to slay the snake Python, who struck terror into the hearts of the new-born race of man. Cf. Ovid, *Metamorphoses*, 40.

[53] Cf. W. Gundel, *Dekane und Dekansternbilder*, 124.

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has a golden tripod on the top of his crown of twelve precious stones (just as our decan has a triangular crown at the top of his helmet) and its shape is triangular. The decan is standing in a garden with precious wood from Paradise, and Apollo has a laurel tree at his side.[54] Another image of Apollo which follows the same tradition is in the manuscript of Christine de Pisan's *L'Épître d'Othéa* produced about 1461 [fig. III:3].[55] Apollo is standing over the three-headed serpent Python, holding the bow and arrows in one hand and a harp, the symbol of harmony and sounds of truth, in the other. Fendulus's decan does not hold an instrument in his hand, but the illustrator was following the pattern of including the decan on the left-hand side of the composition, leaving his attributes and symbols to the right. In this case the decan's attribute is a tambourine. Finding common characteristics in these images does not necessarily mean that they were copied from one another, but they do indicate a common understanding of features associated with Apollo, even when he appeared in very different contexts or was not explicitly named. Although Abū Maʿšar's decan is not specifically called Apollo, his characteristics were similar to those of Apollo and Fendulus's illustration reflects this.

The common characteristics of Fendulus's decan and Apollo can also be further related to the black woman from *Yavanajātaka*. It has already been mentioned that the color of the woman may be interpreted as a determinant of Visnu. The contrast between

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[54] Vatican, Reg.lat.1290, f.1v. For an analysis of the image of Apollo in the manuscript, cf. Jean Seznec, *The Survival of the Pagan Gods: The Mythological Tradition and Its Place in Renaissance Humanism and Art* (Princeton: Princeton University Press, 1972) 177-178.

[55] BRA MS 9392, f. 12v.

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Apollo and Dionysus in the Greek mythological world is mirrored in the Hindu tradition as the opposition between Visnu and Śiva. In this duality Visnu corresponds to Apollo and Śiva to Dionysus. Alain Daniélou states that in the early times of the śivaite cosmology, the Visnu (Apollonian) form of the Visnu-Śiva duality was considered feminine, and Visnu himself was sometimes transformed into a woman.[56] If one accepts the assumption that the blackness of the woman in *Yavanajātaka* is of the same symbolic meaning as Visnu, we have the basis for an argument that Fendulus's image of the latent Apollo incarnates the decan's elements, which go back as far as the *Yavanajātaka*. The decan retained the same symbolism, although it was expressed each time in a different code, adjusted to local traditions, and made comprehensible to the local user of the list.

Such Apollonian qualities of the second decan of Gemini might have originated in the ancient notion of the zodiac. During the fifth and fourth centuries B.C. individual zodiacal signs were not yet linked to the planets but were ruled by the twelve Olympian gods. In this system Gemini was ruled by Apollo. The relationship between the zodiac and the gods later changed and by Ptolemy's time Gemini was ruled by the planet Mercury while Apollo was forgotten. Elements of Apollonian qualities, however, survived and were transmitted to other systems.

Varahamihira placed the Garuda-faced god in a garden; Abū Ma'šar transformed this unspecifed garden into one with basil. Fendulus's manuscripts again changed the

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[56] The feminine form of Visnu, called Mohinī—one of his twenty-two incarnations—was meant to deceive the antigods and to deprive them of the ambrosia which confers immortality. Mohinī also seduced Śiva and made him realize the power of Visnu's magic. Cf. A. Daniélou, *Gods of Love and Ecstasy: The Traditions of Shiva and Dionysus* (Rochester, Vt.: Inner Traditions International, 1992) 67-70.

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garden's appearance into an orchard with trees emitting a strong and pleasant scent, and later into the precious wood from Paradise. Labeled as the *lignum odoriterum de paradiso* (wood of the odors from Paradise), the tree might represent the Tree of Knowledge from the Garden of Eden. The gardener is not mentioned in Abū Maʿšar's original text, but he does appear in Hermann's Latin version. Gundel argues that the earliest source for the gardener is the *Testamentum Salomonis*. There, the third (not the second) decan of Gemini is named Kourtael. In the root of this name Gundel sees the Greek word for "youthful" or "to cut," which led him to believe that the main characteristic of the decan Kourtael is the cutting of something. In its dissemination from one list to another, the decan's position was changed to the center of Gemini, where he is added to the black man.[57]

As indicated above, several later lists were based on Abū Maʿšar's tradition, and the influence of Abū Maʿšar is easy to notice. The *Picatrix* described the second decan of Gemini as a man with the appearance of Phoenix. He has a turban, an iron helment, and a brocade crown on his head. He is in armor, having a bow and arrow.[58] The tenth-century list compiled by the astrologer Achmet described the decan as having the appearance of a griffin, standing in a garden, carrying a bow and arrow, and wearing a headscarf on his head.[59] Ludovicus de Angulo, in the thirteenth century, described the decan as a grey or Ethiopian man standing in a garden and wearing a helmet, a crown,

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[57] Cf. W. Gundel, *Dekane und Dekansternbilder*, 51.

[58] G. Bing, ed., *'Picatrix' das Ziel des Weisen*, 135.

[59] Cf. W. Gundel, *Dekane und Dekansternbilder*, 363.

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and a suit of armor, and holding a bow and arrow. He blows on a golden flute.[60] Finally, Agrippa of Nottesheim, in his list of 1531, described the decan as a man standing with a flute in his hand and another (hunched) man digging.[61] The appearances of the decans following Abū Maʿšar's list do not vary from each other as much as those in earlier times. Most of them have black skin color, hold bows and arrows, and have helmets and crowns on their heads.

The decans of Gemini are related to music by default, because the sign was always considered particularly important to and influential for musicians.[62] The *Yavanajātaka* states that to Gemini belongs "the sexual intercourse of men and women, gambling, amusements, crafts, music, singing, smiles, and instrumental music; exercise, magic weapons, writing, soldiers (?), conversations, good advice, and manuscripts (pustakāni); couples, the acquisition of money, weapons, wealth, and herbs; the bearers of knowledge, of instruction, and of commerce; those who live by cleverness, by affording humor, and by their hands and dancers and rogues."[63] In spite of the fact that music is such a strongly emphasized characteristic of Gemini, here it has only a minor role. The decan in *Yavanajātaka* is described as one thinking of music, which corresponds to Gemini's commonly recognized characteristics. The one in Varahamihira's

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[60] Cf. W. Gundel, *ibid.*, 164; who used manuscripts St. Gall, Stiftsbibliothek, cod. vat.427 and BNF fr.612 for Angulo's description of the decans.

[61] Cf. *ibid.*, 165.

[62] On the importance of Gemini in music, see Chapter II of this dissertation, discussing the paranatellonta ascending with the second decan of Gemini.

[63] D. Pingree, ed., *The Yavanajātaka*, IV:6-7.

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list is described only as a professional warrior who likes sporting, ornaments and wealth, but music is not included. Abū Maʿšar returned music to the list, which might be an indication that he used some other sources besides *Brihatjātaka* in creating his list. The decan is singing and playing a sanj.

Hermann misunderstood the instrument, changing it into a tambourine. Although he states that the decan is about to dance and sing, the figure is not represented as dancing, but the tambourine does appear in the composition, next to the decan in the two earliest sources (Fendulus A and B). In Fendulus A the instrument (labeled *tympanum)* is schematically represented by two concentric circles without any details. In Fendulus B the tambourine is shown with seven jingles, appearing identically as in several other images in the *sphaera barbarica.*

In later manuscripts, the tambourine is omitted; the artist of the manuscript Fendulus C exchanged it for a mirror, which was copied unchanged in all subsequent manuscripts. This indicates that the artists who copied the manuscripts did not pay sufficient attention to the text, since the tambourine is mentioned in the textual introduction. When the model was accidentally changed, the later illustrators never again verified the images against the text or corrected it back to the original.

Although never explicit in descriptions, the second decan of Gemini was associated with Apollonian qualities in all lists prior to Hermann's. When Hermann confused and mistranslated the instrument, replacing the sanj (a chordophone) with a percussion instrument, and associated the decan with dance, he interfered with the archetypal characteristics of the decan. They were no longer consistent and the character

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lost its original Apollonian elements. For the almost three hundred years separating the latest Fendulus manuscripts from their iconographic models, nobody noticed this discrepancy or attempted to correct it. Since research in the tradition of the Indian decans in our time is at its beginning, it is hard to find a satisfactory argument explaining this ignorance of the medieval astrologers. Still, knowing that the dissemination of the Indian decans in the West was limited to only a handful of astrological treatises, our initial impression is that the roots of the Indian decans were not sufficiently understood, either by Fendulus or by those of his followers who used copies of his celestial atlas.

II. The third decan of Gemini.[64]

The description of the third decan of Gemini as an armed man may be traced back at least to *Yavanajātaka*, where he wears "red clothes and a red pendant necklace. He is pale with red limbs, violent and fierce. The tip of his staff is red (with blood). He is the chief of a multitude of men. He bears a sword and missiles."[65] The decan is here a violent and fierce warrior, and there is no indication that he has any relationship to the arts or to music. Subsequently, his characteristics changed. By Fendulus's time, he had lost his combativeness and gained an association with the arts. His iconographic appearance, however, retained features from the earliest sources and he remained in armor while holding a bow, an arrow, and a quiver in all later sources.

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[64] Fendulus A: f.12v; Fendulus B: f.13r; Fendulus C: f.10r; Fendulus D: f.14r; Fendulus E: f.18v (see facs. 10-14, pp. 330-334).

[65] D. Pingree, ed., *The Yavanajātaka*, III:10.

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In Varahamihira's list, the decan is described as "a man decked in ornaments, rich in jewels, fastened with a mail coat and a quiver, and carrying a bow. He is skilled in the arts of music and dancing and is a poet."[66] Abū Maʿšar changed the decan's character: he was no longer angry or combative. The weapons which he inherited from early times now describe different attributes, ensuring him the courtly appearance of a knight skilled in music, dance, and poetry.

Lists subsequent to *Introductorium maius* mostly follow the decan's characteristics as described by Abū Maʿšar, but additional qualities occasionally are appended, thereby making his appearance less coherent. In *Picatrix*, he wears armor, and is holding a bow, arrows, and a quiver; he is characterized by carelessness, forgetfulness, gossiping, and idleness.[67] In the two sources for decans by Ludovicus de Angulo, his appearance varies: in one he is a man armed with arrows and holding a lyre,[68] and in the other the decan is split into two men, one of them playing a wind instrument and the other a drum.[69] Finally, Agrippa of Nottesheim described the decan in his list as both a man with weapons and another foolish man with a bird and a flute.[70]

Fendulus's *sphaera indica*, in its original form, was redolent with Indian religion and mythology. After the decans reached the European West, they were viewed through

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[66] Varahamira, *Brihatjātaka*, XXVII:9.

[67] Cf. G. Bing, ed., *'Picatrix' das Ziel des Weisen*, 136.

[68] Cf. W. Gundel, *Dekane und Dekansternbilder*, 164. Manuscript St. Gall, Stiftsbibliothek, cod. vad. 427.

[69] Cf. W. Gundel, *ibid.*, 164. Manuscript BNF fr.612.

[70] *Ibid.*, 165.

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a matrix of Western astrology laced with the mythology of Antiquity. The duality of both the second and third Gemini decans as warriors and artists, holding a bow, an arrow, and an instrument, have elements in common with the mythological background of Gemini itself.

The Spartan twin brothers Castor and Pollux (Polydeuces), with whom Gemini was often identified, were renowned as inseparable warriors. When Castor was slain in a war, Pollux begged Jupiter to allow him to exchange his own life for that of his brother. Instead, Jupiter rewarded their devotion and placed them among the stars. Because the Dioscuri Castor and Pollux are legendary inventors of the war-dance and war-like music, they are considered patrons of the bards who sing of ancient battles, and they are often depicted either as carrying a lyre or a club and a lyre.[71] In the earliest Fendulus images, Fendulus A, the decan wears a tapered hat. Such a hat is a symbol of their birth from Leda's egg.[72] The authors of illustrations in the later manuscripts, probably not grasping the symbolism of the hat, either omitted it or adjusted it to the contemporary dress code.

As mentioned earlier, throughout the *sphaera indica* in Fendulus's catalogue, the decan is consistently depicted on the left-hand side of the middle section. The other side

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[71] Cf. Robert Graves, *The Greek Myths* (London: Penguin, 1960) 74p. For images of Gemini with a lyre, or a lyre and club, see figs. II:12-20, in the previous chapter on *sphaera barbarica.*

[72] On the map of the northern sky made by Johannes van Keulen (Amsterdam, 1709), the names "Castor" and "Pollux" are written next to the name of the constellation of Gemini. The twins are depicted with their symbols, a club and an arrow, and both wear tapered hats. Cf. Charles Stott, *Celestial Charts: Antique Maps of the Heavens* (New York: Crescent Books, 1991) 66-67.

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of this section is reserved for the code representing the decan's thoughts, intentions, and interests. Abū Maʿšar says that the third Gemini decan occupies his spirit with "writing and composing songs, music, games, and jokes in various arts." The instruments which Fendulus included to the right of the decan serve as a code for these characteristics. Since the decan is described only as thinking about music and not playing it, the instruments are not in his hands but are placed next to him.

The image of this decan includes the greatest number of instruments in one place in the entire manuscript: there are three instruments in Fendulus A and four thereafter (see facs. 10-14, pp. 330-334). Fendulus A (ca. 1220-40) includes a harp-psaltery (labeled *rota*), a fiddle with a bow (*viola* and *arcus viole*), and a harp (*giga*). The fiddle has a pear-shaped body of a lira and three strings. It might have been that the artist here drew the instrument from memory, since its two sound holes are distanced from each other more than on most images of this instrument. Also, the three pegs in the peg-box are arranged in such a way that the shortest string, rather than the longest, is in the middle, and appears as the strings go over two bridges, at the top and the bottom of the sounding body. Thus is unusual for the lira, because its neck could not be used for stopping strings. The bow, shown next to the instrument, has a shape of bows still used in Calabria for playing the lira.[73] Therefore this instrument in Fendulus A does share some elements with the lira, as can be found in other twelfth-century iconographical sources (i.e., the instrument held by a twelfth-century musician on the west portal of Chartres Cathedral [fig. III:4]). The name *viola*, written in the manuscript next to this

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[73] Goffredo Plastino, *Lira* (Vibo Valentia: Monteleone, 1994) 213-241.

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instrument, appears next to several other types of fiddles in the manuscript, indicating ambiguity of medieval terminology for instruments.

Next to the fiddle is a schematically shown harp-psaltery (*rota*). The instrument in the shape of an isosceles triangle has fourteen strings parallel to the longest side. The significance of this image is the name of the instrument written next to its representation, clearly defining the meaning of the word "rota" in southern Italy in the first half of the thirteenth century. The entry "rote" in *The New Harvard Dictionary of Music*, talking about the ambiguity of the term, emphasized how "because the pictures are seldom labeled and the literary references rarely descriptive, it is extremely difficult to match the names with the instruments."[74] In this regard, this image, which has not been discussed so far in the organological literature, brings significant new information. The delta-shaped harp-psaltery appearing together with a fiddle is not unusual during this period. They can be found, among other sources, in the images of King David surrounded by musicians both in the late-eleventh- or twelfth-century manuscript Vatican, Barb.Lat.587, f.194r [fig. III:5] and on the late-twelfth-century relief in the Baptistery of Parma Cathedral [fig. III:6]. The instrument in the cod. Barberini lat.587 (the Bible from the church of Sta. Cecilia in Trastevere in Rome) particularly resembles Fendulus's harp-psaltry. Fendulus's instrument is represented more schematically, but both instruments have fourteen strings and nine tuning pins on the top.

The third instrument in Fendulus A is a harp (labeled *giga*), which is drawn here

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[74] Don Randel, ed., *The New Harvard Dictionary of Music*, 2nd ed. (Cambridge, Mass.: Harvard University Press, 1986) 718.

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with more details than the harp in the constellation of Perseus in the sign of Aries. It has about thirteen strings which are so imprecisely drawn that their number cannot be exactly deduced, seven tuning pins at the top, and a substantial resonator with two four-leaf-clover-shaped holes.

The subsequent manuscript (Fendulus B, from 1325-50), has instruments that have been updated to represent their contemporary types and shapes. The triangular harp-psaltery was no longer in use by the time the manuscript was made, and therefore was replaced by a lute. The copyist was either not sure of its name or did not pay attention to it; there is no name written next to the instrument, a fact which remained consistent in all manuscripts after Fendulus B. The original fiddle with bow has been revised as a short-necked oval fiddle (*viola* and *arcus viole*).[75] Different from that in the earlier picture, the fiddle is here identical to the instrument next to Amphion in the corresponding *sphaera barbarica*. From Fendulus B onward, the two instruments not only had identical names but also the same characteristics. The harp remained in place and its shape was not substantially changed from that of the model. Above the harp is the title *giga & lira*, which refers to the harp and the hurdy-gurdy:[76] the *giga* remained here from the model, and *lira* was added as a reference to the hurdy-gurdy included

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[75] For a depiction of this instrument cf. Hortense Panum, *Stringed Instruments of the Middle Ages* (London: William Reeves, 1940) 376.

[76] Martin van Schaik, in his book on the harp, was misled by the two instrument names written near the harp, arguing that both of the names are related to the harp. If one is aware of the model (Fendulus A), where the harp's name is *giga* and neither the hurdy-gurdy nor the rubric *lira* is included, it is clear that the term *lira* is introduced here together with the hurdy-gurdy. Cf. Martin van Schaik, *The Harp in the Middle Ages: The Symbolism of a Musical Instrument* (Amsterdam and Atlanta: Rodopi, 1992) 36.

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below. A schematically represented hurdy-gurdy—which was at this time considered a noble instrument[77]—indicates that the artist had difficulty in drawing it. The wheel is depicted horizontally rather than in its vertical position, which made it impossible to include the strings. The five keys on the side have the same shape as the tuning peg on the rebec and the harp. Significant changes in the illustrations from one manuscript to the other do not occur often. In most cases, the artist copied the model while updating only some features of the included object to conform to its contemporary shape. Therefore, the introduction here of new instruments is a rather important change in the iconographic content of the manuscript.

The following two manuscripts, Fendulus C and D, include identical instruments with this decan. The fiddle (*viola*) has five strings fastened at the lower end to a tailpiece, and at the other end carried by tuning pegs inserted into a disk-like pegbox in which the neck ends. The lute is clearly recognizible by the distinction between the body and the neck. The harp and the hurdy-gurdy are almost identical in both manuscripts, and are executed more accurately than in any other picture. The images in the latest manuscript, Fendulus E, are not sufficiently clear to enable us to draw conclusions about their characteristics. The only drawing of an instrument which shows a bit of information about its shape is that of the harp, which was given here an elongated, late-fifteenth-century Gothic shape.

Consistently throughout the atlas, whenever music is meant as an abstract,

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[77] Cf. Albert P. de Mirimonde, "Les allégories de la musique. I: La musique parmi les arts libéraux," *Gazette des beaux-arts* LXXII/1199 (December 1968) 296.

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theoretical concept rather than as a sonorous entity, only the string instruments are used. That is the case here, where four string instruments but no winds are included. The decan is not playing music, but only thinking about it. Therefore, he does not hold any of the instruments; they appear only to remind the viewer of his astrological characteristics. Further discussion of this aspect of the instruments' symbolism will follow in Chapter 7.

III. The second decan of Cancer.[78]

In *Yavanajātaka,* the second decan of Cancer is described as "a girl seated on a snake-throne, having a beautiful waist. Her heart is filled with kindness and affection. Her body, adorned with jewels, is beautiful, and her garments are of a pale hue."[79] Varahamihira changed the decan's characterization, saying that the woman's head is decorated with lotus flowers and that she is carrying a snake. She behaves crudely and cries loudly, alone in a forest. She is resting on a branch of the phalasa tree.[80]

Abū Maʿšar again changed the decan's characteristics, although he retained its female appearance. His decan is a young girl with a royal crown and a staff. She likes to sing and goes to the house of the gods. The description is equally distanced from both previous lists, though a closer model for Abū Maʿšar's decan seems to be the woman full

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[78] Fendulus A: f.14v; Fendulus B: f.15r; Fendulus C: f.12r; Fendulus D: f.16r; Fendulus E: f.15*bis*-r (see facs. 20-24, pp. 342-346).

[79] D. Pingree, ed., *The Yavanajātaka*, III:12.

[80] Cf. Varahamira, *Brihatjātaka*, XXVII:11.

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of kindness and affection from *Yavanajātaka*, rather than the woman of rude behavior from *Brihatjātaka*.

In *Picatrix* the decan is described in similar fashion: a woman of pretty appearance with a basil wreath on her head holds a lily in her hand. She likes singing and friendship. This decan represents festivities, happiness, politeness, comfort, and convenience.[81] In subsequent lists the decan did not change its appearance. Achmet described it as a pretty woman screaming, with a braided wreath of flowers and branches. Finally, Angulo says that she is a woman with a crown and a stick.[82]

The stick that the woman is holding in Abū Maʿšar's list, in Fendulus A, is presented in the shape of a lily (see facs. 20-24, pp. 342-346)—identical to the one held by the first of the three Virgins in the second Cancer decan in the *sphaera barbarica*. This modification by Fendulus is a symbol of the woman's purity and youth. In the subsequent manuscript, Fendulus B, the lily was dropped from the image and replaced by a simple staff, as the text requires.

In all five versions of Fendulus's image, the "house of the gods" that the woman is approaching clearly appears as a Christian place of worship: the house in Fendulus B has Gothic tracery; in Fendulus C and D it is a church in the Flemish style; and in Fendulus F a rigid, straight, Romanesque structure. In each of the churches, except in manuscript F, the altar (*ara deorum*) is visible through the door. Three of the churches (Fendulus C, D, and E) have a belfry with a bell.

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[81] Cf. G. Bing, ed., *'Picatrix' das Ziel des Weisen*, 136.

[82] Cf. W. Gundel, *Dekane und Dekansternbilder*, 164.

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This decan's relationship to music is outlined only in Abū Maʿšar's list and in *Picatrix*. None of the earlier or later sources mentioned that the woman ever sings, much less plays any instruments. Fendulus iconographically translated her enjoyment of singing into two instruments, placing them in the composition next to her: a fiddle and a tambourine. The tambourine in Fendulus A is identical to all of the other images of this instrument in the manuscript. The fiddle is almost identical to the one included in the paranatellonta of the second decan of Leo. It has three strings, which are held at the very bottom of the instrument without the tail piece, and at the neck they go into the trefoil pegboard. The upper soundboard has two pairs of elongated soundholes.

Singing appears in several places, in both the *sphaera indica* and the *sphaera barbarica* but neither of Fendulus's figures is actually shown singing. We learn about the singing of the first of the Three Virgins in the preceding decan of the *sphaera barbarica* only from the *titulus* written above the image; we are told that the second Indian decan of Gemini is about to dance and sing, but he holds a bow, as does the third Indian decan, whose spirit is occupied with writing songs. Apparently the copyist of Fendulus B did not understand the instruments to be a legitimate part of the decan, because the woman is supposed to sing rather than play. Since the instruments are not mentioned in the textual introduction, in revising the image to make it better correspond to Abū Maʿšar's text, the copyist of Fendulus B eliminated them from the image and they never reappeared in the iconography of this decan.

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IV. The first decan of Capricorn.[83]

In describing the first decan of Capricorn, Abū Maʿšar remained in the tradition established by *Yavanajātaka* and *Brihatjātaka*. The decans in all three lists have similar appearances. *Yavanajātaka* says that the decan has "the color of collyrium. His teeth are as terrible as a crocodile's. He is armed with a staff, and his actions are like those of Time and Death. He stands in the middle of a cemetery with armor of heavy hair and a strong body."[84] Varahamihira's *Brihatjātaka* says that the decan "is represented by a man full of hair, with teeth similar to that of a crocodile and with a body like that of a hog. He carries a rope by which an animal would be tied to a pole and a net. He is frightful to look at."[85] Abū Maʿšar's decan is a black man with a hairy body, long sharp teeth, holding a rope and net in preparation for fishing.

Subsequent lists followed Abū Maʿšar's description. Achmet described the decan as a man with a hairy body, and the appearance of a wild boar, with three teeth, and clawed feet.[86] Ludovicus de Angulo said that the decan is a man of brown-red color, with a hairy body, and long teeth sharp as a thorn; he holds a fishing net and belongs to the woods.[87]

The trumpet which the decan holds in the earliest manuscript, Fendulus A, is not

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[83] Fendulus A: f.29r; Fendulus B: f.24v; Fendulus C: f.26v; Fendulus D: f.30v; Fendulus E: f.21v; Fendulus F: f.14v (see facs. 49-54, pp. 377-382).

[84] D. Pingree, ed., *The Yavanajātaka*, III:29.

[85] Varahamira, *Brihatjātaka*, XXVII:28.

[86] Cf. W. Gundel, *Dekane und Dekansternbilder*, 169.

[87] Cf. *ibid.*, 170.

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mentioned in any of the three texts prior to Fendulus's illustrations, including Abū Maʿšar's, and it was possibly Fendulus's addition to the decan's attributes (see facs. 49-54, pp. 377-382). It is possible that he used some additional sources to justify the appearance and occupations of the Indian decans, and the trumpet might have originated in some other source available to Fendulus but currently unknown.

The association of a fisherman with an instrument might look odd, but it was believed in the Middle Ages that sounds of some instruments attract fish into the net. For example, Adelard of Bath (twelfth century) mentions in his *De eodem et diverso* that "among the English the very fish are driven into nets by the sweet sound of a bell floating on the surface of the water."[88] Blowing into a trumpet might be another such attempt to attract fish.

The trumpet in Fendulus A is a straight, massive instrument without detail, which the decan holds in his left hand. Although the newly invented image does not conform with the description, Fendulus did not make any changes in Abū Maʿšar's text. When the copyist of Fendulus B worked on his illustrations, verifying them against Abū Maʿšar's text and not finding a reference to the trumpet therein, he dropped it from the depiction and the trumpet does not appear in later manuscripts.

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[88] Cf. the translation of the section on music from Adelard of Bath's *De eodem et diverso* by Charles Burnett in his study "Adelard, Music and the Quadrivium," *Adelard of Bath: An English Scientist and Arabist of the Early Twelfth Century* (London: The Warburg Institute, 1987) 69-73. In the same passage, Adelard goes on about the use of music in the hunt: "Among the Parthians the songs of men themselves force the deer to be dissolved into sleep, so there is no need for nets. One cannot doubt that birds are led into snares by songs."

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Different from the representations of constellations in the *sphaera barbarica*, where mythological figures such as Amphion or the satyr actually play music, in the *sphaera indica* decans are occupied with various other activities, and music is a category with which they are only mentally absorbed. The exception, the first decan of Capricorn, where the angry black man is depicted blowing a trumpet, is partially Fendulus's creation, as it is not occupied with music in the original Abū Maʿšar list. This is, for example, an instance which might reinforce Fendulus's claim in the introduction to the treatise that he attempted to make his images accurate representations of the sky. The Indian decans are not a part of the material universe which can be observed and he certainly did not see them in the sky. However, the change in this decan's attributes indicates his active role in designing some of his images. As we have noted, the three decans like to sing; their spirits are occupied with music, games, and jokes; but they hold bows and arrows, or walk to the temple, and are not actually playing or singing. Rather, the instruments describe their characteristics, as we have seen, and are not an integral part of the decans' appearances.

Each of the lists contains two or three decans related to music, but their association with zodiacal signs varies from one list to the other. The only decans consistently present are in the sphere of Gemini. A black woman in the second decan of Gemini in *Yavanajātaka*, who is delighted with singing, becomes in Varahamihira a man in armor with a bow and arrows standing in a garden. The armored man in Abū Maʿšar's list sings and plays music. Finally, in Agrippa's list is a man holding a flute in his hand.

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Varahamihira's third decean of Gemini is a man in armor carrying a bow and an arrow is skilled in music and the arts. Abū Maʿšar revived him in his list almost without change. The roots of the second decan of Cancer, however, are much harder to find, and music being included among his characteristics might have originated with Abū Maʿšar.

In comparing Abū Maʿšar's music-related decans with those in the two preceding Indian lists—*Yavanajātaka* and *Brihatjātaka*—it becomes apparent that he excluded music from the family of arts to make it a singular art. In early Indian thought, *saṅgīta* (music) was regarded as a composite art, consisting of melos (*gīta*), syllabic accompaniment (*vādya*), and dance (*nrtta*).[89] Music was placed there in a relationship with the other performing arts, and that idea is apparent in the decans' activities. The musical qualities of the decans in the two Indian sources are syncretized into a complex of performing arts. *Yavanajātaka* describes them as a black woman who delights "in the arts, in singing, and in story-telling" (III:9), a youthful woman who knows the rules of the arts (II:8), and an artistic man who loves singing, dancing, and listening (II:10). *Brihatjātaka* proceeded in an identical way: its description includes a cruel man skilled in the arts (XXVIII:3), a man skilled in the arts of music, dancing, and poetry (XXVII:9), and a woman skilled in all the arts (XXVII:29).

Abū Maʿšar particularized this association so that his decans are exclusively connected to music. The other arts are not mentioned. His second Gemini decan is just singing and playing. Hermann, in his translation, adjusted the description, saying that the

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[89] Cf. Lewis Rowell, *Music and Musical Thought in Early India* (Chicago and London: University of Chicago Press, 1992) 9.

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decan is about to dance and sing, and to accompany himself with a tambourine. It is impossible to hypothesize about the possible influences which led Hermann to make this change but, in that particular respect, Hermann's decan came closer to the original Indian model than to Abū Maʿšar's decan. Abū Maʿšar reduced the musical involvement of the other two decans exclusively to singing, which was far removed from the original Indian syncretic description.

There is one aspect which Abū Maʿšar did take over from the Indian concept, although one will never know whether or not he was aware of it. All three of his musical decans are involved with music through singing, which might have been influenced by Indian music theory. The Indian concept of music had a quintessentially human nature, and vocal sound was the primary model for all musical sound.[90] Traditional Indian thought was anthropocentric. Implements and other extensions of the human body were not considered as important as the body itself, which led to the establishment of vocal sound as the primary paradigm for music.[91] Musical instruments could be often found mentioned in ancient literature, but their function is little more than a tool. The main link between the universe of sound and the individual musical sounds is by the way of human vital breath (*prāna*).[92] Therefore, all musical decans are related to singing, but the importance of this feature was evidently never understood by Fendulus and he did not

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[90] Cf. *ibid.*, 40.

[91] Cf. *ibid.*, 53 and 113.

[92] Cf. *ibid.*, 40.

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include singing in his imagery of the Indian decans.

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Chapter Four

Sphaera Graecanica

Claudius Ptolemy of Alexandria (fl. 121-159 A.D.) defined an astrological and astronomical system, which had been developing since the fifth century B.C, on the basis of Chaldean, Egyptian, and Greek knowledge of the sphere. Based upon observations and mathematical calculations, he precisely located 1022 fixed stars and compiled a catalogue with their descriptions and locations, systematizing them into forty-eight constellations: twenty-one constellations visible in the northern sky, twelve constellations (also known as the zodiac) around the celestial equator, and fifteen constellations in the southern sky. He included this catalogue in his treatise entitled *Almagest* (also called *Syntaxis Mathematica*, written between 127 and 151 A.D.), in which he gathered all ancient knowledge of astronomy. For each star he provided a description of its location in the constellation, its brightness and color, its longitude and latitude, and the direction north or south of the ecliptic where the constellation can be found. The *Almagest* had a far-reaching influence on medieval astrology and astronomy, to which it was transmitted via the Arabic and Greek sources. The first translations from the Greek and Arabic sources

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were produced in 1160 and 1175, respectively.

The constellations in the northern and southern skies were named after Greek mythological figures as early as the sixth and fifth centuries before Christ, and the constellations of the zodiac were named slightly later, between the fifth and second centuries. Although Ptolemy mathematically and geographically defined each constellation, it is their names and images in the form of mythological figures that have remained permanently associated with them to this day. To distinguish the Greek systematization of the stars and constellations from the Egyptian and Roman spheres called *sphaera barbarica*, this system was named *sphaera graecanica*.

In addition to calculating celestial parameters, Ptolemy also worked on the astrological significance of the motion and positions of the constellations. In his didactic astrological treatise *Tetrabiblos*—four books about the influence of the stars on human life—he argued that the laws of astronomy are beyond dispute. The influence of the fixed stars depends upon their position in the constellations and upon their relation to the planets. In the opening chapter of the *Tetrabiblos*, he described the relationship between astrology and astronomy:

> "Of the means of prediction through astronomy, O Syrus, two are the most important and valid. One, which is first [i.e., astronomy proper] both in order and in effectiveness, is that whereby we apprehend the aspects of the movements of sun, moon, and stars in relation to each other and to the earth, as they occur from time to time; the second is that in which by means of the natural character of these aspects themselves we investigate the changes which they bring about in that which they surround."[1]

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[1] Ptolemy, *Tetrabiblos*. Ed. and trans. by F.E. Robbins (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1980) 3.

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Such was his authority on prognostication by astronomical means and his position among astronomers that he provided astrology with a secure shield against later criticism.[2]

Ptolemy's catalogue of constellations was transmitted to both Western and Eastern cultures, and the constellations were given a number of different visual representations. The outline of each constellation is identified with a mythological figure, of which the stars represent its most distinguished features (eyes, belt, sword, tail, etc.). Copied over and over again, these figures eventually disintegrated in iconographic sources and were represented as figures with imaginary appearances that emphasized more their astrological and mythological characteristics than the position of the stars in the sky.[3] The actual position of the stars was often the least important element in celestial maps, and the figures were represented without stars included in them [fig. IV:1].

At the time Fendulus produced the original abridgment of Abū Maʿšar's *Introductorium maius* (late twelfth or early thirteenth century), the Eastern scientific tradition, in which the disintegration of the iconography of celestial figures was not as extensive, became synthesized with the Western classical tradition.[4] This process is hard to recognize in Fendulus's illustrations of the *sphaera graecanica* because his figures are not represented in their entirety, but rather divided into parts in order to correspond with

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[2] Cf. Lynn Thorndike, *A History of Magic and Experimental Science During the First Thirteen Centuries of Our Era* (New York: Macmillan, 1929) I, 110-114.

[3] Erwin Panofsky and Fritz Saxl, "Classical Mythology in Medieval Art," *Metropolitan Museum of Art Studies* IV/2 (1933) 228-280.

[4] Cf. Vicky A. Clark, *The Illustrated "Abridged Astrological Treatises of Albumasar:" Medieval Astrological Imagery in the West* (Ph. D. dissertation, University of Michigan, 1979) 132.

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the 10° arc of the sky related to a particular decan and a ten-day period of the zodiac. This fragmentation of the figures sometimes even makes it hard to identify some of the depicted constellations by their iconographic attributes unless they are labeled with an accompanying rubric.

The abridgment includes two constellations of significance for music: Perseus and Lyra. The constellation of Perseus received its association with music through Fendulus's mistranslation of the Latin word for Perseus's "sword scimitar" as "harp." (For a discussion about the constellation of Perseus see Chapter Two, on *sphaera barbarica*.) In representing the constellation of Lyra—which is the most often shown in celestial atlases in the form of a musical instrument—Fendulus followed an alternative tradition presenting this constellation as an eagle.

The constellation of Lyra/Vultur.

Among the forty-eight constellations identified by Ptolemy, the only star-group which has its iconography genuinely associated with music is the constellation Lyra, placed in the northern sky next to the stellar Hercules. Its ten stars are associated with the musical instrument given to Apollo by Hermes.

As with the planets, the Indian decans, or the constellations of the *sphaera barbarica*, the astrological influences of the Ptolemaic sphere were determined by the appearance of the constellations; the Lyra was believed to govern the lives of musicians. Michael Scotus in his *Liber introductorius* mentions that "those born under the Lyra do humble work: They are fowlers, fishermen, tailors or players, but in any case they will

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never be rich and will not have much good fortune."[5]

During the Middle Ages and early Renaissance, the constellation Lyra was represented both in maps of the full sphere and in the isolated constellations as the instrument from classical Antiquity. It was a stringed, bowl-shaped instrument with a skin-covered resonator and strings between curved arms. The seven-stringed variant was the most popular, although the number of strings ranged from three to twelve.[6] One of the earliest medieval representations of the Lyra constellation as the ancient lyre is in the illustrated ninth-century Carolingian manuscript known as the Leiden *Aratea* [fig. IV:2].[7] The *Aratea* codex is presumed to be a copy of a now-lost manuscript from late Antiquity, and the image of Lyra in the shape of a lyre might be an indication as to how the instrument was represented in sources from Antiquity. The representation of Lyra as the ancient lyre remained its common image in astrological and astronomical sources over the next several centuries.

Since celestial influences were determined by the imaginary form of the

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[5] Translation from F. Alberto Gallo,"Astronomy and Music in the Middle Ages: The *Liber introductorius* by Michael Scot," *Musica disciplina* XVIII (1973) 6. The Latin original, according to the manuscript BS, Clm.10268, f.82r transcribed by Gallo is as following: "Lyra est instrumentum pulsatile ex cordis . . . Natus in hoc signo falacem fortunam habebit, quoniam erit aucupator, piscator et ideo secundum omnem fortunam aucupatorum et piscatorum semper erit fortunatus. Item natus in eo erit sartor et pulsator instrumentorum cantatorum, magus, iocosa persona, ingeniosa, sapiens, pauper potius quam dives, vanam fortunam habens ac sibi sepe falacem."

[6] For the depictions of Lyra in the eight manuscripts from the Österreichische Nationalbibliothek, Vienna, cf. Eva Diettrich, "Ikonographische Darstellungen der Lyra als Sternbild in mittelalterlichen Handschriften der Österreichischen Nationalbibliothek zu Wien," *Studien zur Musikwissenschaft* XXXVII (1986) 7-12.

[7] Leiden, Rijksuniversiteit, MS Vossianus lat.Q.79.

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constellation or the mythological figure with which it was associated, it was important in the perception of these celestial influences that the constellation did not have an outdated form. Therefore, although its form in iconographical sources gradually disintegrated from its original Ptolemaic shape, at the same time its image corresponded with the objects (in this case, a musical instrument) used in contemporary practice. When the lira da braccio became popular in the late-fifteenth century, it replaced the ancient lyre on celestial maps. The ancient lyre was no longer being played by this time and its symbolism was also partially forgotten. In contrast, the new lira da braccio inherited the characteristics of the ancient lyre and the latter's symbolism also became associated with the new instrument.[8] This metamorphosis from the original Ptolemaic figure went even further and the constellation of the Lyra was later represented by some other musical instrument having no resemblance to Apollo's instrument; for example, the late-fifteenth-century German astrological manuscript has the constellation depicted in the form of an organ in a peculiar circular shape, with the stars belonging to the constellation included around it [fig. IV:3].[9]

Besides the lyre, the constellation was also identified with the eagle, when it is known by its Latin name *vultur*. This tradition perhaps originated from the conception of the figure widespread for millennia in ancient India.[10] This image of the constellation

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[8] Cf. Emanuel Winternitz, "The Lira da Braccio," *Musical Instruments and Their Symbolism in Western Art* (New Haven and London: Yale University Press, 1979) 96.

[9] BNF, allem.106, f.209.

[10] Cf. R.H. Allen, *op. cit.*, 282.

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was commonly called Vultur cadens (Swooping Vulture, or the Falling Grype).[11] Both traditions were included side by side in representations of Ptolemy's sphera. The lyre is included in celestial maps more often, but the eagle is not unusual either. In some maps the two traditions merged, depicting the constellation as a bird with a lyre superimposed. The best known image to link the two traditions—the Lyra and the Vultur cadens—is Albrecht Dürer's etching of the map of the northern sphera, from about 1515 [fig. IV:4].[12] Here, a bird with outstretched wings has a lira da braccio on its breast.

Although one might expect to find Lyra in Fendulus's abridgment of Abū Ma'šar's *Introductorium maius*, there are no musical instruments depicted in the *sphaera graecanica*. This is because Fendulus followed the tradition in which the constellation Lyra is pictured as the Vultur cadens. The eagle is included in Fendulus's abridgment in the second and third decans of Sagittarius.[13] In both places, it is depicted in its entirety: in the second Sagittarius decan standing on its feet, and in the following decan, falling down with outstretched wings. Hermann's Latin translation of Abū Ma'šar's treatise also used an eagle rather than a lyre in the *sphaera graecanica*. The lyre is not

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[11] Cf. *ibid.*, 283.

[12] This map, together with its southern sky companion, were the first star charts to be printed. The identical iconography was associated with this constellation in the maps in the *Astronomicum Caesareum* by Petrus Apianus (Ingolstadt, 1540). The planisphere by Thomas Hood (drawn by Augustin Ryther and printed by Thobie Cook in London, 1590) included both the eagle and the instrument, but instead of the lyra da braccio, the classical shape is reinstated.

[13] The Vultur cadens should not be confused here with the Vultur volans, also included in the second decan of Sagittarius. The Vultur volans is a different constellation, also known as Aquila or the Eagle, and it is positioned west of the Dolphin.

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mentioned anywhere in the description of the Greek sphere, which might be—in addition to the system of decans taken over from Varahamihira—another indication of the influence of Indian astrology on Abū Maʿšar. The only exception is Fendulus E, preserved in fragmentary state, in which descriptions and depictions of the planets and Ptolemaic constellations are included in the final part. Among them there is a picture of the Lyra constellation in the shape of a sketchy psaltery (f.30v). It has three sound holes in the board and thirteen strings which are, at one side, tied to pegs.

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CHAPTER FIVE

THE PLANETS

Between the fixed stars and the terrestrial world are the planets: Saturn, Jupiter, Mars, the sun, Venus, Mercury, and the moon. Due to their brightness and visibility, they were considered to belong to the higher level of the celestial hierarchy, and therefore became associated with more important deities than were the constellations. The planets were identified with the most powerful Olympian gods and rulers of the universe, while the constellations were represented by human heroes, such as Perseus or Hercules. The system of planets—and their association with certain gods—was adopted by the Greeks from the Persian cult of the sun and from the Chaldeans, who considered heavenly bodies to be gods presiding over the destiny of man.[1] For every Chaldean god, the Greeks found an equivalent who bore some resemblance in character. This adoption was probably made by the Pythagoreans in the fifth century B.C.[2] The names used today

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[1] Jean Seznec, *The Survival of the Pagan Gods: The Mythological Tradition and Its Place in Renaissance Humanism and Art* (Princeton: Princeton University Press, 1972) 41.

[2] *Ibid.*, 39.

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for the planets came down from the Romans.

From Antiquity to the Middle Ages and Renaissance, the planets were believed to exercise, through their motion (conjunction, opposition, and relationship to the zodiacal signs and fixed stars), a particular influence over man's destiny. They were studied, described, and depicted accordingly. Although astrologers in the early Middle Ages were unaware of all of the characteristics with which the planetary gods were associated during Antiquity, their traditional relationships continued uninterrupted in iconography and literary sources. In creating his planetary picturebook, Fendulus relied on both traditions, those of Antiquity and the Middle Ages; while his images contain elements of the earlier iconographical traditions, they also accommodate elements from Abū Ma'šar's descriptions. This chapter will explain the iconography of Mercury and Venus—the two planets associated with music—as it was inherited by Fendulus, disseminated through the six known copies of his abridgment and sources contemporary to them, and subsequently developed.

Astrological characteristics of planets significant for music. Manilius and Ptolemy were among the earliest Western writers to determine and describe in detail the astrological characteristics of the planets. Manilius included a discussion of planetary characteristics in his *Astronomica*, immediately following the description of paranatellonta. Unfortunately, the chapter is lost and can be reconstructed only on the basis of secondary sources. He grouped the planets into three categories: Jupiter and Venus are the *benefics*, which, when they are favorably situated, exercise benign

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influences; Saturn and Mars are the *malefics* and, finally, Mercury changes its influences depending on the other planets.[3]

Ptolemy's planetary schema derived from the Egyptian cosmic conception. He associated each of the seven planets with one of the four elemental qualities: heat, cold, dryness, moisture. The hot and moist planets were considered fertile and active, whereas the dry and cold were passive and destructive. The planets were classified into sects (or divisions) according to their natures and powers: beneficent and maleficent; masculine and feminine; diurnal and nocturnal. Jupiter, Venus, and the moon were considered beneficent because of their tempered nature and their perceived warmth and moisture. Saturn and Mars are maleficent planets because of their excessive cold and dryness. The sun and Mercury have both characteristics and their nature is created in association with the other planets.[4] Moisture was considered an especially feminine characteristic and therefore the moist planets, the moon and Venus, are feminine; in contrast, the sun, Saturn, Jupiter, and Mars are masculine; Mercury is neuter because it is both dry and moist alike.[5] The day, because of its heat and active force, is more masculine, and night, more feminine. Therefore, the moon and Venus are nocturnal and the sun and Jupiter, diurnal planets. The quality of Mercury varies according to the time when it

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[3] Cf. G.P. Goold, introduction to Manilius's *Astronomica* (Cambridge, Mass. and London: Harvard University Press, 1992) xcviii.

[4] Cf. Ptolemy, *Tetrabiblos*. Ed. and trans. by F.B. Robbins (Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1980) I:5:19, "Of beneficent and maleficent planets."

[5] Cf. *ibid.*, I:6:20, "Of masculine and feminine planets."

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appears: it is diurnal when it appears as a morning star and nocturnal as an evening star.[6]

Over time, the planets became further associated with good and evil influences, various professions, types of human character, parts of the body, diseases, mental qualities, and actions of different kinds—successful during the influence of one planet or futile when another was in charge. Their own positions and relationships to other planets and zodiacal signs were thought to control the characteristics of the soul over which they exercised influence. In the Middle Ages the planets were believed to be influential for people's health, which made it imperative for doctors to have knowledge of the heavenly bodies, for some medical treatments were not to be carried out under certain constellations or on certain days. Therefore, images of planets can be found not only in astrological treatises, but also between medical recipes. The influence of certain planets was perceived to be favorable for studying music, while others were considered totally inappropriate to that pursuit, as will be discussed below. Additionally, the planets were personified by various professions and figures in society: Saturn as the chancellor or treasurer, Jupiter as the judge, Mercury as the scribe, Mars as the bodyguard, Venus as the slave and servant, the sun as the king, and the moon as the vizier.[7] Those characteristics of the planets and their personifications, which Ptolemy was the first to describe, were the basis for further transmission of planetary characteristics to Indian astrology and, later, to that of the Arabs.

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[6] Cf. *ibid.*, I:7:20-21, "Of diurnal and nocturnal planets."

[7] Cf. Vicky A. Clark, *The Illustrated "Abridged Astrological Treatises of Albumasar": Medieval Astrological Imagery in the West* (Ph.D. dissertation, University of Michigan, 1979) 97.

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The relationship between Mercury and the other planets was considered important for the abilities pertaining to verbal expression, the sciences, and music. As Ptolemy stated,

> Mercury, by himself taking the domination of the soul, in an honourable position makes those who are born under him wise, shrewd, thoughtful, learned, inventive, experienced, good calculators, inquirers into nature, speculative, gifted, emulous, beneficent, prudent, good at conjecture, mathematicians, partakers in mysteries, successful in attaining their ends.
> Jupiter allied with Mercury in honourable positions makes his subjects learned, fond of discussion, geometricians, mathematicians, poets, orators, gifted, sober, of good intellect, good in counsel, statesmen, benefactors, managers, good-natured, generous, lovers of the mob, shrewd, successful, leaders, reverent, religious, skilful in business, affectionate, lovers of their own kin, well brought up, philosophical, dignified.[8]

The other planet significant for music is Venus.

> If Venus alone takes the domination of the soul, in an honorable position, she makes her subjects pleasant, good, luxurious, eloquent, neat, cheerful, fond of dancing, eager for beauty, haters of evil, lovers of the arts, fond of spectacles, decorous, healthy, dreamers of pleasant dreams, affectionate, beneficent, compassionate, fastidious, easily conciliated, successful, and, in general, charming.
> Jupiter, allied with Venus, in honourable positions makes his subjects pure, pleasure-loving, lovers of the beautiful, of children, of spectacles, and of the domain of the Muses, singers, fond of those who reared them, of good character, beneficent, compassionate, guileless, religious, prone to athletic training, fond of competition and learning, wise, affectionate, charming in a dignified way, magnanimous, fair, charitable, fond of learning, of good judgement, moderate and decorous in matters of love, fond of their kinsfolk, pious, just, ambitious, seekers after glory, and in general gentlemanly.[9]

Jupiter and Venus in opposition create subjects fond of the dance. Mars, allied with Venus in honorable positions, makes his subjects sexual, masculine, artistic, imitative,

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[8] *Ibid.*, III:13:162-167, "Of the quality of the soul."

[9] *Ibid.*

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pleasure-loving, fond of dancing, able to secure property, and given to misconduct in matters of love.[10] Joined with Mercury in honorable positions, Venus makes souls artistic, philosophical, of worthy character, gifted with understanding, talented, poetic, lovers of the muses and beauty, seekers after enjoyment, luxurious, happy, fond of friends, intellectual, quick to learn, selftaught, imitators of beauty, eloquent and pleasing in speech, fond of athletics, and of good judgement.[11]

In book four of *Tetrabiblos*, Ptolemy proceeds to explain how planets direct their subjects toward certain professions by guiding their actions:

> If Mercury governs action, he makes his subjects scribes, men of business, calculators, teachers, merchants, bankers, soothsayers, astrologers, sacrifices, and in general those who perform their functions by means of documents, interpretation, and giving and taking. . . . If Venus rules action, she makes her subjects persons whose activities lie among the perfumes of flowers or of unguents, in wine, colours, dyes, spices, or adornments, as for example, sellers of unguents, weavers of chaplets, innkeepers, wine-merchants, druggists, weavers, dealers in spices, painters, dyers, sellers of clothing.[12]

Further nuances in the governing of the planets occur when one planet appears close to, or at a distance from, others:

> If Mercury and Venus take the rulership, they bring about action expressed by the arts of the Muses, musical instruments, melodies or poems, and rhythm, particularly when they have exchanged places. For they produce workers in the theater, actors, dealers in slaves, makers of musical instruments, members of the chorus, makers of strings, painters, dancers, weavers, and wax-moulders.[13]

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[10] Cf. *ibid.*, III:13:164.

[11] Cf. *ibid.*, III:13:166.

[12] *Ibid.*, IV:4:178-179, "Of the quality of action."

[13] *Ibid.*, IV:4:180.

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Planets and zodiacal signs were also considered influential over particular geographical regions. Ptolemy divided the world into four parts, associating each geographical region with a triangular formation of the zodiac and with the planets. The characteristics of the signs and planets influence the inhabitants of those regions. Venus is influential in the area of music and the regions in which her influence makes people good musicians or lovers of music are "situated about the center of the inhabited world, Thrace, Macedonia, Illyria, Hellas, Achaia, Crete, and likewise the Cyclades, and the coastal regions of Asia Minor and Cyprus."[14]

In India the iconography of planets begins with an introduction of an illustrated Greek manuscript on astrology, which was translated into Sanskrit as the *Yavanajātaka,* in A.D. 149/150.[15] In the *Yavanajātaka*, the planets were seen as a seven-member family: "Father, mother, brother, wife, relative, son, and slave of the natives, such are the natures (respectively) of the sun, the moon, Mars, Venus, Jupiter, Mercury, and Saturn."[16] As did the Greeks, the Indians associated the planets with certain characteristics: Saturn with old age, Jupiter with happiness, Mars with strength, the sun with activity, Venus with sexual intercourse, Mercury with intelligence, and finally the moon with the status of man.[17] Each planet was also assigned a characteristic color

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[14] *Ibid.*, II:3:62, "Of the familiarities between countries and the triplicities and stars."

[15] Cf. *Idem.*, "Indian Planetary Images and the Tradition of Astral Magic," *Journal of the Warburg and Cortauld Institutes* LII (1989) 2.

[16] David Pingree, ed., *The Yavanajātaka of Sphujidhvaja* (Cambridge, Mass.: Harvard University Press, 1978) I:122.

[17] Cf. *ibid.*, I:122.

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similar to those in Greek astrology, and this was mirrored in the iconography as well: the sun was associated with coppery red, the moon with silver, Mars with red, Mercury with green, Jupiter with yellow, Venus with white, and Saturn with black.[18]

The Arabs received the system of the planets from Greek and Roman astrology and merged it with Babylonian and Indian teachings. They associated the planets with new characteristics, establishing a correspondence between the planets and colors, temperatures, and the four humors (black bile, blood, yellow bile, and phlegm). The key figures in defining the planets' characteristics in Arabian astrology were Abū Maʿšar and al-Kindi.[19] In the fourth book of his *Introductorium maius* (chapters 4–7), Abū Maʿšar talks about the nature and characteristics of the planets from an astrological point of view. He explains that the planets influence the sublunar world through their motions, size, color, and the distance of their spheres from one another and from us.[20] The planets themselves ought not be considered good or evil by nature, he says; their influence comes only from their motions which can be identified as positive (*fortunium*) or unfavorable or destructive (*unfortunium*).[21] Each planet can, as can any other celestial body, produce an infinite variety of effects on the sublunar world, depending on its own qualities and its relationship to the other planets, the zodiac, and other constellations.

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[18] Cf. *ibid.*, I:120.

[19] Cf. V.A. Clark, *op. cit.*, 97.

[20] Cf. Richard Lemay, *Abū Maʿšar and Latin Aristotelianism in the Twelfth Century* (Beirut: American University, 1962) 97-98.

[21] *Ibid.*, 98.

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Origins of Fendulus's planetary imagery. The second part of Fendulus's abridgment provides images of the seven planets, based on Abū Maʿšar's description. In the first part of the abridgment, which deals with the iconography of constellations, Fendulus selected a part of Abū Maʿšar's treatise that describes the planets' positions in the sky. Since Abū Maʿšar's text on the *sphaera barbarica* and *sphaera graecanica* dwells more on the position of the constellations rather than on their astrological significance, Fendulus was able to create a celestial atlas which provides—if all its fragments are combined—a full representation of the celestial sphere. In the part of the treatise dedicated to the planets, Fendulus's intention leaned in the opposite direction. He selected portions from Abū Maʿšar's *Introductorium maius* that describe the astrological significance of the planets rather than their astronomical parameters. The text devoted to each planet opens with its physical characteristics (whether the planet is dry, moist, hot, or cold) and proceeds with a description of the interests and occupation of the planetary deity, ending with a statement about his or her influences (which result from those interests) on the sublunar world. The source on which Abū Maʿšar based his text on the planets is not known and it is likely that he used more than one.[22]

The verbal description of each planet in Fendulus's abridgment is followed by a four-page section with illustrations representing the planetary cycle in relation to the zodiac. The depictions are based on the premise that each planet, in its travels across the sky, moves through a four-part cycle. The planet can be in its house (*domus*), in its counterhouse (*declinatio*), in exaltation (*exaltatio*), and finally in dejection or descension

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[22] Cf. V.A. Clark, *op. cit.*, 99.

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(*casus*). The house or domicile is equivalent to the one or two signs of the zodiac in which the planet is particularly potent.[23] Opposite the house is the planet's counterhouse, where its powers are least effective. The counterhouse is the seventh zodiacal sign from the house.[24] The sign of exaltation is the one in which the planet begins its ascent to the north. At that point it starts receiving additional powers, which culminate when it reaches its house.[25] The dejection or fall begins in the seventh sign from the exaltation.[26]

Although Abū Maʿšar does not include a description of planetary influences according to the described four-phase cycle, such representations were known in the Arabic astrological sources. Two of them constitute a series included in the *Kitāb al-bulhān* ("Book of Well-Being"; Bodleian MS 133) and the Ottoman manuscript *Matāli ʿal-Saʿāda wa-manābi ʿal-siyāda* (Morgan M.788). Both manuscripts are of a later date[27] and therefore certainly did not influence Fendulus, but they do reflect the tradition of

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[23] Leo is the house of the sun, Cancer is the house of the moon, Gemini and Virgo are the houses of Mercury, Taurus and Libra are the houses of Venus, Aries and Scorpio are the houses of Mars, Pisces and Sagittarius are the houses of Jupiter, and finally Aquarius and Capricorn are the houses of Saturn. Cf. Guido Bonatti, *Liber astronomiae*. Trans. by Robert Zoller (Berkeley Springs: Golden Hind Press, 1994) I, 59-60.

[24] Aquarius is in the counterhouse of the sun, Capricorn is in the counterhouse of the moon, Sagittarius and Pisces are the counterhouses of Mercury, Aries and Scorpio are the counterhouses of Venus, Libra and Taurus are the counterhouses of Mars, Virgo and Gemini are the counterhouses of Jupiter, and finally Leo and Cancer are the counterhouses of Saturn. Cf. *ibid.*, I, 65.

[25] The sun is exalted in Aries, the moon in Taurus, Saturn in Libra, Jupiter in Cancer, Mars in Capricorn, Venus in Pisces, Mercury in Virgo. Cf. *ibid.*, I, 67.

[26] The sun falls in Libra, the moon in Scorpio, Saturn in Aries, Jupiter in Capricorn, Mars in Cancer, Venus in Virgo, and Mercury in Pisces. Cf. *ibid.*, I, 69.

[27] Bodleian MS 133 was produced in 1399 at Baghdad and Morgan M.788 is probably from 1582.

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representing the planets in phases of their cycle and might have common ancestors with Fendulus's images.

The main difference between Fendulus's depictions and the Oriental sources is that the latter represent planets in their house, their exaltation, and their dejection, but not in their counterhouse. For example, a representation of Venus in her house with Taurus opens the chapter on Taurus in the manuscript Morgan M.788, while images of Venus exalted in Pisces and dejected in Virgo follow the text [fig. V:1 and V:2].[28] The fourth phase—the planet in its counterhouse—which can only be found in Western sources, including Fendulus's iconography of the planets, possibly reflects an influence of the four positions of the Wheel of Fortune with its usual sequence of posts: *Regnabo, Regno*, *Regnavi*, and *Sum sine regno* [fig. V:3].[29] Occasionally in astrological discourses, all seven planets were represented in the form of a single Wheel of Fortune as, for example, in the German woodcut from Martin van Landsberg's *Almanac* printed in 1490 [fig. V:4].

Fendulus's pattern in representing the four images of each planet corresponds to the Wheel of Fortune, although the wheel itself, naturally, is never included in the picture (see depictions of Venus and Mercury, facs. 58-82, pp. 388-413). The position of each planet takes up a full page and is independent from the other three positions. When the planet is in its house, it looks content sitting on its throne and firmly holding

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[28] Morgan M.788, f.9v and f.33v respectively. Below the two images of Venus (f.33r), Mercury is represented exalted in the sign of Virgo and dejected in Pisces.

[29] Cf. V.A. Clark, *op. cit.*, 100; and the description of the manuscript Morgan M.785 in the reading-room catalogue of the Library.

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its attributes. In the counterhouse, the planet is leaning to one side, like a person who has lost his balance for a moment and its facial expression reflects uneasiness. In exaltation the figure is again stable, sitting on its throne. Finally, in dejection, the figure is falling upside down. The comparison of the four phases in which each planet is represented with the phases of the Wheel of Fortune seems even more appropriate when one realizes that the manuscript Fendulus A has an unfinished appendix, following the section about the planets, which includes a series of five images of the Wheel of Fortune (f.74v-79r, see facs. 55, p. 384). An assumption about the influence of the notion of the Wheel's circular movement on the perception and design of the four planets' phases is confirmed by the fact that each position of the Wheel is analogous to one of the four positions of the planets, depicted separately from the other.

Fendulus's approach to the planets shows that he did not pay particular attention to Abū Ma'šar's text because his illustrations do not correspond with the appropriate portions of the text. As was previously mentioned, the text which Fendulus selected for introduction of his pictures explains the characteristics and influences of the planets without reference to the four planetary phases, appearing more like the basis of the later development of imagery of the planets' children—which became a popular iconographic theme in the fifteenth and sixteenth centuries—than for Fendulus's images.[30] This

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[30] Abū Ma'šar's text is so well-suited to the concept of the planets' children, that it was included beneath the woodcuts (from about 1460), attributed to the Florentine artist Maso Finiguerra, representing the planets' children. Fritz Saxl, "The Literary Sources of the *Finiguerra Planets*," *Journal of the Warburg Institute* II (1938/39) 72-74. Since the imagery of the planets' children subsequently became an important iconographic subject, and Abū Ma'šar's text played a significant role in its defining, some of early depictions will be discussed later in this chapter.

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discrepancy raises the following question: What was Fendulus using as a model for his representations of the planets, both for the particular appearance of each figure and for its representation in the four positions?

The images of the constellations included in the first part of Fendulus's abridgment were expected to outline the exact position of the celestial bodies; therefore, they often look stiff and their likenesses seem distanced from reality. The figures representing the constellations remain—if we follow the same tradition—in the identical position, which was strictly determined in advance by the elements which enable the viewer to identify the image with a constellation. For example, in all celestial maps Hercules is represented half kneeling with the lionskin over his left shoulder and holding a club, raised in his right hand. The iconography of the planets was treated differently. Since it did not have to follow the arrangement of the celestial bodies, the planets took their appearance from their association with the visual characteristics of the deities with which they were identified. While the tradition of the Ptolemaic constellations continued, throughout their history in the West, the appearance of the planets as Greek heroes was regularly updated as their iconography was inspired by contemporary personages, dressed in up-to-date clothing and situated in a local environment.[31] Eventually, the images of the planets disappeared and a single figure representing a planet was replaced by the planets' children, a series of figures which constituted a narrative composition combining

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[31] There are, however, exceptions in which Ptolemaic constellations are given different appearances. Such a map, in which each constellation is represented by a Biblical figure rather by than mythological one, is made by Julius Schiller for the *Atlas Coelestis seu Harmonica Macrocosmica*, issued by Andreas Callarius in Amsterdam, 1661.

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all of the astrological influences of a certain planet.

Both the mythological and astrological iconography of the ancients was forgotten over the centuries and images of the mythological heroes were created anew in the early Middle Ages. Those images were not based on a preexisting iconographic tradition but rather on literary sources, creating a new canon which often did not have much in common with the ancient models. Fendulus's planetary iconography—as V.A. Clark pointed out—was produced at a time when this new medieval canon of mythological imagery was just in formation. Until the late twelfth or early thirteenth centuries, when influences from the Arabic tradition infiltrated Western iconography, the iconography of the planets was based on two principal sources: the chronograph of the year 354[32] and the Aratea codex. The figures in the Aratea codex exactly repeat the figures appearing in the chronograph.[33] In these two sources, each subsequently copied numerous times, the planetary gods assumed their characteristics and appearance as they were known in Antiquity: Saturn appeared with his scythe, Jupiter as a crowned king, Mars as a warrior, Mercury as the winged messenger holding the caduceus, and Venus as the goddess of love and beauty, holding flowers or a mirror.

The Classical mythology did not have much meaning for the Arabs. When they attempted to design their celestial iconography, they carefully made note of the stars belonging to a certain constellation, outlining them with a figure which corresponded to

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[32] Vatican, Barb.Lat.2154, which is a Renaissance copy of a Carolingian manuscript.

[33] Cf. Erwin Panofsky and Fritz Saxl, "Classical Mythology in Mediaeval Art," *Metropolitan Museum Studies* IV/2 (1933) 242.

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their understanding of mythology. Therefore, constellations in the Arabic sources are represented by Arabian-looking figures. The Arabic perception of the planets was greatly influenced by the Babylonian deities, which assumed quite differents appearance from those that were given in the Western tradition: Saturn (*zuhal*) was the god of death and the fields (shown with a pick or a spade), Jupiter (*al-mushtarī*) was the determiner of fate (shown with a book), Mercury (*ʿutārid*) was a scribe with a scroll, Mars (*al-mirrīkh*) was the god of war with a sword and a severed head, Venus (*al-zuhara*) was the goddess of love and joy, shown playing an ʿūd. The sun (*al-shams*) was shown as a male figure, usually wearing a tunic and sitting cross-legged; the moon (*al-qamar*) is sitting cross-legged and holding a circle, within which is a crescent shape.

One of the Arabic manuscripts reflecting such a vision of the planets is Paris, BNF arab. 2583, produced in Cairo, in about 1300 (with illustrations added much later very likely in the 17th century),[34] in which each planet is represented several times in relation to different zodiacal signs: some of the images remain unchanged from one picture to the other (sitting in the same position, or wearing the same clothes), others change their appearance (sitting in a new position, or wearing different clothes). Leo, for example, is represented in its main picture as being adjacent to the sun and Jupiter. Below, smaller images of five planets are lined up: Saturn, Mercury, Jupiter, Venus, and Mars [fig. V:5]. For the image of Sagittarius, which is adjunct to the moon and Jupiter [fig. V:6], Saturn—included below the main picture— exchanged the light-green garment,

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[34] Cf. Stefano Carboni, *Following the Stars: Images of the Zodiac in Islamic Art* (New York: The Metropolitan Museum of Art, 1997) 5.

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worn in the sphere of Leo [fig. V:5], for a gold-patterned one. Mercury has on the same yellow caftan in both images, but in the first one is holding a scroll. Jupiter exchanged his green caftan for a gold-patterned one, but remains sitting in the same position as adjunct to Leo. Venus plays her ʿūd in both images, and Mars walks with his sword and a severed head. Whether or not the planets change their clothes or move to new positions, they are always easily recognizable, even without their attributes. For the sake of completeness in considering the iconography of all seven planets, we can also see here the image of Aries adjunct to Mars and the sun [fig. V:7], below which are Saturn, Mercury, Venus, Mars, and Jupiter respectively. Some features of this Arabic planetary imagery are easy to recognize in Fendulus's depictions, and we will briefly discuss them later in the text.

Planetary iconography of Michael Scotus. Michael Scotus (1175?—1234?)[35] created his planetary iconography in his principal work *Liber introductorius* almost contemporaneously with Fendulus's figures.[36] He took ancient iconography as a point

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[35] Born in Scotland, he probably studied in Oxford and Paris. On 18 August 1217 in Toledo, he completed a translation into Latin of the work *De sphaera* by the twelfth-century astrologer al-Bitrogi. By 1220 at the latest, he was in Bologna, again employed as a translator. In 1227, Michael accepted the position of court astrologer of King Frederick II, and arrived in Sicily, where he remained until the end of his life. Cf. Ulrike Bauer, *Der Liber Introductorius des Michael Scotus in der Abschrift Clm. 10268 der Bayerischen Staatsbibliothek München: Ein illustrierter astronomisch-astrologischer Codex aus Padua, 14. Jahrhundert* (Munich: tuduv-Verlagsgesellschaft, 1983) 1.

[36] The treatise was meant to be a compendium of astronomy, and it also includes two chapters on music: "De notitia armonie sive celorum 7 orbium in celo" and "De notitia totuis artis musice." Michael explained here the definitions of music, its classifications, legends about its invention, the division of the monochord, and the rules for the liturgical

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of departure, but developed his own canon: BS, Clm.10268, from about 1320 and its copies ÖNB, cod. 2352, from 1392-93, and cod. 2378, from about 1400 [figs. V:8, V:9A-C, and V:10]. While the Classical tradition of planetary iconography was based on the gods' characteristics in classical Olympian mythology, the seven planets became representatives of different medieval social strata in Scotus's iconography: Jupiter is a king or an ecclesiastical dignitary at table, Mars is a warrior in full armament, Mercury is a bishop holding a book and a crosier, and Saturn is an old man with a scythe.[37] Venus is described as a pretty lady, not tall and not too round, moderately corpulent. She has unfocused eyes, an elevated chest, and luxuriant, fashionably-set curly blonde hair. Her clothing is ornamented with fur and rare stones. With one hand, she holds a rose near her mouth. Music is not associated here with her in any regard.[38] The sun and the moon stand in chariots. The sun is usually driven in a two-wheeled chariot with two horses pulling it on each side, symbolizing the sun rising in the east, setting in the west, and reappearing in the east. In one hand he holds his solar orb and in the other a torch. The moon is depicted as a woman, standing in a four-wheeled chariot pulled by two oxen and holding two torches.

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chant. The relationship between music and astronomy he explained through a series of analogies between astronomical and musical phenomena. Cf. F. Alberto Gallo, "Astronomy and Music in the Middle Ages: The *Liber introductorius* by Michael Scot," *Musica disciplina* XXVII (1973) 5-9. Since our discourse is focused on the astrological context of music rather than on analogies between astronomy and music theory, Michael's assertions about music will not be considered here.

[37] Cf. U. Bauer, *op. cit.*, 81-90.

[38] Cf. *ibid.*, 86-87 and n. 601.

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Fendulus's representations of planets. Michael Scotus was possibly a contemporary of the artist who produced Fendulus A, if not of Fendulus himself. This makes a comparison between Michael Scotus's iconography of the planets and Fendulus's imagery particularly interesting. Unfortunately, at this point we cannot determine whether Fendulus created his iconography prior to that of Michael Scotus, or if they directly influenced each other in a way that suggests they both were influenced by the Arabic sources.

Although the focus of our investigation is Fendulus's imagery of the two planets important to the area of music (Venus and Mercury), we should first become acquainted with general iconography of the planets and how it changed between the time of the earliest and latest copies of the Fendulus manuscripts (i.e., between the mid-thirteenth and late fifteenth centuries), and particularly with the influences of the three main traditions (Aratea, Arabic, and Michael Scotus). When new features were introduced in the iconography of the planets in the Fendulus manuscripts, they follow the same pattern as do the illustrations of constellations in the first part of the manuscripts. The figures produced by more talented artists have a certain ease, and they are distanced from their models to a higher degree than the figures rendered by lesser artisan illustrators. The most original figures are in Fendulus A (which is the closest to the original model), Fendulus B, and Fendulus C. The two later manuscripts (Fendulus D and Fendulus F) do not contribute any new features. Concerning the attributes of the planets, the greatest digression from the model can be found in Fendulus B. The manuscript Fendulus E does not include planets represented in their four phases as do all other Fendulus manuscripts,

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but rather follows the Michael Scotus iconographic tradition.[39]

As Erwin Panofsky and Fritz Saxl determined, the assimilation of Arabic and Western astrological iconographies took place in Spain and southern Italy in the thirteenth century.[40] Southern Italy is the most likely place of origin for the earliest manuscript, Fendulus A.[41] V.A. Clark is of the opinion that the transmission of planetary appearances from the East to the West occurred in literary texts, rather than pictorial sources.[42] She even goes a step further, proposing that Abū Ma'šar's descriptions of the planets carried the Islamic tradition to the West.[43] However, as mentioned earlier, the text selected by Fendulus does not describe the planets in their four-part cycle, but deals with their general astrological influences. Therefore, Fendulus must have consulted iconographical sources as a model, rather than have based his illustrations exclusively on

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[39] Venus holds roses and Mercury, dressed in a long dalmatic, holds a rose in his right hand and a book in his left. His mitre is next to his head. The sun and the moon are each sitting in their chariots pulled by tow pairs of horses to each side. The sun holds a torch and his orb, the moon two torches. There are no musical instruments involved.The text on the planets was written on f.21r-22v, 31r-34r, and 25v-26, but remained unfinished and the space for initials is blank. Fendulus's introduction to the abridgment is misplaced on the next page (f.23r-24v), and it is succeeded by text and images of the Ptolemaic constellations.

[40] Cf. E. Panofsky and F. Saxl, *op. cit.*, 239.

[41] Surprisingly, Panofsky and Saxl did not mention the Fendulus manuscripts in their study of 1933, although Saxl must have known at least the manuscript Fendulus B, since he made reference to it in his book on astrological sources in the ÖNB, which was published six years earlier. Cf. Fritz Saxl, *Die Handschriften der Nationalbibliothek Wien* (Heidelberg: Heidelberger Akademie der Wissenschaften, 1927) 64. Similarly, Fendulus's manuscripts are not mentioned in Jean Seznec's study of the iconography of the mythological tradition in Renaissance art. Cf. J. Seznec, *op. cit.*

[42] Cf. V.A. Clark, *op. cit.*, 104.

[43] Cf. *ibid.*, 155, n. 21.

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Abū Maʿšar's text. If the text contributed to the dissemination of Arabic planetary iconography in the West, this did not occur through Fendulus's abridgment, since the illustrations and the text are two independent entities therein. The joint influences of the three iconographic traditions mentioned above penetrated gradually into Fendulus's iconography. Some elements inherited from the Arabic tradition—such as the inclusion of the sun as a person rather than a chariot, or of the severed head with Mars—can already be found in Fendulus A; other features, such as Saturn's shovel, appeared only in later copies.

We will compare here the iconography of the planets in the Fendulus manuscripts with images from three manuscripts in the Michael Scotus tradition (BS Clm.10268, ÖNB cod.2352, and cod.2378 [figs. V:8-10]), and the manuscript with the planets depicted in the genuine Arabic tradition, BNF arab.2583 [figs. V:5-7].

In Fendulus A, Saturn—the planet of misfortune and god of time—is a ruler with a crown and scepter. In Fendulus B, his appearance is changed and he has been given a shovel. If we did not know that he was, in his early history in the West, associated with an influence on farming, mining, building and anything to do with the earth, the shovel might be understood as his attribute adopted from the Near East, where he was the god of the fields. The same influence was probably responsible for his scythe, which he carries in the Michael Scotus imagery. By this time, however, he has lost his attributes related to the earth, and his royal nature has become associated with government, administration, law, and management. When he is in his house, this kind of influence is dominant, and symbolized by the scepter. In his counterhouse and in

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dejection—i.e., during his least favorable periods, when his influence is in decline—Saturn the ruler with the scepter is replaced by Saturn Cronus carrying a sickle made of flint. He retains the crown in all four phases, but the scepter is removed. As a matter of fact, the sickle—in addition to a crutch symbolizing his old age—is, in Western iconography, probably his most commonly recognized symbol.

One more detail which remained unnoticed in writings about this image is that Saturn is the only planet in Fendulus B depicted barefoot. This would not have any particular importance if his feet did not resemble those in an astrological manuscript of the Sufi tradition.[44] This manuscript includes illustrations for most of the Ptolemaic constellations—each depicted with two symmetrically opposed figures: one as seen in the sky and the other as it appears on a celestial globe. Without exception, all of the figures have one foot represented frontally and complete and the other in profile, with two toes (see the image of Cepheus, as seen on the globe [fig. V:11]). The image of Saturn in Fendulus B [fig. V:12] follows, in this regard, the artistic pattern of Marsh 144 rather than Fendulus A.[45]

Jupiter (or Zeus) was the ruler of light, clear skies, and thunder; he dispenses good and evil, and also governs the stars and everything on earth, appointing oracles and establishing laws. In Fendulus A, he is a crowned ruler sitting on a throne without any

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[44] For example, in *Suwar al-kawākib al-thābitah* [Book of Fixed Stars] by ʿAbd al Rahmān b. ʿUmar al-Sūfī (Bodleian, MS Marsh 144), written and illustrated by al-Husain b. ʿAbd al-Rahmān b. ʿUmar b. Muhammad, allegedly the son of the author, in 1009/10.

[45] The identical pattern is followed in representations of the two other barefoot figures included in the first part of the Fendulus B: paranatellonta rising with the first decan of Aries and the first Indian decan of Aquarius.

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attributes other than a scepter in his exaltation. The only change introduced in Fendulus B is that he is holding a sheaf of wheat in addition to the scepter. The same appearance was kept through all of the remaining manuscripts. In the Michael Scotus tradition, Jupiter is usually sitting at a table dining on his royal meal [fig. V:8 and V:10], while in the East, he is perceived as a sitting judge, calmly convinced of his wisdom [fig. V:6]. Fendulus chose the middle road. His Jupiter has royal attributes, as in the Michael Scotus tradition, although he is not eating his royal meal. On the other hand, some of his Eastern psychological characteristics of a wiseman are preserved.[46]

Mars was, in all traditions, shown as a warrior. His attributes are instruments of warfare and death, conveying authority, and a torch symbolizing fire as a source of purification and enlightenment. In the Michael Scotus manuscripts, he wears armor and carries a shield and a spear. In the Arabic tradition, Mars was not only an observer of military action, but also a fighting soldier, normally represented with a sword, while holding in his left hand a head severed from his enemy's body.

In Fendulus A Mars is sitting, holding a sword in his right hand and a spear in his left. The sword and the spear are his only attributes. He wears a simple tunic rather than armor, and he cannot be identified with any particular profession because every medieval nobleman carried a sword. The only detail which clearly identifies him with his astrological influences is a body with a severed head in the lower-left corner of the

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[46] In the manuscript Wolfenbüttel, Herzog August Bibliothek, Cod.Guelf.18.2. Aug.4°, illuminated by the Master of Evert Zoudenbalch (ca.1465-70), Jupiter holds a harp, which is highly unusual attribute for this god. Cf. Henri L.M. Defoer, Anne S. Korteweg, and Wilhelmina C.M. Wüstefeld, *The Golden Age of Dutch Manuscript Painting* (New York: George Braziller, 1990) 209.

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picture. Such a body is never found in the Western iconographical sources and thus it is clearly Fendulus's addition, influenced by Arabic iconography, In the later Fendulus manuscripts, Mars's tunic is changed into full armor, as may be seen in the Michael Scotus manuscripts, and he is holding a sword and a shield. The body with severed head is included in all later Fendulus manuscripts.

Both Eastern and Western iconographic traditions of the sun (Sol) are present in Fendulus A. In his house, the sun is represented as a man sitting and holding an orb in his hand. This again reflects an Eastern tradition, where the sun and the moon are usually shown as a man and a woman respectively, with orbs around their heads. Fendulus's image of the sun in his house in manuscript A is followed by an additional image, which is outside the regular house–counterhouse–exaltation–dejection sequence. This image is of an empty two-wheeled chariot pulled on one side by two horses, with another pair of horses contained along the bottom of the frame. Fendulus may have felt uncomfortable making such a radical change as replacing the sun in its chariot with a seated person, and therefore he added a fifth image in the sequence—the empty chariot—invoking the older Western tradition. The sun is the only planet represented in Fendulus A with five images. Later copyists of Fendulus's images concentrated on the sun's Eastern appearance as a ruler with the orb around his head, rather than in his (Western) chariot. In Fendulus B, all four figures of the sun have a solar orb around their heads, resembling the sun's appearance in BNF arab.2583. In the following manuscripts, only the figure of the sun in his house retained the solar orb.

The final image in the set of the seven planets is a representation of the moon.

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Exactly as the sun was represented in the Michael Scotus tradition—in a chariot—so was the moon. In the Fendulus manuscripts, however, the chariot does not appear at all. In Fendulus A, the moon is a woman with a crescent (the full circle in exaltation) on the top of her head, holding a lily in her left hand and a lunar orb in her right. In the following manuscript, Fendulus B, the woman is replaced by a peasant man. The figure is not sitting on a throne any more, but rather walking through a forest holding a spear and mantle on his shoulder. In the representation of the moon, both the woman in Fendulus A and the night watchman in Fendulus B (and in the subsequent Fendulus manuscripts) do not share anything with the earlier Western iconography (the woman in a chariot) but also do not provide any indication that the artists were influenced by the Eastern tradition (the vizier with the lunar orb around his head). The change introduced by the artist of Fendulus B seems, however, rather significant. In the West, the moon was usually associated with the elusive Lady Fortune, symbol of the inconstancy of fate, and therefore it is curious that the artist changed the womanly moon into a night watchman. Its symbolism emphasizes the moon's walking across the sky at night. The lunar orb is not put on or around the moon's head, but is included high above in the sky, which gives to the picture the quality of realism, and the planet seems like a night watchman on guard. Since we have seen elsewhere that the artist of Fendulus B did have familiarity with oriental astrological iconography, the change of the moon's sex might have originated in the same source. However, he also provided the image with a symbolism which was not apparent in the Oriental sources.

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Music in the Astrological Context of the Planets.

As mentioned earlier, several planets were considered to exert astrological influences over musicians. Michael Scotus in *Liber introductorius* associated each of the seven liberal arts with one planet, coupling music with Mars.[47] Marsilio Ficino believed that "solemn music belongs to Jupiter and the sun, merry music to Venus, the middle sort [neutral] to Mercury."[48] Saturn was associated with the sense of hearing, which is often symbolized in iconography by the presence of musical instruments.[49] Abū Maʿšar's *Introductorium maius* mentions music only in relationship to Venus and Mercury, and Fendulus in his abridgment followed suit.

The planets were not only considered important in a fatalistic context, in which they influence a new-born child—determining his or her future, talents, skills, and occupations—but they were also seen to be providers of the optimal circumstances for

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[47] The other planets were associated as follows: the moon with grammar, Mercury with dialectic, Venus with rhetoric, the sun with arithmetic, Jupiter with astronomy, and Saturn with geometry. The Latin text runs: "Artes scripture sunt 7, causa planetarum 7, que sic eis attribuntur: gramatica lune, dialectica mercurio, rhetorica veneri, aritmetica soli, musica marti, astronomia jovi et geometria saturno." Manuscript BS Clm.10268, f.29v. Transcription from F.A. Gallo, *op. cit.*, 6. This system of linking planets to the seven liberal arts was common in medieval times and appears, for example, in Dante as well.

[48] "Tum vero musicam gravem quidem Iovis Solisque esse, levem Veneris, mediam vero Mercurii." Marsilio Ficino, *Three Books on Life*. Ed. and trans. by Carol V. Kaske and John R. Clark. *Medieval & Renaissance Texts & Studies* (Binghamton: Center for Medieval and Early Renaissance Studies, State University of New York, 1989) III, 2.

[49] For example, on Georg Pencz's *Auditus*, from a *Five Sense* series, the personification assumes the head-on-hand posture of the Melancholic. Next to the personification is a wild boar, a close relative of the pig, an animal often associated with Saturn, and around the figure are displayed a harp, a lute, and a kind of a fiddle. Cf. Mary Rasmussen, "The Case of the Flutes in Holbein's *The Ambassadors*," *Early Music* XXIII/1 (February 1995) 116-117.

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the pursuit of certain actions. Whereas today's pedagogues, for example, would be concerned about the most appropriate age for a child to begin studying music, medieval teachers looked for the most favorable position of the planets to ensure good results in teaching music. Venus and Mercury had the most important role. In the Arabic treatise *De electionibus horarum laudabilium* of ʿAlī ibn Aḥmad al-ʿImrānī (Haly), there is a whole chapter dedicated to the best time for teaching a child to sing and to play musical instruments.[50]

> The second chapter: On teaching songs and those things which pertain to pleasure. For this Venus should be taken, and she should be in one of her honorable positions, and the same with Mercury, and Mercury should be joined to Venus. And the Moon should be in one of her honorable positions or in Pisces, separated from Mercury and approaching conjunction with Venus, and the Ascendant should be in one of the honorable positions of Venus. And if the degree of the Ascendant is an honorable position of Venus and Mercury, it will be good. The Moon and Venus and Mercury should not be in a cadent house. However, if the Moon is in the ninth house—which is the house of learning—and if it is lucky and strong, it will be good. For it will signify the completion of the activity, just as other lucky [planets] do. But if the lord of the Ascendant is lucky and strong in the ninth [house], it will be good. Someone has said that it is necessary when playing the lyre that the Moon should be in Capricorn; but in striking the drum (*atambur*) and other [instruments] similar to this it should be in the last part of Leo; and in blowing trumpets it should be in signs lacking voice. For the signs having voices are good for modulating songs and speeches, and this is especially true for Gemini and Virgo. And for this activity let us take the ninth [house] and its lord. And if our intention in these matters is [directed] towards something which pertains to action, the taking of the tenth [place] will be good. This is what we recommend also when beginning any activity.[51]

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[50] The treatise was translated into Latin by Albraham bar Hiyya, in Barcelona in 1134. The chapter is in its original Latin text and the translation published in: Charles Burnett, "European Knowledge of Arabic Texts Referring to Music: Some New Material," *Early Music History* XII (1993) 7-8.

[51] Cf. C. Burnett, *op. cit.*, 7-8. Charles Burnett traced another version of this text in the *Liber introductorius* of Michael Scotus, in which the second part reads: "The philosopher who is called Tabbari has said: It is necessary when sounding the lyre or

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The position of the planets was important in almost every aspect of human life, and therefore it should not be surprising that planetary iconography was so extensive, appearing in a broad range of images from the representations of planets to those of their children, and not only in calendars needed to control everyday life, but also in isolated images reminding us of their significance.

Iconographical tradition of Venus.[52]

The relationships of Venus with music and with the feminine nature were archetypical in Western civilization from the time of classical Antiquity.[53] She was the goddess governing the emotions and the general refinement of the individual, amorous love, passions, desires, and imagination; she controlled places of entertainment, women, and pleasure gardens. The perception of Venus in Ptolemaic writings was explained at the beginning of the present chapter. Not much different is a description of her influences in the Hermetic tradition. The characteristics of Venus during the period of Taurus, for example, read almost as a summary of Abū Maʿšar's text (which was strongly influenced

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another string instrument, if the pupil has to learn it well and the teacher is committed to teaching him the skill, that the Moon should be in Capricorn or in Taurus close to the horns. In beating a *bacile* or tympanum let the Moon be in the last part of Leo. In blowing trumpets the Moon should be in a sign lacking voice. Signs lacking voice are bad in practicing songs, but those having voice are good for teaching every song, such as [they are good] in chanting, public speaking and modulating a melody, and this is especially true for Gemini and the Lyre." Cf. C. Burnett, *op. cit.*, 9. In medieval Latin *bacile* is a basin or any basin-shaped receptacle. Hence it is an appropriate term to describe a drum of that shape.

[52] Fendulus A: ff. 53r-55r; Fendulus B: ff. 42r-44r; Fendulus C: ff. 44r-46r; Fendulus D: ff. 48r-50r; Fendulus F: ff. 30r-32r (see facs. 58-74, pp. 388-407).

[53] For the music symbolism related to Venus, cf. M. Rasmussen, *op. cit.*, 115-123.

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by Hermetic ideas). It says that between the first and the eighth degrees of Taurus (one of two zodiacal signs assigned as her houses), Venus is called by Cupid, because in the ascendant they become pure lovers and animated musicians.[54] In the fourteenth degree of Taurus she again makes lovers of music.[55]

Her characteristics resonated not only with astrological predictions; they were accepted by music theorists, too. As Linda Phyllis Austern showed, the English Renaissance theorists of music "located love at the center of their universe."[56] Thomas Morley (1557–1602) adopted a definition of music as "a science of love matters occupied in harmonie and rhythmus."[57] Thomas Ravenscroft (ca. 1582–ca. 1633) wrote that "only music can truly express the universal passion of love and that, conversely, the power of love may teach a man music."[58] Finally, the madrigal composer John Farmer (fl. late sixteenth century) explicitly mentioned Venus as the astrological giver of love and

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[54] "A primo enim usque ad octavum sunt termini Veneris et vocatur Cupido, quia in huiusmodi ascendente fiunt amatores puritatis, musici alacres." Cf. Wilhelm Gundel, *Neue astrologische Texte des Hermes Trismegistos: Funde und Forschungen auf dem Gebiet der antiken Astronomie und Astrologie*, Abhandlungen der Bayerischen Akademie der Wissenschaften: Philosophisch-historische Abteilung, Neue Folge 12 (München: Bayerischen Akademie der Wissenschaften, 1936) 53.

[55] "Quartus decimus (gradus) facit ... amatores tamen musicae." *Ibid.*, 54.

[56] Cf. Linda Phyllis Austern, "Music and the English Renaissance Controversy over Women," *Cecilia Reclaimed: Feminist Perspectives on Gender and Music*. Ed. by Susan C. Cook and Judy S. Tsou (Urbana and Chicago: University of Illinois Press, 1994) 55.

[57] Thomas Morley, *A Plaine and Easie Introduction to Practicall Musicke* (London: Peter Short, 1597) 195. Quoted from *ibid.*, 55.

[58] Thomas Ravenscrft, *A Briefe Discourse of the True (but Neglected) Use of Charact'ring the Degrees* (London: Edw. Allde for Tho. Adams, 1614) sig. A3v. Cf. *ibid.*, 55.

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amorous disposition and "the Dominatrix in Musitians nativities."[59] Shakespeare's Duke in the opening lines of *Twelfth Night, or, What You Will* has this archetypical association of music and love in mind when he says to his musicians, "if music be the food of love, play on." Those quotes are geographically remote from Abū Maʿšar, Hermann, and Fendulus, and they fall outside the time period considered in this work, but they are relevant to our study since they were based on the same Neoplatonic ideas which governed the author of the *Introductorium maius*.

In his abridgment of the *Introductorium maius*, Fendulus included for each planet a two-paragraph description taken from Hermann's translation of Abū Maʿšar's treatise: from book seven, he selected for each a paragraph from chapter nine, and from book eight a part from chapter three. The description of each planet begins with a brief statement about its physical characteristics and mythological appearance, and closes with a description of the planet's influences on the sublunar world. In the case of Venus, the description is followed by four images: Venus in her houses of Libra[60] and Taurus, in her counterhouses in Aries and Cancer, her exaltation in Pisces, and her dejection in Virgo (see facs. 58-74, pp. 388-407).[61] In her house Venus is stable and her influence

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[59] John Farmer, *The First Set of English Madrigals: To Foure Voices* (London: William Barley for Thomas Morley, 1599) cantus partbook, sig. A4v. Quoted from L.P. Austern, *op. cit.*, 55.

[60] Fendulus B has here an image of Virgo with wings, holding sheaves of grain instead of the sign of Libra. The copyist of Fendulus C noticed the discrepancy and replaced the grain in Virgo's hand with a scale. Such an unusual representation of Libra—a scale held by a woman—remained in Fendulus D and F.

[61] Alongside each of the four pictures in Fendulus A there are included descriptions of the related signs. This text, however, is not found in the later copies of Fendulus's manuscript nor in the 1489 edition of Abū Maʿšar's treatise.

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at its most powerful. She is depicted comfortably sitting on a throne, wearing a trefoil crown, and playing a psaltery. When she is in her counterhouse her crown is falling, and she is leaning to one side with her instruments abandoned beside her. In Fendulus A each of the four phases of the planet is depicted in a rectangular frame with the related zodiacal sign(s) included in corners. The throne is included only in the images of Venus in her house and exaltation. When she is in her counterhouse and dejection, the figure is placed freely in space. In Fendulus B and C a simple bench, without any distinctive features, replaced the earlier throne. When the planet is exalted, Venus again holds a psaltery in her lap with one hand, and a ciborium in the other. In her period of dejection, in Fendulus A, she is depicted falling upside down, while in the later manuscripts she is leaning on her bench with her psaltery having fallen to the floor.

Abū Maʿšar's and Hermann's text reveals Venus's aspirations in the earthly world (*Venus vulgaris*) rather than those of her celestial nature (*Venus coelestis*). Fendulus represented her earthly nature by depicting her as richly dressed, which might be partially influenced by the Arabic iconography, where she was usually represented in such a context.[62] Fendulus's imagery does not follow Hermann's text in all its details.[63]

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[62] For an image of *Venus coelestis*, see the fifteenth-century manuscript of the *Livre des propriétés des choses* by Bartholomaeus Anglius, BNF fr.9140, f.169 [fig. V:15].

[63] We refer here to Hermann's translation, which Fendulus used for his abridgment, rather than to Abū Maʿšar's original text, since a comparison of the original Arabic text with its Latin translation in the first part of the manuscript showed substantial discrepancies between the two. The earliest three manuscripts (Fendulus A, B, and C) have illustrations of better artistic quality, each reflecting the individuality of the artist. The two later manuscripts (Fendulus D and F) are slavish copies of Fendulus C and for that reason, we will restrict our discussion only to the three earlier manuscripts.

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It provides the reader only with the main aspect of Venus's symbolism: her musical instruments. All of her other characteristics were left out of the picture, indicating that the viewer was supposed to know what Venus stands for in order to understand correctly her astrological influences. The instruments are, therefore, not only a symbol for music, but also for passion, love, and emotions.

In spite of the fact that Venus was, from ancient times, universally recognized in literary sources as a symbol for both music and love, her iconographic appearance with instruments was not common in the European tradition prior to Fendulus's time, and he was among the first Western authors, or perhaps even the first one, to adopt the image of Venus with a musical instrument. In the tradition of Michael Scotus, Venus is represented as a young lady smelling a rose [figs. V:8, V:9A, and V:10]. In Western sources she often also holds a mirror, which will—together with Cupid—become her regular attribute in the fifteenth and sixteenth centuries. Fendulus adopted Venus's appearance with an instrument from the Arabic planetary imagery in which Venus was represented playing an ʿūd (BNF arab.2583 [figs. V:6 and V:7], Morgan M.788 [fig. V:2], or Bodleian, MS 133 [fig. V:13][64]). Coexisting for several centuries in Europe, the

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[64] The manuscript Oxford, Bodleian MS 133 does not include the representations of the months in the astrological context, but rather the geographical one. The known surface of the earth was divided by Ptolemy into seven *klimata*, or parallel strips, in such a way that the longest day in each differed from the longest day in the next by half an hour. Each of the seven *climes* was thought to come under the influence of one planet. Cf. D.S. Rice, "The Seasons and the Labors of the Months in Islamic Art," *Ars Orientalis: The Arts of Islam and the East* I (1954) 10-11. Such is the image of Venus (*al-zuhara*) in MS 133 in which her representation is related to the *Clime V.* (Some references list Bodleian MS 133 as MS Oriental 133. I am grateful to Doris Nicholson from the Oriental Photographic Services of the Bodleian Library, for pointing to me that this manuscript is from the original collection of Sir Thomas Bodley and its correct shelf

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two traditions—Michael Scotus's and Fendulus's—eventually merged; for example, in the late-fifteenth-century manuscript Morgan M.384, containing Michael Scotus's treatise written by a Bavarian scribe and illuminated in the Rhineland, Venus (f.31r) is holding a rose, with a harp included in the picture next to her [fig. V:14].[65]

Knowing that Fendulus used an Arabic source as a model for his Venus, we might ask why he changed her instrument, giving her a psaltery rather than a lute. This is especially important since Venus playing an ʿūd was, in Arabic iconography, a firmly established tradition, and her representations with other instruments, such as the harp, tambourine, flute, or castanets, are generally exceptions. The Arabic lute was introduced to Europe during the Moorish conquest of Spain (711-1492) or possibly during their invasion of Sicily in the eighth century. The instrument became more common during the Crusades in the late eleventh and twelfth centuries. If we accept the evidence that Fendulus's original illustrations were made in southern Italy at the end of the twelfth or early thirteenth century, we certainly would not want to argue that the lute was unknown there at that time and offer this as a reason for the replacement of the ʿūd with the psaltery. In the twelfth century the ʿūd was already the pre-eminent instrument in southern Italy, often described and praised in Sicilian Arabic poetry. The Cappella Palatina in Palermo, decorated in the middle of the twelfth century, includes several

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number is MS 133.)

[65] Later, in fifteenth-century European iconography, it is possible to find Venus associated with some other instruments. For example, in the manuscript Wolfenbüttel, Herzog August Bibliothek, Cod.Guelf.18.2.Aug, illuminated by the Master of Evert Zoudenbalch (ca.1465-1470), Venus holds a portative organ and a mirror. Cf. H.L.M. Defoer, A.S. Korteweg, W.C.M. Wüstefeld, *op. cit.* 209 and pl. 113.

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paintings of musicians playing the ʿūd.[66] Given that the instrument was commonly used in Fendulus's time, it is curious not only that Venus has a different instrument, but also that there is not a single depiction of the lute in Fendulus A.

In Fendulus A, the psaltery that Venus is holding has a peculiar kind of triangular (delta) shape (non-triangular harp is included independently in one corner of the picture). Venus, in her house, holds the psaltery against her chest in a vertical position. Approximately twenty to twenty-five strings are stretched upwards, the longest being on her right side.[67] In each hand she holds a pick with which to strike the strings. In her exaltation Venus holds the psaltery in her left hand but does not play it. In her counterhouse and dejection, the psaltery is separated from her, resting on its side in the corner of the picture. The triangular shape of this psaltery is particularly interesting for its peculiar nature. As Martin van Schaik pointed out in his study on the harp, "the Church Fathers not only described the psalterium but also the cithara, the laudatorium and the Hebrew instrument, the nebel, as delta-shaped."[68] Numerous organological studies question whether such an instrument ever existed, or whether it was just an interpretation of Biblical symbolism.[69] Van Schaik concluded "the phenomenon of the

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[66] Cf. David Gramit, "The Music Paintings of the Cappella Palatina in Palermo," *Imago musicae* II (1985) 16-17.

[67] Venus's left hand covers part of the instrument, and the total number of strings can only be assumed.

[68] Martin van Schaik, *The Harp in the Middle Ages: The Symbolism of a Musical Instrument* (Amsterdam and Atlanta: Rodopi, 1992) 62.

[69] In the Biblical context, the triangular (delta) form may be understood as a symbol of the Trinity and perfection, the strings can be explained as a symbol for the *corpus Christi* (=the Church), and their number identified with the ten Commandments and the

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delta harp can . . . be explained as a visual representation of the delta-shaped instruments mentioned in the exegesis. There is no reason to suppose that such instruments ever really existed" because "for the Church Fathers the reality of the instrument was not the primary consideration."[70] His conclusion is based, however, exclusively on an investigation of Biblical sources and on commentaries by the Church Fathers.

Since our image depicts a delta-shaped psaltery actually being played with two sticks (and represented in an astrological context rather than a Biblical one), it provides new ground for a discussion about the existence of this instrument. An argument could be made that the position of the psaltery in Fendulus A can be understood as a code for the kind of influence Venus had during a particular period: when she is in her house and at her most powerful, she plays the instrument; in her exaltation, she does not play it but still holds the instrument pointing upwards; finally, in the two periods when her influence is less effective—her counterhouse and her dejection—the instrument is resting on its side far away from her. If we attempt to view this astrological context in which the instrument is represented as being complementary to the instrument's symbolism in the Biblical context, several questions might be raised: Would such an instrument be suitable for representing her astrological influences during her most potent period? Why would Venus be represented playing an instrument that exists only in a symbolical context? The realism that characterizes Venus's picture in Fendulus A—in which even Venus's finger nails are shown—speaks to the contrary. Furthermore, if the instrument had been

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twenty-four Elders.

[70] M. van Schaik, *op. cit.*, 85 and 90.

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depicted exclusively for the symbolic meaning of its triangular shape, why would Venus be plucking its strings with sticks? It is possible that some of the images representing triangular harp and psaltery that Van Schaik discusses were indeed included in the iconographic composition for symbolic reasons, and the features of instruments in those cases were reduced to their most elementary forms in order to emphasize the symbolism of the triangle. However, the image of Venus in Fendulus A might be a contribution to the argument that triangular psalteries were also used for making music.

In the subsequent manuscript, Fendulus B, the triangular psaltery is changed into a psaltery of a "pig-snout" shape.[71] Venus is playing it in her house, whereas in exaltation she is holding it in her left hand and, finally, in her counterhouse and during her dejection, the psaltery is placed next to her. The additional harp in Fendulus A is replaced in Fendulus B with a fiddle and mandora (or rebec without a bow) in Venus's house and a rebec and mandora in her counterhouse. In Venus's house, the three-stringed oval fiddle depicted in the upper left corner is identical to the two fiddles (each labeled *viola*) included with Amphion in the paranatellonta rising with the second decan of Gemini and with the second Indian decan in Gemini. The instrument has a bow which is placed across the strings, unlike in the image of the second Indian decan, where it is on one side of the instrument. The other instrument with Venus in her house has an

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[71] The iconography of Venus in the manuscript Fendulus B is briefly described in: Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik in Mittelalter*, Musikgeschichte in Bildern. III: Musik des Mittelalters und der Renaissance 3 (Leipzig: VEB Deutscher Verlag für Musik, 1969) 182-183, figs. 113-116; and Venus in her house is reproduced in: Jeremy Montagu, *The World of Medieval & Renaissance Musical Instruments* (Woodstock: The Overlook Press, 1976) 25.

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elongated oval body, one sound hole in the middle under the strings, and a neck which ends with a sickle shaped peg-box. The two instruments with Venus in her counterhouse have a pear-shaped body typical of the rebec and mandora, strings fastened at the base of the sound board, and a sickle-shaped peg-box. One of them is depicted with a bow placed straight across the strings, which identifies it as a rebec. The other one could be either a rebec without bow or a mandora. The rebec has four strings and the mandora only three.

The instruments in Fendulus C follow the model established in Fendulus B, but some changes have been introduced. Venus does not pluck the psaltery with her fingers, as in Fendulus B, but holds short sticks. The fiddles depicted earlier with Venus in her house are no longer there. The rebec and the mandora shown with Venus in her counterhouse in Fendulus C evolved into two mandoras (or plucked rebecs) with pear-shaped bodies and abruptly backward-turned heads with no pegs depicted. One instrument has a single rose in the middle and probably four strings fastened at the bottom of the sound board. The other mandora has two C-shaped openings on each side of the sound board. It has three strings fastened at the middle of the sound board. The instruments in Fendulus D were copied without change although reduced in detail. Finally the two mandoras in Fendulus F are shown with bodies of explicitly rounded shape, but otherwise no details can be recognized.

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Iconographical tradition of Mercury.[72]

Mercury—known in the Greek pantheon as Hermes—was characterized as the thief, the shepherd, the craftsman, the herald, the musician, the athlete, and the merchant.[73] Of all those characteristics, Fendulus took only two—music and scholarship —which were the ones most commonly associated with the god in the astrological context. The tradition of linking Mercury/Hermes with those characteristics can be followed back to the *Homeric Hymn* written in honor of Hermes, whose origin is generally accepted to be in the archaic period (the end of the sixth century B.C.).

The *Hymn* includes several references to music. On the very day of his birth in Arcadia, Hermes found a tortoise and immediately realized that the tortoise-shell could be used in making a lyre. After he killed the tortoise

> he fixed at measured intervals cut stalks of reed
> through the clean-scooped shell of the tortoise and spanning the back,
> and, by a stroke of wisdom, stretched oxhide over the hollow.
> He added two horns to the sides yoked by a crossbar,
> From which he stretched taut seven strings made of sheep gut.
> When it was finished, he lifted the lovely toy on his arm
> And tried each string in turn with the plectrum, and under his hand
> A strange new sound rang out, and the god, trying his skill,
> Sang along in sweet random snatches, as at festivals
> Boys in the springtime of youth maliciously carol—
> Singing of Zeus son of Cronos and Maia, beautifully sandaled,
> And of their former intimate love and communion,
> Recounting the tale of his own famous birth and begetting. [...][74]

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[72] Fendulus A: f.57r; Fendulus B: f.46r; Fendulus C: f.48r; Fendulus D: f.52r; Fendulus F: f.34r (see facs. 78-82, pp. 409-413).

[73] Cf. Norman O. Brown, *Hermes the Thief: The Evolution of a Myth* (Great Barrington: Lindisfarne Press, 1990) 3.

[74] "To Hermes," *The Homeric Hymns*. Trans. by Thelma Sargent (New York: W.W. Norton, 1973) 31.

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After finishing the new instrument, Mercury first tuned it and then, accompanying himself on it, sang a song about the love of his parents, Zeus and the nymph Maia. While still singing, he decided to steal cattle from his brother Apollo. He went to Mount Olympus, where Apollo's herd was resting with the cattle of the other gods, and took fifty of his cows. In order to escape unnoticed, he herded them backwards so that their hoofprints would not indicate where he was taking them. However, Apollo did not need much time to find his cattle at Maia's home. Since Hermes denied the theft, they went to see Zeus for his judgment, and he decided that Hermes must return the cattle. The latter was unhappy with this decision and, when they arrived at the cave where he had hidden the cattle, he began to play his lyre, singing about the origins of the gods. Apollo was astonished with Hermes's lovely playing and, when he had finished, Apollo praised the musician, saying

> Has this wondrous object been yours since your birth, or did one
> Of the immortal gods or someone of mortal mankind
> Give you this royal gift and coach you in heavenly song?
> So amazing is this new sound that I hear
> That no man, I swear, can ever have heard it before,
> Nor any of the immortals who have their homes on Olympus. [...]
> I, though attendant upon the Olympian Muses,
> Who take careful thought for the dance and the bright strains of song,
> The swelling chant and the sweet shrilling of pipes,
> Never before have I cared so much in my heart
> For other displays of skill by festive young men.
> Son of Zeus, I am astonished, so lovely is your playing![75]

In a reconciliation, Hermes agreed to teach Apollo how to play on the lyre and to give him the instrument; in return, Apollo gave Hermes a share of his cattle.

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[75] *Ibid.*, 42.

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The main plot of the myth concerns the stolen cattle, but the lyre and the music which Hermes performed have the most prominent place in it. Most of Hermes's characteristics (inventor, craftsman, merchant, and artist) are displayed in the myth through music. Hermes could have been the inventor of any other device, but he was associated with a musical instrument which had the highest place among all of instruments. He invented it, made it, played on it, and finally exchanged it for another item.

The character of Hermes as an inventor is more emphasized in the *Hymn* than his guise as a musician, in spite of the fact that he was a musician good enough to amaze even Apollo. When he invented the lyre, Mercury did not start with the strings, which most laymen would consider to be the primary element in producing a sound; his idea was born when he found the tortoise on Mount Cyllene and noticed its shell. He started with the resonator, which is the key to making the strings usable in producing sound. This shows him even more vividly as an inventor. Hermes created his instrument the very same day he was born, which could suggest that an inventor is born and not trained. Furthermore, he was not only an inventor, but also a craftsman able to make his invention himself and to see that it worked well. His product was not a tool that would be used in manual labor, which had not been respected among the ancient Greeks, but an instrument that had the ability to produce music of the highest quality and ethical value.

Hermes was also known as a merchant. Professions which generated a profit were considered vulgar among the ancient Greeks. Therefore, Hermes made an instrument

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which was not meant to generate material profit, but to be valued for its ethical and esthetic qualities. However, he did not hesitate to show his lyre—or, on a more general level, music itself—to Apollo, and subsequently exchanged it for the neatherd's staff. The instrument excited Apollo and he negotiated the exchange—which was, in the end, only partial, because they decided to share the cattle and the instrument. The symbolic meaning of this action could be that any spiritual good may be exchanged for material property. Hermes is the main character in the *Hymn*, but the events described are a turning point in Apollo's myth, too. He exchanged his pipes for the lyre and, from then on in Olympian history, he was a musician on the lyre. Although Apollo's reputation as a musician on the lyre had not been established prior to this point, his judgment of music produced on the lyre was respected, and the quality of the instrument was recognized only after he had expressed his opinion of it.

In terms of large-scale mythological history, Hermes is seen as the inventor of the instrument (and of music itself) and the protector of sciences. Apollo gained a reputation as a musician on the lyre whose artistry could not be challenged, and as such was associated with the arts. Each introduced the other to his own art and, therefore, both were associated in mythology with music and with the pastoral world. This interpretation of Hermes's characteristics, as told in the *Homeric Hymn*, is one among several that consider the tradition about the specialties of Hermes and Apollo. Some of them argue that Hermes was the god of simple rustic music and Apollo the god of more advanced forms; others claim that Mercury was the patron of the lyre, and Apollo of the cithara. The Greek religion and cult does not need to be taken as a coherent system of

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dogma, and all of these interpretations have reason for existence.[76]

The interpretation of the myth as told in the *Homeric Hymn* is important for our investigation because it explains the origin of the astrological influences of the planet Mercury. Abū Maʿšar's description of Mercury's astrological domains include the study of philosophy, poetry, mathematics, arithmetic, geometry, and astronomy. Music is just one of the disciplines over which he had influence and, although Mercury's musical skills had such a prominent place in the ancient myth, it seems as if this side of him is here only incidentally present.[77] Mercury's discovery of the alphabet and the book figures much more strongly in the myth. In the Arabic iconographic sources, Mercury is always shown as a scholar [figs. V:2, V:6, and V:7], a dervish, or a holy man—sometimes even with a halo. Music in that tradition is primarily assigned to Venus rather than to Mercury. His association with scholarship and holiness in the West was first adopted by Michael Scotus who described his appearance as a bishop [figs. V:8, V:9A, and V:10].

Fendulus's imagery condensed all of Mercury's attributes into a book that the god is holding. Originally, in Fendulus A, its importance was emphasized by a written statement on the book that the sciences originated with Mercury. The book in Fendulus B does not have any explicit words written in. By the mid-fourteenth century, when it was produced, Mercury's symbolism was firmly established in the West and no additional explanation was needed. Fendulus was among the first in Western iconography to

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[76] Cf. N.O. Brown, *op. cit.*, 93.

[77] About Mercury in the zodiacal context, see the discussion in Chapter 2, paranatellonta rising with the second decan of Gemini.

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combine both of Mercury's main characteristics, his scholarship and his music, although music appeared only in Mercury's exaltation and did not have as important a place as did scholarship, the symbols of which span all four phases of his planetary influences.

Mercury's houses are in Gemini and Virgo and his counterhouses in Pisces and Sagittarius; the planet is exalted in Virgo, and dejected in Pisces. In Fendulus A, in the same way as all of the other planets, each of the four phases of the planet is depicted in a rectangular frame with the related zodiacal sign(s) included in corners. In his house, Mercury sits on a bench, wearing a short tunic. In all four pictures, he has a loosely folded turban on his head. In his left hand he is holding an open book, which has "Orientis ex ei to Sapientia Regis" written across both pages. The way he is holding the book is similar to the image, as described earlier, of Abū Maʿšar, in which the astronomer is shown giving his knowledge of astronomy away. Fendulus's Mercury is not studying the book but rather passing the knowledge down to humanity. The artist's approach to Mercury was that he did not need to study the book, because—as its inscription says—the knowledge originated with him. In his counterhouse Mercury is leaning on one side and has no attributes. In exaltation, the planet holds a scepter in his right hand and a fiddle in his left. The fiddle is identical to the one included next to Amphion in the paranatellonta rising with the third decan of Gemini. A harp is placed at a distance from Mercury, in the lower left-hand corner of the picture. In his dejection, Mercury's bench is removed, and he is falling diagonally across the square picture.

The artist of Fendulus B changed the iconographic composition. As Venus, Mercury too is placed on the page without a frame around the picture; the related

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zodiacal signs are included in the lower third of the page. He wears a long habit with an attached cloak. Unlike Fendulus A, where the book is included only when Mercury is in his house, here he has one or more books in all four phases. In his house, he is not holding the book—passing his divine knowledge down to the reader—but is a scholar who himself studies. In his counterhouse an open book is on his stand, but Mercury has turned away from it; in his exaltation the book is open again, but Mercury is occupied with music, holding a rebec in his left hand and a bow in his right. Finally, in his dejection, two closed books are falling together with Mercury himself. The pages of the open book contain some scribbles, but unlike in Fendulus A, these are illegible.

In Fendulus C, Mercury in his house is represented as a bald magister studying a book and having glasses on his nose. In all of the other elements, the images follow the pattern established in Fendulus B. The two subsequent manuscripts, Fendulus D and F, are copies of Fendulus C, without significant variation.

The choice of instrument which Mercury is holding in exaltation indicates that the original image was produced on the basis of written rather than pictorial tradition. Hermann's translation does not specify the instrument that Mercury is playing and therefore the illustrator of the original image was able to give an interpretation based on his own understanding of the myth, assigning to Mercury the fiddle that he might have known by the name of lyre. If the artist had created the image of Mercury on the basis of ancient pictorial tradition, his Mercury would have held the ancient lyre. It should be mentioned here that the same instrument was in the third decan of Gemini labeled *viola* rather than lyra. However, the word *viola* is written in the manuscript next to three

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different types of fiddles, and it is obvious that the term was used in a generic way. In the subsequent dissemination, the instrument changed; in each new manuscript the instrument was updated to a shape with which the artist was familiar. In Fendulus B, the fiddle is exchanged for a pear-shaped rebec, with a sound-hole in the middle, a sickle-shaped pegbox (without clearly-represented pegs), and possibly three strings. The bow is not included with the instrument. Finally, in Fendulus C, and the two manuscripts copied from it, Mercury is holding a fiddle and a bow.

In subsequent iconography, music became ever more often associated with Mercury, and eventually equal to his other symbols. However, during the late Middle Ages and the Renaissance, Mercury's mythological character changed, and Fendulus's images, in which Mercury plays a stringed instrument, did not have many counterparts.[78] The dominant context in which Mercury was most commonly represented during the Renaissance became the myth of Argus, which describes Mercury's killing the hundred-eyed giant after lulling him by playing a pipe. Apollo was the one who inherited the association with the lyre and assumed the symbolism linked to the instrument. It appears that Mercury's lyre was eventually generalized to the point where its origin was forgotten and it became a general symbol for music. The Italian Renaissance scholar Jacopo da Bergamo (1434-1520) in his *Supplementum chronicarum*, for example, described Mercury

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[78] A later image of Mercury with a string instrument can be seen, for example, in the fresco cycle from ca. 1469-1470 in the *Salone dei Mesi* at the Palazzo Schifanoia in Ferrara (the month of June) where he is holding a fiddle in his right hand and a caduceus in his left, or "Mercury discovering the vihuela by striking the sinews of a dead turtle," the frontispeace from Alonso Mudarra's *Tres libros de música en cifras para vihuela* (Seville, 1546). Reproduced in: Wolfgang Freis, "Perfecting the Perfect Instrument." *Early Music* XXIII/3 (August 1995) 424.

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as the first musician,[79] not the first lyre player. By the middle of the fifteenth century, the iconography of Mercury as a flutist was firmly established and images of him playing a stringed instrument were more the exception than the rule. A flute, or sometimes a straight trumpet, became his attribute dominating the astrological context. In the fifteenth-century astrological manuscript BNF, fr.9140, he is holding a straight trumpet in one hand and a scimitar in the other [fig. V:15]. Another drawing from about 1420, in the manuscript Vatican, Reg.Lat.1290, combines almost all of his attributes [fig. V:16]: he is carrying a caduceus, a lance, a scythe, and is wearing his winged sandals on his feet and a winged hat on his head. A cock, which was especially sacred to him, is flying in front of him. Below him is a sleeping Argus. On the right-hand side are a peddler and a thief who is cutting the former's purse. Again, Mercury is playing a pipe rather than a fiddle.

Mercury, the flutist, was included among the planets in the so-called *Tarocchi del Mantegna*, from about 1465 [fig. V:17], followed by numerous other images, from which we have chosen three more sixteenth-century examples: a woodcut from a Lübeck calendar of 1519 [fig. V:18], a woodcut by Nicoletto da Modena (Nicolo Rosa) [fig. V:19],[80] and "Mercurius, Mercatorum Fautor," by the monogrammist B.H.S., in which Mercury is playing a kind of shawm [fig. V:20].[81] Later in this chapter we will see how his musical symbolism changed again, taking on a new quality in the context of

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[79] Cf. J. Seznec, *op. cit.*, 22.

[80] Musée du Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild.

[81] BNF, Cabinet des Estampes.

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Mercury's children.

After the Renaissance, Mercury's relationship with music somehow faded away and other mythological figures became more prominent in this context. Mercury was still perceived primarily as a messenger, mediator and, particularly, a protector of scholarship. For example, on the title page of the first German edition of Charles Burney's *General History of Music*, printed in 1781 in Leipzig, a vignette is included representing an allegory of Mercury, Apollo, and probably one Muse [fig. V:21]. The image shows how far Mercury the musician has come from his antique counterpart. Apollo is sitting, holding a lyre, and the Muse is adjusting his laurel wreath. Mercury, carrying the caduceus and wearing his winged sandals and hat, is not a musician here. He is not the one who invented music, but the one who is in service to Apollo; he is not the one who impressed Apollo with his playing, but the one who admires Apollo's artistry. Burney might have included him in the picture as a symbol for his own scholarship, which placed music history in the service of musical practice.

The Children of the Planets.

As mentioned earlier in this chapter, the planets were considered especially influential on the future of a newborn child. Their influences determined the character, talents, and profession of every person. But their multiple influences were often iconographically impossible to represent with a single image. Therefore, the planetary influences were divided and visually represented in a narrative of the so-called Children of the Planets. In Islamic astrological manuscripts, such as the Bodleian MS 133 [fig.

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V:22] and the Morgan M.788 [fig. V:23], the planets' children are represented in tabular form. The images of each of the seven planets are included vertically on the right-hand side, and to the left lined up horizontally are seven frames showing the occupations of their children. Each of the children represents one particular characteristic of the planet's influence. As Venus in the Oriental manuscripts is consistently shown playing the 'ūd, almost all of her children are here involved with music: respectively, from right to left, they play a psaltery, a harp, a shawm,[82] then there is a dancer, followed by musicians with a frame drum, nakers, and a drum.

A similar tabular display of the planets' children can be found in the fresco cycle from 1420, in the Palazzo della Ragione, in Padua. Images of the twelve Apostles and seven planets are distributed there around the hall, interspread with images representing the planets' children, the occupations of the months, the influences of the zodiac, and the mythological figures belonging to the Ptolemaic sphere, in addition to several Christian saints. This cycle is probably one of the earliest sources to present the influences of each planet in several series of separate frames.

The tabular representation was soon transformed into a single composition in which all of the children were placed into a unified pictorial space, suggesting a kind of congenial mental atmosphere. The images of the new style usually included the planetary deity with all attributes centered at the top of the composition and the children below. One can recognize images that are transitional to the new format in the illustrations for *L'Épître d'Othéa* by Christine de Pisan (1365-1429) included in the manuscript London,

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[82] Not clearly visible in the manuscript Morgan M.788.

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BL Harley 4431 from 1415 and, a little later, in the manuscript BNF fr.606. Christine's work was intended to be a manual of manners and morals, although its framework and stories are chiefly taken from classical myths.[83] The emphasis in these images was still placed on the main characteristic of the planet: all of the sons of Mars are fighting on the battlefield; the group of sons of Mercury [fig. V:24A–B] consists exclusively of scholars gathered in discussion while the god, dressed in royal garb, is holding a flower, a sign of beautiful speech, and a full purse, since eloquence can procure wealth; and finally, the moon is shooting darts of madness and melancholy at her lunatic charges.[84] The images of subsequent stages represented the children engaged in more and more diverse actions, eventually to become a composite showing all of the planet's characteristics. This type of image became a standard astrological representation of planetary influences by mid-fifteenth century.

In the Fendulus and Michael Scotus traditions, the planetary iconography still consisted of mental symbols. Although the planet had the potential for exerting several kinds of influences, its representation reduced them to one or two of the most significant. In order to understand which ones were represented, the viewer had to have prior

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[83] *L'Épître d'Othéa*, dated around 1400, consists of one hundred short narratives, each accompanied by an illustration and composed of three parts: a *texte* (usually an octosyllabic quatrain), a *glose* (an explication), and an *allegorie* (a Christian allegorical interpretation, generally speaking, incorporating citations from the Bible and the Church fathers). Chapters 6-12 describe the mythological characteristics of the planets. Cf. Halina Didycky Loukopoulos, *Classical Mythology in the Works of Christine de Pisan, with an Edition of 'L'Épître d'Othéa' from the Manuscript Harley 4431* (Ph.D. dissertation, Wayne State University, 1977) 67-70.

[84] Cf. *ibid.*, 94-95.

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knowledge of them. Now, through the images of the children, it became possible to represent all of the planet's characteristics in all their detail and variety. Mercury, which in Fendulus's interpretation stood for scholarly and musical abilities, could now be shown with all of his other characteristics. The new iconography—never apparent in any of the Fendulus manuscripts—made clear that he was extending his protection to painters, sculptors, scribes, scholars, artists, poets, and instrument makers, a fact which was invisible in the earlier pictures. Saturn was no longer alone as a miserable old man, but his children included a variety of unfortunate beggars, cripples, criminals, and peasants. Jupiter's children portrayed the fashionable life, while Venus's children enjoyed all earthly pleasures, especially music.

If we were to limit our attention only to Fendulus's planets, the iconography of the planets' children would remain outside the scope of this discourse. However, Abū Maʿšar's text was vital for medieval and Renaissance planetary iconography and, as mentioned in the Prologue of the present study, it was used as a prime textbook for astrological discussions until the end of the Renaissance. During the second half of the fifteenth century it was even used as the basis for several series of representations of the planets' children.

A series which is directly related to Abū Maʿšar's work is that of the woodcuts attributed to the Florentine goldsmith and engraver Maso (Tomaso) Finiguerra (1426-64), dated about 1460 (Saturn [fig. V:25], Jupiter [fig. V:26], Mars [fig. V:27], the sun [fig.

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V:28], Venus [fig. V:29], Mercury [fig. V:30], the moon [fig. V:31]).[85] Each print includes under the image an excerpt from an Italian translation of Abū Maʿšar's *Introductorium maius*.[86] The original set was copied and printed anew in 1465.[87] The images in this series have only minor changes from the earlier version aside from the fact that they reversed the originals (Venus [fig. V:32] and Mercury [fig. V:33]).

Children of Venus. The astrological influences of Venus, when she is in a favorable position, were perceived to be important for amorous love, passions, desires, and imagination. Her influences further provide guidance for places of entertainment and pleasure gardens. Among the attributes which she projects on her subjects are beauty, grace, charm, artistic tastes, affection, sociability, and intuition.[88] Her astrological features—eloquently described in Hermann's translation of Abū Maʿšar's text, although hardly noticeable in Fendulus's imagery—were given full iconographical representations in the fifteenth- and sixteenth-century imagery of Venus's children. Unlike the Oriental

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[85] Cf. Fritz Saxl, "The Literary Sources". One set of prints can be found at the British Library. Albert P. de Mirimonde attributed the set to Baccio Baldini. Cf. Albert P. de Mirimonde, *Astrologie et Musique* (Geneva: Minkoff, 1977) 44-45.

[86] Fritz Saxl provided evidence that the Latin text was taken from an intermediary source, the thirteenth-century encyclopedia *Speculum naturale* by Vincent of Beauvais. Vincent attributed the text there to the "astrologus," without mentioning Abū Maʿšar's name, what again might demonstrated how he was identified with the entire discipline. At the end of Abū Maʿšar's text placed under each woodcut, the physiognomic indications about the planet are appended as taken from another Arabic source, which Guido Bonatti, who also made use of it, quoted as either "Adila" or "Sacerdos." Cf. F. Saxl, "The Literary Sources", 73-74.

[87] The date is established on the basis of the calendar appended at the end of the set held today at the British Library.

[88] Cf. Alan Candlish, *The Revised Waite's Compendium of Natal Astrology* (London: Arkana, 1990) 32.

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manuscripts, where, as we have shown, all of Venus's children are occupied with playing music or dancing, in the Western manuscripts their occupations are expanded and they are regularly shown engaged in bathing and other erotic activities, in addition to playing music. The number of persons included may differ, but their activities normally remain unchanged and standardized, even in images in which the number of persons is sharply reduced, such as Virgil Solis's image of Venus's children [fig. V:34].[89]

The Italian iconographic tradition most often includes among the instruments played by Venus's children a lute [figs. V:29, V:32, and V:34], a tambourine with jingles [figs. V:29 and V:32], and a harp[90] [fig. V:35]. The lute was traditionally associated with erotic thoughts and became a symbol of Venus.[91] The tambourine was considered in Italy a symbol of carnal love.[92] The instruments are usually represented as being played independently of one another, not taking part in an ensemble. They are

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[89] Musée du Louvre, Département des Arts Graphiques, coll Edmond de Rothschild.

[90] The manuscript *De sphaera* (Modena, Biblioteca Estense, MS α.X.2.14=latin 209), produced between c.1450 and c.1460, is of Lombard origin, and at the beginning has the arms and emblems of Francesco Sforza (r. 1450-66) and his wife, Bianca Maria, daughter of Filippo Maria, last Visconti Duke of Milan. The artist has not been identified and an earlier suggestion that he is the Lombard illuminator, Cristoforo da Predi, being unconvincing. Cf. Jonathan J.G. Alexander, *Italian Renaissance Illumination* (New York: George Brazilier, 1977) 27; and *idem., The Printed Page: Italian Renaissance Book Illumination, 1450-1550* (Munich: Prestel Verlag, 1994) 75-76.

[91] Cf. Kathi Meyer-Baer, *Music of the Spheres and the Dance of Death: Studies in Musical Iconology* (Princeton: Princeton University Press, 1970) 97.

[92] In discussing the symbolism of Dosso Dossi's "Allegory of Hercules" (Florence, Galleria della Uffizi), Felton Gibbons, for example, explained the tambourine as a symbol of earthly love on the basis of its appearance in "the 15th century astrological prints illustrating the sign of Venus". Cf. Felton Gibbons, "Two Allegories by Dosso for the Court of Ferrara," *Art Bulletin* XLVII/4 (1965) 495 and note 15. Cf. also, A.P. de Mirimonde, *op. cit.*, 127.

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often not even played but only held, while the musicians take a break between two pieces [fig. I:5, top band left]. A sixteenth-century Venetian etching by Gabriele Giolito, showing a three-instrument ensemble (harp, recorder, and lute, which the musician is plucking with her left hand since the image became inverted in the proces of printing), is more an exception than a part of the tradition [fig. V:35].[93]

The north-European sources show a wider variety of instruments and it seems that the type of instrument was considered unimportant in them, because the images of Venus's children include players of both string and wind, as well as loud and soft instruments. The German miniature in the astrological manuscript from 1445 includes a lute, a harp, a trumpet, and two chalumeaux [fig. V:36];[94] and the miniature from a 1490 astrological treatise has a lute and a positive organ [fig. V:37].[95] A pen-and-ink drawing of Venus's children from about the same time, attributed to the master of the *Hausbuch,* again has a variety of instruments: a hurdy-gurdy, a pipe and tabor, a bladder pipe (*Platerspiel*), and two trumpets [fig. V:38].[96] Hans Sebald Beham (1500-1580), in his 1531 composition, pictured a number of ensembles: a flute and a harp with probably two singers are in one corner; a lute with viola da gamba in the other; and finally, a trumpet, a flute, and a large drum on the balcony of the palace in the background [fig. V:39]. The same variety can be found in a woodcut of the late-fifteenth-century

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[93] The etching was possibly inspired by Beham's 1531 image of Venus's children [fig. V:40]. Cf. A.P. de Mirimonde, *op. cit.*, 132-133.

[94] Kassel, Landesbibliothek und Murhardsche Bibliothek, 2° MS astron. 1.

[95] BNF allem.106, f.62

[96] In the possession of the Waldburg-Wolfegg Castle, Austria.

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Netherlandish school [fig. V:40] and its copy in the sixteenth-century manuscript Bodleian, Rawlinson D.1220, f.31v [fig. V:41]: a harp, a lute, a pipe and tabor, two chalumeaux, and a trumpet.

The notion of Venus's children corresponds to another artistic genre which had begun its development in late-trecento Italian art and actually predates the earliest Italian images of the planets' children: the Garden of Love.[97] The imagery of the Garden of Love adorned all manner of works of art, most of which were commissioned for marriages (furniture for weddings, along with bridal chests and fertility objects). Subsequently the genre emanated from Italy throughout Europe: the *Garden of Love* by a follower of Jacopo di Cione (1370-1380) [fig. V:42];[98] the *Garden of Love* in the manuscript of *De sphaera* (1450-1460)[99] [fig. V:43]; the *Garden of Love* in *Hypnerotomachia Poliphili* (Venice 1499)[100] [fig. V:44]; and the Master of the *Hausbuch*, *Gallant bath* (1500-1530)[101] [fig. V:45]. In Paul F. Watson's book on the development of this genre in Tuscany, the author looks for the roots of the theme in amorous literature

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[97] Cf. Paul F. Watson, *The Garden of Love in Tuscan Art of the Early Renaissance* (London: Associated University Presses; Philadelphia: The Art Alliance Press, 1979) 17.

[98] Douai, Musée de la Chartreuse.

[99] Modena, Biblioteca Estense, MS α.X.2.14=latin 209. Five wind-players—pipe and tabor, three pommers, and a trombone—together with a lute player at the base of the fountain and three singers are entertaining the bathers with music. On the base of the music sheet is written "Mon seul plaisir." Cf. François Lesure, *Musik und Gesellschaft im Bild* (Kassel: Bärenreiter, 1966) 106-107.

[100] A dozen young women and men are sitting around a fountain, and several instruments are placed on the ground.

[101] A lute player is sitting on the window of the bathing place, entertaining those enjoying themselves in the water.

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written from Antiquity to the Middle Ages. He argues that the ideal landscape for the Gardens of Love—circular in plan with a fountain in the middle around which are odiferous plants—are modeled upon the poetry of Virgil, Tibullus, and Claudian.[102] The book does not, however, address the similarities between the iconography of the Garden of Love and representations of Venus's children and the mutual influences between the two genres. The literature mentioned by Watson, such as the *Epithalmium for the Emperor Honorius* written in 398 by the Latin poet Claudian, clearly describes the mythical side of Venus as an Olympian goddess. Although in medieval literature the mythical figure and the planetary ruler were usually kept quite separate, the astrological attributes of the planet were rooted in its mythical attributes.[103] The scenes of the Garden of Love represent the same set of Venus's attributes as the astrological images of her children and therefore both subjects should be considered complementary. While the first subject is placed against a neutral background of love, the latter emphasizes love in the context of Venus's astrological qualities. The main elements related to Venus are substantial in both genres: couples involved in amorous activities gather around a bathing place or a fountain, play music, and dance. These activities are sometimes supplemented by food (symbolizing the food of love) or animals (dogs, rabbits, or falcons). Music-making is reserved only for highborn lovers, while their servants normally wait on them.[104] As in the images of Venus's children, the most frequently represented pairs of

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[102] P.F. Watson, *op. cit.*, 25-34.

[103] Raymond Klibansky, Erwin Panofsky, and Fritz Saxl, *Saturn and Melancholy* (London: Thomas Nelson and Sons, 1964) 192-194.

[104] Cf. P.F. Watson, *op. cit.*, 67.

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instruments are randomly chosen from among the viol, the gittern, the lute, the harp, the flute, the tambourine, and the triangle. Although the images of Venus's children and the Garden of Love might occasionally have some significance in tracing the development and physical characteristics of the instruments and the performance practice of the time, they must be used in this context with particular caution since the represented instrument has primarily a symbolic significance, and may not necessarily represent musical reality.

Since the images of the Garden of Love are detached from the astrological context, they do not include the likeness of the goddess herself at the top of the composition. They were also not required to be as precise in containing the entire set of Venus's astrological attributes as they were in the representations of her children. The pictorial narrative, showing a number of the children's occupations simultaneously, is often reduced to some of the genre's main elements, such as the overall round shape of the image, a round or hexagonal fountain in the middle, and musicians and/or dancers interacting with each other. In the center of the Florentine etching from about 1465-80, a single couple performs a dance [fig. V:46].[105] The six cupids with their instruments placed around, and an image of the naked Venus below, bedecked with pearls enticing her admirer, provide a commentary for the central image. The symbolism of love is here reduced to the carnation with which he is stroking her cheek. The six cupids all play instruments which are normally associated with a Dionysian context: hunting horn, side drum, bagpipes, tambourine, triangle, and cymbals. Planetary Venus is here clearly a

[105] Musée du Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild.

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symbol of sensuality and lust.[106] The elements of the Garden of Love on the print by Israhel van Meckenem (1440/50-1503) are reduced even further, and the iconography might seem removed from the archetypal image of the Garden of Love. However, the genre can be determined by its main elements: a man and a woman sitting near a fountain and playing a lute and a harp [fig. V:47].[107] A deficiency of specifics on the landscape in both images is supplemented by their overall circular shape.

In another composition, Israhel von Meckenem took one more step in freeing the Garden-of-Love genre from its prototype, at the same time closing the circle, potentially connecting it with Venus. The elements of both genres are present so latently that the print is, in the collection of the Metropolitan Museum of Art, entitled neutrally "Dance of Lovers" [fig. V:48].[108] In the centre is standing a courtly lady, holding a hardly noticeable apple in her right hand. The apple, a symbol of vanity and earthly pleasures, which Paris awarded to Venus in a beauty contest, as well as the Christian symbol of sin, temptation, and desire, was her ultimate attribute in the amorous context and identifies the courtly lady as Venus.[109] Around Venus six men are dancing to the music of a pipe

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[106] Cf. Robert L. McGrath, "The Dance as Pictorial Metaphor," *Gazette des Beaux-Arts* LXXXIX/1298 (March 1977) 81-92.

[107] Dresden, Kupferstich-Kabinett, inv.no.95755.

[108] The same print, credited to the Philadelphia Museum of Art, is reproduced in Edmund A. Bowles, *Musikleben im 15. Jahrhundert,* Musikgeschichte in Bildern. III: Musik des Mittelalters und der Renaissance 8 (Leipzig, VEB Deutscher Verlag für Musik, 1977) 62-63. Here, the image is considered to belong to the moresca dance, entitled "A dance for the prize," the courtly lady in the middle probably being an award.

[109] The other contestants in the judgment of Paris were Juno, who promised Paris land and riches for the apple, and Minerva bribing him with victory in battle. After Venus offered him the love of any woman he chose, Paris awarded the apple to her.

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and tabor, performed by a musician standing below them. The dancers are placed free in the space, performing independently from one other (or competing among themselves). In the overall design, however, each is placed within a circular shape, characteristic of elements (such as the fountain) included in the Garden of Love or often of the entire composition. Symmetrically opposite the musician, below Venus, a fool is gesturing toward her, possibly symbolizing faithfulness. Between the musician and the fool is a large dog, one of the animals often included in the Garden of Love. In this composition by Israhel, therefore, the normal elements of the Garden of Love or Venus's children are deconstructed, but a careful reading of the figures, residing in a conceptual rather than concrete space, reveals that they include the identical symbolism as Fendulus's or Michael Scotus's Venus.

Children of Mercury. Mercury's astrological characteristics are quickness, sharpness, cleverness, ready wit, verbal fluency and communication. Because of his characteristics as a discoverer of many arts and devices, his children are industrious and brilliant in intellectual and artistic disciplines. As mentioned above, among the earliest representations of Mercury's children is the early-fifteenth-century set produced in the manuscript of *L'Épître d'Othéa* by Christine de Pisan.[110] The concept of this image still reminds one of Fendulus's iconography in representing a single characteristic of the planet: scholars gathered together in a discussion [fig. V:24A–B].

Masso Finiguerra's representation of Mercury's children is a narrative in which figures are placed in various situations, each representing one of the planet's

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[110] BNF fr.606, f.8r., and its copy BL, Harley 4431, f.102r.

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characteristic occupations [fig. V:30]. The number of occupations here is much greater than that associated with Venus. The children include a group of scholars reading, a clockmaker, a sculptor carving a bust, astronomers in a discussion around an armillary sphere held by a woman (representing the discipline of astronomy), a group of craftsmen, a painter decorating a façade, two men dining, and a man playing an organ. The copy of Finiguerra's children from about 1465 [fig. V:33] has a slightly reduced number of persons but the occupations remain unchanged. The only astrologically significant change is the replacement of Sagittarius with Gemini, which was, in the earlier print, incorrectly represented in the wheel of his chariot as Mercury's zodiacal house.

A different representation of Mercury's children was developed in German sources, such as the astrological manuscript at the Landesbibliothek, Kassel [fig. V:49]. Produced probably around 1445, it predates the Finiguerra prints by about ten to fifteen years. Although five of Mercury's represented occupations remained identical to those in Finiguerra's prints, the children are involved with a different kind of labor than in the Italian pieces. The painter is not working on a decoration of the building's wall, but is painting an altarpiece; the organist has become an organ builder, and the sculptor is working on a statue of an entire figure rather than on a bust of a woman.

In later dissemination, those occupations became the standard, and it seems almost as if all later images were designed after a single common model. The only additions to the occupations in the *De sphaera* manuscript [fig. V:50] were the two cooks preparing food, the two armorers, and the clockmakers.[111] Identical occupations are represented in

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[111] Cf. description of the image in J.J.G. Alexander, *The Painted Page*, 75-76.

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the print of Mercury's children by a Dutch master from about 1480 [fig. V:51], and its copy in the early sixteenth-century Dutch manuscript Bodleian, Rawlinson D.1220 [f.32r; fig. V:52].

The only significant attribute to distinguish the northern European tradition from the southern images of the planet's children is the position of the planetary god in the overall composition. In the southern sources, the planetary god is regularly driven in a chariot pulled by his or her characteristic animals[112] or is represented, together with its symbols and related zodiacal signs, in a circle at the top of the composition. In the north-European iconography the planetary god normally rides on horseback, as Mercury does here. The zodiacal signs which are in the planet's house are included on each side of the planetary god. They are sometimes surrounded by their own symbols, such as, for example, Virgo observing herself in a mirror. The pen-and-ink drawing of Mercury's children from the first third of the sixteenth century, attributed to the master of the *Hausbuch* [fig. V:53], includes a large number of people; a new element is their mutual interaction. The clockmaker is turned away from his bench, reading the position of a star. He combines in the same person an astronomer and an inventor of various devices. The sculptor is participating in the flirting of a couple at a dining table. The school master is taking a break from his writing, flogging a child. The painter, who is working on a panel which looks identical to the one from the image in the 1445 German

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[112] Saturn is drawn by a lizard and a dragon and sometimes by snakes; Jupiter by peacocks and sometimes by eagles; Mars by dogs; the sun by horses; Venus by doves; Mercury by cocks; and the moon by two women. These creatures are, in late-Renaissance imagery, regularly associated with the planetary gods.

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manuscript, has female company.

Another important representation of Mercury's children is the print by Hans Sebald Beham, from 1531 [fig. V:54], which served as model for several later works. The composition is simplified and each occupation is again represented in isolation from one another. Some of the occupations are entirely removed from the composition and through the application of perspective, different significance is assigned to the included occupations. The culinary element is dropped from the composition; the craftsmen are pushed deeply into the background and we cannot see what kind of work they are actually doing; the painter has his easel turned away, and it is not apparent whether he is painting a sacred or secular theme. The most strongly emphasized disciplines are sculpting, sciences, and music—shown in the foreground—and astronomy, placed at the focal point of the total image.

A sixteenth-century Italian woodcut [fig. V:55][113] and the Brussels tapestry from about 1570 [fig. V:56][114] go even further in the reduction of the elements. Although the composition includes music, astronomy, and sciences, the central point, particularly on the tapestry, is the organist. The circle, which had begun with Fendulus's Mercury—who studies books and plays music—was closed in this way in the Belgian tapestry, where the occupations of his children were reduced to the same two activities which Fendulus considered the most important.

In the context of Mercury's children the symbol for his set of musical

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[113] BNF, Cabinet des Estampes.

[114] Munich, Bayerische Nationalmuseum.

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characteristics is almost without exception an organ or a positive.[115] The organ was, in the Renaissance, the most complex of instruments—and, what is important in this context, a tool for theoretical instruction. Tilman Seebass argues that the instruments given to Lady Musica (the personification of *ars musica*) in late-medieval images were deliberately chosen and contain important symbolism. When Lady Musica is portrayed playing the bell chime or the organ, which were tools in musical instruction, she might signify a female instructor in music theory.[116] Other instruments given to Lady Musica, such as the psaltery, are normally only held in her hands and not played. Therefore, in such a context she should be understood as the patroness of music.[117] The iconography of Mercury's children possibly inherited some elements from this late-medieval iconographic practice. Although Mercury's children knew both how to make instruments

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[115] The only example known to me which contradicts this rule is found among the depictions of the planet's influences in the Salone in Padua. Unlike Venus's children, which do not here include music at all, Mercury is associated with two frames related to his musical influences: a singer accompanying himself on a tambourine, and a duo playing the harp and the fiddle.

[116] Cf. Tilman Seebass, "Lady Music and her *Protegés*: From Musical Allegory to Musicians' Portraits," *Musica disciplina* XLII (1988) 31. For iconography of Lady Musica cf. also Albert P. de Mirimonde, "Les allégories de la musique. I: La musique parmi les arts libéraux," *Gazette des beaux-arts* LXXII/1199 (December 1968) 295-324; and Werner Bachman, "Bilddarstellungen der Musik im Rahmen der artes liberales," *Bericht über den Internationalen Musikwissenschaftlichen Kongress Hamburg 1956*. Ed. by Walter Gerstenberg, Heinrich Husmann, and Harald Heckmann (Kassel and Basel: Bärenreiter, 1957) 46-55.

[117] This changed in the sixteenth century, when Musica was often represented as playing the keyboard and plucked (lute, mandora) instruments. Cf., for example, etchings of "Musica" by Hieronimus Cock and Frans Floris, by Joannes I. Sadeler made after Maarten de Vos, and by Cornelius Cort after Frans Floris de Vriendt. All are reproduced in Karel Moens and Iris Kockelberg, *Muziek & Grafiek: Burgermoraal en muziek in de 16de- en 17de-eeuwse Nederlanden* (Antwerp: Pandora, 1994) 55-56.

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and how to play them, the Renaissance astrological context of music associated with this planet had a more theoretical than a practical nature. Music was represented primarily as a scholarly discipline, in contrast to the practical music embraced by Venus's children, and the most appropriate instrument by which to represent the context of didacticism and learning was the organ.[118]

With regard to the music images, Mercury's children are ambivalent only as to whether the organ was being played, made, or tuned, which might seem peculiar since everything the children did had been precisely determined. In the German manuscript from 1445 [fig. V:50], the manuscript *De sphaera* [fig. V:51], and in the print by the Master of the *Hausbuch* [fig. V:54], Mercury's nature as an inventor was seen to be more important than his role as a performer, and the iconography reflected this through the image of an organ builder. The master of the Dutch print from ca. 1480 [fig. V:52] and its copyist [fig. V:53] attempted to embrace both aspects, and their organist is at the same time also a builder of the instrument: single pipes are placed on the table next to the organ, which the organist plays assisted by a *calcant*. Finiguerra's print [fig. V:30], with an organist playing the instrument on the second floor of the house on the right side of the street, was an exception in the mid-fifteenth century. The artist here did not hesitate to make obvious the Florentine ideas and milieu. The proud engraver who copied Finiguerra's original even anticipated the completion of Brunelleschi's dome on the Santa Maria dell'Fiore, and added it to his set of prints even though the lantern was not

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[118] The organ is often represented with reversed sides, the longest pipes being on the musician's right side rather than on his left, a reversal which occurred in the process of copying and printing images.

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surmounted by its ball and cross until 1471 [fig. V:33].[119] Florence, in those days, nurtured Neoplatonic ideas championed by Marsilio Ficino (1433-1499), who averred in his book *De vita* that Mercury signified not only the brain but also the sense organs.[120] A psychological interpretation of such a notion of Mercury would indicate that, as the inventor of music and the father of the arts, he could be called upon to restore with music the spiritual balance within a person. Music can cure the soul. The cure however, is not in theoretical calculations or in the crafting of instruments, but rather in the making of music. Therefore, Finiguerra's organist is not involved with the construction of the instrument but with playing. This approach to music in the context of Mercury's children was a novelty in the mid-fifteenth century, but later became a common theme. In northern European sixteenth-century imagery, music was always represented by an organist playing his instrument, and eventually on many images the organist became the most prominent element among all of Mercury's attributes.

Children of the sun. Music was usually not considered an important element in the context of the children of the sun. The planet was considered influential for the qualities of pride, generosity, egotism, honor, loyalty, ardor, vitality, and conscientiousness.[121] His children are generally joyful young people involved in playing different

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[119] Cf. Arthur M. Hind, *Early Italian Engraving: A Critical Catalogue with Complete Reproduction of All the Prints Described. I: Florentine Engravings and Anonymous Prints of Other Schools* (New York: M. Knoedler, 1938) 77.

[120] M. Ficino, *op. cit.*, 264-265. "Concerning our natural power, our vital, and our animal, and which planets give them aid, and how they do so through the aspect of the moon to the sun, to Venus, and especially to Jupiter."

[121] Cf. A. Candlish, *op. cit.*, 32.

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games and in fighting. Music was a secondary element, and musicians were not even a permanent fixture in the imagery of the sun's children [fig. V:28]. When musicians were included, they had little or no symbolic value, being only attributes of the leisure brought forth by the sun. In considering instruments, the Master of the *Hausbuch* was among the most generous artists to undertake the depiction of this theme [fig. V:57]. The player of a recorder, dressed as a court fool, is providing entertainment for a couple reading a letter; an ensemble consisting of two shawms and a sackbut accompany the action at the dining table; and another youth is standing to one side, holding a lute under one arm and a timbrel in the other. Hans Sebald Beham included only a lute player in his composition, placed in the corner of the balcony in the background, not a position that was emphasized in the least [fig. V:58]. A similar case is the Dutch woodcut from the end of fifteenth century [fig. V:59] and its copy in the astronomy treatise Bodleian, Rawlinson D.1220 [fig. V:60], in which a harp is played for a king's entertainment.

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Examining the iconography of the planets considered influential in music, we have rather significantly departed from Fendulus's manuscripts. We have examined their transmission from the Arabic manuscripts to Michael Scotus's tradition, which is in turn contemporary to the earliest of Fendulus's depictions. By proceeding to trace the tradition through the late Renaissance in the imagery of the planets' children, we have also established how the imagery of the planets additionally provided the basis for the allegorical iconography of the four seasons—which was, in turn, the background for the

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standard imagery of the labors, associated with each month usually included in calendars. Earlier, in Chapter II on *sphaera barbarica*, music-making was shown as the characteristic labor for the month of May, the period influenced by Gemini, the sign which is in the house of Mercury. Such a broad approach to the iconography of the planets showed how the meaning of the instruments in the symbolic contexts of Venus and Mercury changed between Antiquity and the late Renaissance. In analyzing this imagery, it became apparent that the dissemination of classical mythology occurred both in the textual and representational traditions. The astrological characteristics of Mercury were initially based on the planet's features taken from Olympian mythology, where he was considered to be the inventor of the lyre. At the time when Fendulus was working on his illustrations for the abridgment of Abū Maʿšar's treatise, knowledge of the lyre was gathered from textual sources, and it was understood to be a fiddle rather than the ancient instrument. Fendulus did not have an opportunity to learn about the ancient lyre, and thus is explained why his Mercury is holding a fiddle.

Another interesting development in the iconographic tradition of Mercury occurred toward the end of the fourteenth century, when the ancient myth about the invention of the lyre lost its popularity and the god was most often represented in the context of the story about Argus. His traditional stringed instrument was replaced by a pipe. The first images of Mercury and Argus were obviously illustrations of the mythological story but, in subsequent sources, Mercury playing the pipe was also adopted for the astrological context. Through the centuries, an extensive astrological symbolism for each planet became established. Instruments with independent symbolic attributes

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inherited a new set of attributes from the planets with which they were associated. The two sets of attributes complemented each other and eventually blended. In the case of Mercury, as was explained earlier, the invention of the lyre was complementary to his industrious nature, and the Apollonian characteristics associated with the instrument matched the astrological image of him as a scholar. The pipe, introduced later, brought a completely new set of symbols into the astrological context, but this did not trouble anyone. Mercury still preserved his astrological patronage of scholars, even while playing an instrument that belonged to a different mythological story.

With Mercury's children, the third instrument—an organ—was introduced into the astrological context. This instrument did not have anything to do with the ancient mythology of Mercury. It brought with it a new set of connotations and became the symbol of music in its most general sense. The instrument's design, which was more complex than any other instrument at the time, was the most appropriate to suggest the craftsmanship associated with Mercury's children.

Since the iconography of Mercury reflects the perception of the planet and the influences associated with it, the transformation of instruments in his astrological context conveys much more meaning than the organological changes occurring over a period of time. It also shows how the original myth, which was the basis of the planet's astrological symbolism, disintegrated the further it was removed from its origins. Together with this disintegration came changes in astrological prognostication. However, those concerned with the astrological significance of Mercury's influences in music evidently did not notice the differences or complain about them. The original ideas and

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prognostications seem to have been forgotten together with the original instruments. Ignorance of the original attributes of Mercury was such that his musical symbolism was forgotten even when he was used allegorically to decorate Burney's book dealing with music history.

The dissemination of the iconography of Venus was rather different, although no less colorful than Mercury's. Michael Scotus, in his early-thirteenth-century astrological manual, depicted her as a young lady smelling a rose. Approximately at the same time, Fendulus created his image of Venus playing a psaltery. The iconography of Venus with a musical instrument was strongly influenced by the Arabic sources, in which she normally plays an ʿūd. When Fendulus created his image of Venus, the lute, associated with sensuality, was replaced by the psaltery, the instrument normally symbolizing virginity. Therefore, this was the instrument which, together with its relative, the harp, became a standard instrument associated with Venus. Eventually both traditions—Fendulus's and Scotus's—merged. The rose and harp or psaltery became standard symbols of Venus and were used interchangeably. Music, which was originally a foreign element in the Western astrological symbolism of Venus, eventually became accepted on a par with her other signs, a mirror and a rose; in the end, it became a dominant element in her iconography.

Exactly as with Mercury, the occupations of Venus's children grew out of her mythological characteristics. Subsequently, the iconography of her children influenced images of the labors of the months and seasons. As we have shown in chapter two, discussing music and paranatellonta, music is the most strongly emphasized labor during

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the period coinciding with Gemini and Cancer (late spring and early summer), the signs in which Venus and Mercury are in their houses. In other words, that time comprised the period during which Venus and Mercury were wielding their most powerful influence. The fifteenth- and sixteenth-century users of the calendars, looking at musicians depicted with spring and early summer months, were certainly not aware that the origins of those images went back to ancient mythology or to Arabic astrological doctrine. This, however, did not have any significance for the message which the images conveyed to their viewers. Even though the astrological context that exists in Fendulus's iconography, as well as in many other astrological works, is missing in those calendar images, their message was communicated unchanged.

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Chapter Six

Additional Images of Musical Instruments in Fendulus A

Besides Abū Ma'šar's text and appended illustrations, the earliest manuscript, Fendulus A, includes several additional images of instruments in its final part (ff.70v-75r), following the section describing the planet moon. Those pictures have never been described or reproduced in musicological literature and, in order fully to present the musical content of this manuscript, they should be briefly discussed here. Their complete context and meaning are hard to understand because this section of the manuscript was not finished and several pages belonging to this part, which were obviously reserved for the text, remained blank. Some pictures were also left unfinished.

The section is separated from the part describing the planets by three blank pages (ff.70v-71v), reserved for the title and introductory text. On f.72r-v, there are two sketchy, unfinished drawings of the Wheel of Fortune, again followed by three unused pages (ff.73r-74r). The rest of the section (ff.74v-79r) includes several fragments of text about the Wheel of Fortune and five pictures of it. The image on f.75r is a finished copy

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of the sketch from f.72r and the image on f.76r is a finished copy of the one on f.72v. In a way similar to the four images of the planets, where each image makes a reference to only one position of the Wheel rather than including an entire revolution in the same image, each of the five pictures of the Wheel of Fortune represents one segment of man's fall and rise.

The first position of the Wheel shows a man balancing on the top and holding two crude fiddles (the same two instruments are included in the sketch of the picture a few pages earlier, see facs. 55, p. 384). One fiddle is shown with the outline of its pear-shaped body, four strings, and four pegs in the abruptly backward-turned head. The other fiddle has no more details than the first one. The pear-shaped body is extended by the long neck. No strings or pegs are shown, but there are four holes in the sound box.

The final eleven pages (ff.79v-85r) are consecutively filled with illustrations of a narrative whose story is hard to explain since they are not accompanied by the text. The section begins with a crowned woman sitting and holding a palm branch, with three rows of vegetation on the opposite page. On the following page is a standing king, again opposite a page with a single large piece of vegetation. The next page includes an image of a woman holding a bow and three arrows, opposite a page with two images of birds sitting in vegetation. There follows a full-page picture of a seated king, with one crown on his head and the other in his right hand. On the opposite page there is a picture of a couple dancing to viol music (see facs. 56, p. 385). The musician is playing the viol holding it against his left shoulder and bowing it with his right arm. The instrument has an elongated body with four strings going from the holder in the middle of the sound

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board to pegs inserted in a diamond-shaped peg-box. The following full-page picture shows four dancers, one of them playing a tambourine (see facs. 57, p. 386). The tambourine has a shape identical to all the other six tambourines included elsewhere in this manuscript. The section is completed by three pages filled with pictures of a royal banquet.

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CHAPTER SEVEN

INTERPRETATION

Abū Maʿšar's, Hermann's, and Fendulus's understanding of astrological ideas. "For the medieval mind such things as beauty and ugliness, lust and pain, cruelty and fear, love and jealousy, were encompassed by so many transcendental conceptions that all had moralistic or theological connotations."[1] Such an intellectual context offered astromythology plenty of opportunities for involvement in the medieval Weltanschauung; in turn, there resulted a reinterpretation of ideas originating in Antiquity but reaching European medieval culture by way of an extended arch embracing India and the Arabic world. Medieval culture superimposed on those ancient beliefs, amalgamated with Indian and Arabic ideas, new layers of fresh meaning, including elements of religion and science, myth and rationality, reality and phantasmagory. Every mythological character

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[1] Erwin Panofsky and Fritz Saxl, "Classical Mythology and Medieval Art," *Metropolitan Museum Studies* IV/2 (1933) 268.

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involved with celestial constellations had been accumulating a vast amount of symbolism since the earliest construction of the notion of constellations, and these multilayered signs became not only a fatalistic projection of the future, but also a morality tale for the present.

In evaluating the place of music in medieval society or in outlining social values which the society associated with it, one could argue that the relationship between medieval astrological symbolism and fatalistic predictions is excessively esoteric and therefore insignificant. The symbolism associated with a particular instrument or with entire groups of instruments is not always easy to read from the astrological context expressed through iconography. Nevertheless, the depiction and description of instruments in the Fendulus manuscripts (1) demonstrate how musical and extramusical content was understood in an astrological context at the time of each manuscript's creation, (2) show characteristics attributed to the instruments, (3) indicate the role which was assigned to music in social organization, or (4) demonstrate what kind of music was related to planetary deities and constellations. Every place in the sky has certain celestial bodies that were believed to influence the universe, peoples, and individuals. When a planetary deity or a mythological vision of a constellation was associated with a musical instrument, or more often with a mythological figure in some way occupied with music, it was also assumed that its astrological influences were significant to the musical creativity of humans influenced by it.

One example will suffice here. Michael Scotus, in his *Liber introductorius*, stated that those who are born under constellations representing musical instruments are

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generally destined to become musicians. Those born under the influence of Lyra do humble work: they are fowlers, fishermen, tailors, or players of instruments, but in any case they will never be rich and will not have much good fortune; those born under the sign of the "figura sonantis canon" will have enjoyable lives playing their instruments, but will always belong to a group of poorer people and never the rich.[2] The same treatise offers elsewhere an indication as to why its author constructed such a prediction and included musicians among poor people. The lira, or sanphonia, was used by poor students who used to play and beg from door to door, earning their living this way.[3] Thus Michael Scotus transplanted the contemporaneous social status of the instrument into his astrological symbolism.

Abū Maʿšar's text provided only a general idea of the influences that could be expected from a certain decan or paranatellonta. His text is atemporal, not including specific references to any religion, ethnicity, or geographic region. This allowed room for the development of symbolic ideas comprehensible to everyone in the local environment where the treatise was used. In writing it, Abū Maʿšar was more concerned with the astrological and astronomical elements than with the mythological aspect of the sky. As we repeatedly mentioned, in his treatise he transmitted Greek and Roman ideas, which, on the one hand, he assimilated directly from Greek and Roman sources, and on the other, from their Indian interpretation. However, it is natural that although he was

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[2] Cf. manuscript BS Clm.10268, f.82v; and F. Alberto Gallo, "Astronomy and Music in the Middle Ages: The *Liber introductorius* by Michael Scot," *Musica disciplina* XXVIII (1973) 6.

[3] Cf. BS Clm.10268, f.43v; and F.A. Gallo, *op. cit.*, 6.

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familiar with ancient literature and astrology, as well as with ideas of Aristotelianism and Neoplatonism, his reading of ancient mythology was strongly filtered through the Arabic understanding of the sky.

Both Hermann and Fendulus introduced changes to astromythology. In his translation, Hermann not only exchanged Arabic words for their Latin equivalents, but also—finding contradictions with what he knew to be Western astrological or mythological traditions—adjusted the text even when this required substantial changes. For example, the Arabic astrological tradition misinterpreted the features of Medusa's head, changing it to the head of Algol (who has a male face), and this was how the constellation was described in Abū Maʿšar's treatise. Noticing here a discrepancy with the Western tradition, Hermann exchanged the figure of Algol back to the original head of Medusa. Elsewhere, in order to be more didactic, he replaced Apollo with Amphion. Hermann's intermediary role in the transmission of Arabic astrological concepts to the West was extremely significant because his translation of Abū Maʿšar's treatise was one of the most frequently used astrological texts until the end of the Renaissance.

The text of the eighth book of the *Introductorium maius* required illustrations because, whereas in other parts of the treatise Abū Maʿšar dealt with those aspects of astronomy belonging to exact science, the eighth book enters into the sphere of imagination and speculation. In spite of this fact, the text does not guide the illustrator. Fendulus, therefore, was free to explain visually Hermann's translation, just as Hermann had earlier provided a new interpretative layer to Abū Maʿšar's text. Abū Maʿšar's decans, although having Indian roots, were not described according to any particular

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tradition or religion; their personifications usually do not indicate which instrument they play and they do not have names. The visual concept of the *sphaera barbarica* and its constellations was equally vague, and some of its original elements were entirely forgotten during the Middle Ages. This enabled the text, produced in the Arabic cultural milieu and describing the Greek, Indian, and Persian astrological spheres, to be illustrated in accordance with the Western iconographic tradition without having the illustrations contradict the intended meaning of the text.

When Fendulus undertook to illustrate this text, he had little understanding of the original symbolism associated with astrological and mythological figures in Antiquity or in the Arabic and Indian cultures. He was unable to discover that archetypical layer and probably was not even interested in it. On the other hand, he was concerned that his readers understand the text's astrological message and therefore took advantage of the freedom that Abū Maʿšar's text provided, adjusting his celestial iconography according to his own understanding, thereby introducing a new layer of symbolism. Traces of cultures in which the described astrological traditions were disseminated are apparent in Abū Maʿšar's text, but Fendulus often departed from them and his illustrations primarily resonate with the ideas of his Western contemporaries. His depictions of ancient gods do not resemble images that we are used to identifying with ancient mythology. Rather, they reintegrated people and objects from his contemporaneous world, reflecting the daily life of his time. His gods are freely invented on the basis of *textual* tradition and their classical attributes are, in most cases, absent. By contrast, they kept the symbolism which their contemporaries associated with them. Fendulus's imagery is new and fascinating,

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since he saw his figures as medieval courtly ladies, knights, kings, and peasants. The second Indian decan of Gemini, for example, took on the appearance of Apollo as a medieval knight in armor with bow and arrows; Venus is a medieval courtly lady entertaining herself with a psaltery; Mercury plays a medieval fiddle rather than an ancient lyre. The classical mythological figures are not only dressed in medieval garments, but are also redefined in such a way that they can be reconciled with the moral and religious codes of medieval society.

Through the subsequent dissemination of Fendulus's images over a period of almost three centuries, in some manuscripts changes were introduced as the text continued to be reinterpreted iconographically. The fresh depictions that sprang from the text reflect not only stylistic development and influences, but also the customs, fashion, and way of life in the various geographical regions where the manuscripts were produced. Other copies slavishly followed their model in detail. The objects with which artists were more familiar were usually represented with greater accuracy than those they did not know. The less common objects were simple and sketchy, often copied from models in an older manuscript. The earliest manuscript, illustrated by Fendulus himself and now probably lost, was definitely the most imaginative one, because it was created as the original illustration of the text without being based on an earlier visual model. For us—not able to know the original—the prime point of reference is Fendulus A, which might be a direct copy of the prototype. Each later manuscript produced by a skilled copyist offers a new commentary on Abū Maʿšar's text, in which the imagery represents contemporaneous reality and provides a medium that helped the medieval reader to

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understand the text. For example, the aforementioned *caput Medusae,* which Hermann had changed in his translation from the head of Algol to Medusa's female face and as such is included in Fendulus A, was changed back into a male by the copyist of Fendulus B. It is obvious that the author of images in Fendulus B was more familiar with the Arabic than the classical mythological tradition or that, in addition to using a copy of Fendulus's prototype or the prototype itself, he may have used another Arabic source as a model.

The time period separating the inception of the astrological symbolic systems which Abū Ma'šar described and their medieval Western interpretation was rather long, in some cases extending over a thousand years. During this time, each system was subject to its own development. Outlining elaborate mythological systems and blending Egyptian, Persian, Greek, Roman, and Indian astrology, in addition to a layer of Christianity inserted by Hermann, the Latin translation of Abū Ma'šar's treatise reflects the entire history of astrology prior to the twelfth century. However, this reflection was seen through a peculiar kaleidoscope, which distorted the projected picture several times. Every time the astromythological tradition was transmitted to a different cultural environment, its symbolism was also altered. Many of the symbols, which had one meaning when the system was originally created, received new meanings over time, sometimes diametrically opposed to the initial idea. Since the Arabs transformed Indian and Greek mythology, the astrological systems described by Abū Ma'šar do not have a coherent structure but are, rather, a conglomerate of various mythological sequences constructing and deconstructing earlier myths. Analogously, receiving astrological

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concepts from the Arabs, the Western European writers again did not fully recognize the meanings that were associated with them. In consequence, although some scholars (such as Aby Warburg and Erwin Panofsky) considered medieval European thought as an extension of ancient cultural traditions, in fact, the astromythological system adopted by the Europeans in its core presents an Indo-Arabic reading of Antiquity, rather than the original Greek or Roman interpretations.

Astrological symbolism. Fendulus told the story of the decans and constellations in a temporal sequence, with figures successively following each other as they appear in the sky during the year. The three streams that are displayed horizontally and parallel to each other flow throughout the manuscript at different tempos, each narrative telling its astrological story. In the middle part of each page, an Indian decan is shown in a narrative represented by a monoscenic image, having all the elements of the story contained within a single frame. On the left side of the defined space is a representation of the decan itself, performing a single action. On his right are objects which indicate abstract elements related to him, such as his thoughts, feelings, or intentions. On a larger scale, the stream is a composite of thirty-six frames/episodes separated from each other by the page-break.

In the *sphaera barbarica*—the stream in the top third of each page—the story is told in a somewhat different way, because of the different astrological concept assigned to it. Over a period of ten days are presented several astromythological figures, each placed in its own microspace and occupied with its own action. In relation to the *sphaera*

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indica, we have here a diminished narrative with a faster rhythm: the rise of several paranatellonta coincides with one Indian decan. Neighboring paranatellonta interact with each other and the page-break does not separate different episodes—as is the case of the decans—but binds them in an uninterrupted flow from the first decan in Aries to the last decan of Pisces. The satyr in the first decan of Cancer, for example, is described as following Amphion, who is playing his pipe in the preceding third decan of Gemini. In looking at the pictures, the viewer has the impression that he knows where a figure came from and where he or she is going. As Martin Day observed, archaic peoples were primarily concerned with the deeds of their mythological characters, and they asserted that a character became meaningful only in his or her actual performance.[4]

The astrological concept that Fendulus attempted to depict in the *sphaera graecanica*—in the bottom section of the page—was again different. The images here represent astronomical situations that may actually be seen in the sky. Fendulus pictured the constellations only with those parts that one could recognize in the sky during a particular period. The artistic result was a conglomerate of fragmented objects, disoriented in an abstract space, without the forward-moving energy of the *sphaera barbarica*. The Ptolemaic constellations do not interact, and their stream does nothing more than itemize the visible objects, giving the impression of a static situation. However, this stream attempts to duplicate physically the perceptible universe and, while the *tituli* in the *sphaera barbarica* and *sphaera indica* describe a certain mythological

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[4] Martin S. Day, *The Many Meanings of Myth* (Lanham, New York, and London: University Press of America, 1984) 14.

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action, in the *sphaera graecanica* they are descriptors of an exclusively nominal character.

Neither the text nor its illustrations were sufficiently precise to help in determining the exact astronomical positions of heavenly bodies. Considering that the planets and constellations are ruled by mathematical and physical laws, one would not expect Fendulus's images to be so remote from the calculated positions of celestial bodies. The incomprehensibility to ancient and medieval man of the laws ruling celestial bodies, however, caused visual representations of the planets and constellations to become distanced from their mathematically accurate astronomical positions. An image could be defined as "a reproduction in the mind of a sensation produced by a physical perception."[5] Here, the physical perception was vague or nonexistent, which allowed astronomy to create mental sensations that in turn produced an elaborate symbolism. The imagination of people participating in the transmission of astrological thought before Abū Ma'šar and in Fendulus's time created celestial figures in the form of men with lions' heads, elephant-horse-man creatures, and a variety of other fantastic beasts. By the time Fendulus designed his illustrations, some figures were so removed from astronomical reality that they became concepts rather than graphic outlines of constellations as they originally were meant to be. When Fendulus's iconography was transmitted from one manuscript to the other, the original forms disintegrated even further. The system which had long ago lost its original symbolism was repeatedly adjusted and acquired new

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[5] "Imagery," *Princeton Encyclopedia of Poetry and Poetics*. Ed. by Alex Preminger (Princeton: Princeton University Press, 1974).

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meanings. Images described in Abū Maʿšar's text were transformed and merged with images perceived in daily life. Those that lost their resonance with reality were changed, renewed, or dropped entirely from the system.[6]

The constellations in *sphaera barbarica* and *sphaera graecanica* essentially represent similar concepts: forms which could be visible in the celestial dome when all the stars belonging to a single constellation are outlined. However, looking at the same stars, the ancient Greeks perceived different figures from those of the Egyptians and, in turn, the medieval astronomers often did not recognize the resemblance between the Greek or Roman constellations and the heavenly bodies they were able to see above their heads. In fact, medieval astronomers did not even comprehend the constellations of the *sphaera barbarica* in a strictly astronomical context and they were not able to identify in the sky some of the constellations belonging to it, just as we today are not sure where to look for them. These astrological figures were so remote from the actual outline of constellations that, transformed into mythical characters, their depiction became just an expression of ideas and thus became similar to the decans of the *sphaera indica*, which represented from the very beginning mythological or religious concepts rather than the constellations' outlines.

Among the three different representations of the universe shown in Fendulus's

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[6] This is not specific only to the Fendulus manuscripts. Parallel examples are numerous: the mythological attributes of Hercules (a lion's skin and a club) meant nothing to the Arabs, who represented him with a turban and Arabic gown instead, in the manuscript Paris, Bibliothèque de l'Arsenal, cod. 1036. Cf. Vicky A. Clark, *The Illustrated "Abridged Astrological Treatises of Albumasar": Medieval Astrological Imagery in the West* (Ph.D. dissertation, The University of Michigan, 1979) 131.

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manuscripts (the paranatellonta, the Indian decans, and the Ptolemaic constellations), one can recognize two types of imagery.[7] The *sphaera graecanica* and, to some extent, the *sphaera barbarica* can be understood as imagery of a visual type: the outline of star groups, visible in the clear sky, resemble figures known from the visible world (animals, men, women, architectural objects). Some of these forms are further associated with mythological characters and deities, but this does not preclude our relating the positions of the stars to the represented forms. To remain within scientific limits, Fendulus represented forms in the *sphaera graecanica* only partially, showing their parts as they correspond with a designated ten-day period on each page of the manuscript.

The *sphaera indica* is different in its nature because the personification of a decan does not bear any correlation to the positions of the heavenly bodies, and therefore it represents a mental image rather than a visual one. Fendulus's images were designed as interpretations of Abū Maʿšar's verbal descriptions. As has been shown in the preceding chapters, Abū Maʿšar constructed his list of the Indian decans on a thousand-year-long tradition. As the model for it, he used Varāhamihira's descriptions of decans, while at the same time transforming their symbolic meaning. In his list, there are decans whose appearance had changed little since ancient Egyptian times, but also those that are hard to relate to any older model. Here we are not dealing with narrated legends, but with principles. Having many layers of meaning, the literal value was far less important than the symbolic truth to be discovered in it. Therefore, Abū Maʿšar changed their

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[7] For a systematization of different kinds of images, cf. W.J.T. Mitchell, *Iconology: Image, Text, Ideology* (Chicago: University of Chicago Press, 1987) 9-14.

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appearance in order to make them conform to the intended symbolism. His descriptions and, for that matter, all of the other descriptions of the decans, are brief, consisting of the decan's appearance and occasionally his actions, i.e., those elements that carry symbolic meaning. That made it possible for each tradition to modify and update the appearances of the decans in order that they could be better understood.

Abū Maʿšar's descriptions are condensed and provide details of the decans only up to a certain point, usually giving more information about their appearance than their thoughts, intentions, and actions. For example, the description of the appearance of the third decan of Gemini in Abū Maʿšar's text is followed by the statement that "his mind is occupied with writing lyrics and composing different kinds of music, games, and jokes." Music is here used in abstract terms, without any explicit mention of the instrument that the decan might be playing or the kind of lyrics he is writing. Music is a symbol on the most general level, and no use is made of the symbolism associated with a particular instrument. This allowed Fendulus to create figures from his imagination and provide his own interpretation and explanation of Abū Maʿšar's decans. Although the text that Fendulus used is a Latin reinterpretation of the Arabic and Indian models, a search for Indian or Arabic instruments in his iconography would be fruitless. All of his instruments are of Western origin, and mostly contemporaneous to the manuscript. This is one reason why we can look to them for clues as to how the twelfth-century individual understood an original, much older text transmitted from a remote culture.

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Before we approach an interpretation of the musical elements in Fendulus's iconography, it is essential to clarify how the images functioned in an astrological context. Astrology-related mythology is of an etiological type, which is also mingled with some prophetic projections. Etiology (causation)—as Martin Day describes it—tries to "explain the origin of things and the reason for things. . . . Usually lumped with etiological myths are all the activities of deities, since these supernatural beings presumably cause most of the events of human life."[8] Astronomy was, to most people, an incomprehensible science and as such was suitable material for association with supernatural elements. The deities associated with the heavenly dome were seen to be responsible for events in human life. They were sources of explanation for the origins and causes of things. As in all other myths and legends, those rooted in astrology consist of abstract ideas linked with universal realities. Fendulus's images included a system of signs in which medieval man was able to identify symbols that represented his psychological and spiritual realities. Recognizing these characteristics as universal and atemporal, he projected them onto those born under the influence of a certain deity.

The Egyptian system of decans was a religious system and each decan was considered to have unlimited freedom in influencing events on the earth. It could do everything at will, making man's fate dependent on its will, good or bad. Similarly, medieval astrology was fatalistic and did not allow for the free development of the individual's will. Life was considered unalterable, determined in advance by the celestial bodies. Therefore, no room was left for man to make decisions nor for decans to change

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[8] M.S. Day, *op. cit.*, 21.

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his fate.

With respect to the Indian decans, the dialectics of Abū Maʿšar's words and Fendulus's images formulate a unique fabric of signs. The images represent a system of conventions and work as ideograms, communicating concepts rather than signifying the objects represented. They often told more about the nature of a decan than its textual description. The text is limited to the characterization of the decans' clothing, color, or action, whereas the image provides the decan with additional qualities such as its expression and gesture. Gestures, postures, and expressions are a result of the illustrators' reading of the original text and therefore function as codes for a repertoire of visible manifestations of values, ideas, and conceptions employed in a specific astrological context. The most interesting and extensive information about the interpretation of the text was located in the original, but lost, Fendulus manuscript; even the most original illustrations produced subsequently are more copies of their models than new readings of the text. The artists who copied the illustrations sometimes understood their original meanings and transferred them to the later manuscript, and sometimes they completely changed the decans' gestures—either because they did not understand the original idea or because they associated a new interpretation of the symbolism found in the text. For example, in Fendulus A, *vir forma ethyopi* in the second decan of Gemini is depicted as holding a bow and arrow in one hand. His other hand is raised in a gesture in which his index finger signals a threat, underlining the decan's nature as a warrior. In Fendulus B, this gesture has been eliminated and the decan instead holds a drum in his hand. We can only guess whether for the copyist of the Fendulus B the gesture of the

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raised finger has the same significance as the drum, which from the time of archaic cultures, was considered to be a means of divine communication,[9] often associated with divine truth or revelation and the rhythm of the universe.[10] However, in this martial context, it might be also an attribute of a warrior, preparing his instrument which accompanies warriors to the battlefield. In the next manuscript, the drum dissappears and is replaced by a mirror, possibly as a result of a misunderstanding.

As mentioned earlier, one of the motivations of both the iconographic and textual interpretations of the classical mythological figures was to find and underline elements of moral significance. Fendulus's work was no exception and some elements of his illustrations could be seen to parallel the sacred medieval mural paintings which attempted to explain religious mysteries. Abū Ma'šar's often vague descriptions allowed Hermann to introduce into his translation elements of Christian symbolism and to offer an interpretation of the astrological theories adjusted in accordance with medieval Christian doctrine. Among all of the zodiacal signs the reception of Christianity probably received the most attention in the paranatellonta and decans related to Virgo, the sign itself often represented as the Mother of God. Teukros described, in the paranatellonta rising with the first decan of Virgo, a virgin named Isis who sits on a throne next to her child Isu, the Aramaic word for Jesus (see facs. 31-32, pp. 355-356). The corresponding Indian decan was described by Abū Ma'šar as a girl wearing an old coat and dress,

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[9] Cf. Jos Gansemans, "De symboliek van de muziekinstrumenten in archaische kulturen," *Openbaar kunstbezit in Vlaanderen* II (1980) 59-72.

[10] Cf. J.C. Cooper, *An Illustrated Encyclopaedia of Traditional Symbols* (London: Thames & Hudson, 1978) 56.

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carrying a little basket and standing in the middle of a garden of basil. Hermann's translation did not substantially change the original text, but Fendulus's image appears to be quite divorced from it, showing a woman holding a man's severed head, with the accompanying inscription saying, *Puella virgo portans faciem hominis in manu sua volens domos parentum ire* [Maiden carries in her hand a human head, rushing to her parents' home]. In Fendulus A the head that the maiden carries is represented as a picture, in a circular frame, but in the course of the visual transmission the image changed and already in Fendulus B resembles the image of Judith carrying the head of Holofernes. The second Indian decan of Cancer and the third Indian decan in Virgo include similar images of a woman who is approaching the house of God. Universal cosmological or philosophical concepts could be, in the end, reduced to the same principles and messages. The difference is only in the divine names and miracles. Such an intermingling of traditions was common during the Middle Ages and the Renaissance.[11]

Music in the astrological concepts of Abū Ma'šar, Hermann, and Fendulus. In explaining past events and giving an indication of the future, the astrological images in the corpus discussed are symbols. On the most general level they represent exclusively astrological concepts (planets, zodiac, decans, constellations). In turn, their meanings can be expressed only through particular images borrowed from various aspects of everyday

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[11] Cf. for example, the fourteenth-century illustrated manuscripts of the *Ovide moralisé,* specifically the legend of Pyramus and Thisbe, in which Pyramus was interpreted as Christ, Thisbe as the human soul, and the lion as Evil defiling Pyramus's garments. Cf. Erwin Panofsky, *Renaissance and Renascences in Western Art* (New York: Harper & Row, 1972) 80.

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life, music being one of them.[12] Their functions were to make the text easier to comprehend and to facilitate understanding of astrology by medieval man. They operated as reminders for already established facts and therefore had to reflect the contemporaneous *Zeitgeist*. To the twentieth-century reader, the meaning of these images might appear as a barely comprehensible system open to many-sided, sometimes parallel, even conflicting interpretations and speculations; but to the original readers their meaning was clear.

At the time Abū Maʿšar, Hermann, and Fendulus were developing their astrological concepts, the *sphaera barbarica* and *sphaera indica* and the zodiacal signs shared fewer common characteristics than they had a few hundred years earlier. In spite of this, there are elements in which one can still recognize the original closeness and mutual influences among all of the systems. For example, as explained in Chapter 2, on the *sphaera barbarica*, both paranatellonta rising in the later part of Gemini and the second and third Indian decans employ music symbolism generally associated with the sign of Gemini. Although the Indian decans relating to music changed their places in various lists between the *Salmeschoiniaka* and Abū Maʿšar, almost all of them associated music with the decans of Gemini. Music is concentrated in this period of the astrological cycle more than in any other sign or temporal sequence.

It is important to note that music is the only form of art included in the system. This need not surprise us. Medieval and Renaissance astrology was closely related to

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[12] Theories of celestial harmonies, the music of the spheres, the relationship between distances of the planets and musical intervals are beyond the scope of this dissertation.

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ancient mythology and inherited its symbolic language. Mythological figures, however, do not perform theatrical shows; Mercury did invent the alphabet, but he is not himself a poet; and dance might be associated with less important Olympians, but not with the chief gods. In contrast, there is a long list of gods, demigods, and other heroes who are primarily known for playing music: Apollo, Athena, Marsyas, Dionysus, Orpheus, Amphion, and Arion are only some of them. Music was a powerful attribute which allowed the Olympian commoners to influence their own fate when they were helpless in the face of cruel divine punishment. While other arts may be latently present in the overall astrological context, in Fendulus's picture-book none has such distinction as music. Although Abū Ma'šar's revision of astrology was created in the Arabic cultural milieu and implanted into the Roman and Indian traditions, the Western astrological tradition was rooted in classical Antiquity. For this reason it was not until the late Renaissance that astrological iconography became better balanced in the sense that it made room for other arts. Thus, in the iconography of the planets' children, the disciplines of the trivium and the quadrivium were included as well as various scholarly disciplines and different crafts and occupations.

In the astrological context, instruments are signifiers for music, and each particular instrument can be associated with a certain kind of musical symbolism. A striking element in Fendulus's presentation of the instruments is that wind instruments are shown without exception being held by musicians who play them. By contrast, the string instruments are always represented separately from the musician, being only in a mental relationship with the figure to which they belong. This phenomenon can only be

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explained in the context of the universal and archetypal duality between the Dionysian and Apollonian qualities: the wind instruments are a code for the irrational and emotional side, while the strings represent the rational side of human nature and knowledge.

The myth says that the goddess Pallas once played pipes at the gods' dinner. While playing, her cheeks puffed up, and her eyes became so red that the gods began to laugh. Embarrassed, she threw the instrument away and placed a curse on it. The satyr Marsyas found the instrument and became such a good player on it that his compatriots, the Phrygians, considered his art better than that of Apollo. This angered Apollo, and with the lyra he challenged Marsyas to a musical contest. The judges were the Muses, and the winner was allowed to impose any penalty he chose on the loser. At the beginning the Muses were inclined to favor Marsyas, but then Apollo resorted to tricks, playing the lyra upside-down and singing. No matter how good a player Marsyas was, he was unable to produce a sound by reversing the pipes, nor was he able to play and sing at the same time; so he lost the contest. As punishment, Apollo tied Marsyas to a pine tree and began flaying him alive.[13]

This myth articulates the universal duality of passion vs. knowledge, intuition vs. awareness, improvisation vs. organization. The myth was a representation of the Greek attitude toward musical instruments. Marsyas played a wind instrument, which Greek writers associated with passion, irrepressible urges, and instinct. Apollo played a string instrument, which stood for the rational and civilized side of man's nature. The myth does not describe the music they played—it tells us only about the instruments—but the

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[13] Cf. Robert Graves, *The Greek Myths* (London: Penguin Books, 1960) 21.e-h.

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attribution of certain characteristics to the instruments was sufficient to define the quality of the music itself. Marsyas did not lose because he played less beautifully than Apollo, but because he played a wind instrument—one which was associated with less respectable attributes. Plato considered aulos-playing an art for "pursuing only our pleasure"[14] and "preferred Apollo and Apollo's instruments to Marsyas and his instruments."[15] Aristotle denied any moral standing to the aulos, saying that the Phrygian mode has the same effect among harmonies as the flute among instruments: both are violently exciting and emotional.[16]

Although the polarity between Dionysian and Apollonian qualities in the Greek myth was expressed specifically through music, its importance can be recognized in all of the arts and in every aspect of life. The two artistic energies which Nietzsche said "burst forth from nature herself, without the mediation of the human artist,"[17] became associated with wind and string instruments and their well-known symbols. There is no proof that the illustrator of Abū Maʿšar's text knew the myth of Apollo and Marsyas, but the argument could be made that he was at least subconsciously aware of their attributes and used that awareness in his pictorial astrological commentary.

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[14] Plato, *Gorgias*. Trans. with notes by Terence Irwin (Oxford: Clarendon Press, 1979) 501e.

[15] Plato, *Republic*. Trans. with an analysis and notes by John Llewelyn Davies and David James Vaughan (London: Macmillan, 1935) III:399.

[16] Cf. Aristotle, *Politics*. Trans with English translation by H. Rackham (London: William Heinemann; Cambridge, Mass.: Harvard University Press, 1967) VIII:7:8.

[17] Friedrich Nietzsche, *The Birth of Tragedy* (New York: Vintage Books, 1967) 38.

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An involvement with music is always described as an intentional, mental activity, and Fendulus translated this activity, without exception, into an association with string instruments. The decans represented in the *sphaera indica* are deities who extend their influence over the sublunar world for a period of ten days each, during which they have particular power. In the astrological system, they are described as being occupied with various activities and thoughts. The characteristics of those thoughts and activities determine the nature of their influence over humans. As we have stated earlier, Fendulus's iconographical composition of each Indian decan is a narrative with the decan on the left side of the frame, and those elements with which he is generally associated on the right. In literary tradition, dating back to Greek sources from the first century B.C., the music associated with the decans was described as an attribute in general terms. For example, it was said that the decan "thinks about music," or "likes it," or is "interested in it," is "spiritually occupied with it," or generally "plays music." Music is one of the decans' mental activities in which they take general interest rather than an action which occupies them in a given moment.[18]

An identical pattern of symbolism can be recognized in Fendulus's iconographical interpretation of the *sphaera barbarica*. In Hermann's translation of the third paranatellonta of Gemini, for example, Amphion plays a golden pipe and a tambourine, although he has a string instrument next to him. In describing Amphion with a pipe, Hermann departed not only from Abū Maʿšar's text, which has Apollo playing a lyre,

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[18] The first decan of Capricorn depicted playing a trumpet is, in Fendulus A, a misinterpretation of the text, and the trumpet is removed from later copies.

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but also from the traditional description of Amphion, who was legendary for his ability to move stones by playing a golden lyre given to him by Hermes. In illustrating Hermann's version, Fendulus could have given Amphion a string instrument, but instead made him play a golden pipe.

Hermann, in his translation, emphasized the mythical power of music rather than its aesthetic values. Therefore, the change of the mythological character and the instrument was a consequence of a new reading of the astrological text. Hermann exchanged Apollo—traditionally associated with string music and its aesthetic qualities—with Amphion, who imbued the lyre with a passion so strong that it moved stones while he was building Thebes. This mythical power of music resides not in its theoretical or aesthetic qualities, but in its genuine force. Therefore, the passion and power symbolized by Amphion's music was not associated with an Apollonian but rather with a Dionysian instrument, thereby distorting the myth from Antiquity. Besides the two examples discussed, the identical situation occurs consistently in representations of Indian decans and paranatellonta; while the Indian system is shown as being entirely Apollonian, however, the paranatellonta is mostly Dionysian. The polarity of Dionysian and Apollonian qualities represented by wind and string instruments became a symbol for the musical binary of performance vs. contemplation.

The importance of vertical vs. horizontal iconographic investigation. An important element in iconographical investigation is to establish, on one level, a correlation between an image and the represented object, and, on the other, to understand

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the meaning of the image itself in the larger context of the work. Since every artist interprets his environment with a certain freedom, information about the extent to which an image represents an actual object is essential in the interpretation of a picture. Most iconographic studies investigating music images are horizontal studies, comparing contemporaneously produced images of the same theme or representing the same musical instrument. Vertical investigations of music-related images found in an identical topical context and produced over a period of time are less common because there are fewer sources allowing for such an investigation. A family of manuscripts with the same text, each time newly illustrated, can give a rare indication of the historical metamorphosis of both the meaning and performance of music, in contrast to manuscripts with thematically unrelated images. Such a study yields evidence of the changes of instruments and their symbolic meaning, or indicates new elements introduced in musical practice.[19]

A static comparison of instruments from the same period (as in a horizontal study) becomes a dynamic investigation of historical continuity in a vertical one, where one model is copied and then the copy becomes a new model. By knowing the direct or indirect model, we are able to recognize the variations which occurred in its copy, and draw conclusions about the elements which remained from the earlier image and those which were newly introduced, perhaps from actual contemporaneous musical practice. An example of such a family of manuscripts, in which a genealogical relationship can

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[19] As this chapter was finished, a new edition came out of Robert Scheller's *Exemplum: Model-book Drawings and the Practice of Artistic Transmission in the Middle Ages (ca. 900-ca. 1470)*. Trans. by Michael Hoyle (Amsterdam: University of Amsterdam Press, 1995). The book surveys the data on the transmission of medieval artistic ideas and examines the possible role of the surviving models.

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sometimes be established, is a group of copies of biblical texts. However, the problem with these sources is that the text often precisely determines the details and leaves the artist insufficient freedom to introduce images from the environment that surrounds him. The ecclesiastical focus of medieval art implies that music is primarily represented according to models determined in the ecclesiastical literature. It is normally played by such musicians as David or angels trumpeting calls to the Last Judgment, rather than performed by contemporaneous anonymous musicians. King David is unavoidably related to the harp or psaltery, for example, and he was pictured with it even when the instrument was not used or was not popular in the region where the image was created. Alterations that adjust his instrument according to local practice, as in the Romanian sacred seventeenth-century frescoes in which he plays the kobza rather than the harp, are possible but not standard.[20]

For a study of the historical metamorphosis of music's images through the vertical investigation of iconographical sources, the most useful illustrations are those based on a text that does not include many details. When the text is unspecific, the artistic freedom is greater, and the illustrator has a chance to depict those objects he knows from his everyday life. Surveyed in chronological order, such manuscripts testify as to how those objects—in our case instruments—changed and how they looked at the time of the manuscripts' production. Fendulus's abridgement of the *Introductorium maius* is ideal in this regard, since the references to music are unspecific—such as "golden pipe,"

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[20] Cf. Anca Florea, "String Instruments in Romanian Mural Paintings from the 14th to 19th centuries," *RIdIM/RCMI Newsletter* XIX/2 (Fall 1994) 54-65.

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"tambourine"—or, often, contain no designated instrument. Therefore, in most cases, the artist had sufficient opportunity to relate general statements about music to the contemporaneous organological situation indigenous to the place of the manuscript's production.

What can such a transmission of images mean for music? There are two problems that every scholar faces in dealing with an image. The first is how closely the representation resembles the real object at the time of the picture's creation. The other is whether or not the studied image is a prototype, an exact copy of the model, or a free interpretation merely influenced by the model. It cannot simply be assumed that every picture represents contemporaneous music practice but, without doubt, that practice was introduced into iconography, just as Hermann's text was renewed by the layer of Christianity superimposed on the religious beliefs rooted among the Arabs and the Indians. When the illuminator works with a preexisting pictorial model, he can copy it exactly, in which case it is minimally updated, or he can freely redo the work, not paying much attention to the model. A slavishly copied model might be an indication that the artist was unfamiliar with the object illustrated or was not possessed of great artistic ability. Such unimaginative illustrations may already have been outdated by the time of their creation and may not represent objects actually used except where the model was produced.[21] The accuracy and reliability of the images are easier to judge when one is

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[21] For example, in tracing the common prototype of the instruments depicted in the manuscripts Ambrosiana, MS C128 (eleventh century) and Piacenza, Biblioteca Capitolare, MS 65 (from 1122-1142) Elizabeth Teviotdale acknowledges that "in addition to the general similarity between the instruments depicted, other features contribute to the close resemblance between the groups of illustrations," adding further in the text that

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aware of the model's existence. When we know that the depiction of the hydraulic organ in the Canterbury Psalter[22] is a copy of the earlier Utrecht Psalter[23] (produced between 816 and 834 in the diocese of Rheims), it becomes clear that the image cannot provide any evidence concerning twelfth-century English organ practice. In turn, a model for the Utrecht Psalter no longer exists and only scholarly speculation can surmise whether it is a copy of a Carolingian manuscript or of some still earlier model.[24]

Whether or not an illustration is produced by a skillful and original artist or an inferior copyist, the differences between the model and the replica are more important than are the similarities. A manuscript that features instruments slavishly copied from its model does not provide any positive evidence that such instruments were actually used at the time and place of the manuscript's production. However, if a substantial change is introduced in the presentation of the instruments or if one instrument is replaced with another, the possibility that the actual object was used as a model is more likely. For example, the illustrations in the Fendulus manuscripts indicate how the diminished

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even "the dress of the instrumentalists is nearly alike between the manuscripts." Cf. Elizabeth C. Teviotdale, "The Filiation of the Music Illustrations in a Boethius in Milan and in the Piacenza 'Codice magno'," *Imago musicae* V (1988) 7-22. At the same time, this similarity between images which are produced about one hundred years apart indicates that they might not be a reliable source on which we can base conclusions about depicted instruments.

[22] Cambridge, Trinity College, MS R.17.1., f.261v.

[23] Utrecht, Rijksuniversiteit, MS 819, f.83r.

[24] Cf. Barbara Hampton Renton, ". . . worth a thousand words?," *College Music Symposium* XIX/1 (Spring 1979) 246-251. The broad influence of the illuminations in the Utrecht Psalter are discussed in: Koert van de Horst, William Noel, and Wilhelmina C.M. Wüstefeld, eds. *The Utrecht Psalter in Medieval Art: Picturing the Psalms of David* ('t Goy: HES Publishers, 1996).

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popularity of one instrument over a period of time caused its replacement with another actually used at the time. In the *sphaera indica* of the second decan of Gemini, Fendulus A includes a harp-psaltery (in the manuscript labeled as *rota*, see facs. 5, p. 324) with fourteen strings, a fiddle with a bow (*viola* and *arcus viole*), and a harp (*giga*). About one hundred years later, in Fendulus B, the obsolete instruments were replaced by others, those with which the artist was familiar. In the mid-fourteenth century, the harp-psaltery was no longer widely played, and probably having no knowledge of it, the artist replaced it with the more familiar lute.

A knowledge of the relationship among the manuscripts, and their comparative study, can help avoid misunderstandings about some objects which otherwise could not be recognized. Such an object, for example, is the rectangular psaltery represented in Fendulus A next to the idol in the *sphaera barbarica* of the second decan in Leo (facs. 25-30, pp. 348-353). By the time Fendulus B was produced, the rectangular psaltery was no longer being played and the copyist did not recognize it. Its shape, therefore, is transformed into something that can be recognized as a rectangular psaltery only with plenty of imagination. The psaltery's disintegration progressed even further in Fendulus C and the following manuscripts, where it appropriated the shape of a grid with a long handle, hanging in a vertical position. It is quite clear that the copyist of Fendulus B did not know the function of this object because, in noticing a discrepancy between the *titulus* naming the psaltery and the image he did not recognize, he kept the strange object in the composition, but also added a psaltery of the shape which he knew.

Two later manuscripts—Fendulus D and F—are copies of Fendulus C, produced

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for the royal court in Paris, between fifty and ninety years later than their model. The later manuscripts are slavish copies of their models, and the instruments are reproduced virtually identically and are even distributed on the page in the same position. Although the time period between the production of the manuscripts is not long and although it is possible that the instruments did not change substantially during that period, nevertheless the depictions are too similar. Therefore, Fendulus D cannot be considered a reliable iconographic source in an investigation of the instruments because the images fail to indicate any contemporaneous features.

When a relationship between the model and its copy is established, it is easier to determine with some certainty how the depicted instrument changed through a given period of time and in the regions where the manuscripts were produced. This is the case with the *sphaera barbarica* of the second decan of Virgo, which illustrates *Musicus tympanum percusiens ejus calamo aureo canens* [A musician striking a tambourine, playing a golden reedpipe] (facs. 33-38, pp. 358-363). The mythical figure was presented playing two unrelated and somewhat generic instruments: the tambourine and the pipe, which could, in an actual musical situation, be translated into a pipe-and-tabor combination. The image in the earliest manuscript, Fendulus A, is not the most accurate representation of the two instruments, but it can be recognized as an early stage of the pipe-and-tabor combination. Such a reading of this image probably makes it the earliest known representation of the pipe and tabor played together, as it precedes the picture in *Las Cantigas de Santa María* by several decades. In the subsequent three manuscripts, the illustrator did not abandon the idea of a pipe and a percussion instrument played

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together. The instruments, however, were changed, and it looks almost as if the musician is holding the wrong instruments. Those images seem to have been produced more as a result of reading the text, which calls for an undefined percussion instrument and a golden pipe, than as a reflection of musical reality. In fact, as mentioned above, the illustrator of Fendulus B revised his images in order to make them correspond with the text, rather than reproducing the earlier model. The pipe is depicted as a shawm with an exaggerated number of fingerholes that cannot be covered with the fingers of one hand, and the tambourine is a shallow, single-headed frame drum with jingles around the frame. In this case, the aim of the illustrator might not have been to show musical reality representing a pipe and tabor—just as Hermann did not intend to describe such a musician in his translation—but illustrated a mythical character who plays a golden pipe and a percussion instrument. This image, as well as its two later copies (Fendulus C and D), are not accurate representations of the pipe and tabor, but they probably can provide some indications of the characteristics of the shawm and of the tambourine as the artist knew them. Additionally, we can assume here that, although the pipe and tabor were not accurately depicted, the artist might have been familiar with the practice of playing the pipe and tabor together.

We return to the traditional pipe and tabor in the latest two manuscripts. Although the musician in Fendulus E is holding the pipe a little too high, there is no doubt about which instrument it is. In spite of the fact that the model for the last manuscript, Fendulus F, was the image in Fendulus D—which includes the most inaccurate image of the pipe and tabor of all of the six manuscripts—the illustrator updated and revised the

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image to reflect the practice of the time: the unplayable combination of shawm and tambourine is replaced with the accurately represented pipe and tabor. This series of images shows two diametrically opposed treatments of the model and its replica: Fendulus E and F vs. Fendulus C and D. The depiction in Fendulus D was based on Fendulus C and, even though the model did not correspond to reality, the illustrator retained the inaccuracy, moving even further towards fiction, whereas Fendulus E and F restored the balance.

Changes in the iconography can also help one to understand how the text was interpreted by its original readers. To determine this, it is necessary to trace not only the iconographic model or prototype, but also the original literary text. For example, in the third paranatellonta of Gemini, a man is depicted playing a shawm (*calamus aureus*). The accompanying *titulus, Amphion musicus qui tympanista dicitur* [The musician Amphion, who is called a percussionist], reveals his identity as Amphion. The reader of Fendulus's text, knowing that Amphion was a legendary musician, might not notice any peculiarities in this picture. When we compare the original Arabic text with Hermann's translation as used by Fendulus, however, we realize that Abū Maʿšar does not mention Amphion, but Apollo playing a lyre and a golden flute. This change of the mythological character and his instrument occurred as a consequence of a new reading of the astrological text and its reinterpretation.

Instruments in Fendulus manuscripts. Sources, both iconographical and textual, about medieval instruments are minimal. There is no instrument preserved from this time

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known to be in playing condition, and we are thus unable to reconstruct one from actual models of the time. Therefore, each iconographical source depicting instruments, particularly one as early as Fendulus A, has great value. All six Fendulus manuscripts include a total of 141 depicted instruments (Fendulus A includes 35 instruments; Fendulus B, 26; Fendulus C, 26; Fendulus D, 26; Fendulus E, 15; and Fendulus F, 13). In addition to the instruments, there are three places in the text that describe singing (paranatellonta rising with the first decan of Cancer and second decan of Leo, and the Indian decan of the second decan of Cancer), but the images do not reflect this. The difference in the number of instruments in each manuscript is partially due to changes introduced by the illustrators (who dropped some instruments from earlier manuscripts) and partially to the incompleteness of some manuscripts, particularly the two latest sources. The following table shows all of the instruments according to the place in each manuscript where they appear, and the Latin name when one is given.

Instrument & its Latin name	**Date of the manuscript**					
	1220/40	**1325/50**	**1403**	**1450/60**	**1488/91**[25]	**ca.1500**
harp (*harpes*)	A	B	C	D		Aries 2
(*giga*)	A	B	C	D	E	Gemini 3
	A					Mercury 2
	A					Venus 1
harp-psaltery (*rota*)	A					Gemini 3
delta psaltery	A					Venus 1
	A					Venus 2

[25] In this manuscript, the objects are not labeled with their names.

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	A						Venus 3
	A						Venus 4
rectangular psaltery (*psalterium*)	A	x	x	x	x	x	Leo 2
psaltery (*psalterium*)		B	C	D	E	F	Leo 2
		B	C	D		F	Venus 1
		B	C	D		F	Venus 2
		B	C	D		F	Venus 3
		B	C	D		F	Venus 4
lute		B	C	D	E		Gemini 3
hurdy-gurdy (*lira*)		B	C	D	E		Gemini 3
fiddle/rabel (*viola*) 4 strings	A						Gemini 3
fiddle (*viola*) 3 strings	A						Leo 2
fiddle/rabel	A						Cancer 2
fiddle/rabel	A						Mercury 2
bowed fiddle	A						appendix
lira & bow (*viola/arcus viole*)	A						Gemini 3
oval fiddle (*viola*)		B	C	D	E		Gemini 3
oval fiddle & bow (*viola/arcus viole*)		B	C	D	E		Gemini 3
		B					Venus 1
		B	C	D		F	Mercury 2
fiddle	AA/AA						appendix
mandora		B					Venus 1
		B	CC	DD		FF	Venus 2
rebec		B					Venus 2

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pipe (*calamus*)	A						Gemini 2
(one hand)	A						Gemini 3
(one hand)	A					F	Libra 2(1)
shawm (one hand)		B					Gemini 3
			C	D			Libra 2(1)
shawm (two hands)		B			E		Gemini 2
			C	D	E		Gemini 3
bass shawm			C	D			Gemini 2
pipe & tabor	A	B	C	D	E	F	Virgo 2
						F	Libra 1
trumpet	A						Libra 1
	A						Capricorn 1
(*cynbalum*)	A						Scorpio 1
tambourine (*timpanum*)	A						Gemini 2
	A						Gemini 3
	A						Cancer 1
	A						Cancer 2
	A						Leo 2
	A						Libra 1
	A						appendix
tambourine with jingles		B					Gemini 2
		B	C	D	E	F	Leo 2
			C	D	E		Cancer 1
tambourine with jingles/snare		B					Gemini 3

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		B					Cancer 1
		B	C	D			Virgo 2
tambourine with jingles on stand				C	D	E	Gemini 3
kettledrum			C	D			Libra 1
cymbals (*cymbalum*)		B	C	D	E		Scorpio 1
church bell			C	D	E		Cancer 2
TOTAL	35	26	26	26	15	13	

A total of eleven images of the **harp** are included, four of them in Fendulus A. Particularly important among them is the image included in the *sphaera barbarica* during the second decan of Aries, accompanied by the *titulus* "harpes Persei" in all four manuscripts. The earliest illustrator misunderstood the Latin term for Perseus's scimitar (*harpes*) and instead depicted a harp, which proves that the term "harp" (or its variant) was in use in southern Italy by 1220/40 at the latest and was associated with the instrument which we now know as the harp. Perseus's harp in Fendulus A has a somewhat schematic shape and its form differs from the other three harps in Fendulus A, which have slightly curved necks and broad-box resonators with quatrefoil soundholes. The harp in Fendulus B (1325/50) has a similar shape. The instruments appearing in both Fendulus A and B have seven tuning pegs, although the earlier one has about thirteen strings, while the later has only ten, in Fendulus D and F. The harps in the second decan of Aries and the third decan of Gemini are of the Irish type—their shape was identically copied from one manuscript to the other (1403, 1450/91). The two

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harps in the third decan of Gemini even have an identical dog-head decoration on the joint between the strongly curved forepillar and the neck. Finally, the harp in Fendulus E (1488/91) has an elongated Renaissance shape, with a nearly straight forepillar that joins the resonator at an acute angle. The term *giga*, found next to the harp in the third decan of Gemini in all five manuscripts, is not known to be associated with the harp.

The **harp-psaltery** is found only in manuscript A, in the third decan of Gemini (labeled *rota)*. The fourteen strings on the instrument are stretched (from the nine tuning pins on the top) parallel to the longest side of an isosceles triangle. Although the shape of the instrument is similar to that of the delta psaltery played by Venus—the first has the base of the triangle much longer than the other two sides, and the latter has it much shorter—it seems that the two images do not depict the same instrument. The harp-psaltery might have been held like a harp and plucked with the fingers, as shown in fig. III:5 and III:6. By the mid-fourteenth century, when the second Fendulus manuscript was produced, such an instrument was not used anymore, and the instrument was not featured in further manuscripts.

The **delta psaltery** is included in Fendulus A, in all four phases of the planet Venus. The image of Venus in her house shows her actually playing the instrument with two sticks, which might indicate that the delta-shaped instrument did not only have a symbolic meaning in the Biblical context, as has sometimes been argued, but that it actually existed and was used for playing. The instrument has strings stretched along the shortest side of an isosceles triangle. It is held like a psaltery, parallel to the musician's chest with the strings in vertical position and played with two plectra.

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The **rectangular psaltery** appears only once, in the second decan of Leo in Fendulus A (1220/40). It has nine equally long strings and six tuning pegs on one side. By the time of Fendulus B (1325/50), the instrument was obviously not used anymore, and the image disintegrated into an incomprehensible object (marked with x in the table above).

The **psaltery** appears for the first time in Fendulus B (1325/50), replacing the earlier rectangular and delta psalteries. The instrument is represented being played, plucked either with fingers or with short plectra.

The **lute** appears for the first time in Fendulus B (1325/50), and was copied in Fendulus C, D, and E. In both Fendulus B and C, the lute has a pear-shaped body. The earlier one has five strings and seven tuning pegs, whereas the latter is depicted from the side so only three pegs are visible. The earlier one has a simple rose with seven sound holes in it and the pegbox decorated with an animal head. The model for the lute in Fendulus C had a more decorated rose, but the pegbox was strictly geometrical, ending in a sharp angle in relation to the neck. The instrument in Fendulus D has a rounded body, five strings and a pegbox similar to the instrument in Fendulus C. The lute in Fendulus E is hardly recognizable because the manuscript is worn out at the place of the image.

The **hurdy-gurdy** (labeled *lira)* is introduced for the first time in Fendulus B (1325/50), where it is represented schematically. It has five keys on one side, a crank, and a wheel turned on its side rather than in a vertical position. The hurdy-gurdy in Fendulus C is shown with all of its details: it has four strings, a covered wheel, seven

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keys, and a strap. The instrument in Fendulus D is an exact copy of Fendulus C, although it is lacking some details. The hurdy-gurdy in Fendulus E is depicted in outline only, without any details.

In Fendulus A, the **fiddle** is included four times. In the paranatellonta of the third decan of Gemini, labeled *viola*, and with Mercury in his house, the instrument has a shape similar to the traditional instrument known as the rabel, which is still played in some Spanish provinces. Its body consists of three equally large circular parts which are connected. The first instrument has pegs for four strings, and the subsequent ones have three strings depicted. The fiddles in the second decan of Leo and the second Indian decan of Cancer have elongated two-part bodies. The instrument in Gemini has four pegs in a diamond-shaped pegboard, while the instruments in Leo and Cancer have three strings which end in a trefoil pegboard. The instrument that Mercury holds has a diamond-shaped pegboard with three strings. The bow has not been included with either instrument. Fendulus B abolished the variety of string instruments present in Fendulus A, replacing them all with a short-necked oval fiddle, which is labeled twice in Gemini, as in Fendulus A, *viola*. All of the instruments have three strings fastened at the lower end to a tailpiece and carried by the trefoil pegbox at the end of the neck. In the soundboard there are two wavy soundholes. The instruments in the second decan of Gemini were later copied into the following manuscripts without significant new features, except that the number of strings in Fendulus C and D is changed to five. The features of the instrument in Fendulus E are illegible.

The **lira** with a pear-shaped body and three strings appears in the third Indian

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decan of Gemini in Fendulus A. It is labeled *viola,* identically as the viol included on the same page above, and it appears with a bow (*arcus viole*).

The **rebec** is included with the image of Venus in her counterhouse in Fendulus B. The instrument has a pear-shaped body, strings fastened at the base of the soundboard, and a sickle-shaped peg-box. One carved circular sound hole is in the middle of the soundboard, under the strings. The instrument has four strings and a bow placed straight across them.

The **mandora** included in Fendulus B, with Venus in her house and in her counterhouse, has a pear-shaped body. It has three strings fastened to the base of the soundboard and a sickle-shaped peg-box. Next to Venus in her counterhouse in Fendulus C are two more mandoras (or plucked rebecs). Both instruments have pear-shaped bodies which end with abruptly backward-turned heads and no pegs. One instrument has a single circular rose in the middle of the sound hole, and probably four strings fastened at the bottom of the soundboard. The other mandora has two C-shaped openings on each side of the strings. Three strings are fastened to the middle of the soundboard.

A **wind instrument**, in Hermann's translation, is most often called a *calamus*. Just as the term was ambiguously used in Antiquity for various types of aerophones, the Fendulus manuscripts indicate that there was no standard meaning of the term accepted during the Middle Ages. In Fendulus A, *calamus* was just a pipe. In the later manuscripts it was a shawm, with a clearly recognizable double reed, as well as the pipe in a pipe-and-tabor combination. Most images combined the *calamus* with a tambourine, although it is not clear whether or not every occurrence was meant to be a pipe-and-tabor

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combination.

In the second paranatellonta of Gemini in Fendulus A is shown a pipe played with both hands. In Fendulus B it is replaced with a shawm. In Fendulus C and D, the shawm has a barrel extension at its bottom end, looking like a bass shawm.

A similar transformation occurred with Amphion's pipe in the third decan of Gemini. A single pipe, shown in Fendulus A without any detail, evolved in the next manuscript into a shawm and then probably into a bass shawm. A difference in the third decan of Gemini is that the original pipe in Fendulus A is held with the right hand and the musician's left hand is pointing toward the tambourine. In Fendulus B, the pipe changed into a shawm still held only with the right hand, although the instrument shows more finger holes than a musician can play with one hand. In Fendulus C, the shawm is held with both hands and the tambourine is placed on a stand.

In the second decan of Virgo, the musician in Fendulus A is holding the pipe with his left hand, and drumming the tambourine with his right hand. In Fendulus B, C, and D, the pipe is exchanged for the shawm, held in the left hand, and the tambourine is in the right. Again, the shawm clearly has more finger holes than one can play with one hand. In the two latest manuscripts, Fendulus E and F, the combination shawm-and-tambourine evolved into pipe-and-tabor. The pipe is a long instrument held in the left hand and the tabor, fastened at the musician's left wrist, is played with the right hand. Although various iconographic sources show that the pipe and tabor were held in either hand, our two series of images showing musicians with a pipe/shawm and tambour/tabor leads to the following conclusion: When the musician originally held the pipe in his right

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hand, pointing toward the tambourine with his left, in the later manuscripts the image became that of a shawm properly played with both hands, and the tambourine was left unplayed on a stand next to the musician. In contrast, when the original image showed a musician holding a pipe in his left hand and a tambourine in his right, all subsequent images show one musician playing both instruments. The image of a musician playing a pipe and tambourine in Fendulus A is the earliest known image of this combination of instruments, until now unknown in organological literature. The first iconographical source of the pipe and tabor has been considered to be an image in *Las Cantigas de Santa María* (ca. 1260), which Fendulus A predates by twenty to forty years. As a matter of fact, until ca. 1440 the iconographical sources for pipe and tabor are very scarce, probably limited to about a douzen documents. Fendulus's images not only shift the earliest iconographical source of the pipe and tabor back a few decades, but they also provide new iconographical sources for these instruments during their earliest period.

There are three types of **trumpet** in Fendulus A, none of them showing particular details. A long, straight trumpet with two bosses and a wide bell appears in the first decan of Scorpio in Fendulus A. It is clear that the instrument, which is labeled *cynbalum*, was misidentified by the illustrator, and in Fendulus B the trumpet was exchanged for the cymbals, and relabled to *cymbalum*.

The **tambourine**, appearing twenty-two times in all six manuscripts, is the most frequently represented instrument in this series. In Fendulus A, it is schematically shown as two concentric circles without details; in this case it could almost represent some other kind of a drum. The coloring is particularly interesting. Its inner circle always appears

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in one color and the outer in another, with a color combination never repeating in seven images of the tambourine.[26] Not descriptive of the object as it appeared in daily life, color was used only as a visual element. From Fendulus B on, the tambourine regularly appears with jingles and occasionally with a snare. In Fendulus B the number of jingles is five or seven, but later images show a rather large number of them.

The **kettledrum** appears twice, played by the horseman in the first decan of Libra of Fendulus C and D. It is a shallow drum played with a stick.

The **cymbals** (which is in the manuscripts labeled *cymbalum*) appear in the first decan of Scorpio, in Fendulus B, C, D, and E. In all four images, they are shown rather sketchily. The illustrator of Fendulus A originally included an image of a straight trumpet. Since the image did not correspond with the *titulus* "cymbalum," the copyist of Fendulus B changed it into an instrument which he understood to be the cymbals. This change indicates that the copyist knew the instrument mentioned in the text and that this picture, as with the earlier picture of the "harpes Persei," is reliable in establishing the relationship between the term and the actual instrument. The instrument, although not held by a musician, is placed horizontally—the position in which it was usually played.

A depiction of the **sanj** is not included in the Fendulus manuscripts, but has to be mentioned in this summary because, in the original version of the treatise, Abū Maʿšar mentioned it several times. By this name he possibly meant the harp-like instrument, with thirteen to forty strings plucked by the fingers of both hands, used by

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[26] The combinations of colors are following: orange/white, green/blue, orange/green, orange/blue, blue/white, white/green, orange/yellow.

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the Arabs between the seventh and tenth centuries. At about the tenth century, the meaning of the Arabic term "sanj" changed and it became a generic denominator for percussion instruments. This is the meaning which Hermann, who travelled through the Arabic world in the 1130s, understood, and he therefore consistently translated Abū Maʿšar's term with the Latin word "timpanum." There has not been preserved an iconographic source of the Arabic sanj as a string instrument, but since the word had, in the context of Arabic astronomy, the identical meaning as "lyre" among the Ptolemaic constellations, it is possible that a picture of the original instrument is preserved in some of the earliest Arabic celestial maps.

* * * * *

As we heve repeatedly emphasized, the six Fendulus manuscripts have a two-fold significance. On one level, they provide a relatively large corpus of iconographical sources for instruments from a time-span of about 280 years, between the first half of the thirteenth to the end of the fifteenth century. The first Fendulus manuscript is also among the earliest western manuscripts with an extended iconography of musical instruments, preceding the well-known *Las Cantigas de Santa María* by a few decades. Since the Fendulus manuscripts were copied and re-illustrated over a long period, the images reflect major changes in the structure of these instruments, their technical characteristics, the variants used in particular regions where the manuscripts were produced, and finally, provide evidence for their terminology.

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The illustrators of the manuscripts were probably not professional musicians, and their knowledge of the instruments was gathered either from their own experience in observing musical performances and instruments, or from the manuscript model from which they copied. Considering this, the transmission of the depictions can be grouped in three categories: (1) Instruments existing in the model, but not known to the illustrator from everyday life, were dropped from the new manuscript. (2) Instruments with which the illustrator was not very familiar, but which existed in contemporaneous practice, were copied from the model without substantial changes. They do not indicate characteristics indigenous to the place where the manuscript was produced. In analyzing such depictions, the entire corpus of illustrations included in the investigated manuscripts has to be taken into account: (a) When illustrations generally show artistic creativity and a certain shift away from their model, but only isolated depictions remain copied unchanged from the model, it might mean that the artist was not familiar with this particular object. (b) If the entire manuscript shows characteristics of academism and the illustrator failed to update his style or the objects taken from the model, the illustrations should be considered with caution. For example, most objects included in Fendulus D are unchanged copies of those in Fendulus C, and they do not show any alteration from the model. Therefore, this manuscript cannot be taken as a credible source that can prove the existence of these instruments and their characteristics at the time and in the region where the manuscript was produced. However, in such an academic copy instruments depicted with some new features could justify the assumption that the illustrator was familiar with the depicted instrument, and that he consciously included these changes in the depictions. For

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example, this is what happened in Fendulus D with respect to the lute included with the third Indian decan of Gemini. (3) The most reliable depictions in the manuscripts are those showing some shift from the model, such as new structural elements, the inclusion of an instrument that cannot be found in the model, a new way of playing, or a different position.

Equally important as the organological aspect of this research is the symbolism of musical elements and their integration in the astrological context. As John Blacking has said, "only by assembling musical and extramusical information was it possible to discover what was 'in musical notes'."[27] We have not discussed the musical notes, but have chosen to focus on those aspects which concern the meaning of music iconography as integrated into astrology. Astronomy, as an abstract science, needed a set of pictorial symbols which could help in the task of explaining how the celestial bodies influence life in the sublunar world. These symbols were accompanied by the narrative, which their readers in Antiquity considered in some sense as a religious text, and people who used it during the subsequent centuries considered as mythology.

Astrological mythology was standardized by the third century B.C., and from this time dates its development into a consistent symbolic system. The end of the Roman Empire also resulted in an interruption in the transmission of the system. The classical figures were forgotten in Europe, but the system migrated to India and was eventually adopted by the Arabs. The original mythology and symbolism were, in the new milieu,

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[27] John Blacking, *How Musical is Man?* (Seattle: University of Washington Press, 1973) 19.

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divorced from their original meanings and associated with new ones. When the system made its way from India and the Arabic world, by way of Spain, to Europe in the twelfth century, astrological mythology was seen in a different light, and constellations were associated with different meanings; therefore, it again became displaced from its original context. Many medieval Western ideas, which were considered to be a direct legacy of Antiquity, actually were of Indian or Arabic origin.

Some ideas remained vital throughout all of history, although they often changed the form and the medium through which they were expressed. To reveal some of these changes, we have followed the migration of ideas through different cultures, examining the reception of ancient mythology by Indian, Arabic, and finally, medieval Western cultures, as well as the contributions of Abū Ma'šar, Hermann of Dalmatia, and Fendulus were at each stage of development. The mapping of these transformations is not new, and the history of the reception of ancient ideas in medieval and Renaissance times has been studied by a number of scholars. What is new here is an analysis of the musical symbols as they were integrated into medieval and Renaissance astrological concepts. Music has only been considered marginally in the scholarship connected with the Indian decans to date; and the *sphaera barbarica* with its paranatellonta is itself insufficiently known. Thus, many questions have remained unanswered, and many issues are still open. Ideas migrated through different cultures over almost two millennia, and it is often hard to trace their reception, meaning, and significance. This study broadly traces a range of those traditions, but in many respects it is only an initial step which sheds some light on the transmission of instruments' symbolism. A universal dictionary

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of instrumental symbols in different traditions throughout their history has yet to be compiled, but the extent of the symbolism of musical instruments is so vast as to preclude such a project so far. This study does outline at least some aspects of their meaning in the context of specific astrological mythology in the Middle Ages and the Renaissance.

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MUSIC IN MEDIEVAL AND RENAISSANCE ASTROLOGICAL IMAGERY

BY

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APPENDIX 1

SPHAERA BARBARICA

I. Paranatellonta rising with the second decan of Aries.[1]
A translation of Abū Ma'šar's text:[2]

> Im zweiten Dekan des Widders steigt Andromeda auf, ferner die Mitte jenes Meerfisches, d.i. Wales, die Mitte des Dreiecks, die Mitte des *Jamur, d.i. Stier*-Hirsches, *die Hälfte einer Schlange, ein Saatfeld, ein Meerschiff, ein Reiter, der eine Lanze in der Hand hat, eine Frau, die ihren Kopf kämmt, ein Harnisch von Eisen*, der Kopf der Gūl und die Harpe des Perseus, d.h. sein Schwert; *Perseus ist der Träger des Kopfes der Gūl und er wird auf arabisch ..., und auf persisch ... genannt.*
>
> In the second decan of Aries Andromeda rises, followed by the middle part of a sea fish (whale), the middle of the triangle, the middle of the cervotaurus,[3] a half of a snake, a cornfield, a vessel, a knight holding a spear in his hand, a woman

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[1] The constellation of Perseus was known in both the *sphaera barbarica* and *sphaera graecanica*. Its discussion in this dissertation is included in Chapter 2, on *sphaera barbarica*.

[2] The Arabic version of Abū Ma'šar's description of the *Sphaera barbarica* and *Sphaera indica* are translated from their intermediary German translation by Karl Dyroff (included here prior to the English translation), published in: Franz Boll, *Sphaera: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder* (Leipzig: Teubner, 1903) 482-539. In his German translation Dyroff compared Abū Ma'šar's version of the text describing the paranatellonta with the original Teukros's text, as found in the manuscript Österreichische Nationalbibliothek, cod.Vindob 108. (f. 149v-256r). Fragments which appeared in Abū Ma'šar's version and not in Teukros's text Dyroff printed in italics.

[3] K. Dyroff translated "cervotaurus" as "Jamur," an animal with a bull-like head and the body of a deer. In the description of the first decan of Aries, a note is inserted saying that the cervotaurus is in the form "cervo et tauro congeste" (with deer and bull coupled).

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combing her hair, an iron armor, the head of a ghoul,[4] and the harp of Perseus, namely the scimitar. Perseus—who is in the Arabic called ... and in the Persian ... —is the carrier of the ghoul's head.

Hermann's translation used by Fendulus:[5]

In secundo arietis[6] decano iuxta Persas medium piscis marini, medium trigoni, medium cervotauri,[7] navis, eques manu telum gerens. Feminae capud suum pectens cum brachiis ferreis. Capud[8] Medusae, cervusque, harpes Persei quem arabes venis Perse filum vocant.

In the second decan of Aries—according to the Persians—is the middle of a sea fish, the middle of the triangle, the middle part of a cervotaurus, a vessel, and a horseman holding a spear in his hand. A woman combing her head with an iron comb. The head of Medusa, and the deer; Perseus's scimitar which is to the Arabs known as Perseus's thread.

II. Paranatellonta rising with the second decan of Gemini.
A translation of Abū Ma'šar's text:

Im zweiten Dekan der Zwillinge steigt *ein Mann* auf, *der eine goldene Flöte hat,*

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[4] In Arabic medieval iconography and literary sources the head of Medusa is often labeled as *Ra's al-Gul* (Head of Demon), which was the origin of the name for the star Algol in this constellation. In his translation of the *Introductorium maius* Hermann, who was more familiar with the classical mythological tradition than was Abū Ma'šar, changed the name for this part of the Perseus constellation back to its original name, "Medusa's head." In the earliest Fendulus manuscript (Fendulus A), Medusa is represented as female, but in later manuscripts (Fendulus B and C) the head has again clearly changed back to male features.

[5] The primary source for the transcription of Hermann's translation (on which Fendulus based his illustrations) is considered here to be the manuscript Fendulus A, which is chronologically the closest to Fendulus's model. Variants found in the five later manuscripts are indicated in footnotes.

[6] Word added in Fendulus B and thereafter.

[7] The words *medium piscis, marini medium, trigoni medium cervotauri* are dropped from manuscripts copied after Fendulus B. However, the images of the constellations are copied in all later manuscripts.

[8] Fendulus B, and those thereafter, spelled *caput*.

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> *worauf er spielt;* ferner Herakles, *andere nennen ihn auch Hercules; er hockt auf seinen Knieen.* Ferner steigt eine Schlange auf, die auf einen Baum steigt, indem sie vor Herakles flieht; ferner die Mitte der *gehörnten* Schlange *und ein Schakal, an dessen Vorderfuss ein Zeichen ist.*
>
> In the second decan of Gemini rises a man playing a golden flute. Next to him Heracles—also named Hercules—crouches on his knees. A snake fleeing from Heracles is climbing a tree. Next is the middle part of the horned snake and a jackal with his forepaw marked.

Hermann's translation used by Fendulus:

> In se*cun*do geminorum decano iuxta P*er*sas vir aureo[9] canens calamo. P*er*sica lingua Tervueles,[10] gr*a*eca Hercules dictus. Id*em*que nisu genu parit*er* et coluber arborem ascende*n*s fugiendo[11] Tervuelem, mediumque Cerastis cum quo lupus manu signata.
>
> In the second decan of Gemini—according to the Persians—a man is playing a golden pipe. In the Persian language he is Tervueles, in the Greek Hercules. He is resting on his knee. Also a snake is climbing up a tree fleeing from Tervueles. Thereafter is the middle part of Cerastes[12] with whom is a wolf with marked forepaw.

III. Paranatellonta rising with the third decan of Gemini.
Translation of Abū Ma'šar's text:

> Im dritten Dekan der Zwillinge steigt Apollon auf; *er hat eine Binde auf dem Kopf und hat* eine Leier, *d.i. ein sang mit Seiten, und eine Flöte von Gold.* Ferner steigt ein *bellender* Hund auf, ein Delphin *d.i. ein Meertier, ein Jagdgepard, die Scheere eines Schneiders,* die erste Hälfte des kleinen Bären und

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[9] The manuscript Fendulus B, and those thereafter, have *aureus*.

[10] The name Tervueles appears in this form first in Johann Bayer's (1572-1625) *Uranometria* of 1603. Georg Wilhelm Sigismund Beigel (1753-1837) suggested that the name might be much older, originating in a mistaken orthography of the word "Hercules." Cf. Richard Hinckley Allen, *Star Names: Their Lore and Meaning* (New York: Dover, 1963²) 241.

[11] Fendulus B, *fugiens*.

[12] Cerastes, a horned snake, was so named because of its ram-like head. Cf. T.H. White, *The Book of Beasts* (New York: Dover, 1984) 175.

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der Schwanz der *gehörnten* Schlange, *der um die Wurzel einer Ähre gewunden ist.*

In the third decan of Gemini rises Apollo. He has a bandage on his head and a sanj[13] and a golden flute. Further is a barking dog, a dolphin (marine creature), a hunting cheetah, a tailor's scissors, the front half of the Little Bear, and the tail of a horned snake encircling the root of the grain.

Hermann's translation used by Fendulus:

In *ter*tio Geminorum decano iuxta Per*s*as Aflon[14] qu*em* Arabes musicum timpanistam[15] int*er*prerant sup*er* v*er*ticem eius[16] p*ro*cera mirtus[17] cum corda ut*er*[18] filo et calamo aureo. Deinde canis latrans[19] cu*m* quo delphin*us*[20] et linte. Post h*a*ec or*nament*a sutoris. Primaqu*e* medietas minoris urse cu*m* cauda cerastis arist*ae* radicem amplexa.

In the third decan of Gemini—according to the Persians—is Amphion, whom the Arabs describe as a musician timpanist; above the top of his crown is upright myrtle with either a cord or a string and a golden pipe. Thereafter is a barking dog, with whom is a dolphin and linen cloth; next are cobbler's tools, followed by the first half of the Little Bear, and the tail of Cerastes encircling the root of the grain.

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[13] Karl Dyroff transliterated the word from Arabic as *sang* and translated it into German as *Leier* (lyre). We used here the spelling *sanj* which appears in *The New Grove Dictionary of Musical Instruments*. Cf. Christian Poché. "Wanj," *The New Grove Dictionary of Musical Instruments*. Ed. by Stanley Sadie (London: Macmillan; New York: New Grove Dictionaries, 1984) III, 838.

[14] Should be *Amphion*, the spelling used after Fendulus C.

[15] Spelled *tympanistam* in Fendulus B and thereafter.

[16] The word *eius* is dropped from manuscripts following Fendulus B.

[17] This should be *myrtus*.

[18] In Fendulus B and thereafter replaced with *vel*.

[19] This should be *latrarens*.

[20] Fendulus B and those thereafter spelled *delfinus*.

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IV. Paranatellonta rising with the first decan in Cancer.
A translation of Abū Maʿšar's text:

> In seinem ersten Dekan steigt die hintere Hälfte des kleinen Bären auf und *eine vollständige Gestalt, die* Satyros *heisst, und die sich nach rückwärts wendet; sie ist nahe dem* Musa, der die Leier, *d.i. den sanǵ*, spielt *und flötet*; er hat eine Keule *von Eisen in der Hand, deren Kopf von Kupfer ist.* Ferner steigt die erste der drei Jungdfrauen auf, der Kopf eines schwarzen Käfers *und der Schwanz einer Eidechse.*
>
> In the first decan rises the back half of the Little Bear and a complete backward-facing figure called satyr. Not far from him is Musa playing a sanj and a flute. He has an iron club with a copper top in his hand. Further is the first of the three Virgins, the head of the black beetle, and the tail of a lizard.

Hermann's translation used by Fendulus:

> Oritur in p*ri*mo ei*us* decano ut P*er*sas visum e*st* se*cun*da medietas minoris urs*ae* cu*m* qua forma imp*er*fecta romana lingua satir*us*[21] ruptis panniculis involut*us*. P*ro*pinq*uus* Aflon musici timpanu*m*[22] p*er*cuti*e*ns simil*is* et lamina fer*ri* cui*us* cap*ut* ever*tum*. Cu*m* de tri*bus* puellis v*ir*ginib*us* prima,[23] postq*ue* cap*ut* scarabonis et cauda aspidis senabras est[24].
>
> In its first decan—as is seen by the Persians—rises the second half of the Little Bear; with whom is, what is in imperfect form of Roman language, called satyr wrapped in a short garment. Near is Amphion resembling a musician who is striking a tambourine, and a plate of iron whose head is overturned. Thereafter is the first of the three young virgins, the head of a black beetle, and the tail of an asp.

V. Paranatellonta rising with the second decan in Leo.
A translation of Abū Maʿšar's text:

> Im zweiten Dekan des Löwen steigt ein Götze auf, der seine Hände nach oben

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[21] Spelled *satyrus* in Fendulus B and thereafter.

[22] Spelled *tympanum* in Fendulus B and thereafter.

[23] The word *prima* was dropped from Fendulus B; Fendulus C has *prima de tribus puellis virginibus*.

[24] Fendulus C has *aspidis est senabras*.

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erhebt *und laut schreit; er hat* Zymbeln, *wie sie die Tänzer haben, aus Erz gemacht, und verschiedene Gesänge.* Ferner steigen auf ein Krug *Wein, ein Becher von Glas,* eine Flöte *aus dem Geweih der Gazellen, eine Ente, ein Schwein, ein Bär mit erhobener Vorderpfote,* die zweite Hälfte des Schiffes, der Hals des Hydros, *d.i. der schwarzen Wasserschlange, die Mitte des Pferdes* und die Mitte des Esels.

In the second decan of Leo rises a loud shouting idol with his hands lifted up. He has cymbals of a kind that dancers have, made of bronze, and he is singing various songs. Further is a wine jug, a glass mug, a flute of roebuck's antlers, a duck, a pig, a bear with a raised foreleg, the second half of a boat, the neck of Hydra (black water snake), the middle part of the horse, and the middle part of the ass.

Hermann's translation used by Fendulus:

In secundo Leonis decano iuxta Persas ydolum elevata manu alta voce clamitans[25] cum quo timpana[26] saltatoria[27] de cupro pariter et cantilenae multimode. Cum pleno[28] Bacho senes cum crater et vitrea similisque tibiae de cornibus capreoli.[29] Deinceps anas et harruben[30] ac castor a cauda porrigentis manum. Secundaque medietas sunt navis, cervix ydrae, medium equi, medium asini.

In the second decan of Leo—according to the Persians—an idol with rised hand shouts in a high voice, with whom are copper tambourines used for the dance and various songs. Thereafter is Bacchus in the fullnes of his age, with a mixing-bowl

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[25] Spelled *clamanatans* in Fendulus B and thereafter.

[26] Spelled *tympana* in Fendulus B and thereafter.

[27] The word was originally spelled *saltoria*, and later corrected; in Fendulus B it is spelled *saltaria*; in Fendulus C it is spelled *psalteria*.

[28] Spelled *plenis* in Fendulus B, and *plectas* in Fendulus C.

[29] Fendulus B reads: *tibiae de cervio quem caprioli;* Fendulus C reads: *ydrae cervix cum pede caprioli*, and above it is later inserted text: *tibiae de cervuo quem caproli.*

[30] Translating the text, Hermann misread the word. It should probably be spelled *harundo* (i.e., reed). In later manuscripts the word is spelled *harruen*. This variation might be an indication that the scribes were unfamiliar with the word. The printed edition of 1489 has in this place *haraiben*. Latin authors in classical times called the Sagita constellation "Canna," "Calamus," and "Harundo," all signifying the reed from which the arrow-shafts were formed. Cf. R.H. Allen, *op. cit.*, 350.

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for wine and another vessel, and likewise pipes of roebuck's antlers. Afterwards are a duck, and a pipe, and a beaver streaching out its paw away from its tail. Following are the second half of a boat, the neck of Hydra, the middle part of a horse, and the middle part of an ass.

VI. Paranatellonta rising with the second decan in Virgo.
A translation of Abū Maʿšar's text:

Im zweiten Dekan der Jungfrau steigt Musa auf; er spielt die Leier *d.h. den sanǵ, und flötet. Ferner steigt ein Mensch mit einer Stirnlocke auf* und die Hälfte einer Gestalt, die *auf griechisch* Bootes *und auf persisch 'Schreier' (?)* heisst; es ist ein Mensch, dessen Kopf wie ein Stierkopf ist, und zwar steigt die Hälfte von ihm auf; *er hat in seiner Hand die Hälfte eines nackten Menschen.* Ferner steigt die Hälfte eines Holzes auf, an dessen Spitze eine Pflugschar ist, ferner der Schwanz der *schwarzen* Wasserschlange, die Mitte des Raben und die Mitte des Löwen.

In the second decan of Virgo rises Musa. He is playing a sanj and a pipe. Further is a man with a cowlick.[31] Thereafter is a half of the man known in Greek as Boōtes and in Persian as the Crier.[32] He is a man with the head like a bull and he holds in his hand a half of the naked man. Further are a half of a piece of wood with a plowshare on the top, the tail of the black water snake, the middle part of the raven, and the middle part of a lion.

Hermann's translation used by Fendulus:

In se*cun*do virginis de*c*ano iuxta P*er*sas musicus timpanu*m*[33] p*er*cutiens parit*er* et calamo cane*n*s post hunc vel homo cometede*us* cumquo dimidiu*m* fo*r*m*ae* p*er*sica lingua abezae romana fete*m* dict*ae*. Est aut homo cui cap*ut* tauri in manu eius dimidius homo nudus. Post h*a*ec dimidium fessorium lignum et cauda ydrae, dimidium corv*ui*,[34] dimidiu*m* leonis.

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[31] Boll annotated this word with an explanation that its meaning remains unclear. Cf. F. Boll, *op. cit.*, 414, note 4.

[32] R.H. Allen identifies the origin of the name in the imaginary shouts of the Driver to his Oxen (the Triones) or in the screams of the Hunter in pursuit of the Bear. Other related names for the constellation are "Vociferator," "Vociferans," "Clamans," "Clamator," "Plorans," and the "Loud Weeper." Cf. R.H. Allen, *op. cit.*, 93.

[33] In Fendulus F, spelled *tympanum*.

[34] *Dimidium corvi* is dropped from manuscripts following Fendulus B.

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In the second decan of Virgo—according to the Persians—is a musician beating a tambourine and at the same time sounding a pipe. Thereafter is a man with a cowlick with whom is a half of the form that is in the Persian language called Abazae and in Roman Fetem (*Feton*). A man with a bull's head holds in his hand a half of a naked man. After this is halved decayed wood, and the tail of Hydra, half of the raven, a half of a lion.

VII. Paranatellonta rising with the first decan in Libra.
A translation of Abū Ma'šar's text:

In ihrem ersten Dekan steigt ein Mann auf, *der einem Zornigen ähnlich ist; in seiner linken Hand hat er eine Wage und in seiner rechten Hand einen Strick. Ferner steigen geschriebene Bücher auf* und *drei Knaben, die alle zusammen* Porthmeus *heissen. Gleich hinter ihnen* steigt Musa auf: *er sitzt auf Polstern* und spielt die Leier, *d.i. den sang, singt und flötet.* Ferner steigt der Kopf eines Bockes auf und der Angang eines Stücks von einem See, der auf griechisch der Acherusische See, *d.i. Goldsee*, heisst; *einige Perser haben ihn den grossen Zāb genannt.* Ferner steigt ein Teil des Schiffes auf.

In the first decan rises a passionate man. In his left hand is a scale and in his right hand a rope.[35] Further are written books, three boys which are together called Porthmeus, and Musa sitting on cushins rises immediately behind them playing a sanj, singing, and piping. Following are a buck's head, the initial part of a lake which is in Greek known as the Old-Russian Lake (Golden Lake) and some Persians have called it the great Zāb, and a part of a boat.

Hermann's translation used by Fendulus:

Oritur in p*ri*mo ei*us* decano ut P*er*se ferunt vir iracundus in sinistra ei*us* manu statera in dextra agnus cum quo libri inscripti ac t*er*cia pars scientie *eius* quor*um* nomina Kara mune[36]. In sinistra eor*um* musicus equu*s* sedens tympanu*m* p*er*cuti*ens*, calamo canens. Post hic draconis caput, primu*m*que ei*us* qua*m* grece maior*em* ursam vocant, et navis carina.[37]

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[35] The German translation from the Arabic says "rope," although it is traditional that the figure is holding a whip in his right hand.

[36] Fendulus B has here *carax mune*; Fendulus C has *karas mune*, which might be a corruption of *Kore kosmu*, the title of *Hermetica*'s excerpt XXIII. Various spellings of the term might indicate that copyists of the manuscripts were unfamiliar with the term.

[37] The description of *sphaera graecanica* in Fendulus manuscripts immediately follows the *sphaera barbarica* and the description for *sphaera indica* is missing from the

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In the first decan—as the Persians have it—rises an angry man holding a scale in his left hand, a lamb in his right, and books which has inscribed the third part of the knowledge bearing the name Kara Mune. On the left is a horseman musician sitting, striking a tambourine, and playing a reedpipe. And after is a dragon's head, and the first part of what the Greeks call the Great Bear, and a keel of a boat.

VIII. Paranatellonta rising with the second decan in Libra.
A translation of Abū Ma'šar's text:

Im zweiten Dekan der Waage steigt ein Wagenlenker auf, *den die Perser Budasif und die Griechen Heniochos nennen, und ein Wagen worin ein sitzender Mann ist, der eine Peitsche in der Hand hat, ferner ein roter Kasten für einen Kaufmann, worin Seide und Brokat ist, ein Lederranzen, ein Apothekersack, eine Reihe von Weizenverkäufern*, ein Markt, *worauf Leute mit Gewürzen sind, und ein Mann, der auf einem Throne sitzt und den seine Trabanten umgeben.* Ferner steigt ein kleiner Knabe auf, die Mitte des Schiffes, der vordere Teil des Kentauros *über dem Schiffe,* die Mitte des Acherusischen Sees, *d.i. Goldsees—die Perser nennen ihn den grossen Zāb—,* und es steigt eine Quelle auf.

In the second decan of Libra, a charioteer—in Persian known as "Bridemif" and in Greek as Ἐνίοχος—is sitting in the chariot holding a small whip in his hand. Thereafter follow a red box full of silk and brocade for a merchant, a leather satchel, an apothecary bag, a row of grain merchants, a market with people selling spices, and a man sitting on a throne surrounded by his courtiers. Further are a small boy, the middle part of the boat, the front part of the centaur over the ship, the middle part of the Old-Russian Lake (the Golden Lake) which the Persians know as the great Zāb, and a spring.

Hermann's translation used by Fendulus:

In se*cun*do Libre decano iuxta P*er*sas vir agitarius cui P*er*sicum nom*en* hec Brimeditus cum quo plaustrum in quo vir manu flagellum tene*ns* et canistr*um* rubeu*m*. Alteus viri secum cum ostento mantice crumene colorate. Cum qua*m* pluris farinaris confecto*rum*. Dein*de* pusill*us*, mediumq*ue* navis, parsq*ue* anterior centauri, mediumq*ue* draconis, cum medio maioris urse simul *cum* aqua fonte.

In the second decan of Libra—according to the Persians—there is a driver known

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text. In the printed 1489 edition of the *Introductorium maius*, the description for *sphaera indica* is correctly included.

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by the Persian name Bridemif. With him is the wagon in which a man is holding in his hand a small whip and a red basket. Above the man is showing a colored pouch. Thereafter are many products made of flour. Following is a little boy, and the middle part of a boat, and the front part of the centaur, and the middle part of the dragon, with the middle of the Great Bear, together with a spring.

IX. Paranatellonta rising with the first decan in Scorpio.
A translation of Abū Maʿšar's text:

In seinem ersten Dekan steigt der hintere Teil *eines männlichen Pferdes* auf, *das* Kentauros *und auch Budasif (?) heisst.* Ferner steigt der hintere Teil eines Stieres *und ein Schütze auf, der einen Stock in der Hand hat,* ferner *eine Sache, die* Gesundheit *heist.*

In the first decan rises the back part of a manlike horse known as Centaurus or Bridemif. Thereafter is the back part of a bull and an archer with a stick in his hand, followed by a thing which is called the health.

Hermann's translation used by Fendulus:

Oritur in p*ri*mo eius decano ut P*er*se asserunt finis equi masculi qui et ip*s*e h*a*ec *Bri*meditus appellatur quem ip*s*i[38] centaurum dicunt. Cum quo finis tauri simulqu*e* nigellus iactor manu eius astile[39] res q*ue* cibalum dicta.

In the first decan rises—as the Persians claim—the last part of a horseman called Bridemif, whom [the Greeks[40]] call centaur. Following are the back part of Taurus, a pygmy with spear in his hand, and a thing called the *cibalum.*

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[38] In Fendulus C exchanged for *Greci.*

[39] In Fendulus C spelled *hastile.*

[40] Cf. note 38.

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APPENDIX 2

SPHAERA INDICA

I. The second Indian decan of Gemini.
Translation of Abū Maʿšar's text:[41]

> Die Inder sagen, dass in diesem Dekan ein Mann aufsteigt von der Gestalt eines Negers und der Farbe eines Greifs; er hat seinen Kopf mit einer Binde von Blei umwunden und die Waffen umgehängt; auf seinem Kopf ist ein Helm von Eisen und auf diesem Helme eine Krone von Brokat; in der Hand hat er Bogen und Pfeile; er liebt Spiel und Scherz. Mit ihm steigt auf ein Garten voll von Basilikum und eine Leier, d.h. ein sanǵ, worauf er spielt; und er singt und nimmt das Basilikum aus dem Garten.
>
> The Indians say that a man who has a shape of a black man and the color of a griffin is rising in this decan. His head is entwined with a leaden wreath and weapons are hanging. On his head is an iron helmet, at the top of which is a brocade crown. He holds a bow and arrows in his hand and like games and jokes. Next to him is a garden of basil. He plays the sanj, sings, and picks basil.

Hermann's translation into Latin, used by Fendulus:[42]

> Iuxta indos vir forma ethyopis[43] similis colore grifis. Caput plu*m*bea vitta ligatus

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[41] The Arabic version of Abū Maʿšar's description of the decans is translated here from its intermediary German translation by Karl Dyroff, published in: Franz Boll, *Sphaera: Neue griechische Texte und Untersuchungen zur Geschichte der Sternbilder* (Leipzig: Teubner, 1903) 482-539.

[42] The primary source for the transcription of Hermann's translation (on which Fendulus based his illustrations) is considered here to be Fendulus A, which is chronologically the closest to the original Fendulus's manuscript. Variants found in the five later manuscripts are indicated in footnotes.

[43] In Fendulus C and thereafter spelled *ethiopi*.

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armis indutus. Ferrea tectus[44] galea de s[...]r estro (?) sirricus (?) manu arcum tenens et sagittas ictos ac saltus pannis (?) cantans, tympanum percutiens.[45] Pomarius ex orto rapiens qui simul oritur cum eo multi odoriferi ligni.

According to the Indians, there is a man of Ethiopian appearance, similar in color to a griffin. His head is entwined with a leaden band and he wears armor; an iron helmet covers his head. He is holding a bow and stinging (?) arrows in his hand. He is going to dance and sing, striking a tambourine. A fruiterer is pruning trees in the garden where are many fragrant woods.

II. The third Indian decan of Gemini.
A translation of Abū Maʿšar's text:

Die Inder sagen, dass in diesem Dekan ein Mann aufsteigt, der Waffen sucht, um sie anzuthun; er hat einen Bogen und einen Köcher und hält in der Hand einen Pfeil, Kleider und vielen Schmuck. Sein Geist beschäftigt sich mit der Abfassung und Komposition des Liedes, mit Musik, Spiel und Scherz in verschiedenen Arten.

The Indians say that in this decan a man is rising who is looking for weapons to put on. He has a bow and a quiver, and also holds an arrow, clothes, and plenty of jewelry in his hands. His spirit is occupied with writing and composing songs, and with music, games, and various kinds of jokes.

Hermann's translation into Latin as used by Fendulus:

Iuxta indos vir arma induenda querens arcum et faretram[46] gestans. Una manu sagittas operes, fosas telas, et aurifrigia. Musica modulamina iocosa et gaudia multipharia[47] celebrare cogitans.

According to the Indians, there is a man searching for weapons, carrying a bow and quiver. He holds arrows, a web, and gold jewelry in one hand. He is thinking to celebrate with a joyful music making, jokes, and various kinds of delights.

---

[44] In Fendulus C and thereafter spelled *detectus*.

[45] In Fendulus B spelled *percussiens*.

[46] In manuscripts following Fendulus C spelled *phaeretram*.

[47] In manuscripts following Fendulus B spelled *multipharia*.

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III. The second Indian decan of Cancer.
Translation of Abū Maʿšar's text:

> Die Inder sagen, dass in diesem Dekan ein Mädchen von schönem Aussehen aufsteigt; sie hat eine Königskrone von rotem Basilikum auf dem Kopf und einen Stab von Holz in der Hand; sie schreit, weil sie es liebt zu trinken, zu singen und sich in den Gotteshäusern zum Gebet niederzuwerfen.
>
> The Indians say that in this decan is rising a pretty young woman. She has a royal crown made of red basil on her head and holds a wooden staff in her hand. She is crying, but she likes to drink, to sing, and to prostrate herself in prayer in the houses of the gods.

Hermann's translation into Latin as used by Fendulus:

> Iuxta indos puella placida est visus nimis capite corona*ta* ex celebro mirto[48] rubeo. Manu virgam ligneam gestans, altis vocibus de amore suo potendi et canendi[49] laudisq*ue* deo*rum* in templis clamitans.
>
> According to the Indians, a gentle maiden is fully in sight. Her head is crowned with plenty of red myrtle. She holds a wand in her hand. She sings in a loud voice about her love for drinking and singing the praises of the gods in temples.

IV. The first Indian decan of Capricorn.
Translation of Abū Maʿšar's text:

> Die Inder sagen, dass in diesem Dekan ein schwarzfarbiger, zorniger Mann aufsteigt; sein Körper gleicht dem eines Wildschweines, an seinem ganzen Körper sind Haare; er hat lange und scharfe Zähne, die an Länge einem Balken und an Schärfe einem Dorn ähnlich sind; er hat einen Strick, wie man ihn für Kühe und Zugvieh verwendet, und einen Angelhaken bei sich, womit man die Fische fängt.
>
> The Indians say that in this decan is rising an angry black man. His body, looking like that of a wild pig, is entirely covered with hair. He has long and sharp teeth: long as a beam and sharp as a thorn. He holds a rope—which one uses for cows and draught cattle—and a hook for catching fish.

---

[48] In the manuscripts following Fendulus B spelled *merito*.

[49] In Fendulus B spelled *canandi*.

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Hermann's translation into Latin used by Fendulus:

> Iuxta indos vir niger hyrsutus[50] atrox corpore subsilvestris dentibus ad trabis[51] mensuram longis ut spina acutis cum eo ligamina bovina et iumentorum retibus piscari parans.
>
> According to the Indians, there is a black man, horrible in body and with wild teeth, which are as long as a beam and sharp as a thorn. He prepares to fish with nets made of ropes used for oxen and cattle.

---

[50] In Fendulus B spelled *yrsutus*.

[51] In manuscripts following Fendulus B spelled *trabem*.

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APPENDIX 3

ABŪ MA'ŠAR'S TEXT ABOUT THE PLANETS VENUS AND MERCURY

I. Venus

Hermann's translation into Latin, used by Fendulus:

[Book VII, chapter 9] Venus frigida *et* hu*m*ida te*mper*ata. Eius est mulier*um* genus minoresq*ue* forores cu*m* vestime*n*ta o*mn*isq*ue* cultus atq*ue* redimicula cu*m* aureis quoq*uos* atq*ue* argentas ornam*en*tis; cu*m* freq*ue*ns balneu*m* et ablutio forme quoq*ue* aptitudo graciosa cu*m* multa facecia. Amor music*a*e gaudia locis omnisq*ue* instrumentalis melodia cu*m* ips*i*us pariter; *in*strume*n*tis ac motibus adaptis cu*m* spo*n*se cu*m* sponsalibis ac thalamis *cum tri*plici iure coniugis simul etiam odorame*n*ta dulcia ac suavia queq*ue* ludi in cesseris atq*ue* alcis. Ocia simul p*re*ter sua studia, amo*r* lascivia dulces loq*ue*le, affeminatio indignatios, fallacia, freq*ue*ns me*n*datiu*m* ac pe*r*iuriu*m*, cu*m* vina mella, potusq*ue* *ine*bri*a*biles ip*s*a quoq*ue* ebrietas, luxuria fornicatio. Omneque id gen*us* ta*m* naturalis usus q*ue* contra natu*ra*m in utrolibet sexu ta*mque* legitimi q*ue* illiciti cu*m* ip*s*is o*mn*iu*m* auctorib*us* similisq*ue* o*mn*i prole illegali. Cu*m* dilectio nati mutua hominu*m*q*ue*

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caritas pietas facil*is* crudelitas volu*n*taria receptio valitudo corp*o*ris debilitas debilitas[52] animi, multa carnositas pinguedo cu*m* adipe. O*mn*is voluptas delicie et oblectame*n*ta eorumq*ue* studiosa inquisitio, cum subtilia mirandaq*ue* artificia et egregie potare atq*ue* future cum suis artificib*us* cum subtilia[53] fora et tentoria odorumq*ue* me*r*cature. Postremo scientiaru*m* intentio. Templa de*i*nde legis obse*r*vatio ius equabile.

[Book VIII, chapter 3] Pars Veneris pars amoris. Summit*ur* die aperte fortune ad pa*r*tem celate de nocte con*v*erso ad adiectisq*ue* orientis g*r*adib*us* a p*r*incipio incipit. Ducit etiam[54] more Veneris ad voluptates, delitias, iocos, cantilenas, amicitiam, gra*t*iam aptitudinem, ad om*n*em iocu*m* suave dulce, om*n*esq*ue* veneris officis genus.

English translation:

[Book VII, chapter 9] Venus is by her nature cold and moist. She is of the feminine gender and expresses herself through her garment and refinement, and through her frontlet with gold and silver ornaments. Her presence is observed at numerous baths and other kinds of washing places, which are of pleasant ambience for many jokes. She is fond of musical delight and every place where an instrumental melody is performed: she also likes instruments and dance suitable for engagements, betrothals, and marriages which bind couples together; as well as sweet and delightful odors and leisure games.

---

[52] The scribe of Fendulus A repeated the word *debilitas*. The printed edition of 1589 has here *corporis animi debilitas*.

[53] The word does not appear in the printed edition of 1489.

[54] The edition from 1489 replaced the two words with *ducis etiam*.

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During leisure time, she likes to lead with her enthusiasm, playful love, pleasant conversation, womanish indignation, fraud, frequent lies, and false swearing; as well as with drinking honey-wine and exciting with drunkenness and extravagance. Her nature extends over all those who are born during her time, regardless of their sex. She does not differentiate between one who is legitimate to his or her parents or is an illegitimate offspring, between those who are chosen to be born mute and those who have affectionate devotion for committing cruelties, those who receive a powerful body but weak spirit, and those who are punished with fat and greasy flesh. In her vicinity one can find every pleasure, extravagance, and delight, as well as diligent examination, simple and curious occupations. In her temple is the observation of law and equal right.

[Book VIII, chapter 3] During the period of Venus, a time of passion is rising, similar to when a good day turns into the fortunate time of the night, advancing with her rise on the horizon. Venus stimulates a superb enjoyment, delight, jokes, songs, friendship, and humorous sweet pleasures of every kind.

II. Mercury

Hermann's translation into Latin, used by Fendulus:

[Book VII, chapter 9] Mercuri*us* p*ro*miscuus ad om*n*em commixtio*ni*s ascensum facilis ei*us* est pueritia cu*m* maiorib*us* fratrib*us* multoq*ue* puerorum amore. Cu*m* divinitat*is* fides p*er*phetiae s*er*mones discipline doctores cum discip*ul*is ingenium latio eloq*ue*ntia p*er*cepta eorum*que* obs*er*vatio plena sapientia *sana*[55], doct*r*ina, salubris exortatio[56] arguta disceptio,

[55] The word inserted in the 1489 edition.

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probabilis inductiones necessari sillogismae, philosophiae ac poetriae studium plurimumque in mathematicae, aritmethicae, geometriae, et astronomiae nec sine melica metrica et rithmica. Cum divinationum sortilegum[57] quoque cum auguriis et auspiciis preterea grata et fructuosa facundia. Cum libri commenta scribere eorumque officium acuta et propterea artificia[58] diligens omnium scientiarum, usus et exercitatio cum eleganti novitatis inventione ac secretorum intellectum soli divinitati parentium rarum gaudium rare deliciae, tenuis voluptas cum providum consilium fama, rumores, ambitio, magis gloriae causa deinde questiones tributaria erraria, ac poeticae questus cum multo sumptibus ac falsitare.

Mercature participationes negotiatores furta, fraudulentia, malivolentia, ignavia, inimicitie, timor, feruitus bubis atque involuti affectus obedientia cum summa intentione ac mete in alienos dolores cum passione fratrum amor propulsio legis observatio. Verax causa cum grata vocis modulatio aptitudo in omne artificium cum cunctorumque perfectio confidentumque omnium perfessione. Postremo fuendi tondendi[59], radendi, pectendique adaptat manus cum suis instrumentis et artificibus. Nam et fontium scaturigines amnium decursus aquarum derivationes.

[Book VIII, chapter 3] Pars Mercuris pars ingenii et memoriae summitur in die aperte boni ad partem fortune nocte converso adiectusque orientis gradibus a principio incipit.

---

[56] The 1489 edition has *exhortatio*.

[57] The 1489 edition has *sortilege*.

[58] The 1489 edition has *officia*.

[59] The word does not appear in the 1489 edition.

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Nunc imitatione[60] Mercuris ad solertiam intellectum, eloquentiam de inceptiones, mercaturam varia ingenia, omnesque studium et artificium ad hunc modum. Partes stellarum Hermes inveniendas tradidit quarum hic sunt generales ducatus singulares namque prout incidunt iudiciorum tractatibus reliquimus hoc universaliter de omnibus addiscientibus ut sicut stellarum ducatus *pro locis ac diversis actionibus omni tempore variantum sic et partium ducatus locorumque mutationes in ducatus*[61] discretionem in magna opere servari convenit.

English translation:

[Book VII, chapter 9] Licentious Mercury is in all his undertakings, during his rising, assisted by his older brother[62] and loved by many children. With his divine devotion he offers a discourse, instructs teachers and talented pupils, and assists them in receiving eloquence. He assists in examination and in teaching of the complete knowledge, he encourages debate, fair persuading in indispensable syllogisms, diverse studies in philosophy, poetry, mathematics, arithmetic, geometry, and astronomy, not excluding

---

[60] The 1489 edition has *ducitque more*.

[61] Words in italics were not found in Fendulus's abridgment, but only in the 1489 edition.

[62] When Mercury gains the rulership, its nature appropriates qualities of whatever planet he may be associated with. Cf. Ptolemy, *Tetrabiblos*, II:8. According to Marsilio Ficino he has a "force both by virtue of his own transformation into all other planets and by virtue of his many revolutions." Marsilio Ficino, *Three Books on Life*. Ed. and trans. by Carol V. Kaske and John R. Clark (Binghamton: Center for Medieval and Early Renaissance Studies, State University of New York, 1989) III:6. Abū Ma'šar calls the dominant planet his larger brother. Because of this his characteristic, Mercury is considered an ambivalent planet.

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musical meter and rhythm. With his gift for arguing and reading of auspices, he predicts and guides with appreciated and fruitful eloquence. As the discoverer of books and their script he respects shrewdness and on that account he prizes efforts in every science. He has a rare joy and unique pleasure in exercising and practicing search for newness, creativity, and secrets which are understandible only to his divine parents. He enjoys in providing consultations about popular beliefs, rumors, ambition, and desire for a greater fame, as well as poetics with many assumptions and counterfeit.

Mercurian participates is in stealth, undertakings, dishonesty, malice, idleness, enmity, fear, owl's cry,[63] as well as swindle. He requires obedience and attention, and since a long time ago his goal is to replace sorrow with disclosing brotherly love. Sincere intentions and pleasing words harmoniously go behind every art, as well as envision of perfection in every vocation and profession. Subsequently, he cultivates the hands, making them suited for instruments and skills, just as a source supplies water down into a river.

[Book VIII, chapter 3] During the period of Mercury, a time of mental power and recollections is rising, like when a good day turns into the fortunate time of the night, advancing with his rise on the horizon. At this time Mercury stimulates clever judgment, entrepreneurial effectiveness in trade of various types as well as in all sciences and arts. Celestial Mercury surrendered some of its functions and, therefore, there are in his place other individual rulers with the same kind of influence. They rule over all different kinds

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[63] A cry of owl was thought to be a bad omen.

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of knowledge, just as the celestial rulers. at the place when different influences switch their lordships at all times and sides, divide a large work among the servants as it is agreed upon.

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GLOSSARY[1]

CONSTELLATIONS — A pattern of stars and star-groups. The majority of the constellations were named and demarcated in ancient times, and all the major ones were ascribed specific influences over the Earth.

DECAN — A period of ten days during which the sun traces 10° of the ecliptic.

ECLIPTIC — The path traced by the apparent movement of the sun around the earth, measured against the backdrop of fixed stars. The plane projected by this ecliptic to the celestial sphere is inclined to the plane of the equator by 23° 27', decreasing by 48" per century. The twelve signs of the zodiac are equal divisions of the ecliptic into arcs of 30° each, based on the time division.

FIXED STARS (STELLATUM) — Sometimes also called the ninth sphere. A notion that the constellations are limited to a single sphere between the planetary spheres and the Mobile, the eternal realm of God and his ministering angels. The thirteenth-century astrologer Pietro d'Abano was the first to argue that the stars themselves are spread out in space.

INDIAN DECAN — Thirty-six deities of a purely spiritual nature, believed to influence an individual's destiny. They are not associated with particular celestial bodies but with a period of ten days when the sun is in a particular 10°-section of the ecliptic. The system was known in Egyptian and Greek astrology, but its main development occurred in India between the second and sixth centuries A.D.

PARANATELLONTA (Greek παρα, together; and ανατελλειν, to rise) — The rising of stars and constellations simultaneously to the north and to the south of the celestial equator during a certain period of time. Paranatellonta always appear in relation to the zodiac. They are temporal and not spatial sequences, since the stars or constellations of a paranatellonta related to a zodiacal sign or decan do not belong to the same 30° or 10° of the ecliptic, but rise simultaneously anywhere in the sky.

PLANETS — In the geocentric system, there were seven known planets which are in descending order from the sphere of the fixed stars: Saturn, Jupiter, Mars, the sun, Venus, Mercury, and the moon.

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[1] The main source used for the glossary is Fred Gettings, *The Arkana Dictionary of Astrology* (London: Arkana, 1990).

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PLANETARY RULERSHIP (HOUSE) — Each planet is said to have rule over one or more of the signs of the zodiac. The Ptolemaic scheme was derived from a consideration of the basic duality of each planet, and the rulership was designed as follows: Saturn (Sagittarius, Capricorn), Jupiter (Pisces, Aquarius), Mars (Aries, Scorpio), the sun (Leo), Venus (Taurus, Libra), Mercury (Gemini, Virgo), the moon (Cancer).

PLANISPHERE — A plan or map formed by the projection on to a flat surface of a sphere or part of a sphere. In particular the term is applied to the projection of a section of the celestial sphere, as in an astrolabe.

SIGN — One of the twelve 30° arcs of the zodiac.

SPHAERA BARBARICA — In Antiquity this referred to any non-Greek description of the heavens, and it included an eclectic mixture of the Egyptian sphere, elements of Babylonian astronomy, constellations described by Ptolemy, and the heavenly map of the Romans. The system was codified for the first time by the astronomer Teukros in the first century A.D. The position of many of constellations belonging to the sphera barbarica are not known today.

SPHAERA GRAECANICA (PTOLEMAIC SYSTEM) — The most widely adopted model of the solar system used in medieval astrology until it was gradually replaced by the Copernican system. It is a geocentric system, with a system of epicycles for each of the known planets. In the *Almagest* Ptolemy described 1,028 stars divided into forty-eight constellations (twelve signs of the zodiac along the ecliptic; twenty-one constellations to the north of the ecliptic, and fifteen to the south).

SPHAERA INDICA — The system of thirty-six decans, each influencing the sublunar world over a period of ten days.

ZODIAC — The belt centered on the ecliptic, divided into twelve arcs of 30°, called "signs of the zodiac," with the following order: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, Pisces. The belt extends 8° on either side of the ecliptic.

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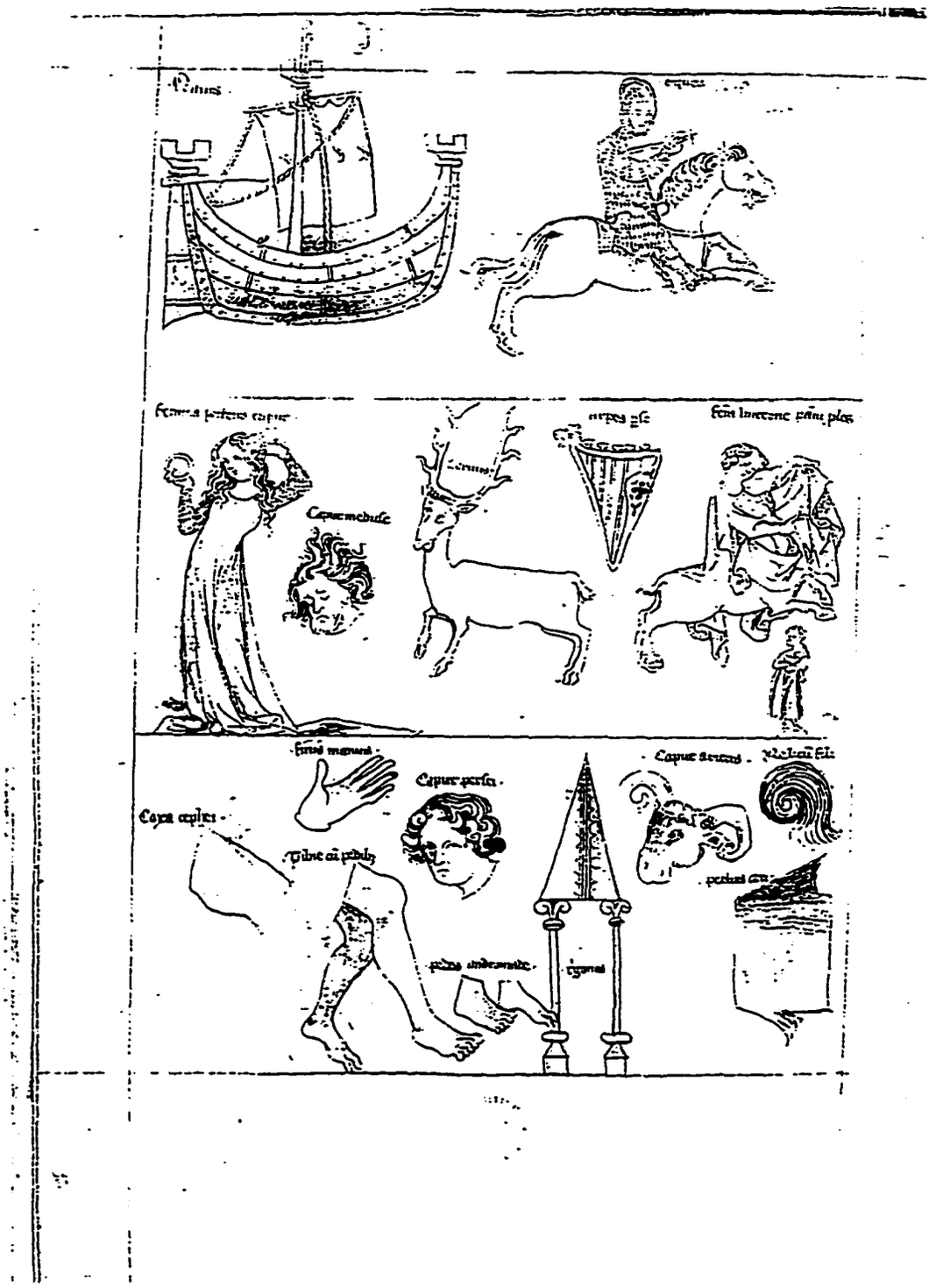
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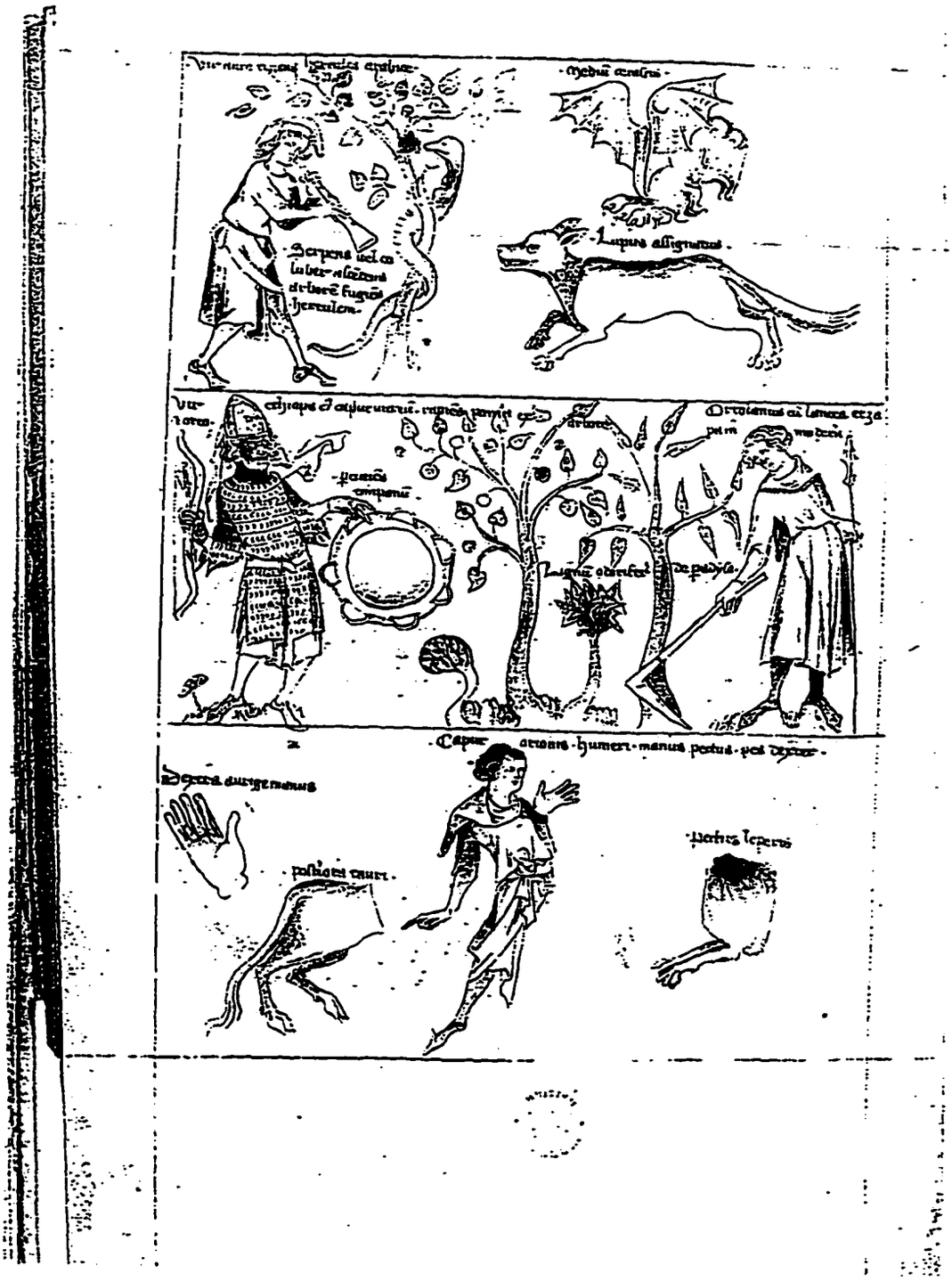
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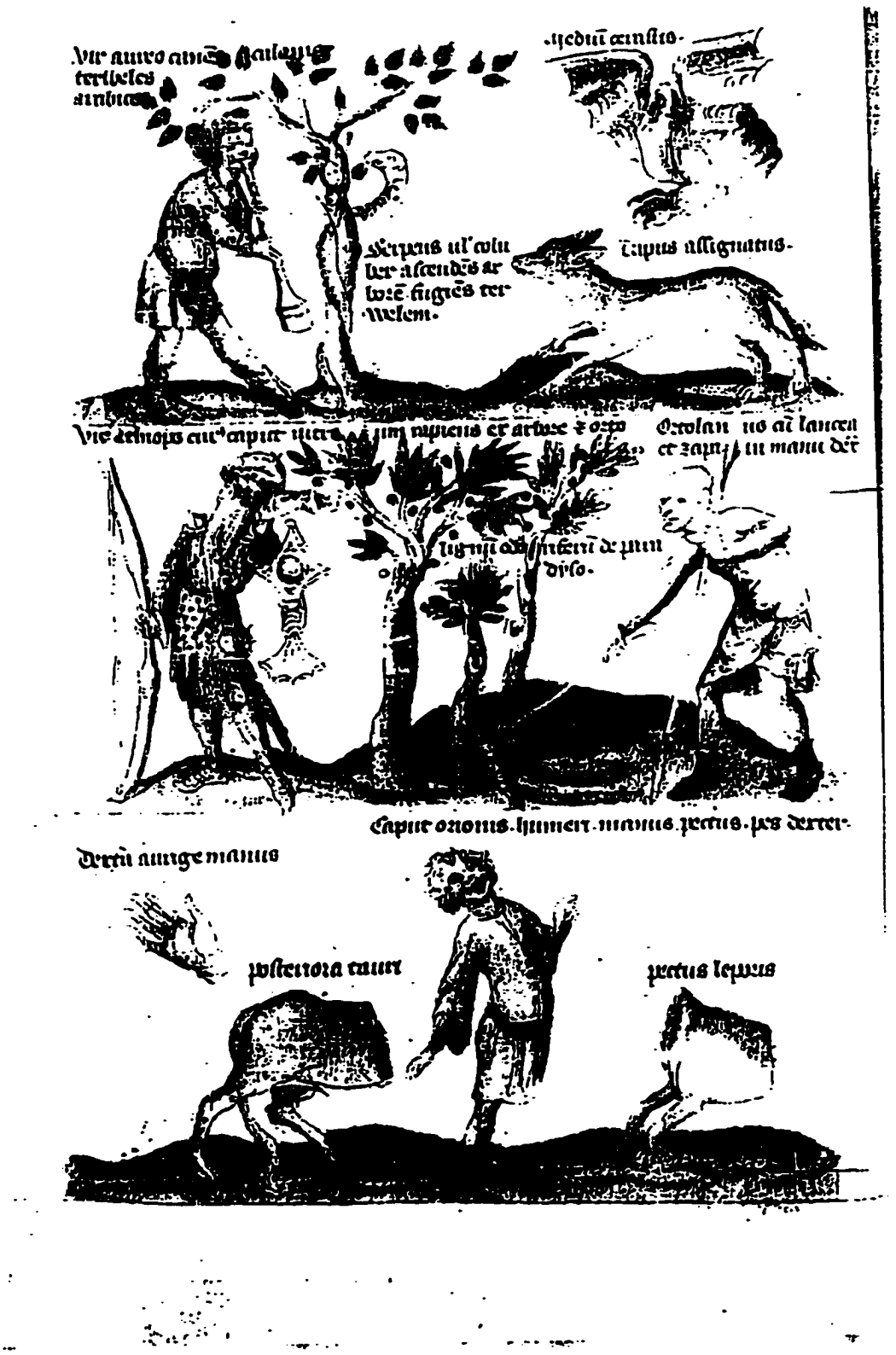
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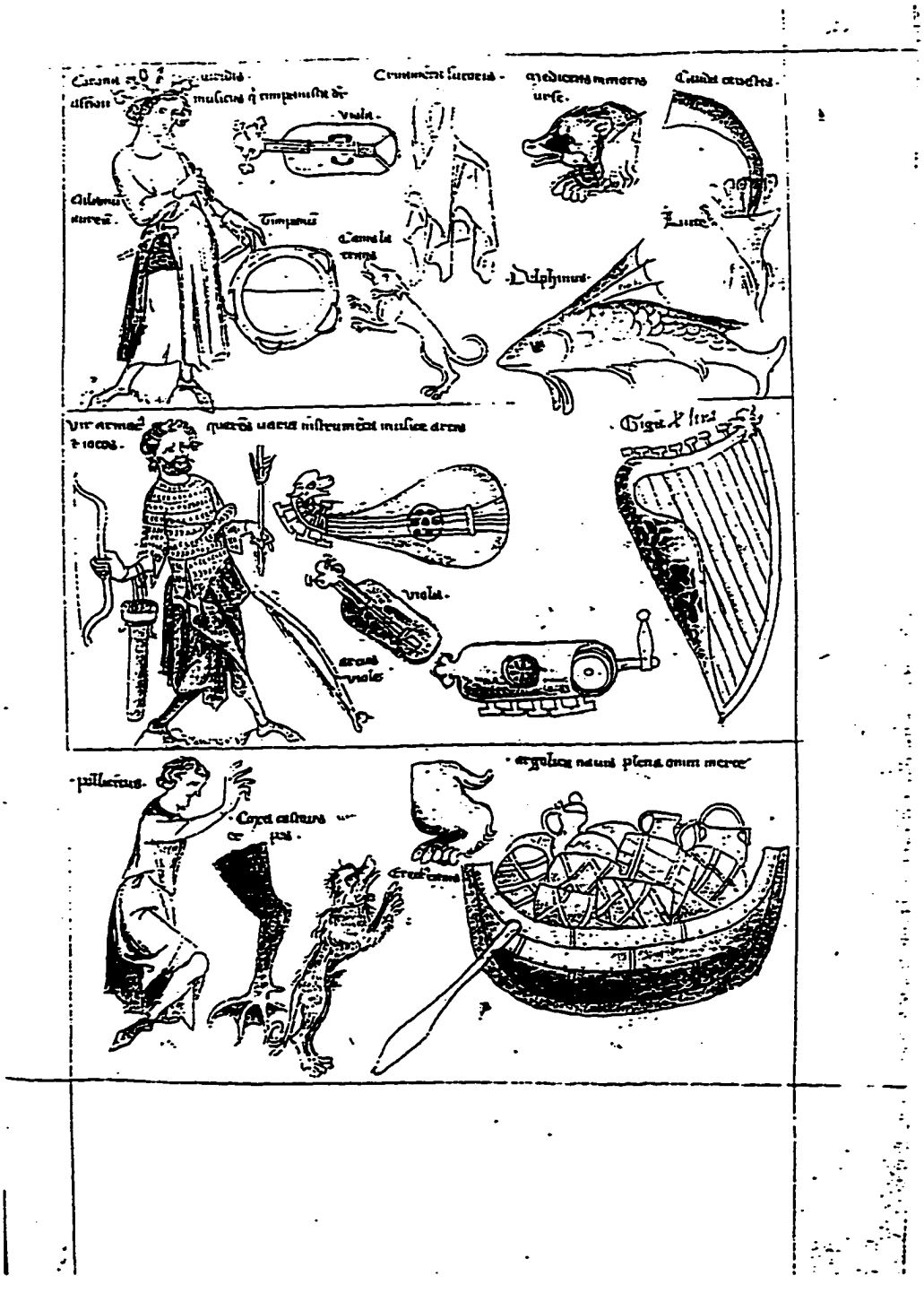
THE THIRD DECAN OF GEMINI

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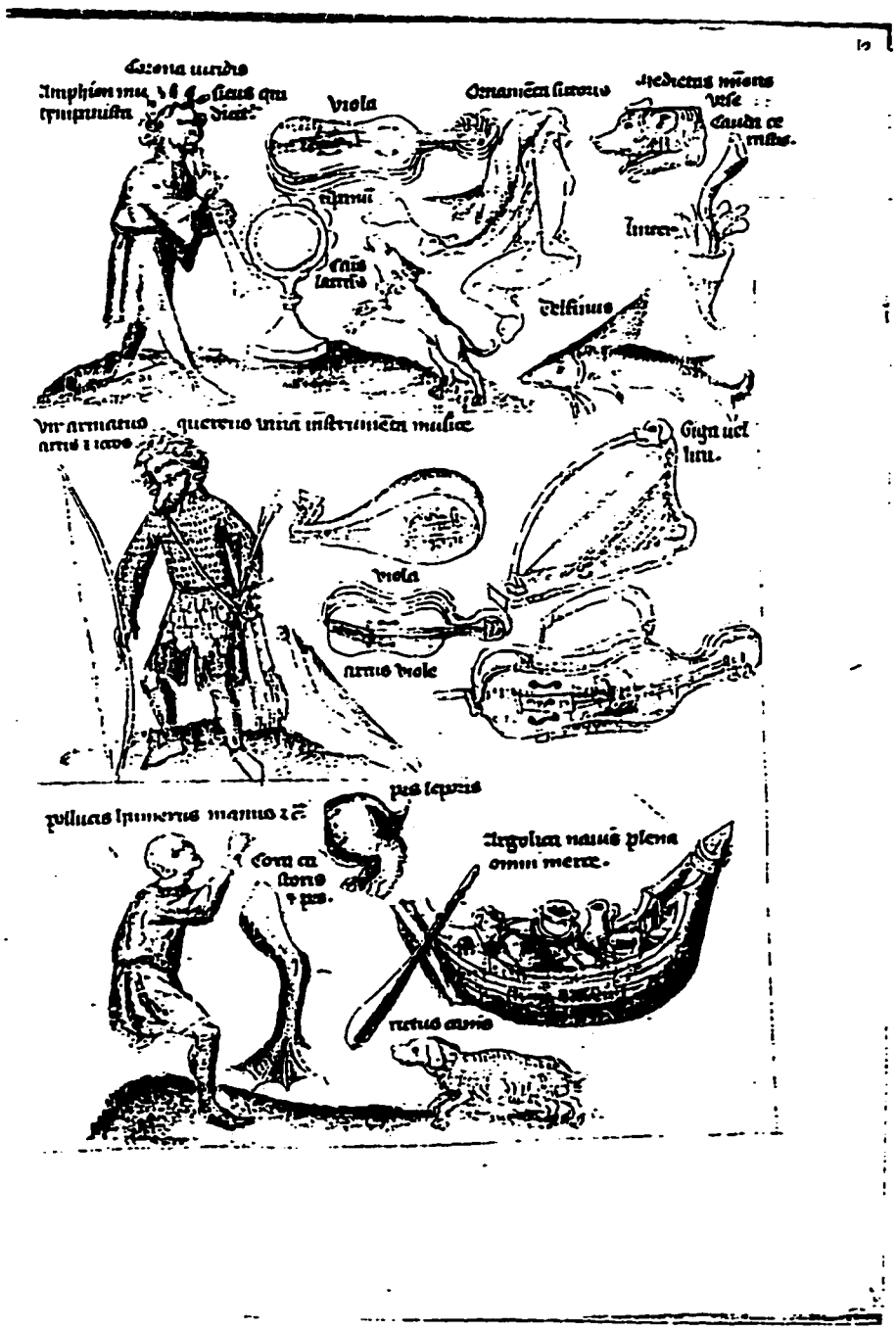
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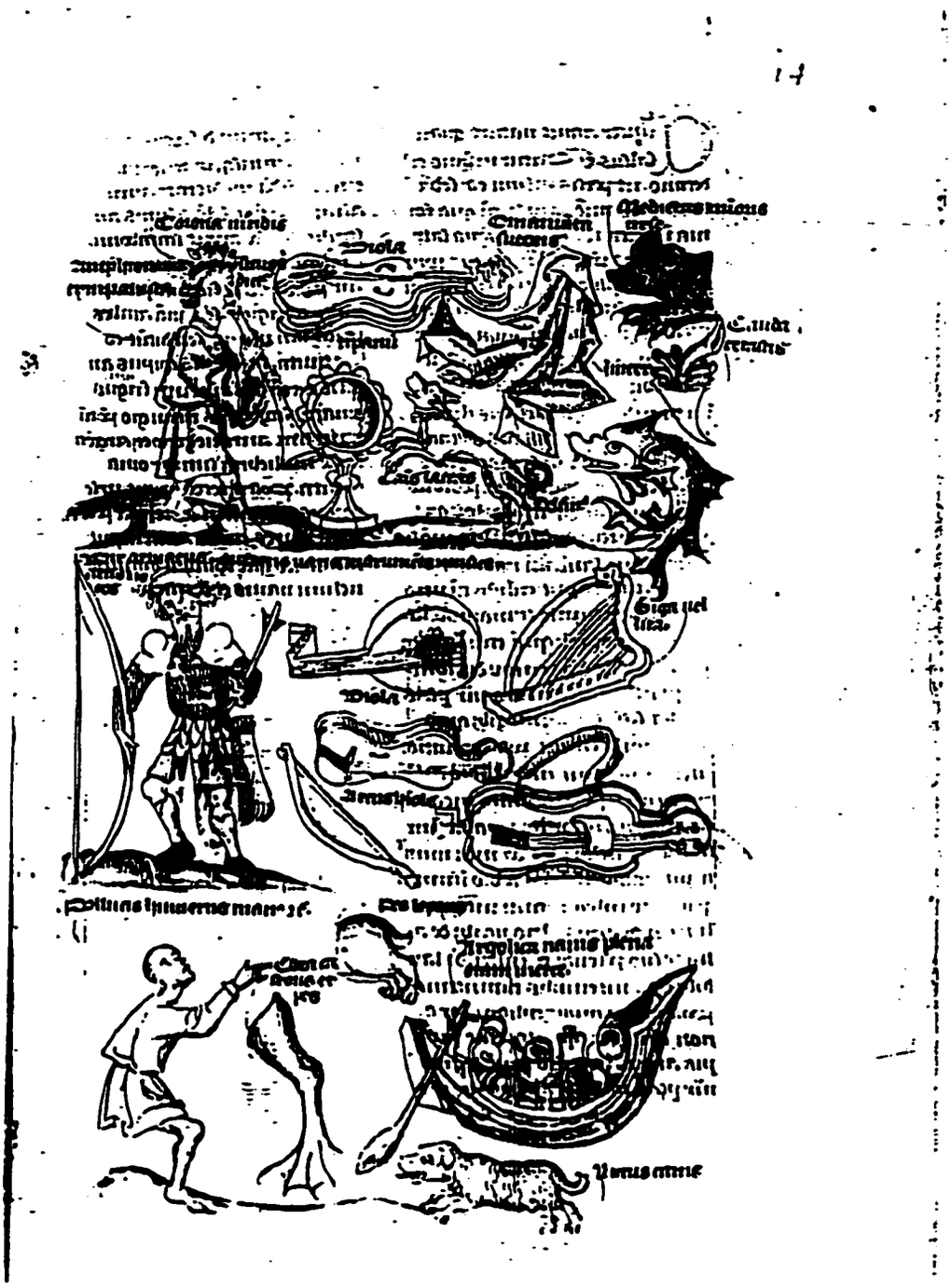
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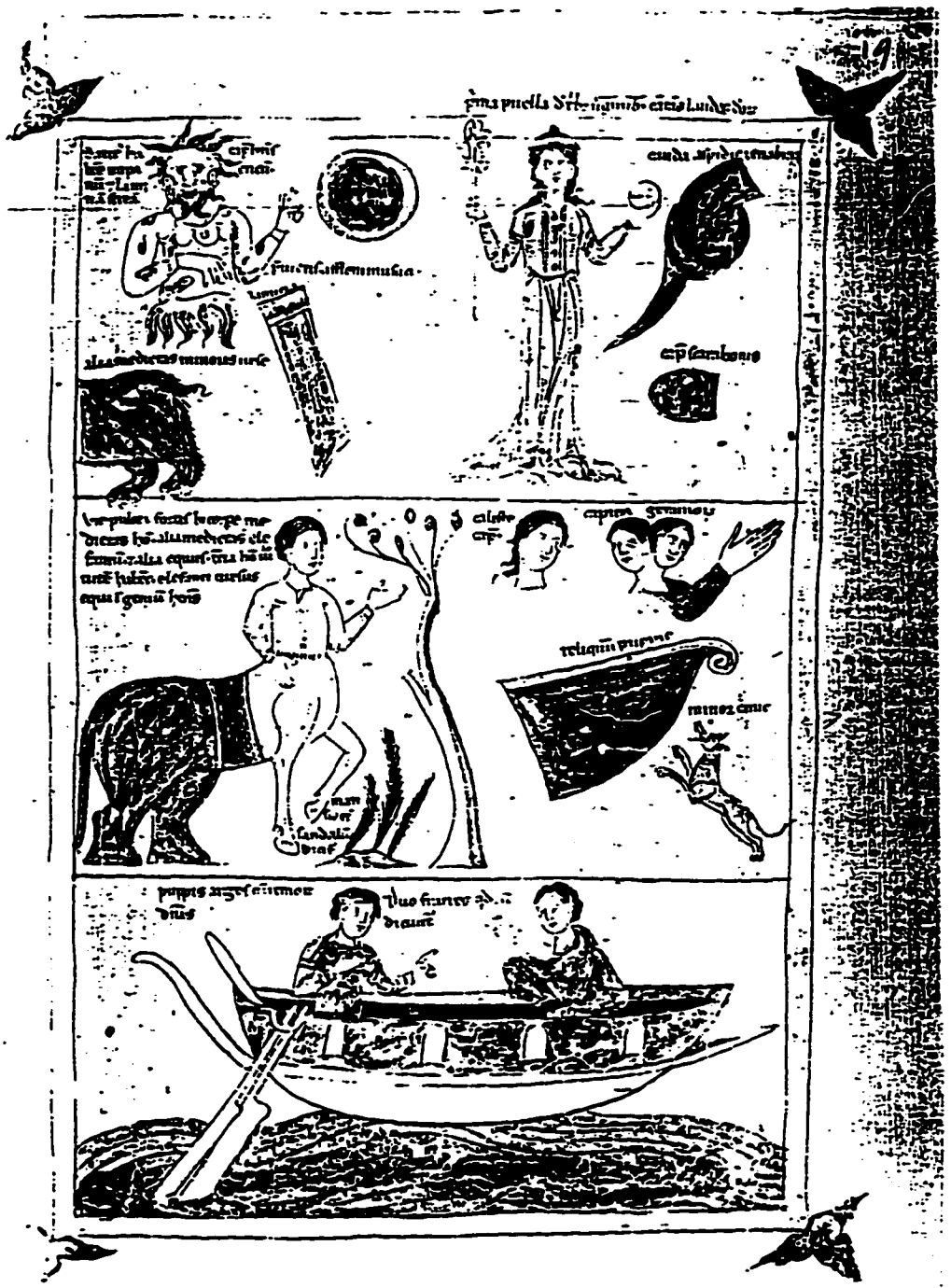


Facs. 14. The third decan of Gemini, MS Fendulus E, f.18v.

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THE FIRST DECAN OF CANCER

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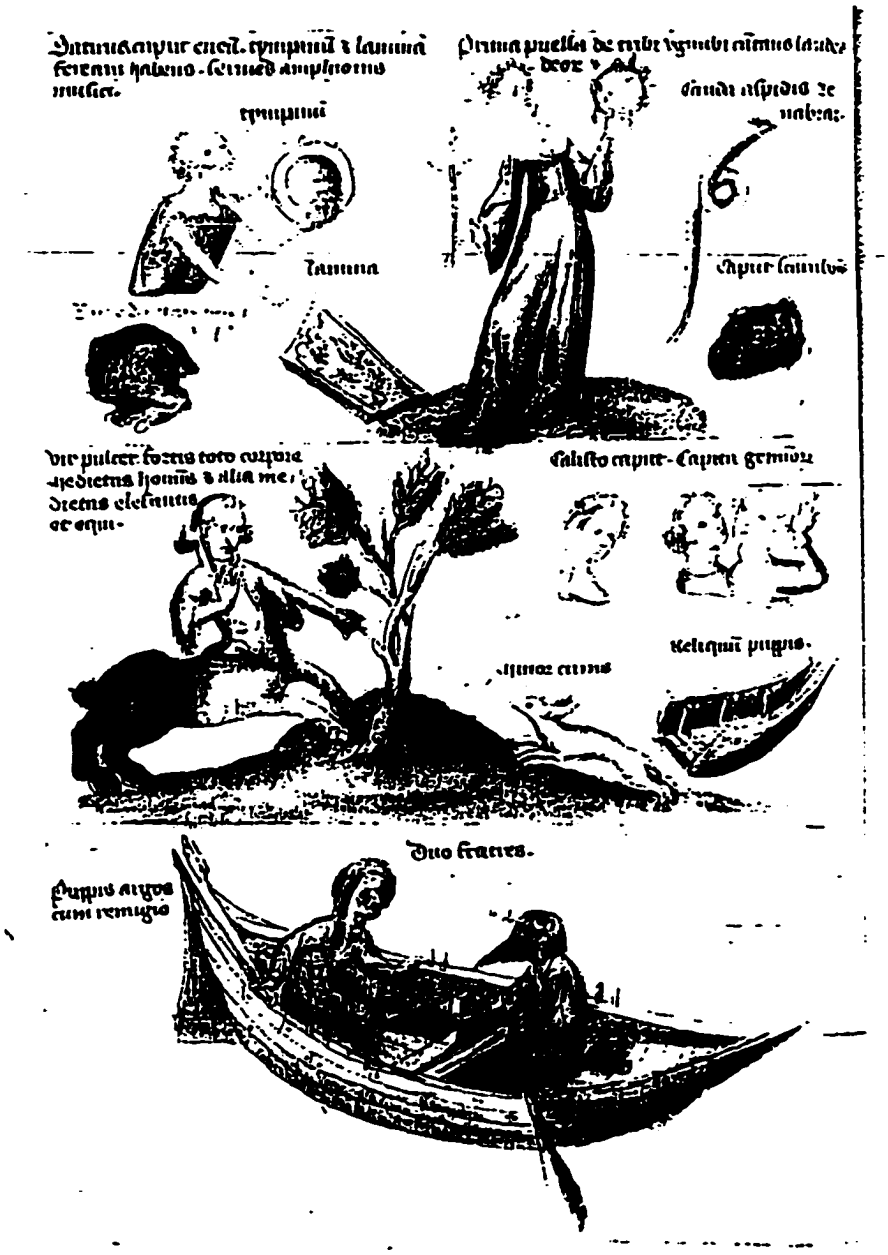
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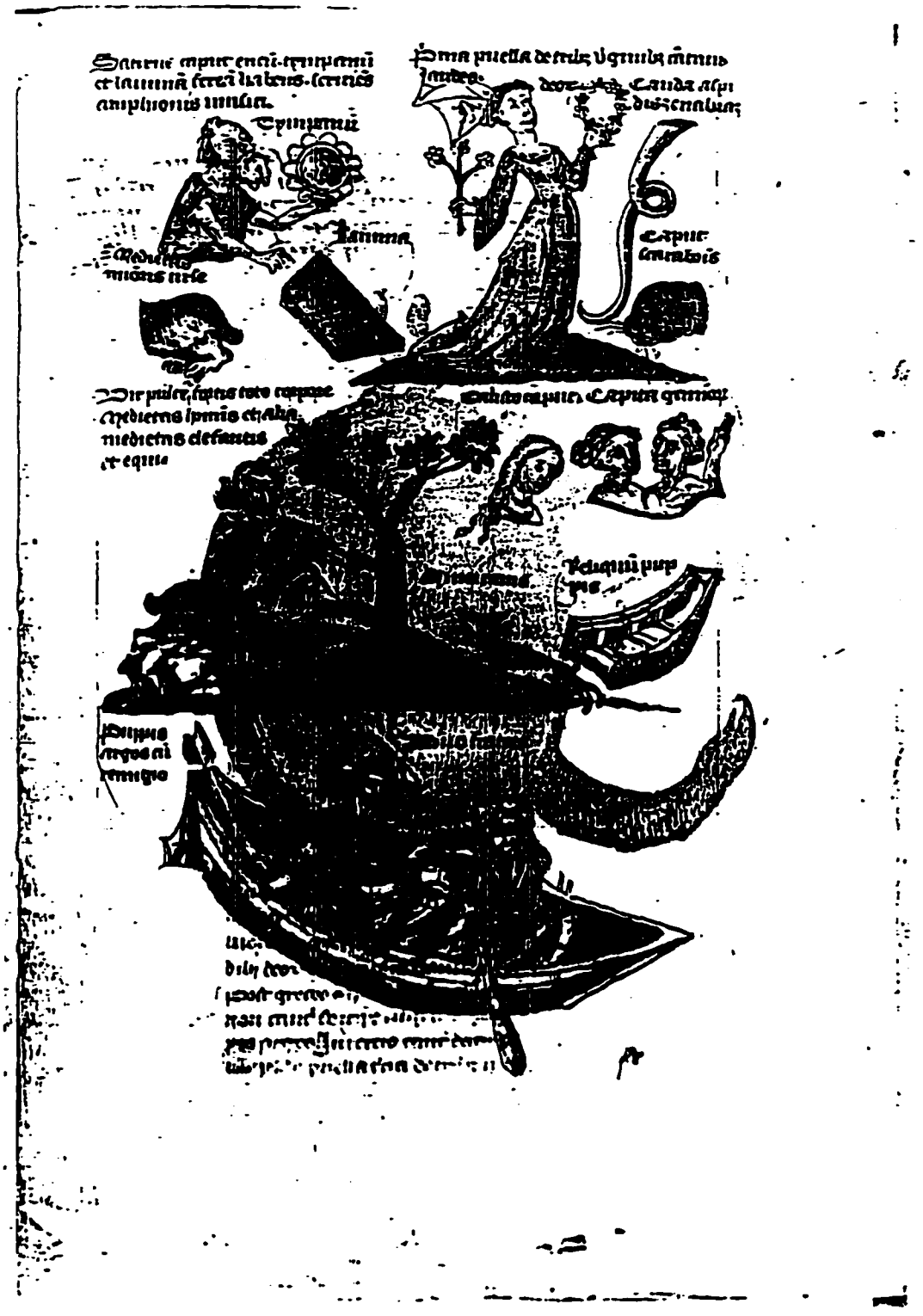
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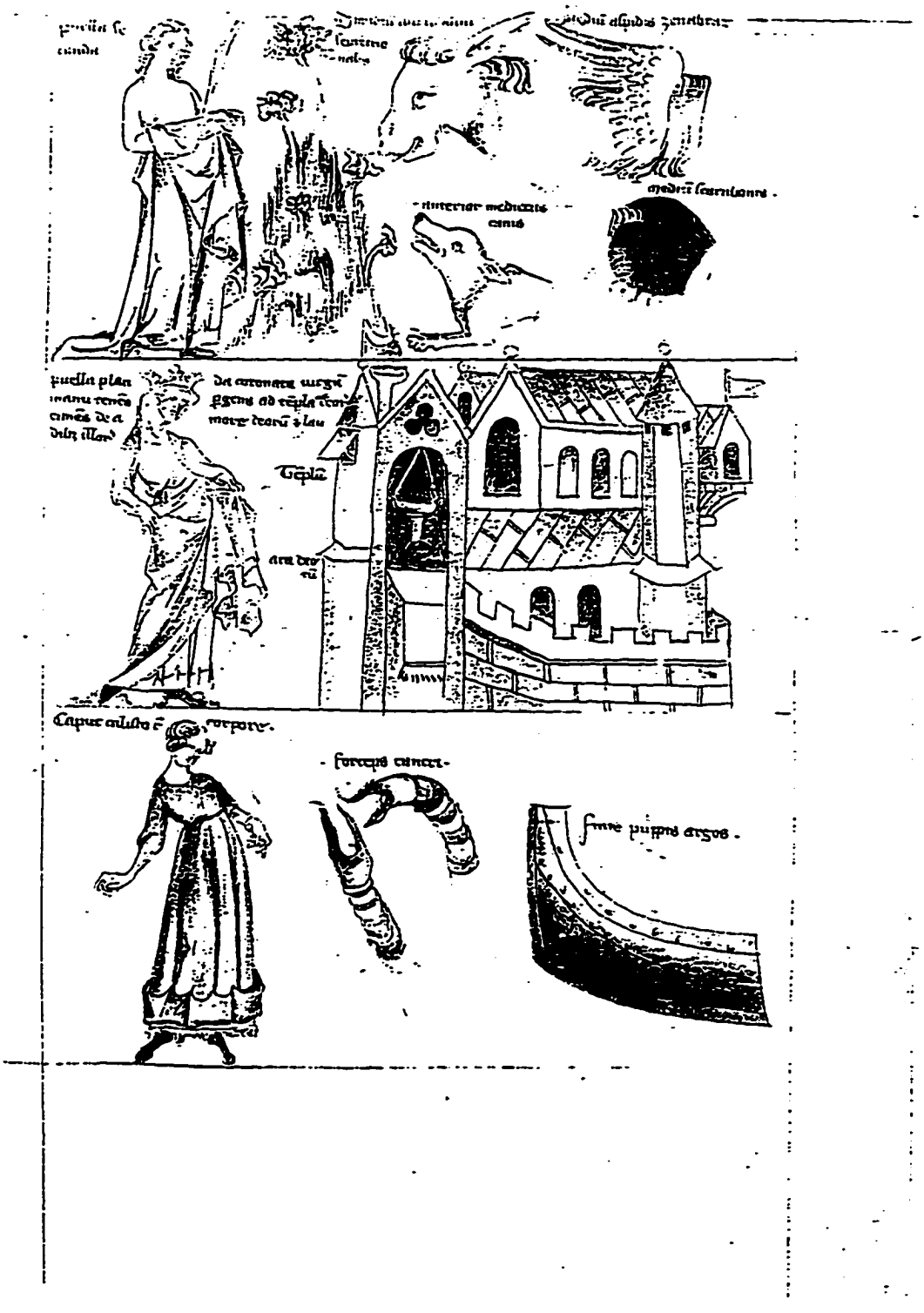
THE SECOND DECAN OF CANCER

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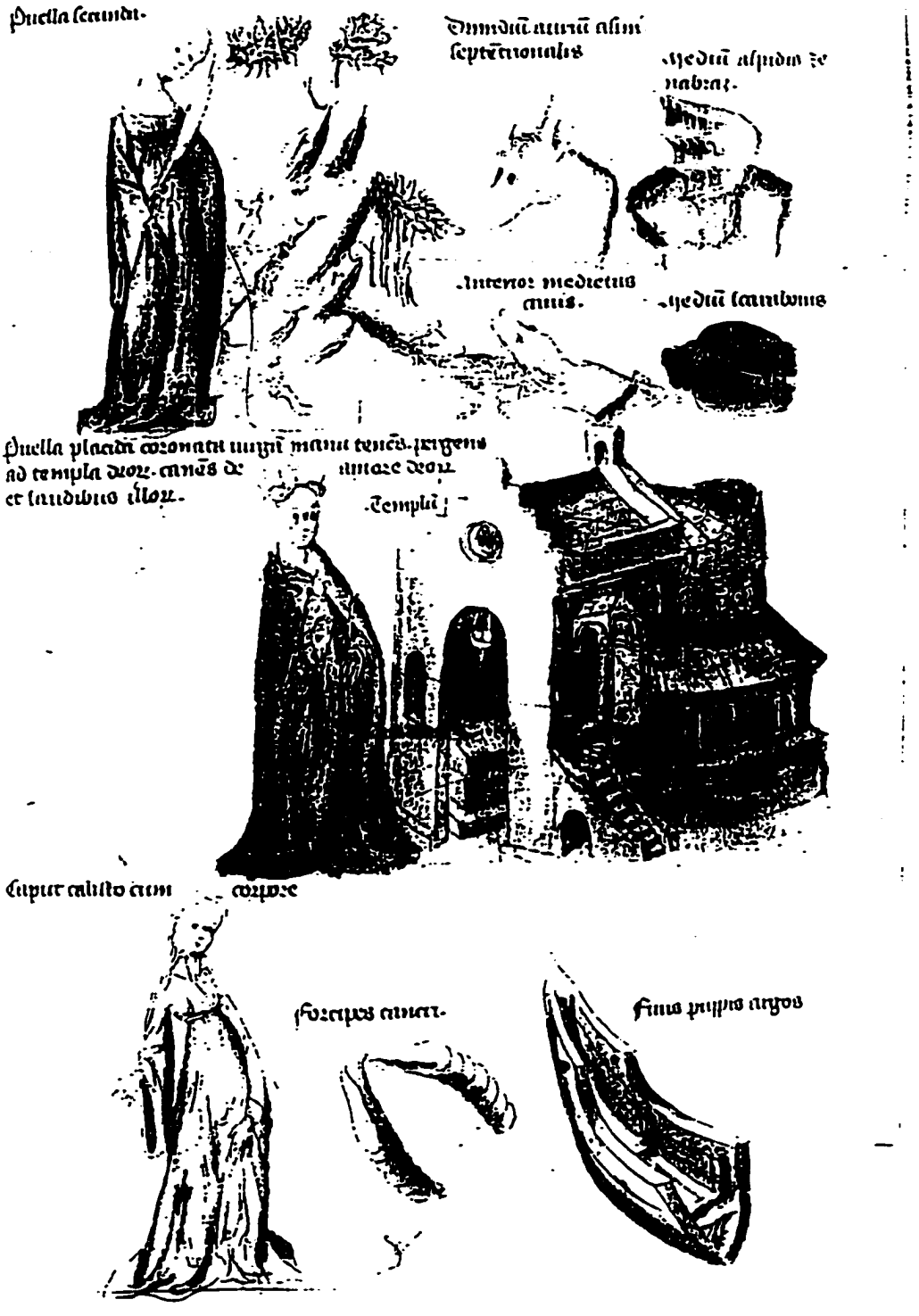
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Facs. 23. The second decan of Cancer, MS Fendulus D, f.16.

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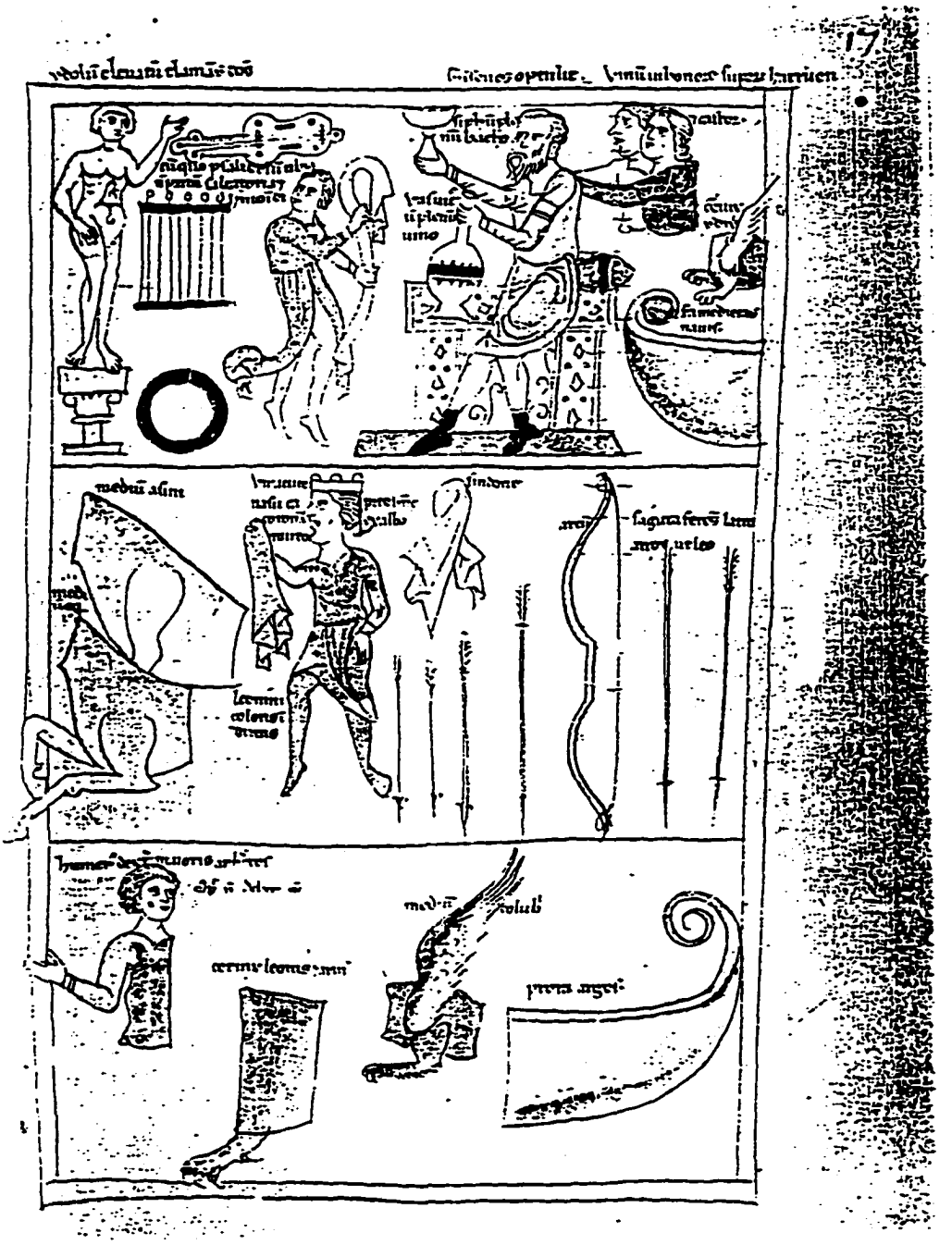


Facs. 24. The second decan of Cancer, MS Fendulus E, f.15bis-r.

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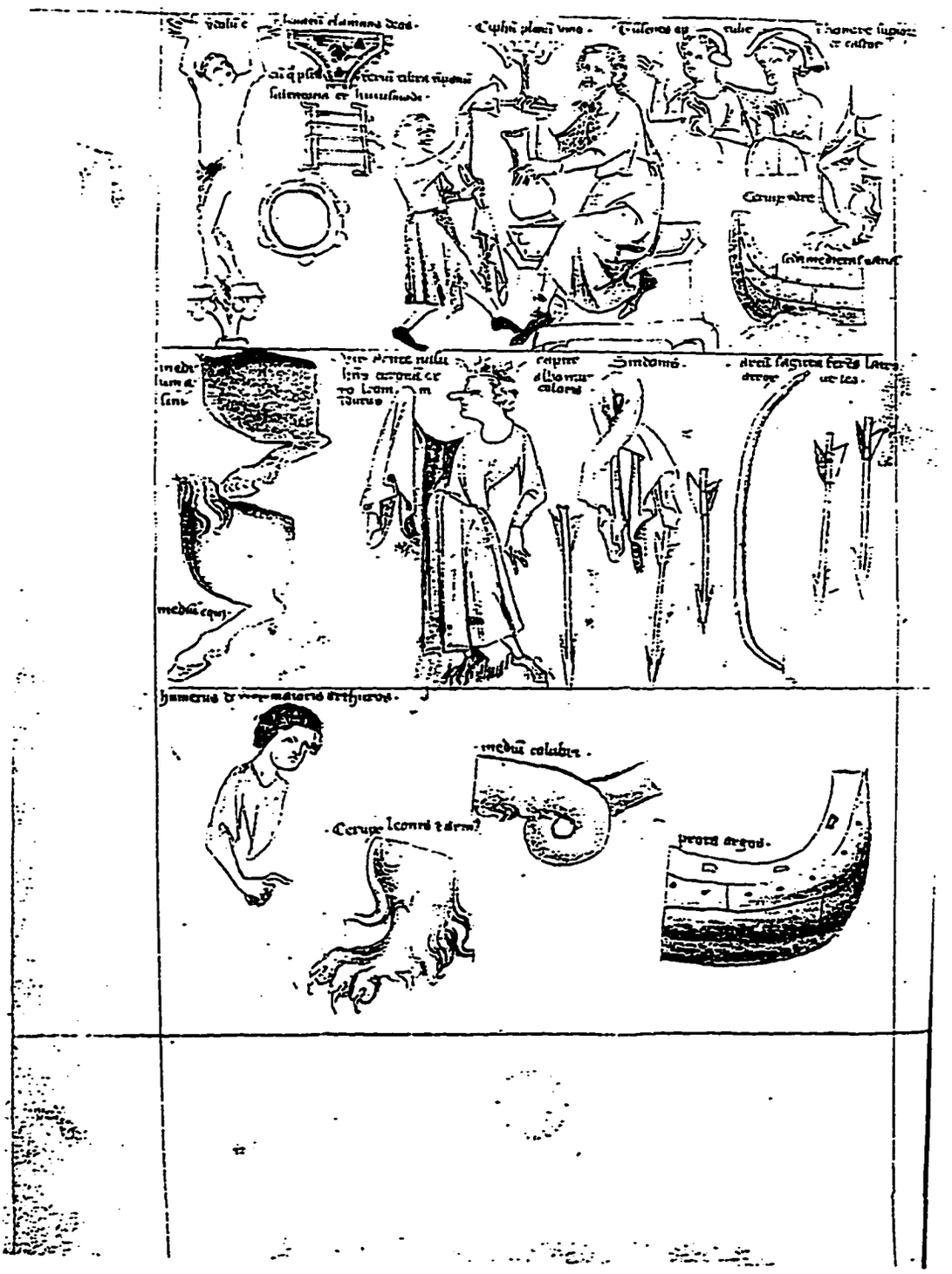
THE SECOND DECAN OF LEO

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Facs. 25. The second decan of Leo, MS Fendulus A, f.17r.

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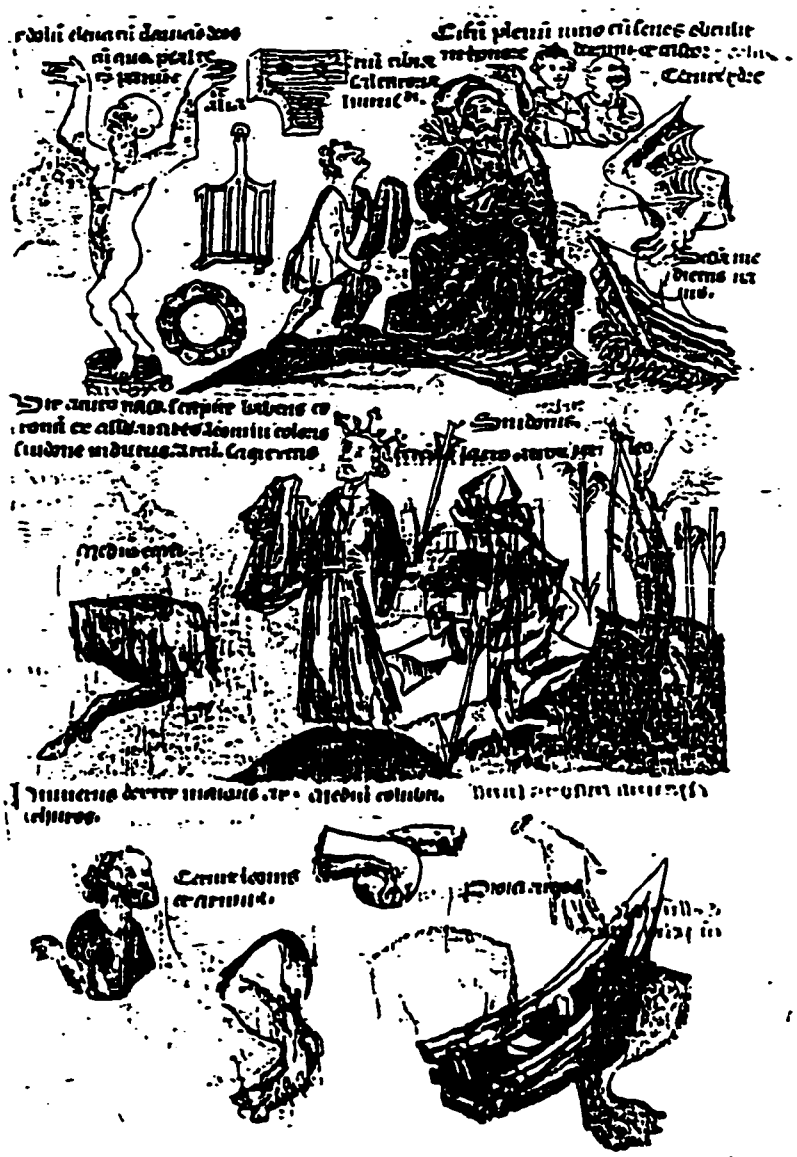
Facs. 26. The second decan of Leo, MS Fendulus B, f.17v.

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Facs. 27. The second decan of Leo, MS Fendulus C, f.14v.

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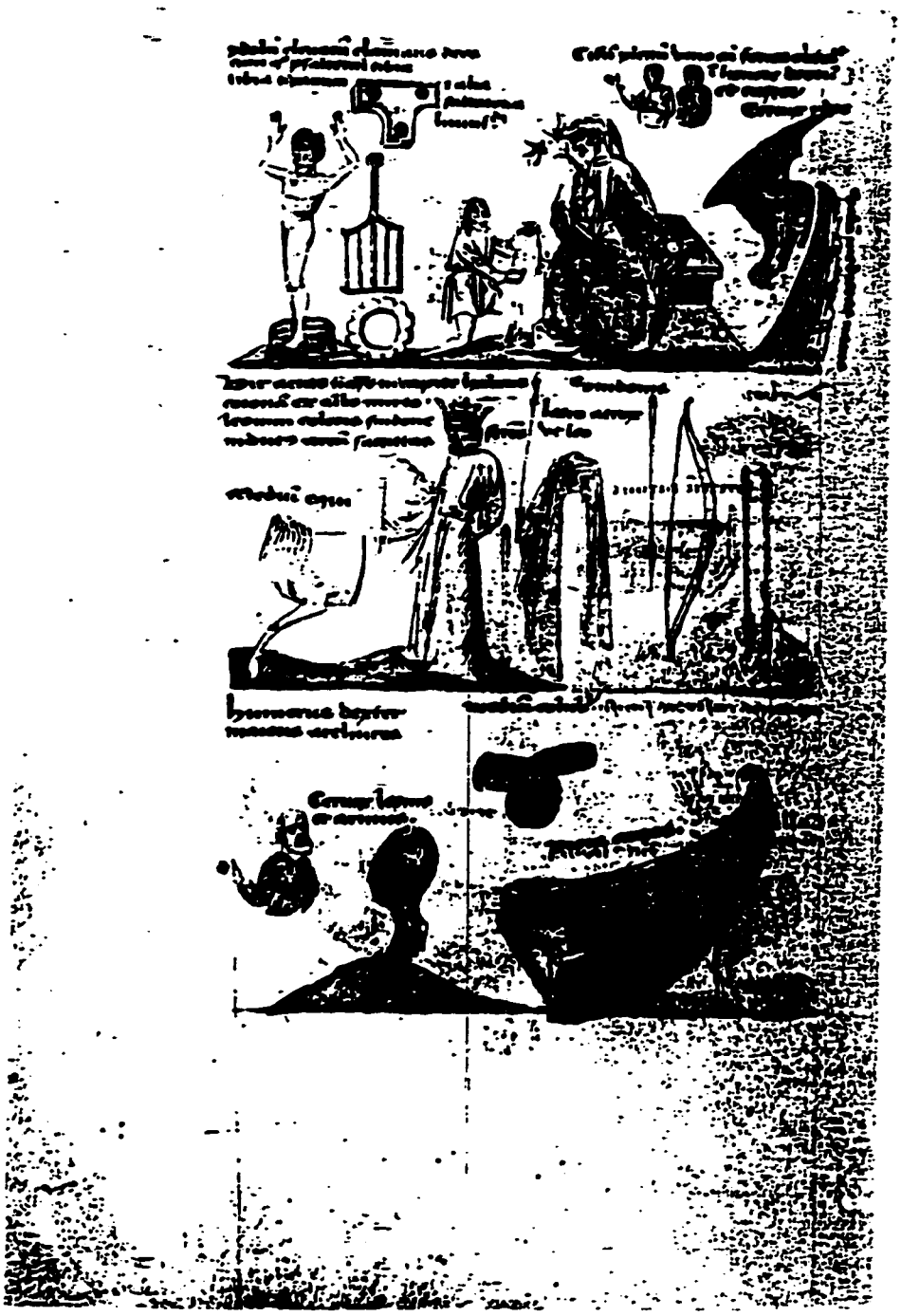
Facs. 28. The second decan of Leo, MS Fendulus D, f.18v.

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Facs. 29. The second decan of Leo, MS Fendulus E, f.14r.

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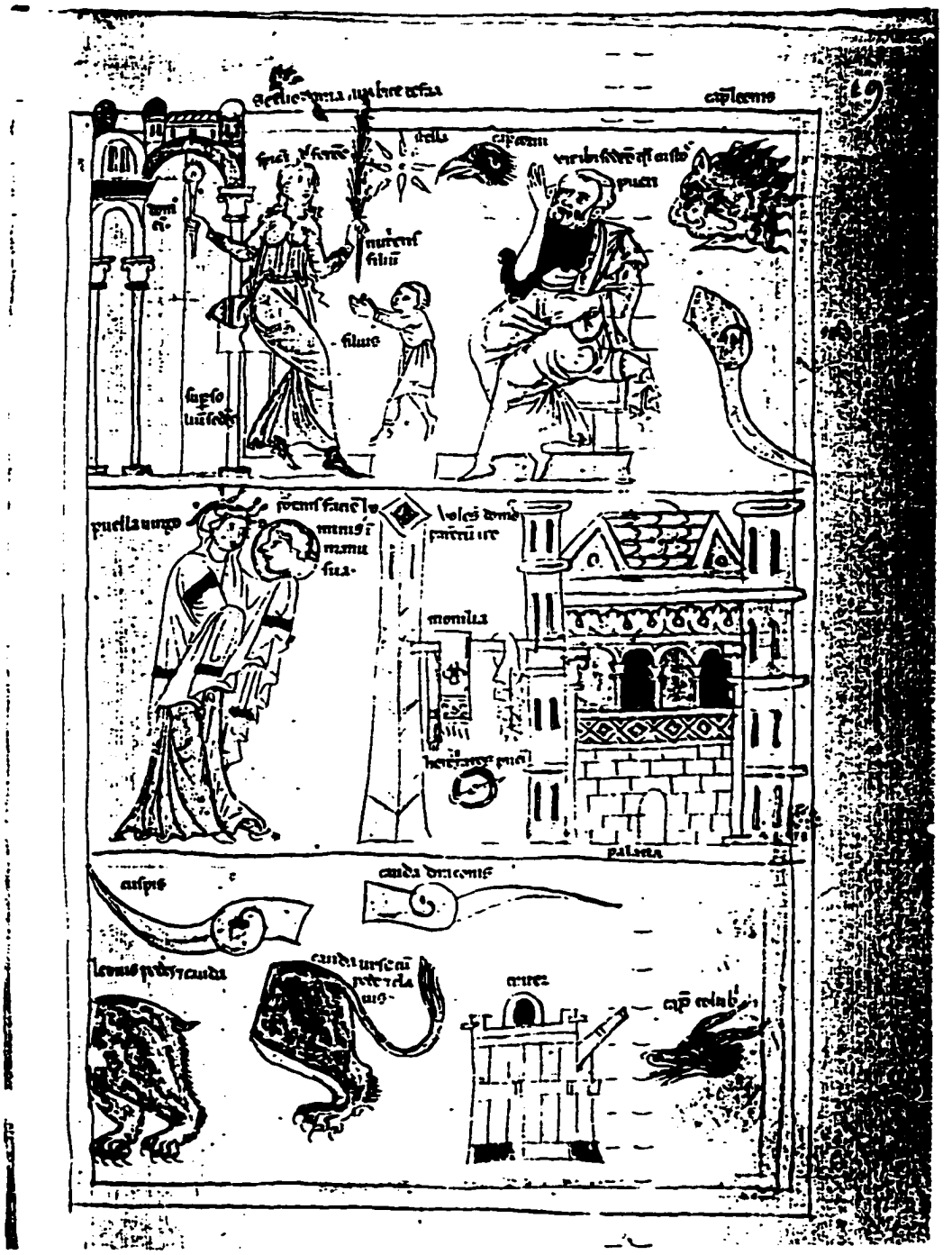


Facs. 30. The second decan of Leo, MS Fendulus F, f.5v.

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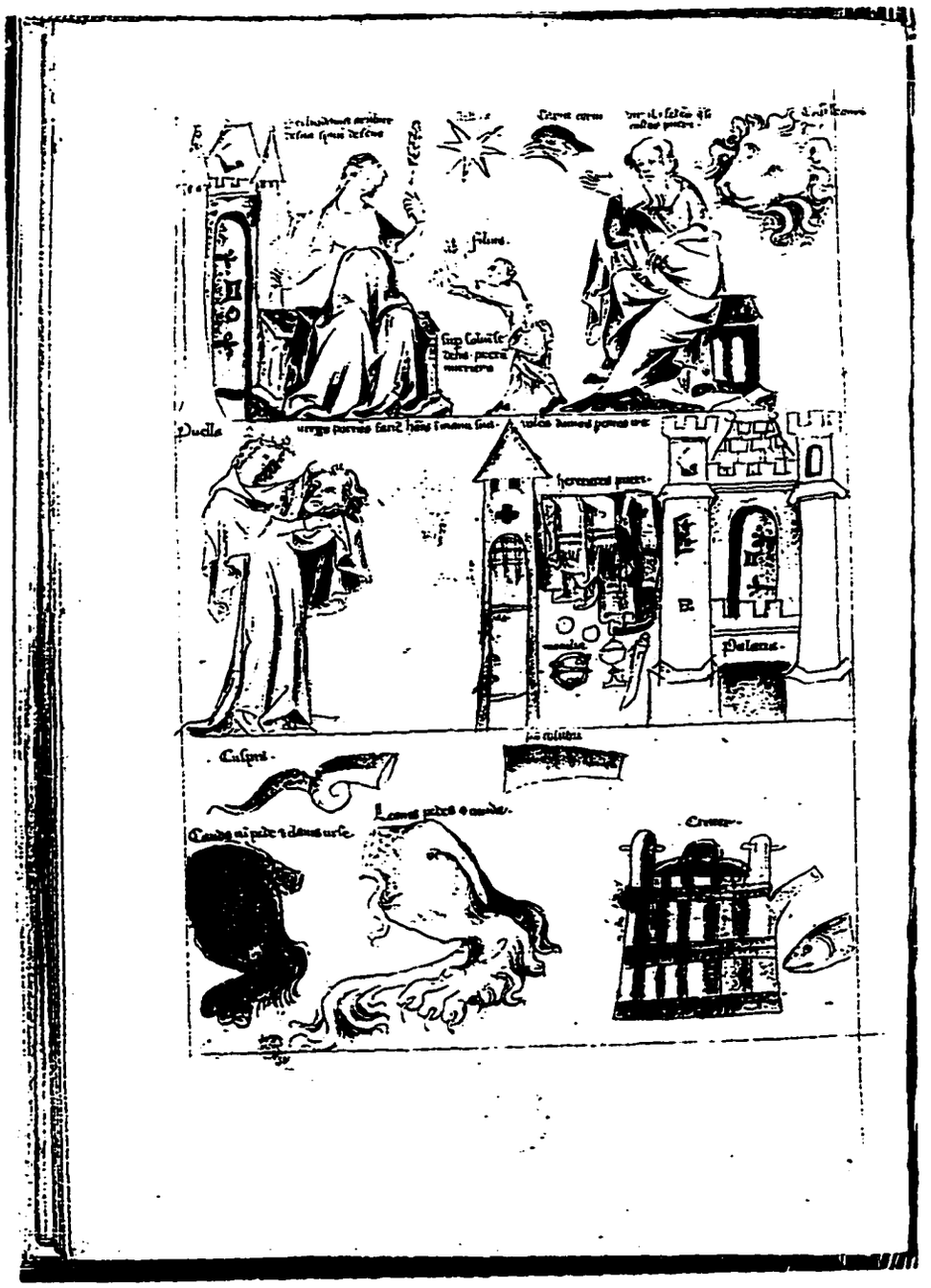
THE FIRST DECAN OF VIRGO

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Facs. 31. The first decan of Virgo, MS Fendulus A, f.19r.

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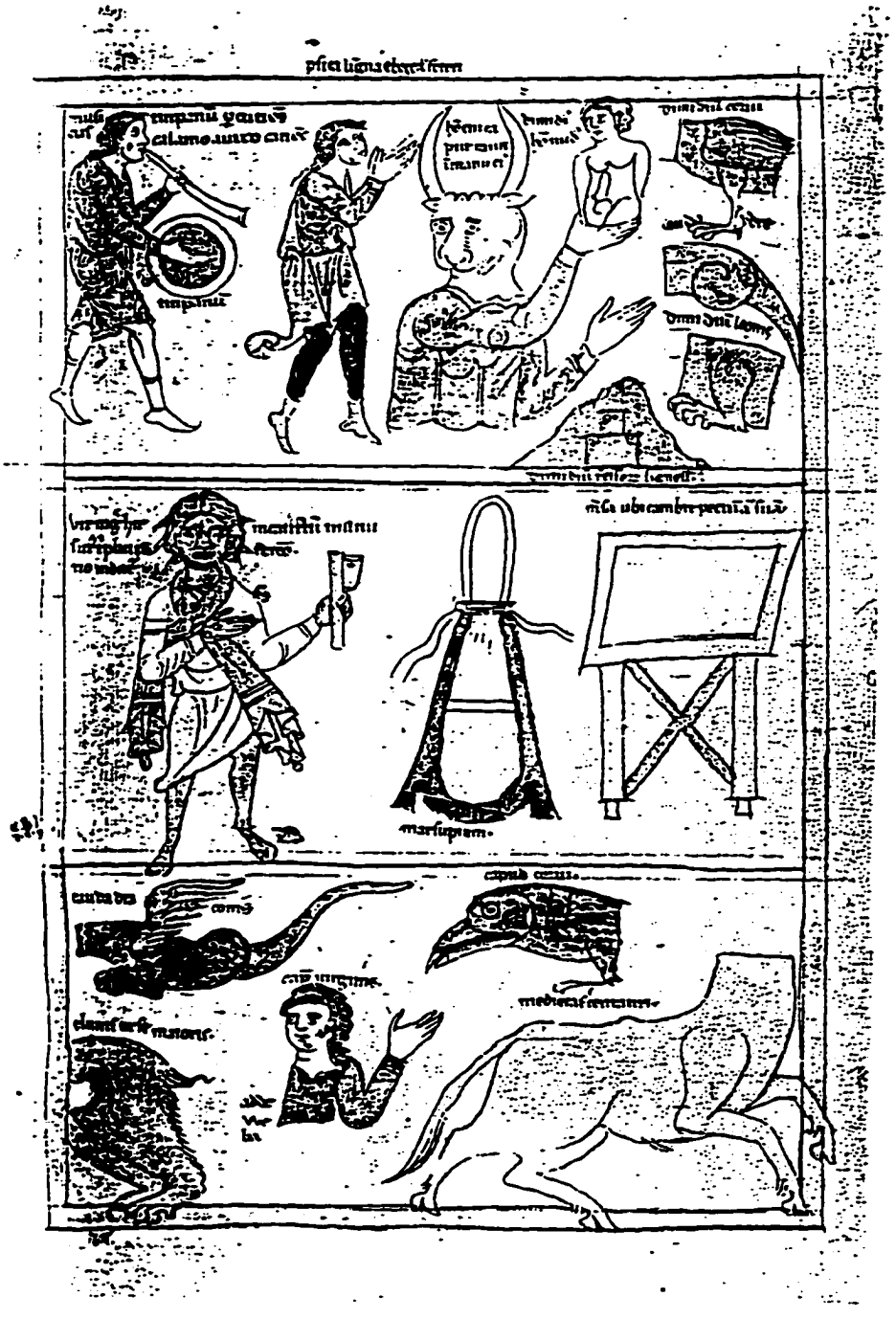


Facs. 32. The first decan of Virgo, MS Fendulus B, f.19v.

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THE SECOND DECAN OF VIRGO

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Facs. 33. The second decan of Virgo, MS Fendulus A, f.19v.

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Facs. 34. The second decan of Virgo, MS Fendulus B, f.20r.

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Facs. 35. The second decan of Virgo, MS Fendulus C. f.17r.

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Facs. 36. The second decan of Virgo, MS Fendulus D, f.21r.

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Facs. 37. The second decan of Virgo, MS Fendulus E, f.10r.

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Facs. 38. The second decan of Virgo, MS Fendulus F, f.7r.

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The First Decan of Libra

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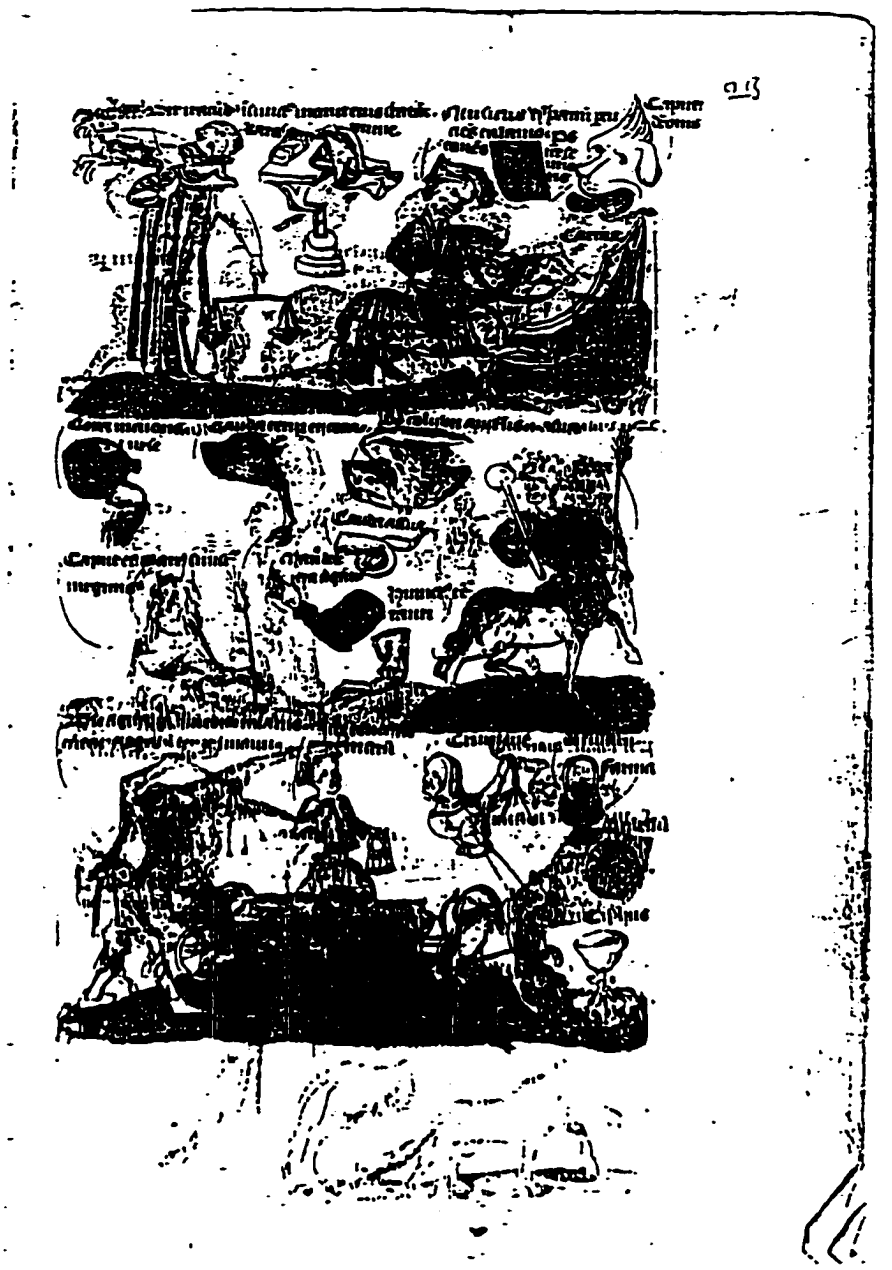
Facs. 39. The first decan of Libra, with elements of the second decan, MS Fendulus A, f.21v.

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Facs. 40. The first decan of Libra, with elements of the second decan, MS Fendulus C, f.19r.

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Facs. 41. The first decan of Libra, with elements of the second decan, MS Fendulus D, f.23r.

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Facs. 42. The first decan of Libra, with elements of the second decan, MS Fendulus F, f.8r.

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THE FIRST DECAN OF SCORPIO

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Facs. 43. The first decan of Scorpio, MS Fendulus A, f.24v.

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Facs. 44. The first decan of Scorpio, MS Fendulus B, f.23v.

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Facs. 45. The first decan of Scorpio, MS Fendulus C, f.21v.

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Facs. 46. The first decan of Scorpio, MS Fendulus D, f.25v.

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Facs. 47. The first decan of Scorpio, MS Fendulus E, f.17v.

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The First Decan of Capricorn

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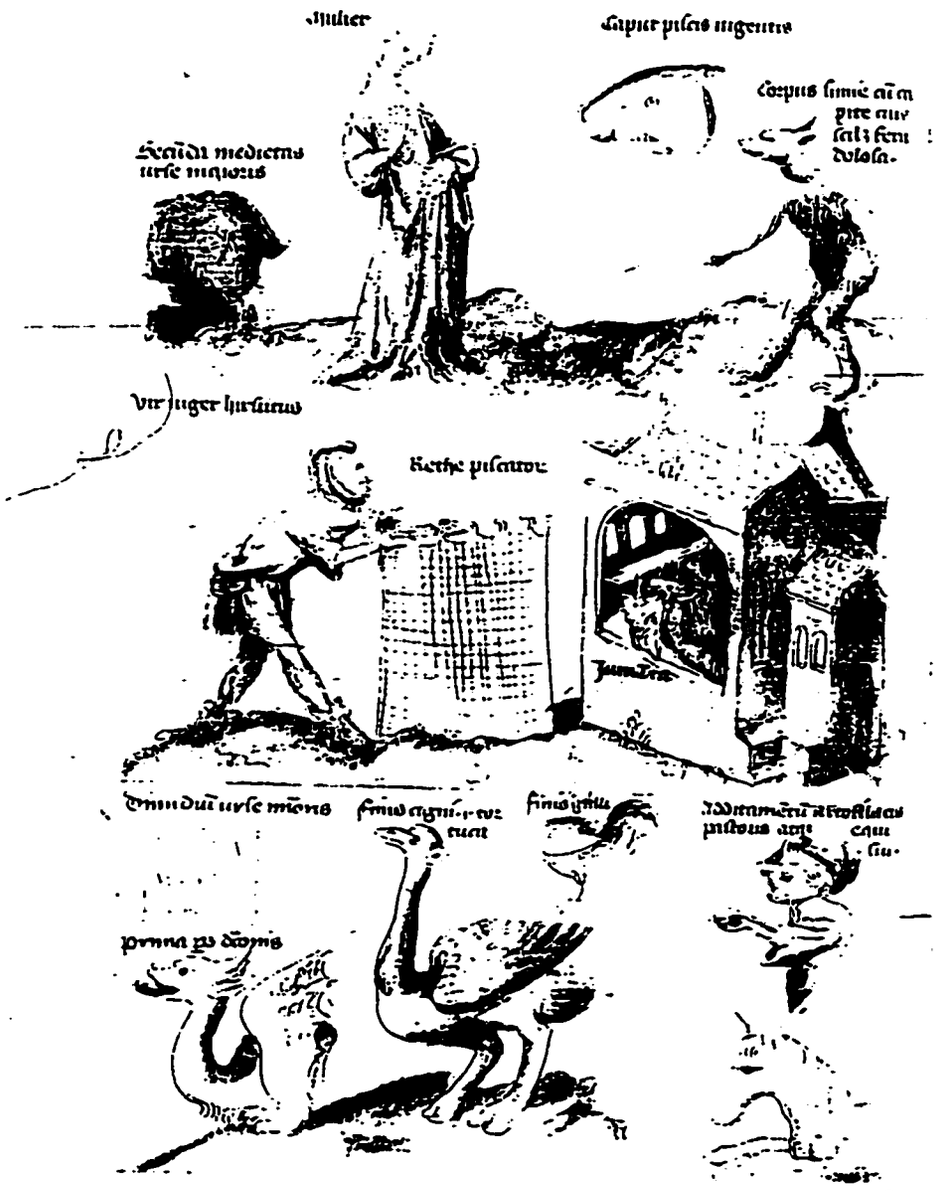
Facs. 49. The first decan of Capricorn, MS Fendulus A, f.29r.

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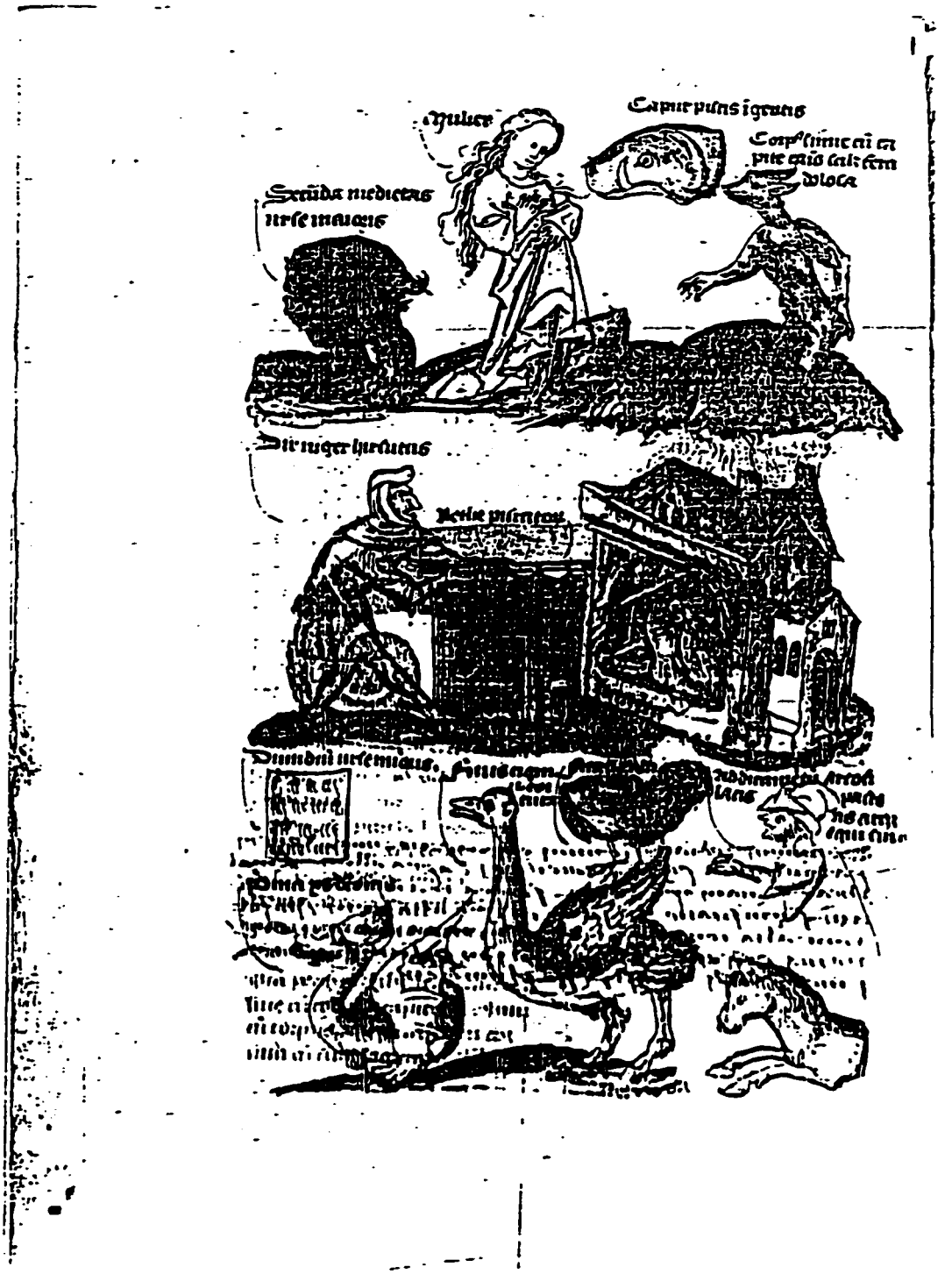
Facs. 50. The first decan of Capricorn, MS Fendulus B, f.24v.

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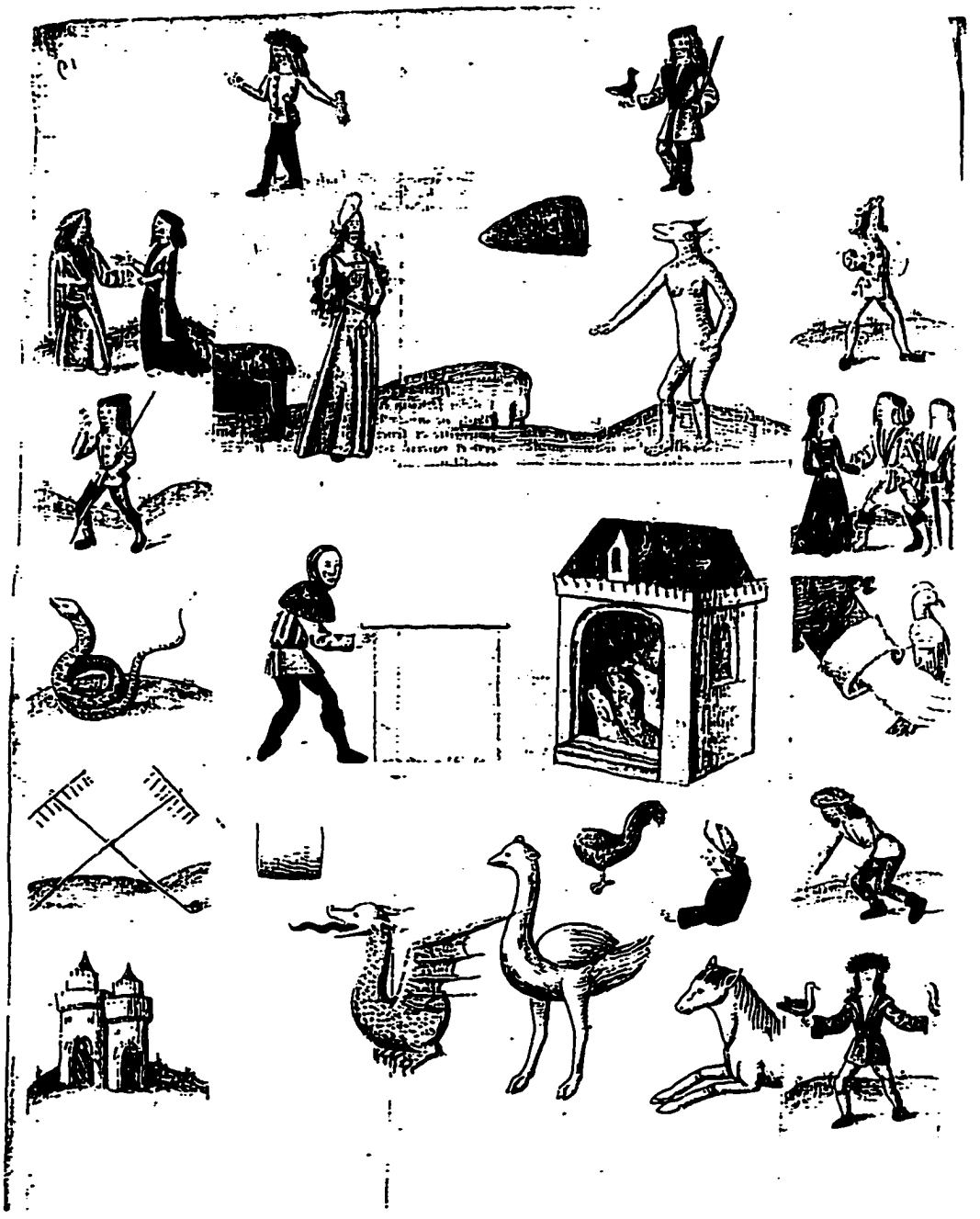
Facs. 51. The first decan of Capricorn, MS Fendulus C, f.26v.

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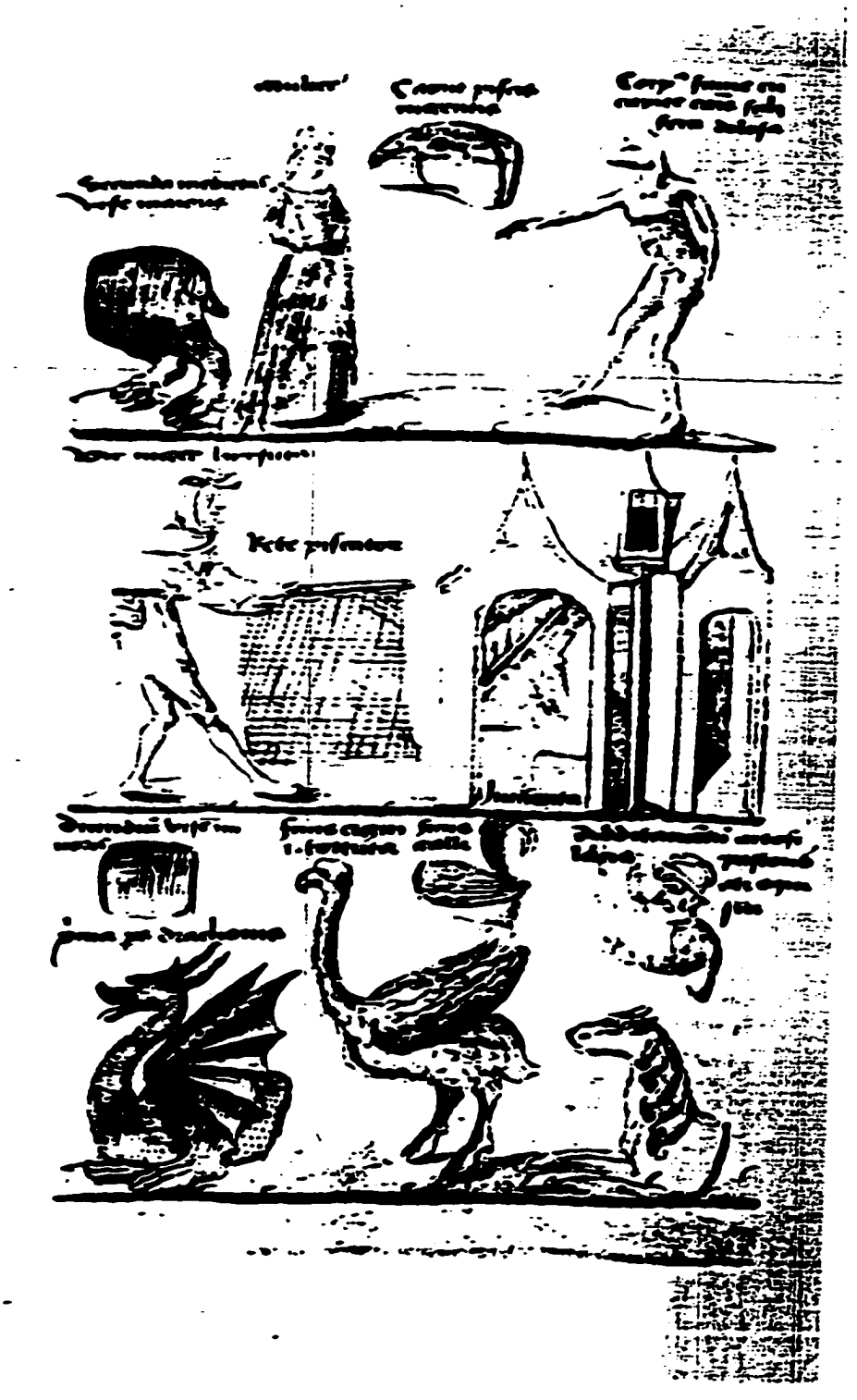
Facs. 52. The first decan of Capricorn, MS Fendulus D, f.30v.

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Facs. 53. The first decan of Capricorn, MS Fendulus E, f.21v.

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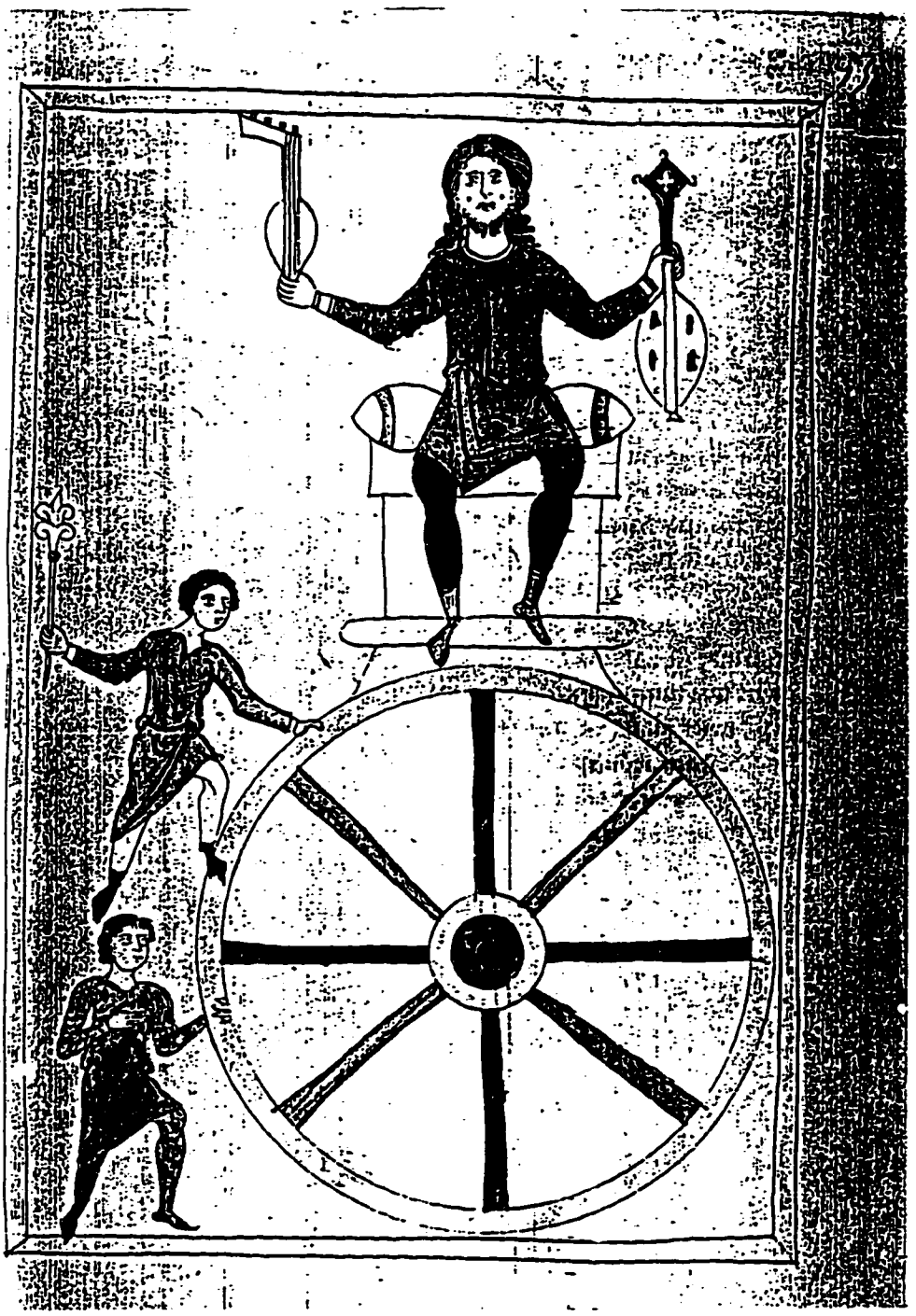


Facs. 54. The first decan of Capricorn, MS Fendulus F, f.14v.

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ADDITIONAL IMAGES OF MUSICAL INSTRUMENTS IN MS FENDULUS A

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Facs. 55. Wheel of Fortune, MS Fendulus A, f.75r.

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Facs. 56. A couple dancing, MS Fendulus A, f.83r.

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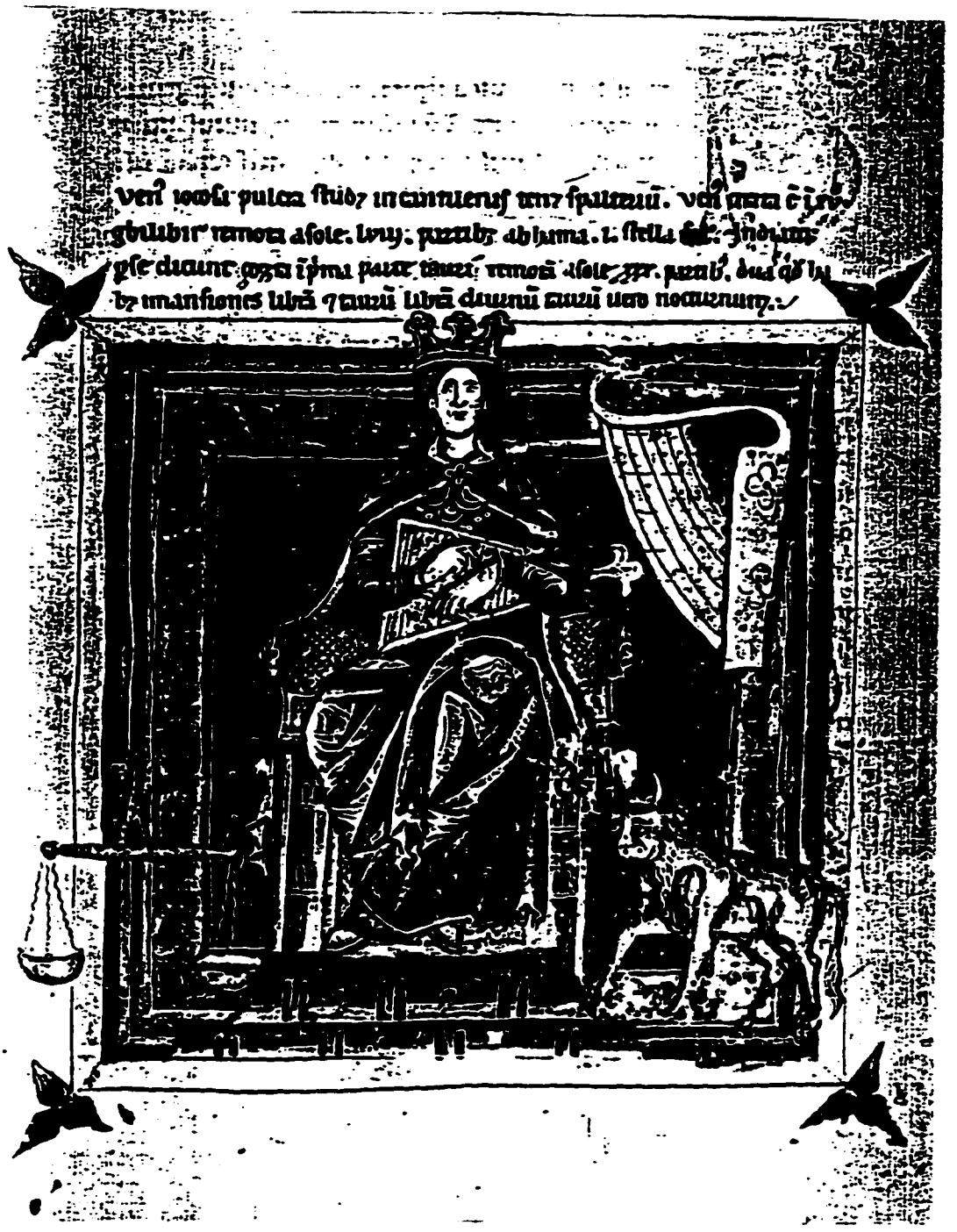


Facs. 57. Four dancers, MS Fendulus A, f.83v.

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VENUS

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Facs. 58. Venus in her House, MS Fendulus A, f.53v.

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Facs. 59. Venus in her Counterhouse, MS Fendulus A, f.54r.

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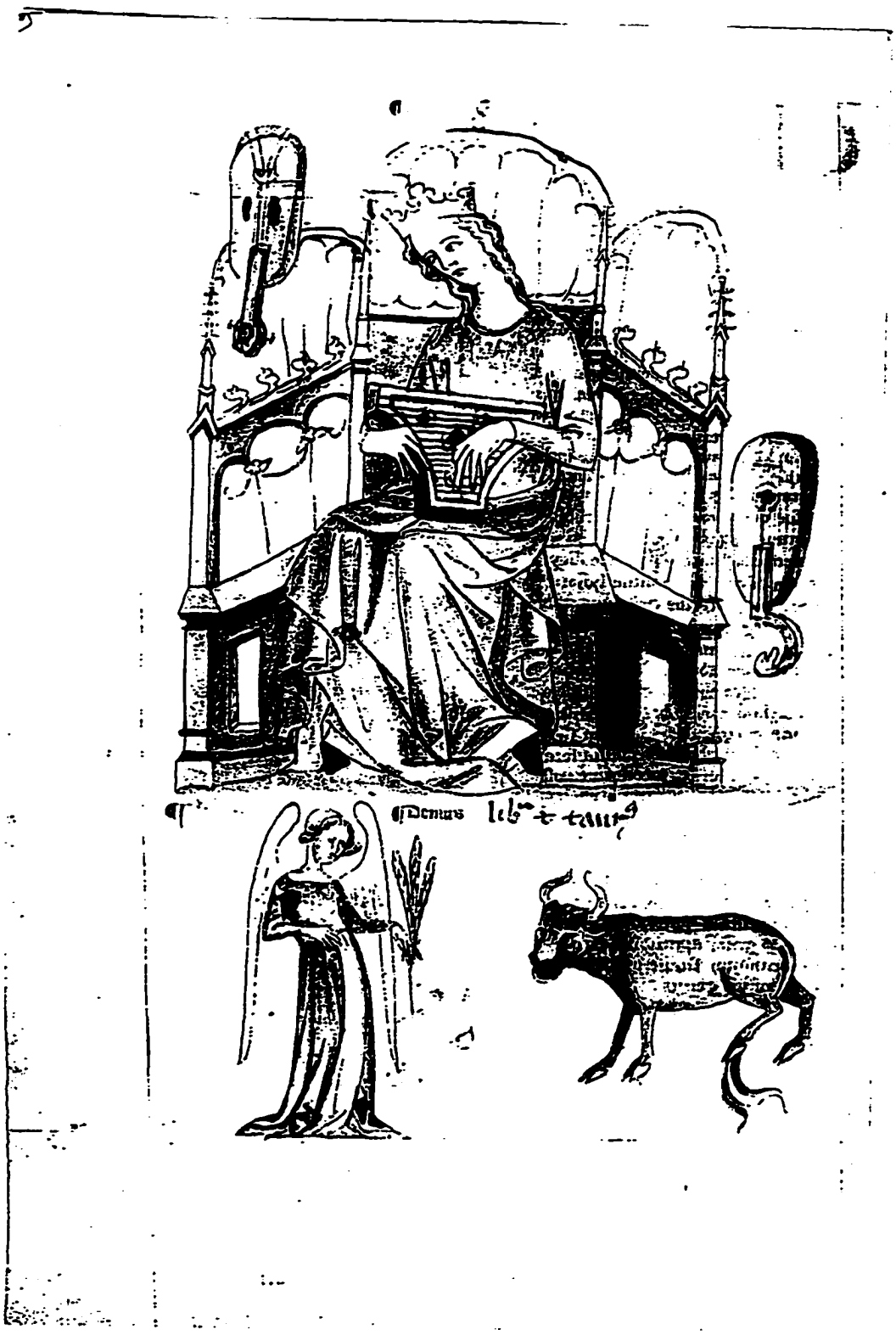
Facs. 60. Venus in Exaltation, MS Fendulus A, f.54v.

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Facs. 61. Venus in Dejection, MS Fendulus A, f.55r.

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Facs. 62. Venus in her House, MS Fendulus B, f.42r.

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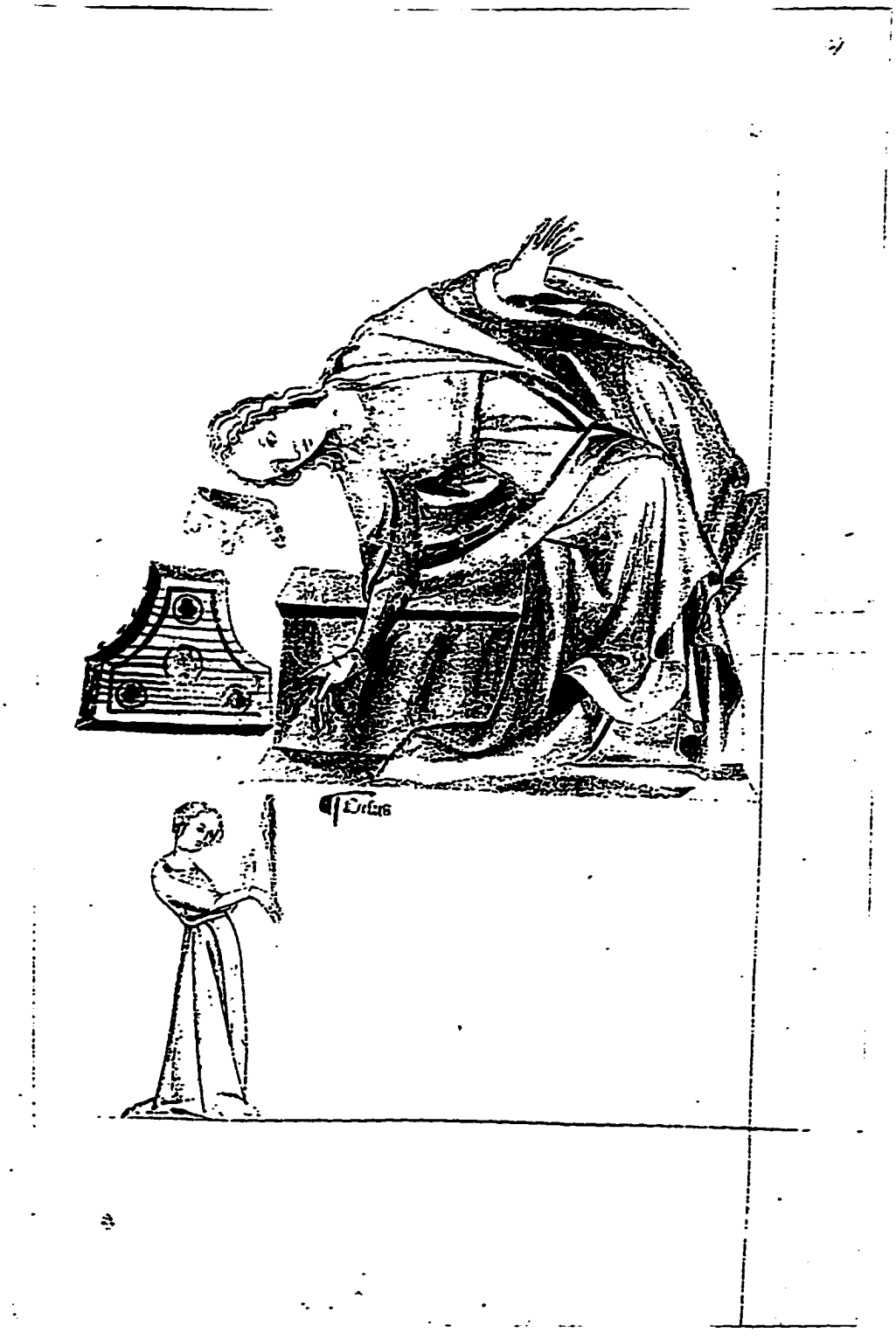
Facs. 63. Venus in her Counterhouse, MS Fendulus B, f.42v.

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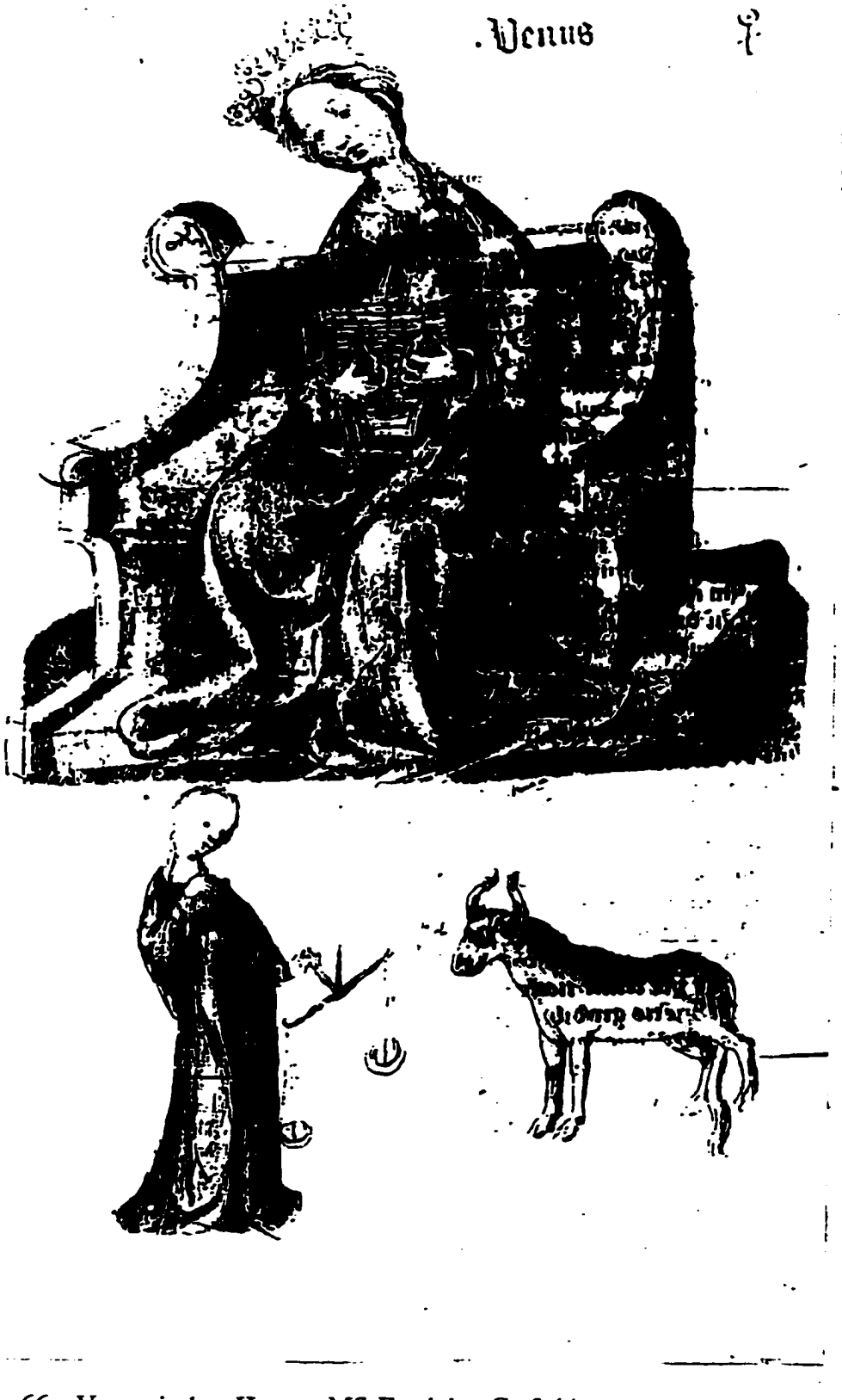
Facs. 64. Venus in Exaltation, MS Fendulus B, f.43r.

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Facs. 65. Venus in Dejection, MS Fendulus B, f.44r.

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Facs. 66. Venus in her House, MS Fendulus C, f.44r.

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Facs. 67. Venus in her Counterhouse, MS Fendulus C, f.44v.

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Facs. 68. Venus in Exaltation, MS Fendulus C, f.45r.

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Facs. 69. Venus in Dejection, MS Fendulus C, f.46r.

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Facs. 70. Venus in her House, MS Fendulus D, f.48v.

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Facs. 71. Venus in her Counterhouse, Fendulus D, f.49r.

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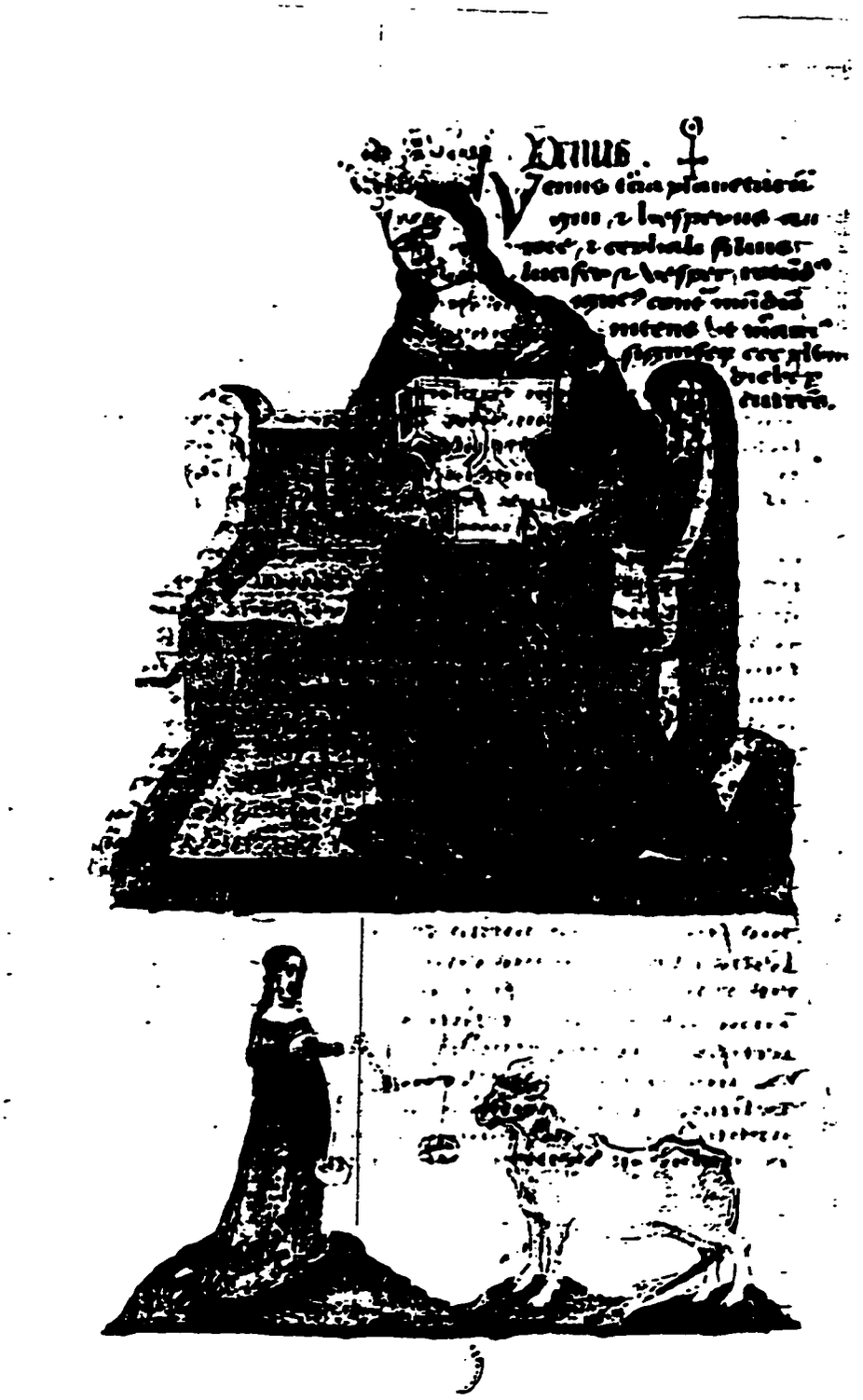
Facs. 72. Venus in Exaltation, Fendulus D, f.49v.

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Facs. 73. Venus in Dejection, Fendulus D, f.50r.

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Facs. 74. Venus in her House, MS Fendulus F, f.30v.

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Facs. 75. Venus in her Counterhouse, MS Fendulus F, f.31r.

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Facs. 76. Venus in Exaltation, MS Fendulus F, f.31v.

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Facs. 77. Venus in Dejection, MS Fendulus F, f.32r.

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MERCURY

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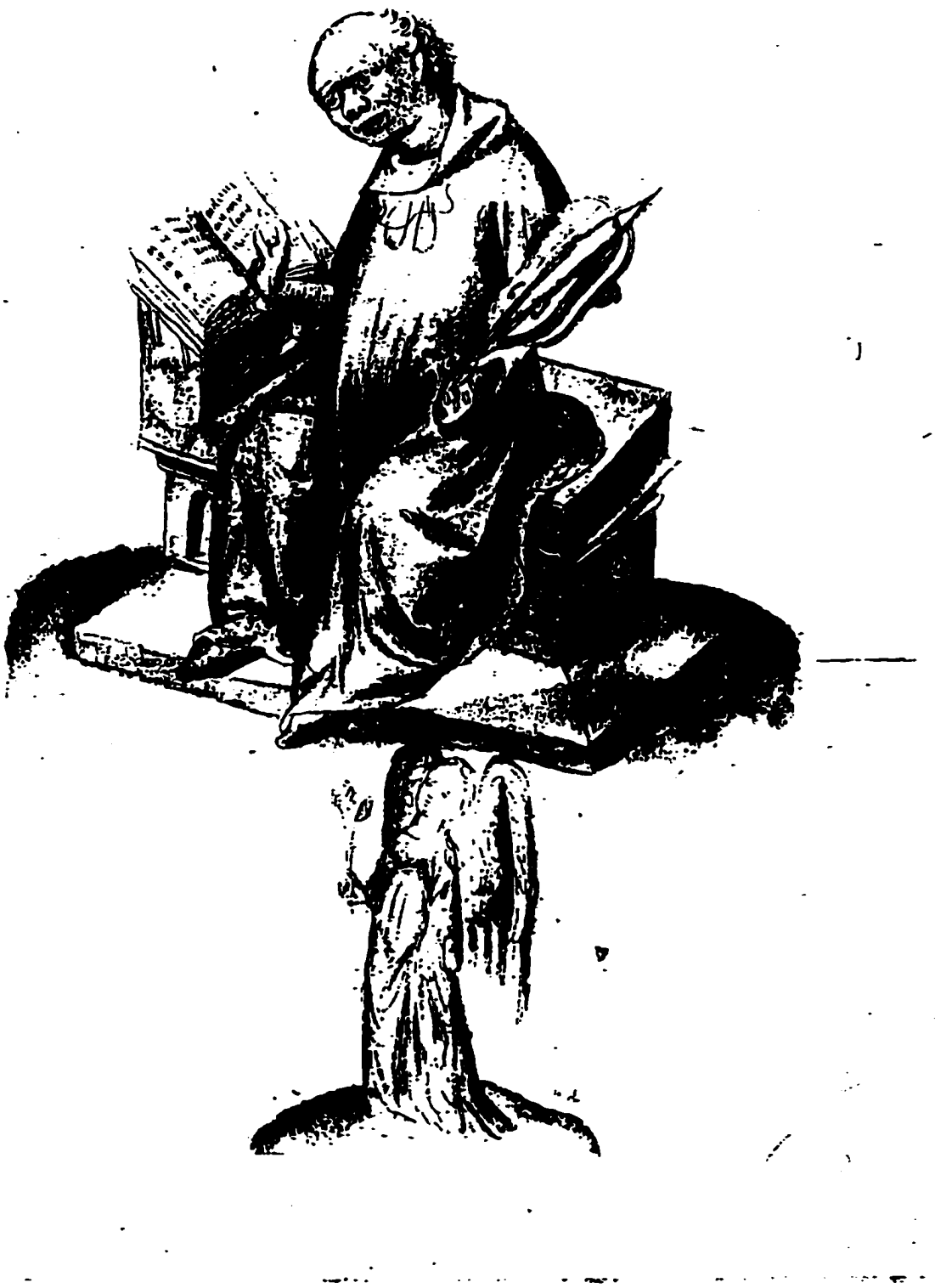
Facs. 78. Mercury in Exaltation, MS Fendulus A, f.57r.

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Facs. 79. Mercury in Exaltation, MS Fendulus B, f.46r.

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Facs. 80. Mercury in Exaltation, MS Fendulus C, f.48r.

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Facs. 81. Mercury in Exaltation, MS Fendulus D, f.52r.

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Facs. 82. Mercury in Exaltation, MS Fendulus F, f.34r.

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FIGURES

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I:1 The title page of the manuscript BNF, Fendulus A, f.1r.

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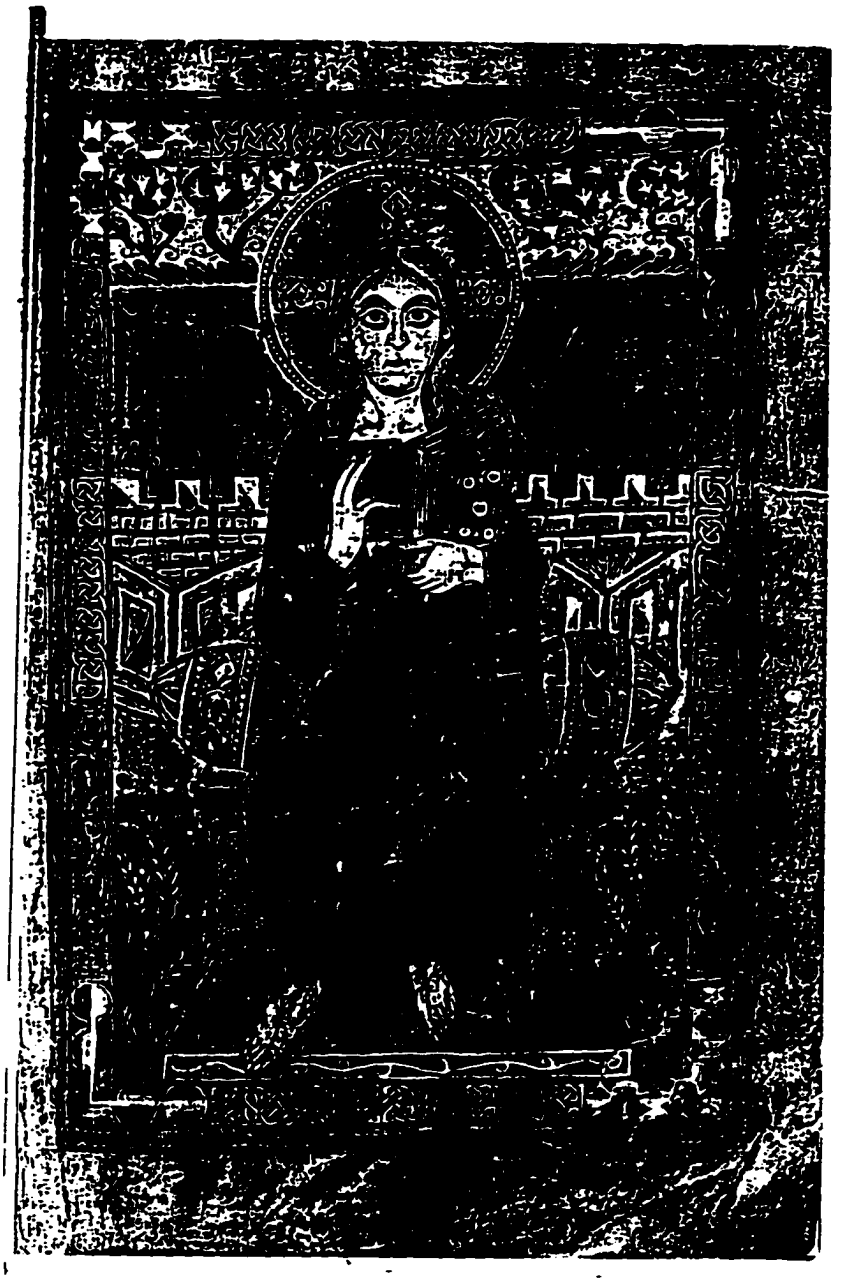
I:2 Euclid and Hermann the Lame. Mathias of Paris, *Chronica maiora* (mid-13th century). Bodleian, Ashmole 304, f.2v.

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I:3 A portrait of Abū Maʿšar. Fendulus A, f.41r.

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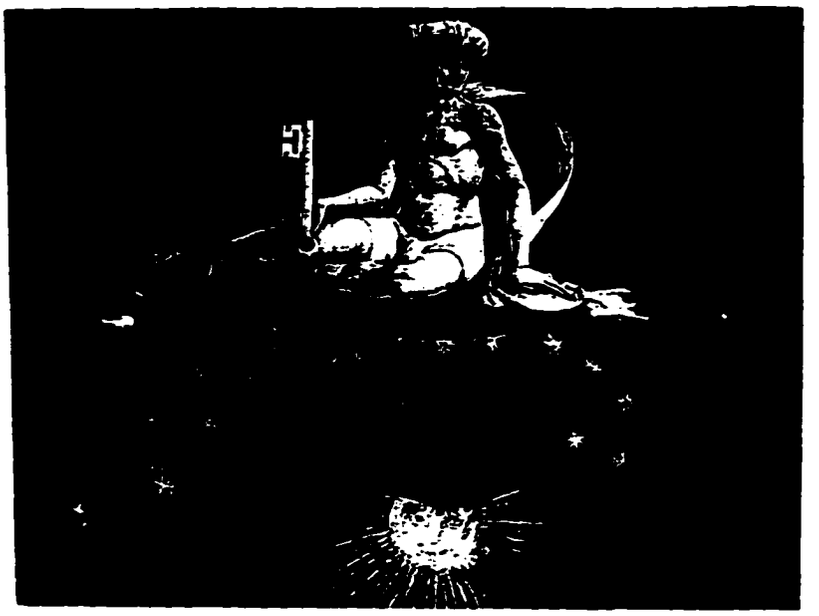
I:4 Image of Christ. Godescalc Evangelistary (781-783).
Paris, BNF nouv. acq.lat.1203, f.3r.

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I:5 Francesco del Cossa, The Month of April (ca. 1469-70). Ferrara, Palazzo Schifanoia, Salone dei Mesi.

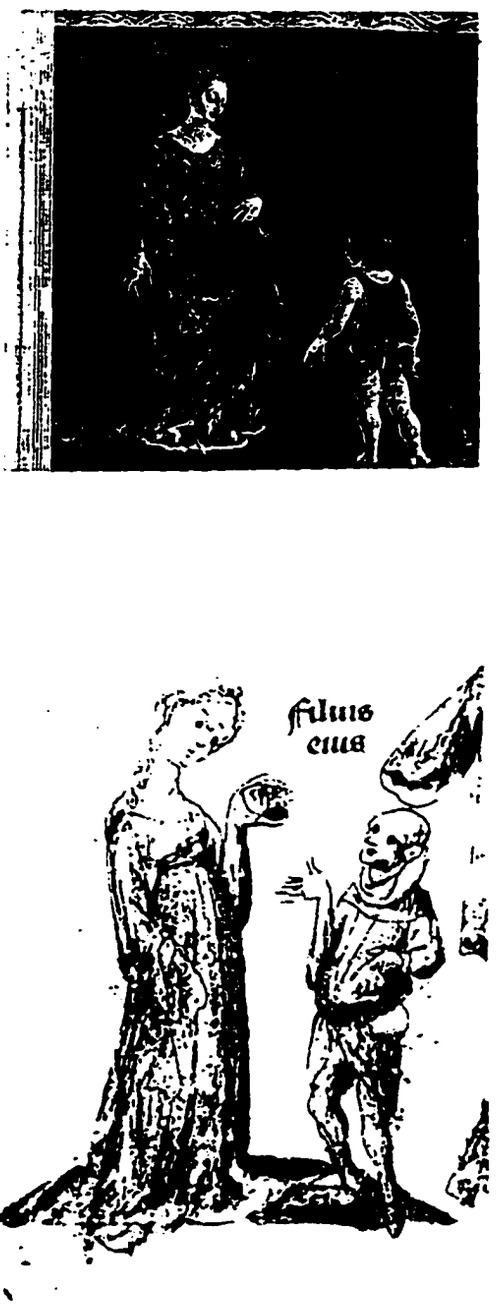
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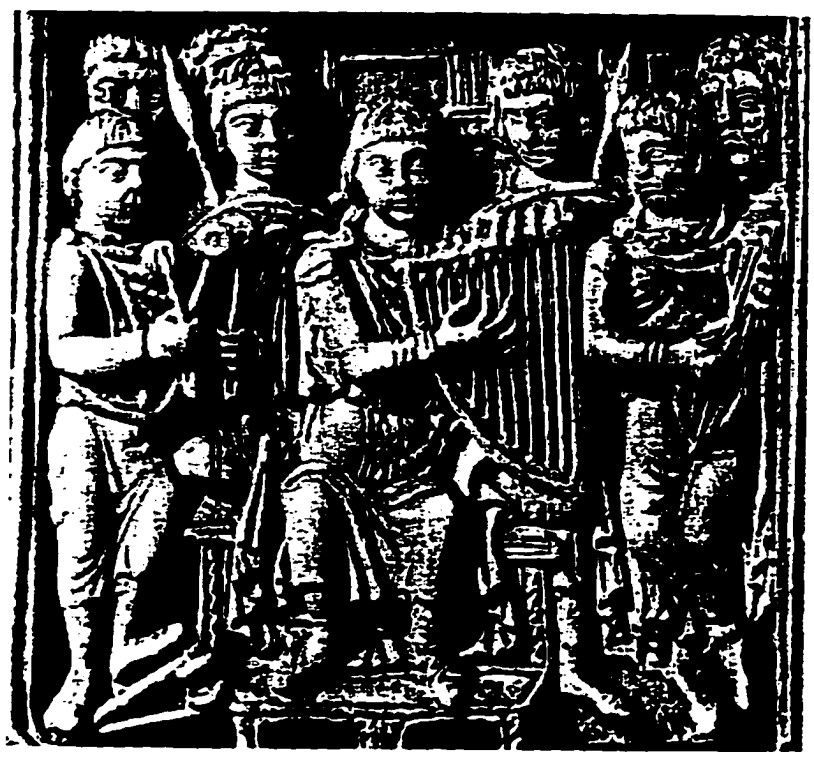
I:6 The first decan of Taurus (the Month of April), Ferrara, Palazzo Schifanoia, Salone dei Mesi (top); Fendulus C, detail (bottom).

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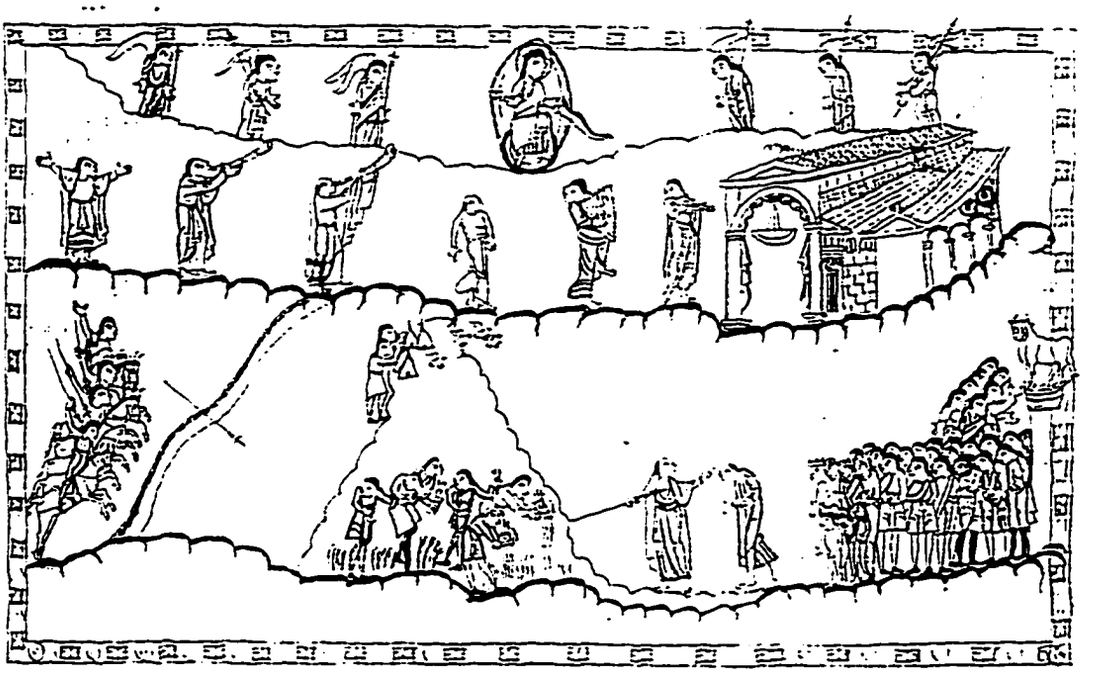
I:7 The second decan of Taurus (the Month of April), Ferrara, Palazzo Schifanoia, Salone dei Mesi (top); Fendulus C, detail (bottom).

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II:1 Ivory cover of the Dagulf Psalter (8th century). Paris, Musée du Louvre, Mr.370.

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II:2 The Canterbury Psalter (before 1170). Cambridge, Trinity College, MS R.17.1, f.144r. By permission of the Master and Fellows of Trinity College Cambridge.

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II:3 The Beatus initial, with King David playing a harp. Psalter (second half of 13th century). Morgan, G.2, f.1v.

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II:4 The Beatus initial with King David playing a harp. Carilef Bible (1081-1095). The Durham Cathedral, MS A.II.4, f.65r.

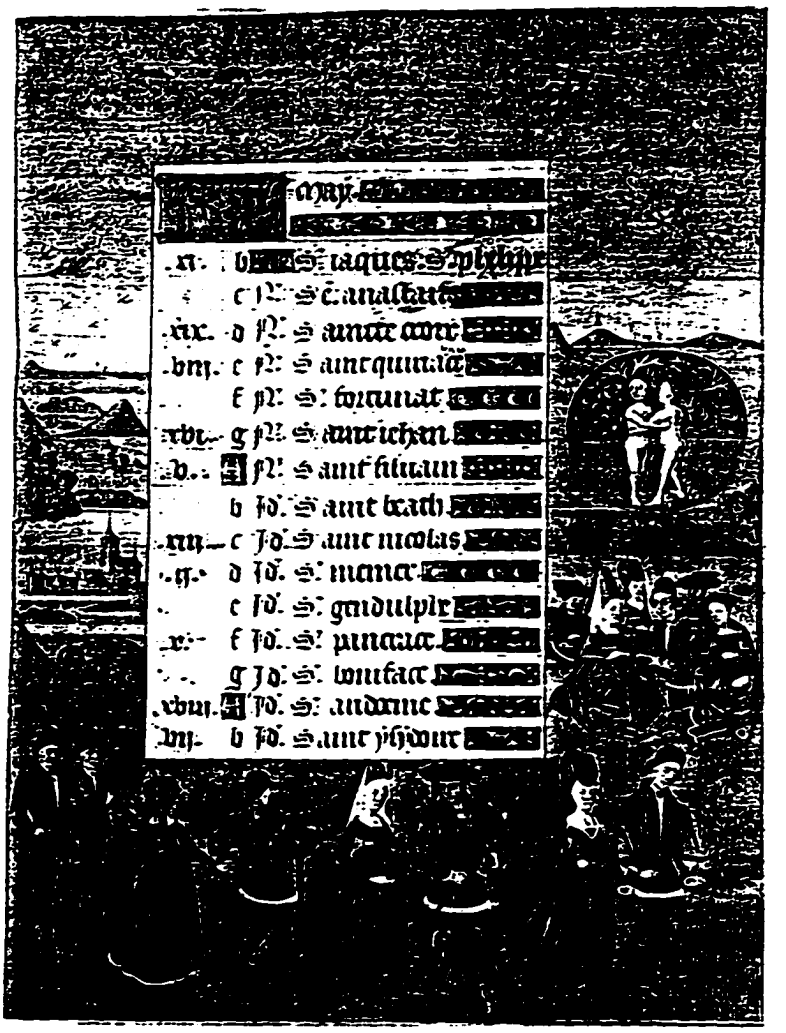
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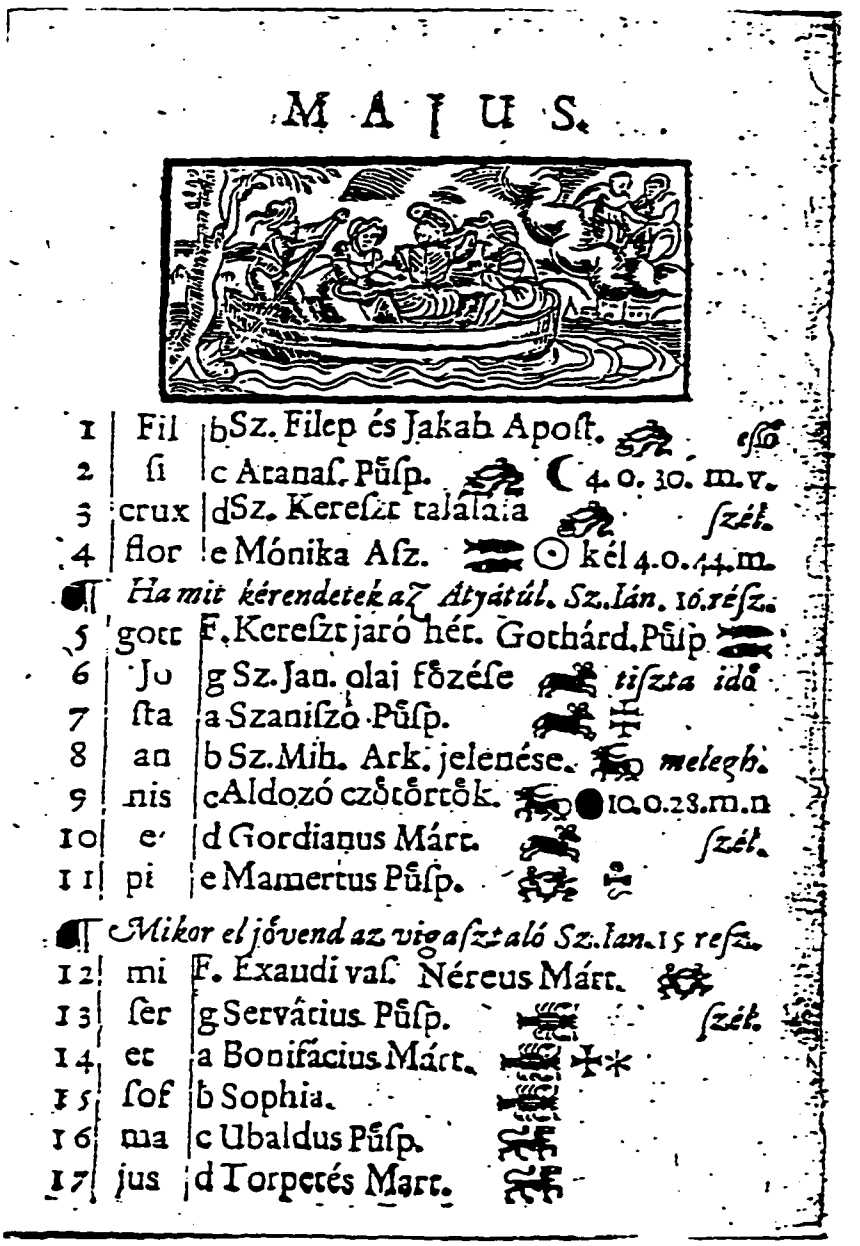
II:5. Monogramist I.B. (John Battes), The title-page from Euclid, *The Elements of Geometrie* (London: P. Short, 1570).

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II:6 The Month of May. Book of Hours of the Duchess of Burgundy (15th century). Chantilly, Musée Condé, MS 1362 (cat. 76).

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2	ſi	c Atanaſ. Pűſp.	☾ 4.o. 30. m.v.
3	crux	d Sz. Kereſzt találtatta	ſzél.
4	flor	e Mónika Aſz.	☉ kél 4.o. 44. m.
¶	*Ha mit kérendetek az Atyától. Sz. Ján. 16. réſz.*		
5	gotc	F. Kereſzt járó hét. Gothárd. Pűſp.	
6	Ju	g Sz. Jan. olaj főzéſe	*tiſzta idő*
7	ſta	a Szaniſzló Pűſp.	
8	an	b Sz. Mih. Ark. jelenése.	*melegh.*
9	nis	c Aldozó czőtőrtők.	● 10.o. 28. m.n
10	e·	d Gordianus Márt.	ſzél.
11	pi	e Mamertus Pűſp.	
¶	*Mikor el jővend az vigaſztaló Sz. Ján. 15 reſz.*		
12	mi	F. Exaudi vaſ. Néreus Márt.	
13	ſer	g Servátius Pűſp.	ſzél.
14	ec	a Bonifácius Márt.	
15	ſof	b Sophia.	
16	ma	c Ubaldus Pűſp.	
17	jus	d Torpetés Mart.	

II:7 The Month of May. *1641 Kalendarium* (Vienna: G. Gelbhaar, 1641). Budapest, Orszagos Széchényi Könyvtar, RMK I.710.

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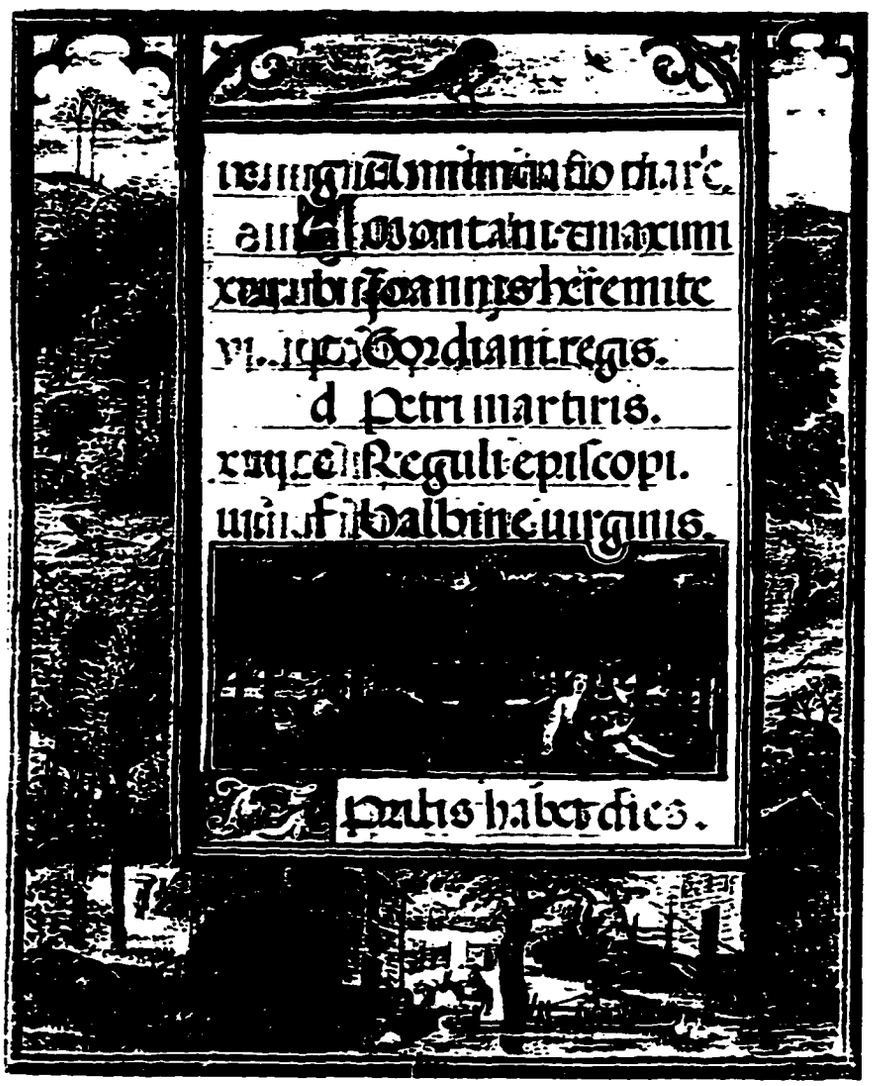
II:8 Étienne Delaune, The Month of May (mid-16th century). Paris, Musée du Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild.

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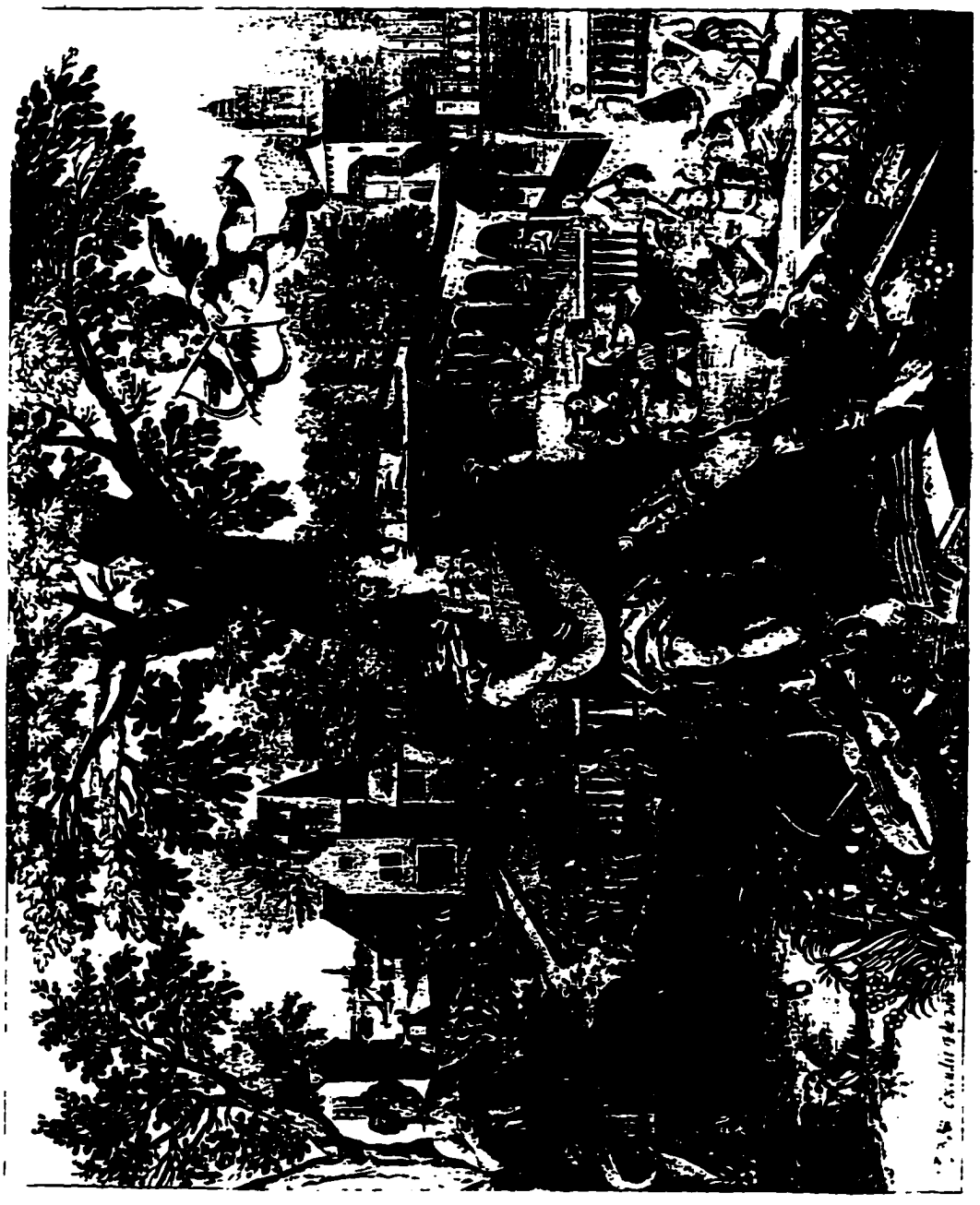
II:9 Maarten de Vos, The Month of May (1597). BNF, Cabinet des Estampes.

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II:10 The Month of April. The Book of Hours of King Manuel of Portugal (16th century). Lisbon, Museu Nacional de Arte Antiga.

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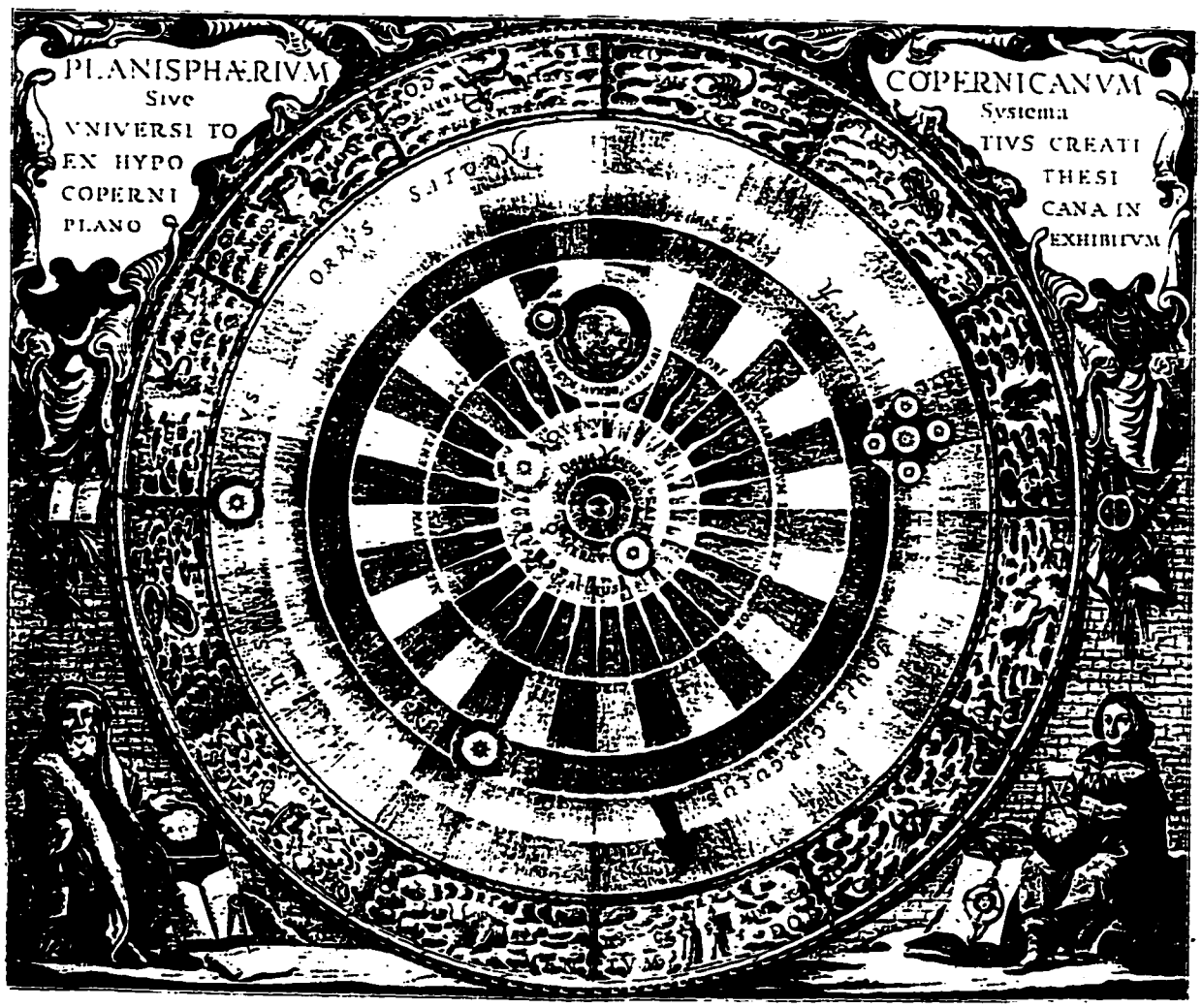
II:11 Attr. to Maarten de Vos, Allegory of Spring (ca. 1600). The Hague, Haags Gemeentemuseum, inv. 244zj.

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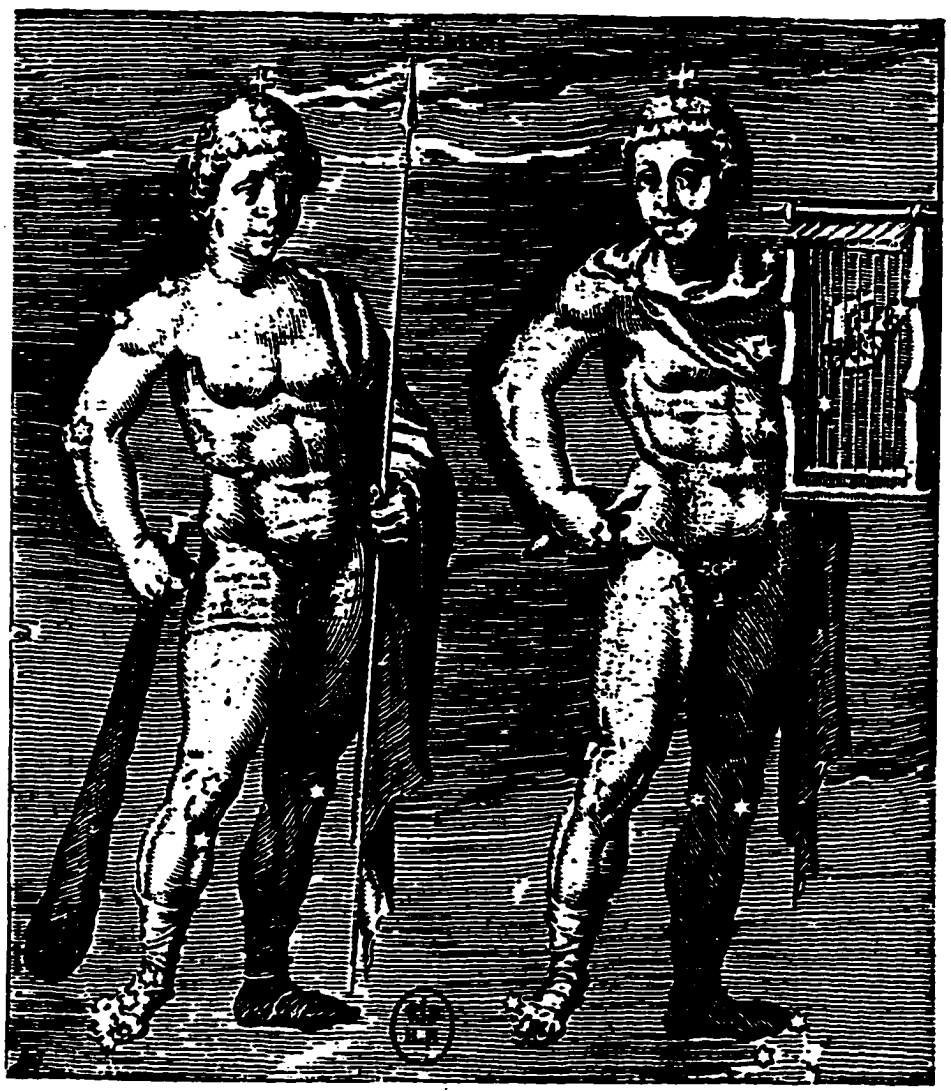
II:12 The constellation of Gemini. Codex Leiden Aratea (second quarter of the 9th century). Rijksuniversiteit, MS Vossianus lat.Q.79, f.16v.

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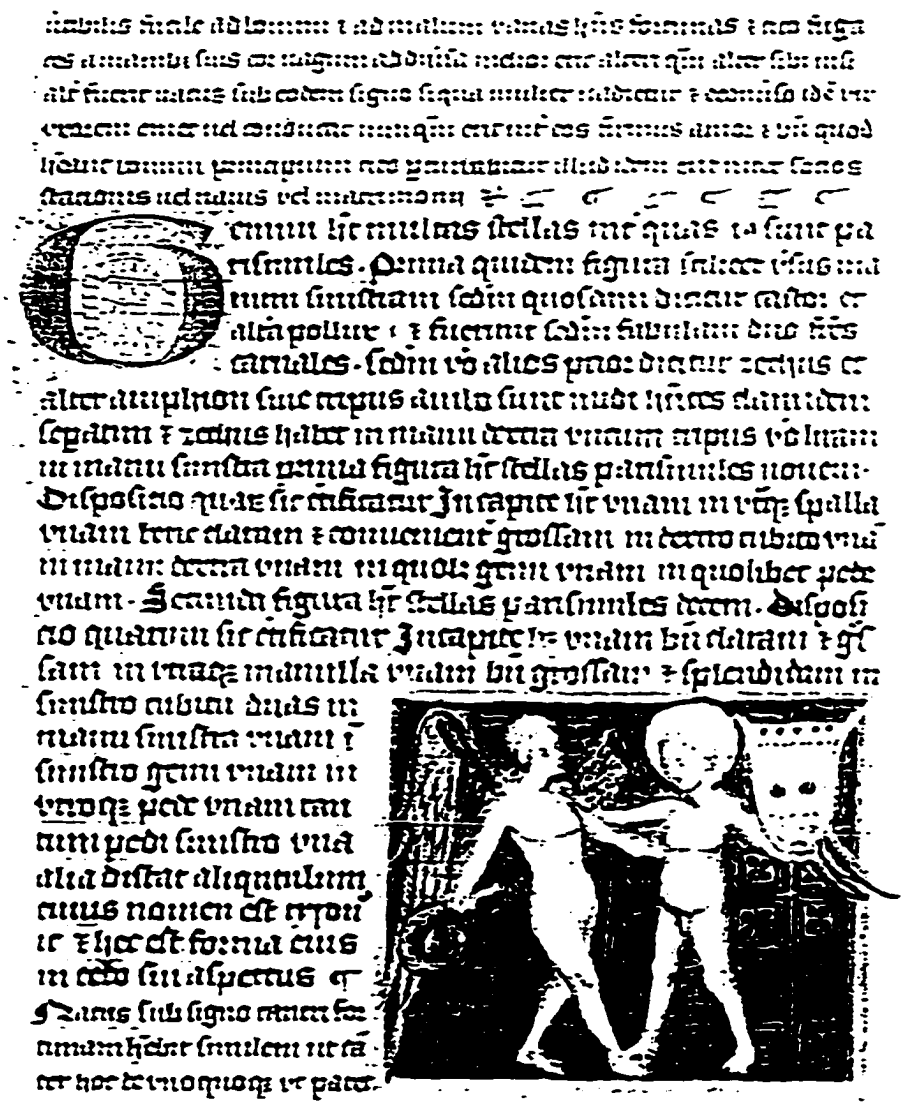
II:13 Copernican universe. Andreas Cellarius, *Atlas Coelestis seu Harmonica Macrocosmica* (Amsterdam, 1661). Sign of Aratea Gemini lower middle right.

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II:14 Jacques II de Gheyn, The constellation of Gemini (ca. 1600). BNF, Cabinet des Estampes.

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II:15 The constellation of Gemini. Michael Scotus, *Liber introductorius* (1392-93). ÖNB, cod.2352; f 8r.

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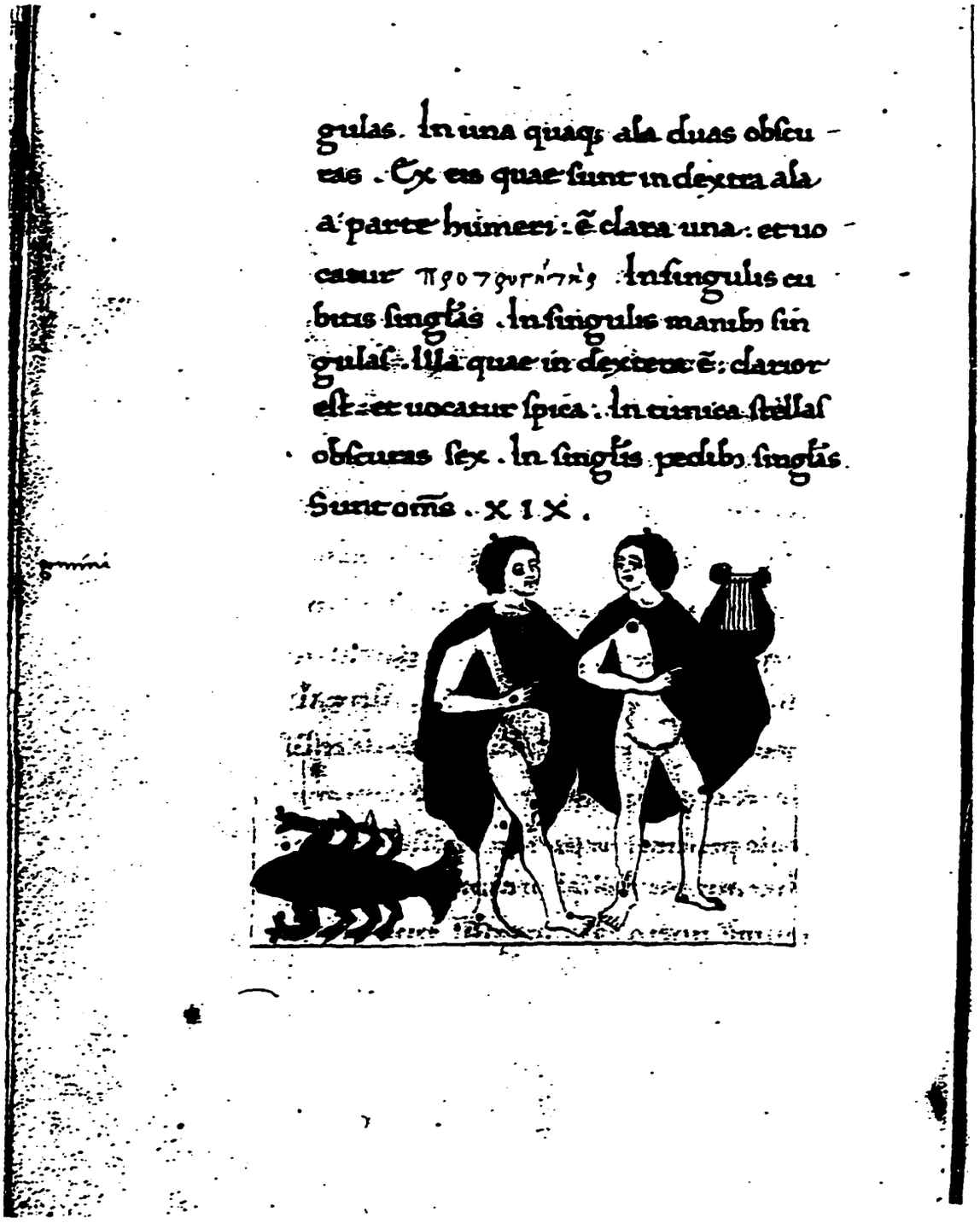
II:16 Contellations (1268-74). Bodleian, Laud.Misc.644, f.8v.

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II:17 The planisphera (1469). Aratus of Soli, *Phaenomena*. Morgan, M.389, f.3v.

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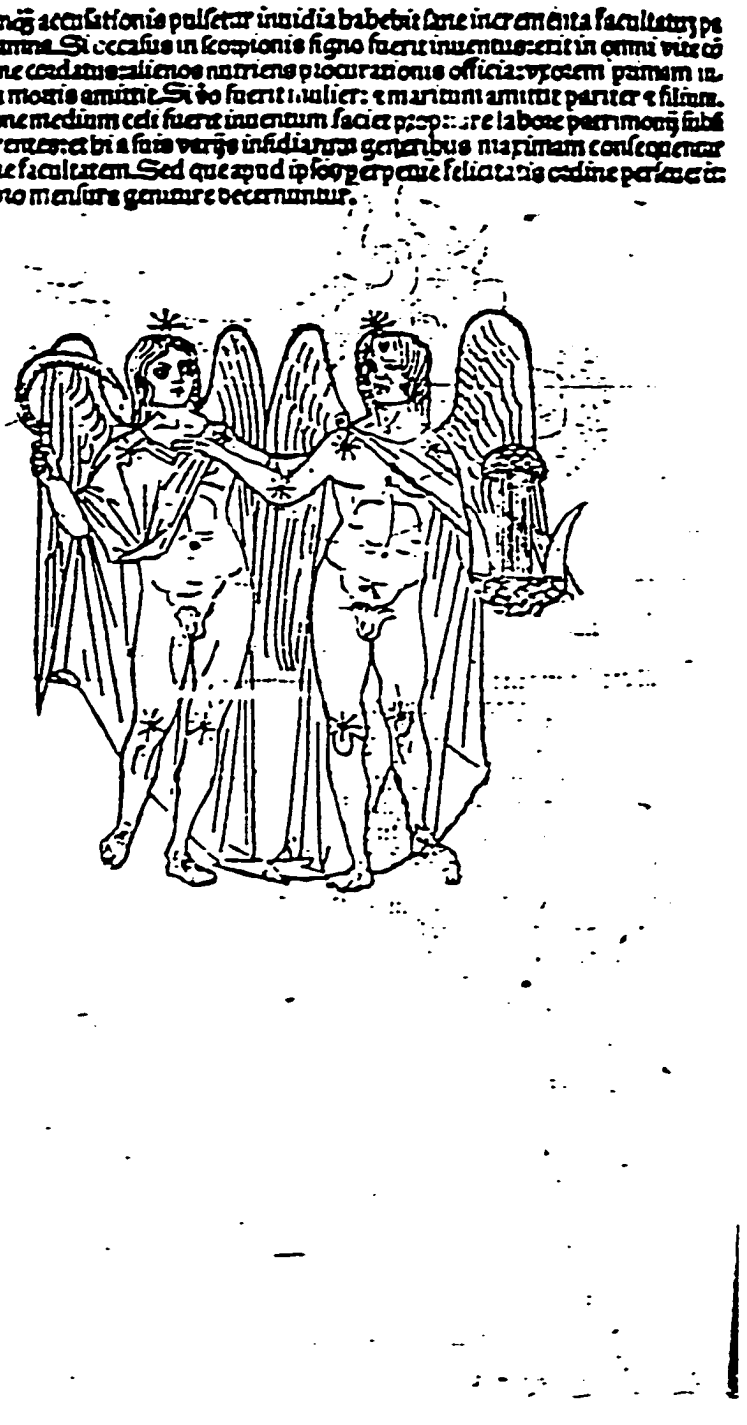
II:18 The constellation of Gemini (Castor and Pollux; 1469). Aratus of Soli, *Phaenomena*. Morgan, M.389, f.23v.

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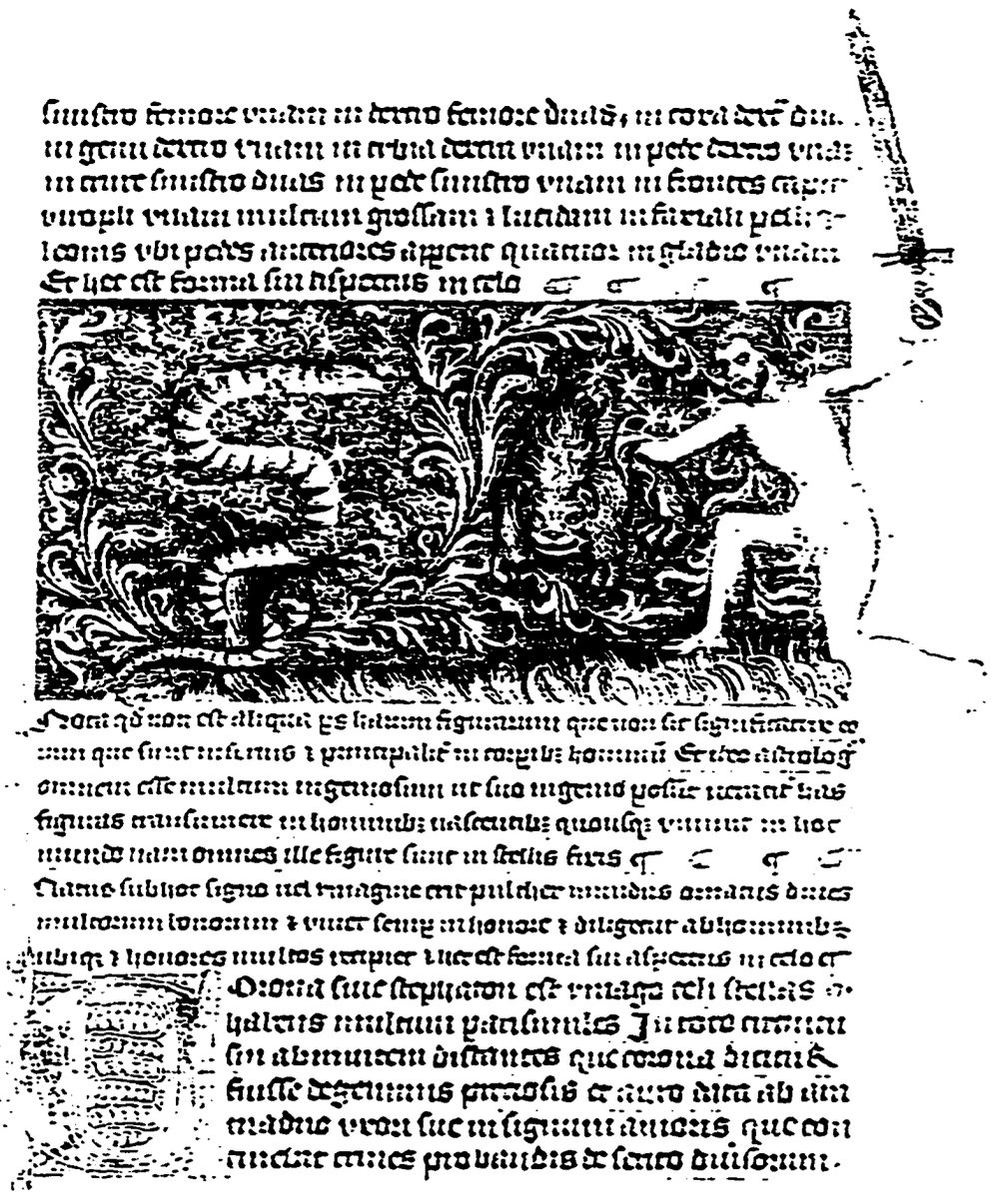
II:19 The constellation of Gemini. Abū Maʿšar, *De magnis coniunctionibus* (Augsburg: Erhard Ratdolt, 1489).

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II.20 The constellation of Gemini. Johann Engel's revision of *Astrolabium planum* by Pietro d'Abano (Venice: Johann Emericus de Spira, 1494).

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II:21 The constellation of Hercules (1392-93). Michael Scotus, *Liber introductorius*, ÖNB, cod.2352, f.12v.

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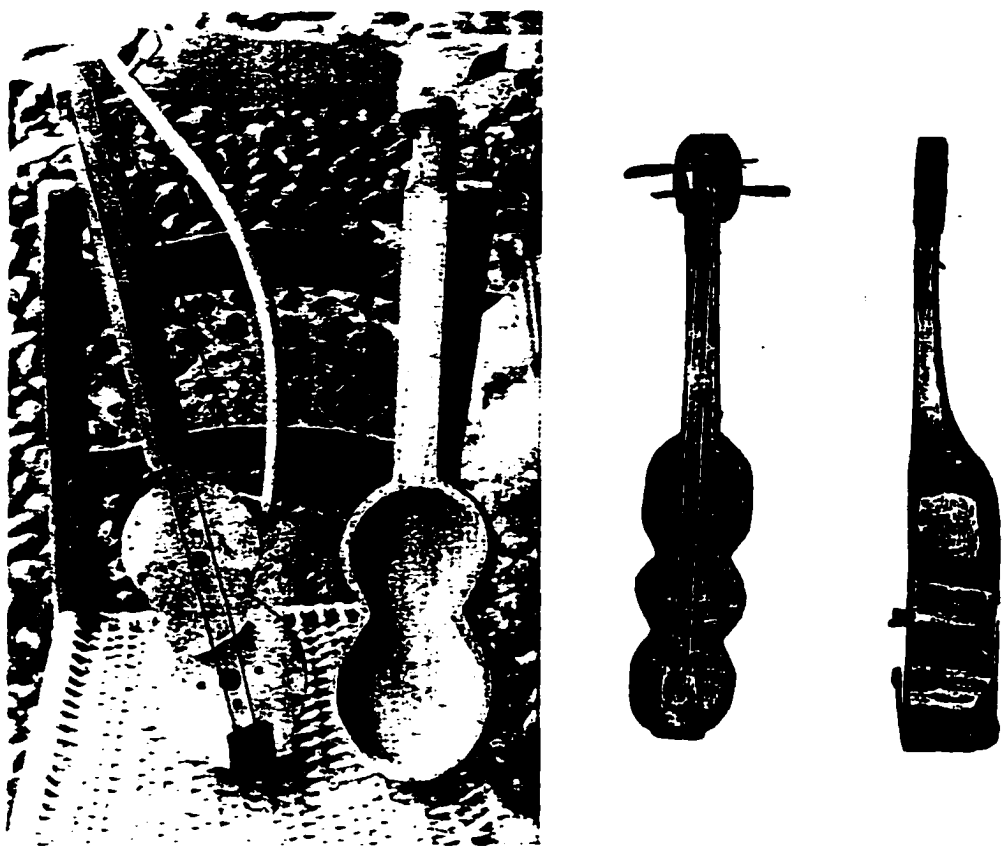
II:22 Paranatellonta rising during the third day of Gemini (top left figure). Johann Engel's revision of *Astrolabium planum* by Pietro d'Abano (Venice: Johann Emericus de Spira, 1494).

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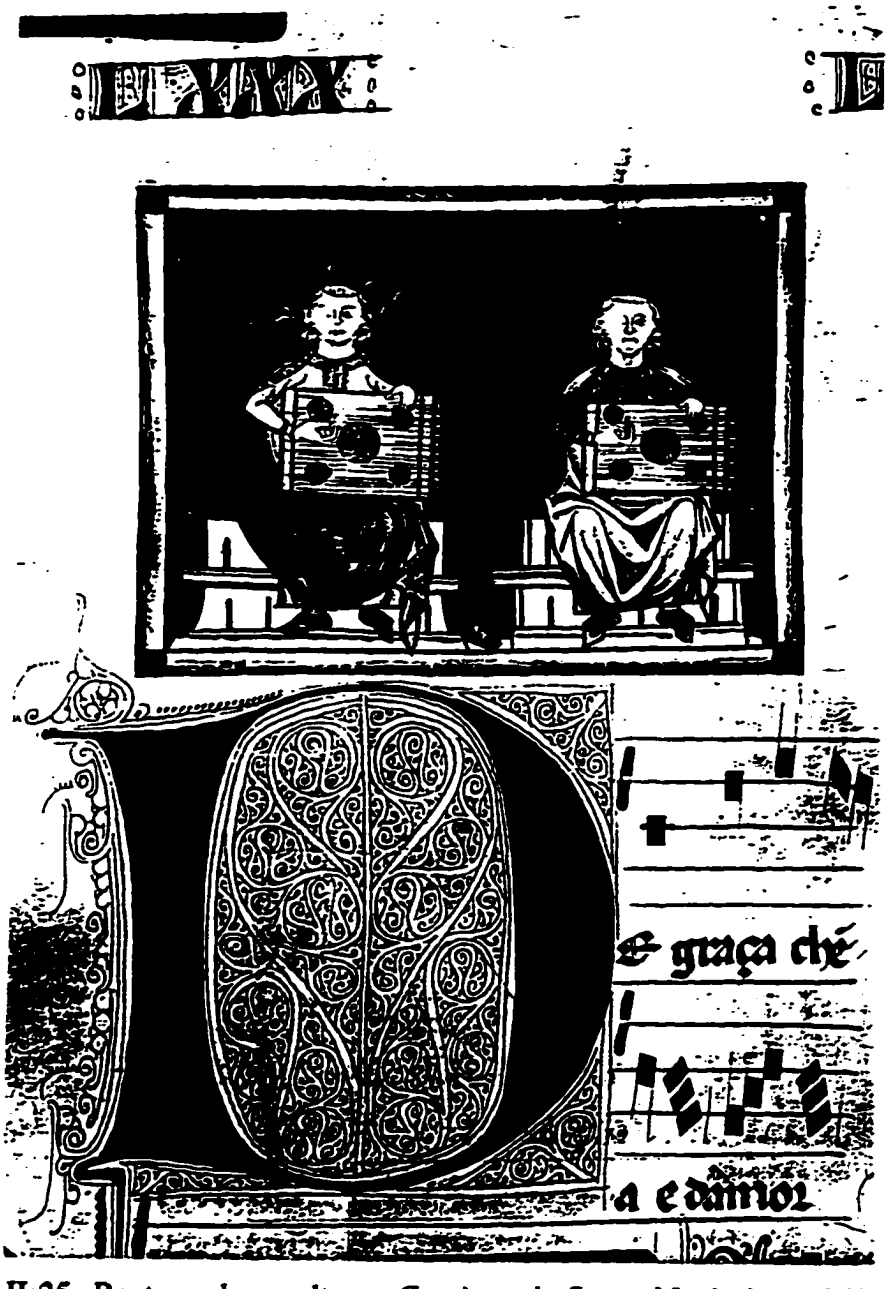
II:23 Francesco del Cossa, The second decan of Gemini (ca. 1469-70). Ferrara, Palazzo Schifanoia, Salone dei Mesi, middle band.

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II:24 A. Modern rabel by Antonio Martínez (Cabruérniga, Spain; on the left); B. Seventeenth-century rabel from Las Costeras (Museo Etnográfico y Folklórico de Cantabria, Spain; on the right). Photos from Stevie Wishart, "Echoes of the Past," 215.

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II:25 Rectangular psaltery, *Cantigas de Santa María* (ca. 1260). El Escorial, Real Monasterio de San Lorenzo, MS b.I.2=El, f.96v.

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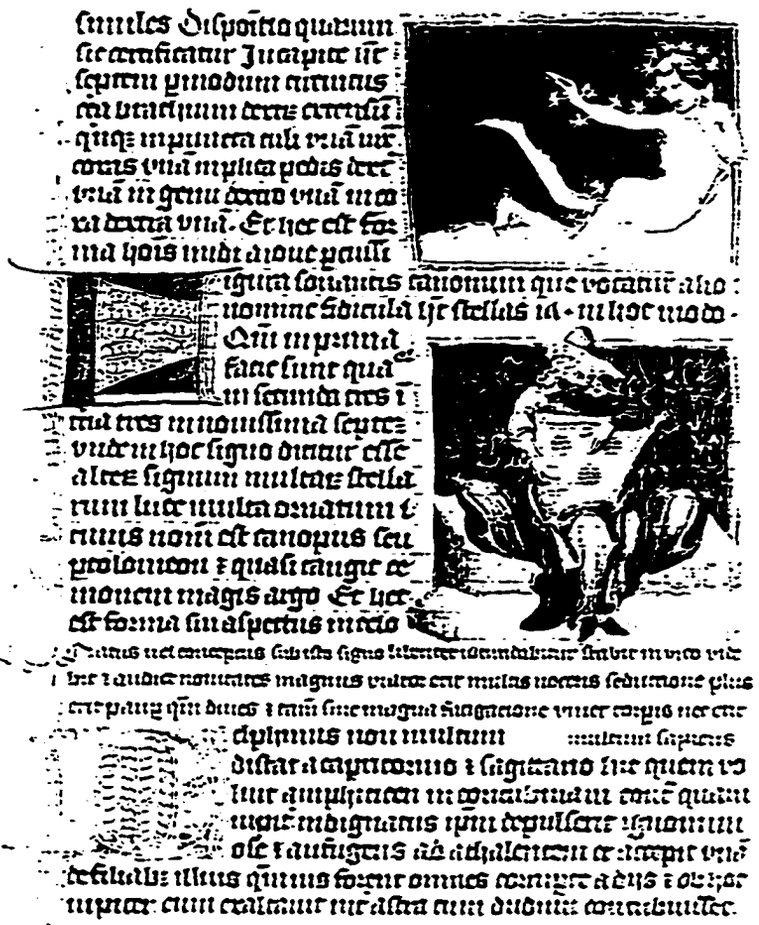
II:26 Rectangular psaltery, Cappella Palatina, Palermo (middle of the twelfth century), wall painting.

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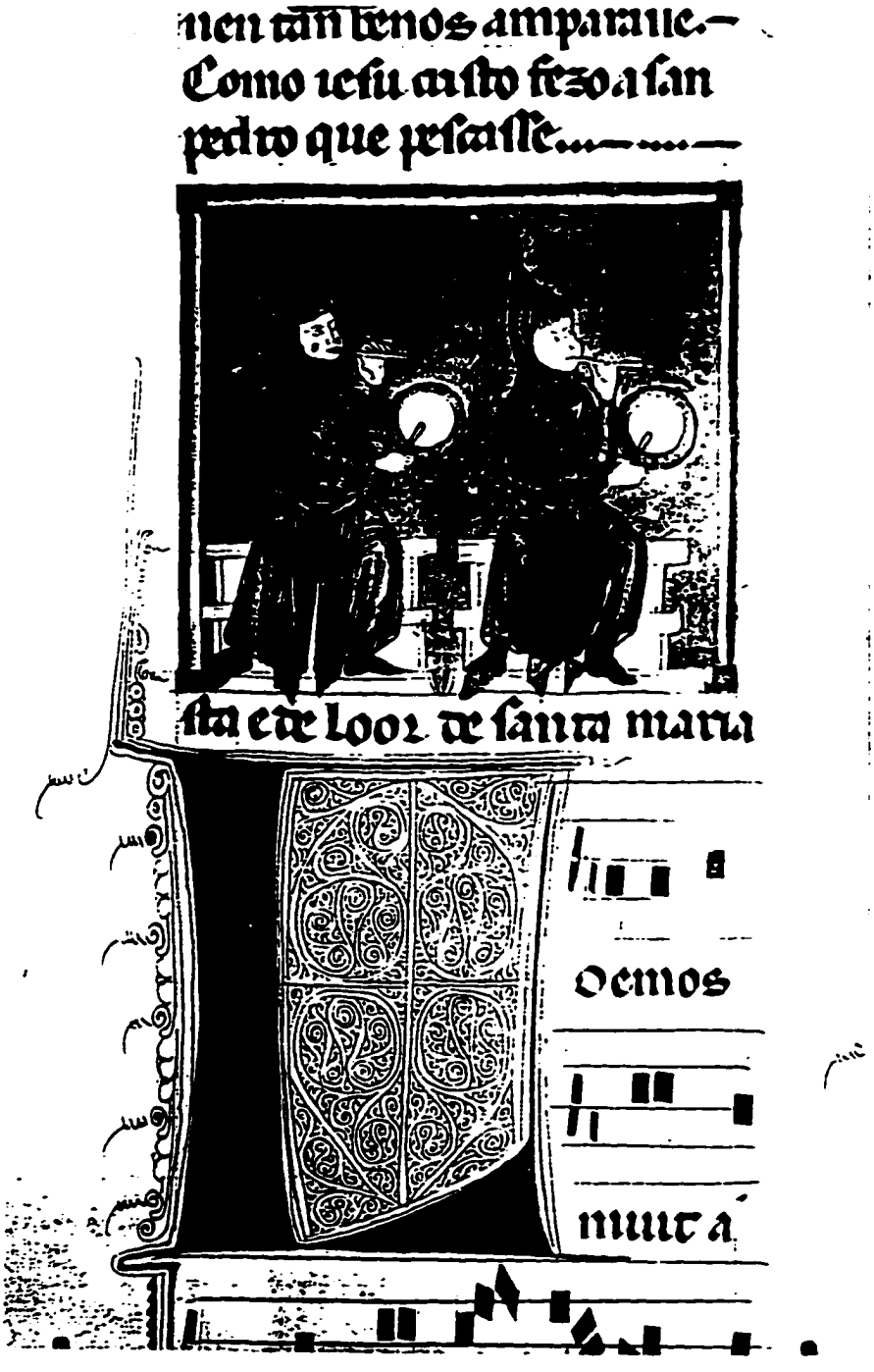
II:27 Hieronymus Cock, *A Celebraing Group* (1562). After a drawing attributed to H. Bosch.

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II:28 Figura sonantis canon (the lower figure; ca. 1320). Michael Scotus, *Liber introductorius*. ÖNB, cod.2352, f.18v.

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II:29 Pipe and tabor. *Cantigas de Santa María* (ca. 1260). El Escorial, Real Monasterio de San Lorenzo, MS b.I.2=El, f.333r.

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II:30 Angel playing cymbals (14th century). Lyon, Church of St. Jean, West portal.

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II:31 Paranatellonta rising in the fourth day of Scorpio (top right figure). Johann Engel's revision of *Astrolabium planum* by Pietro d'Abano (Venice: Johann Emericus de Spira, 1494).

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III:1 The constellation of Orion. Codex Leiden Aratea (second quarter of the ninth century). Rijksuniversiteit, MS Vossianus lat.Q.79, f.58v.

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III:2 Apollo (ca. 1420). Anonymous, *Albricus sive Libellus de imaginibus deorum*. Vatican, Reg.Lat. 1290, f.1v.

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III:3 Apollo (ca. 1461). Christine de Pisan, *Epître d'Othéa*. BRA, MS 9392, f.12v.

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III:4 A musician with a lira (12th century).
The west portal of the Chartres Cathedral.

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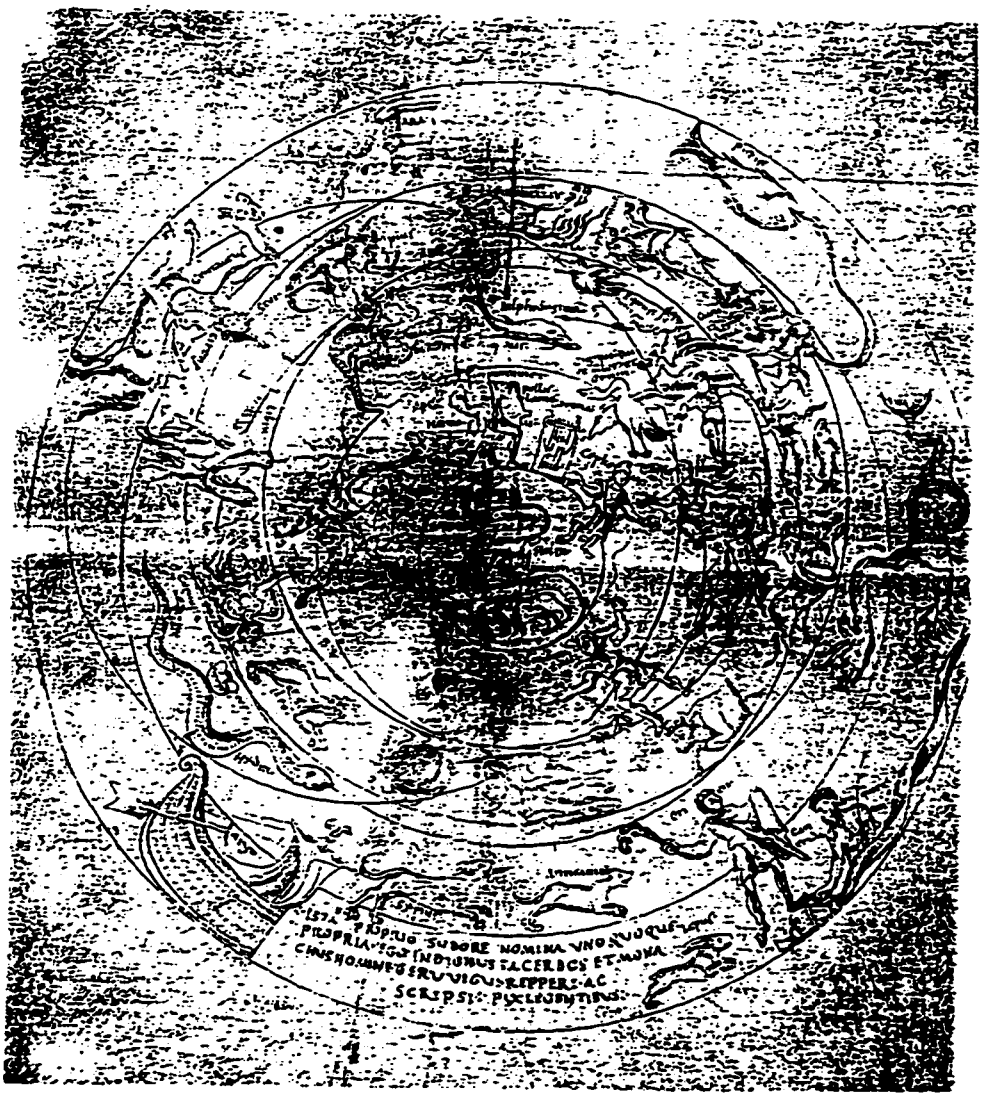
III:5 King David with musicians (late 11th or 12th century). Vatican, cod. Barberini lat.587, f.194r.

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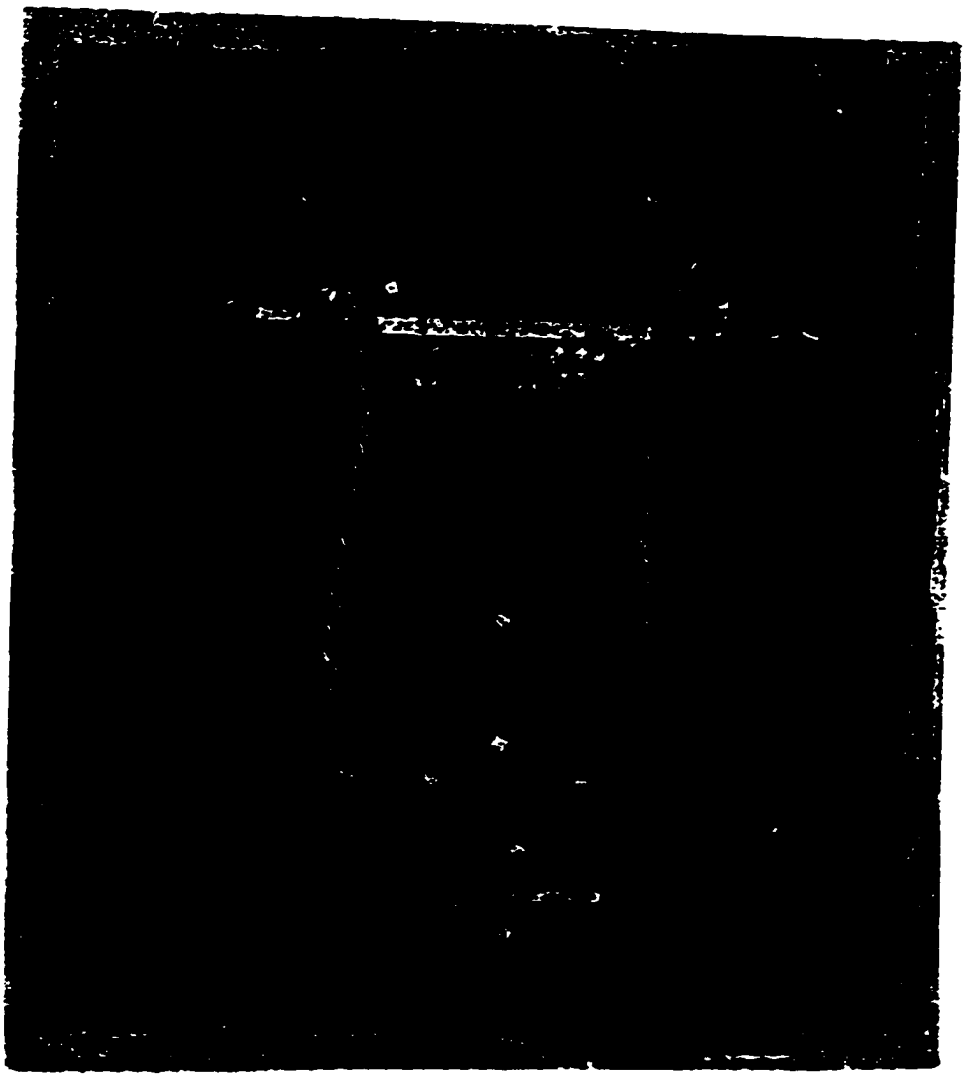
III:6 David with musicians (late 12th century). Parma, Baptistery of the Cathedral.

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IV:1 Geruvigus, Ptolemaic planisphere (9th or 10th century). BL.

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IV:2 The constellation of Lyra. Codex Leiden Aratea (second quarter of the 9th century). Rijksuniversiteit, MS Vossianus lat.Q.79, f.44v.

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IV:3 German school, The constellation of Lyra (ca. 1490).
BNF, allem.106, f.209r.

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IV:4 Albrecht Dürer, Celestial map of the northern hemisphere (1515), woodcut.

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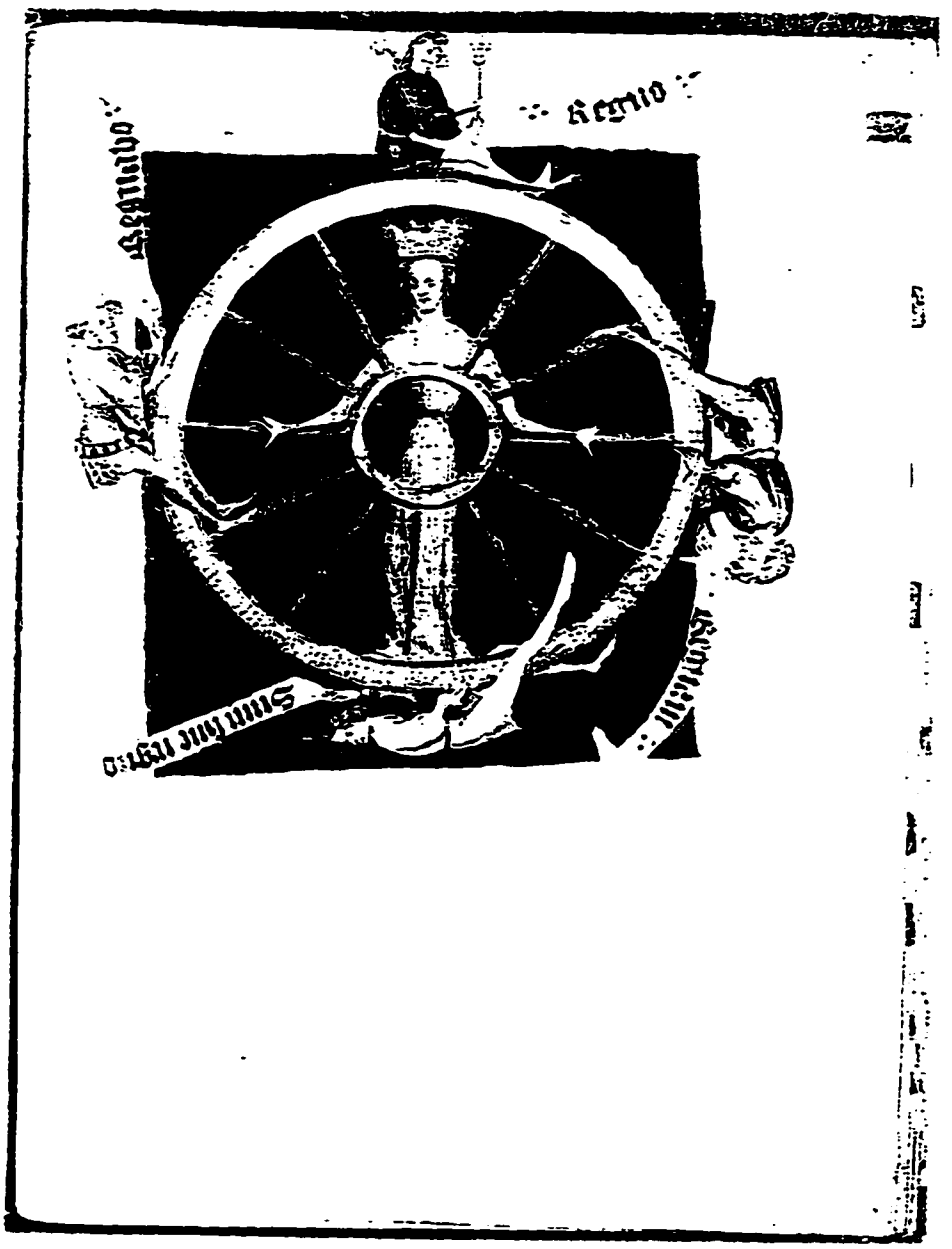
V:1 Venus in her house with Taurus (1582). *Matāliʿ al-Saʿāda wa-manābiʿ al-siyāda.* Morgan, M.788, f.9v.

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V:2 Venus exalted in Pisces and dejected in Virgo (top), Mercury exalted in Virgo and dejected in Pisces (bottom) (1582). *Matāliʿ al-Saʿāda wa-manābiʿ al-siyāda,* Morgan, M.788, f.33v.

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V:3 The Wheel of Fortune. Michael Scotus, *Liber introductorius* (1392/93). ÖNB, cod. 2352, f.86r.

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V:4 The Wheel of Fortune representing seven planets. German woodcut, in Martin van Landsberg's *Almanac* (ca. 1490).

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V:5 Leo adjunct to Jupiter and the sun. Planets shown below are Saturn, Mercury, Jupiter, Venus, and Mars (ca. 1300). BNF, MS arab.2583.

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V:6 Sagittarius adjunct to the moon and Jupiter. Planets shown below are Saturn, the moon, Jupiter, Mars, and Mercury (ca. 1300). BNF, MS arab.2583.

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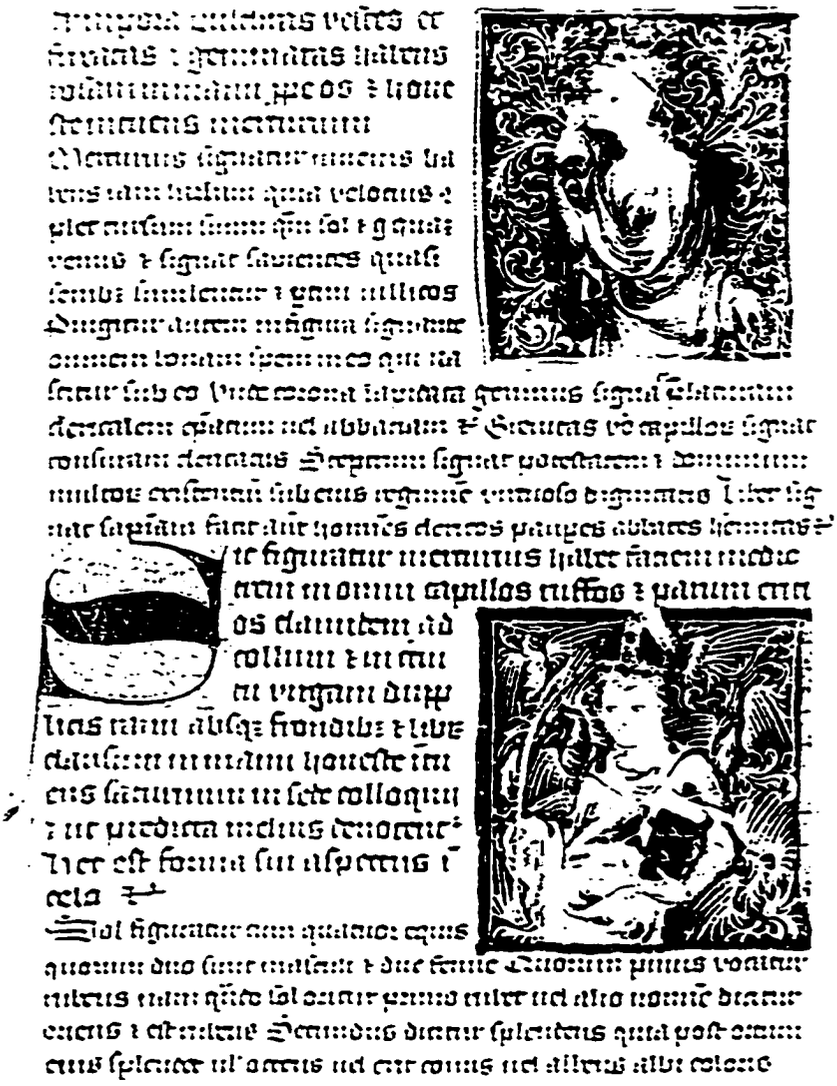
V:7 Aries adjunct to Mars and the sun. Planets shown below are Saturn, Mercury, Venus, Mars, and Jupiter (ca. 1300). BNF, MS arab.2583.

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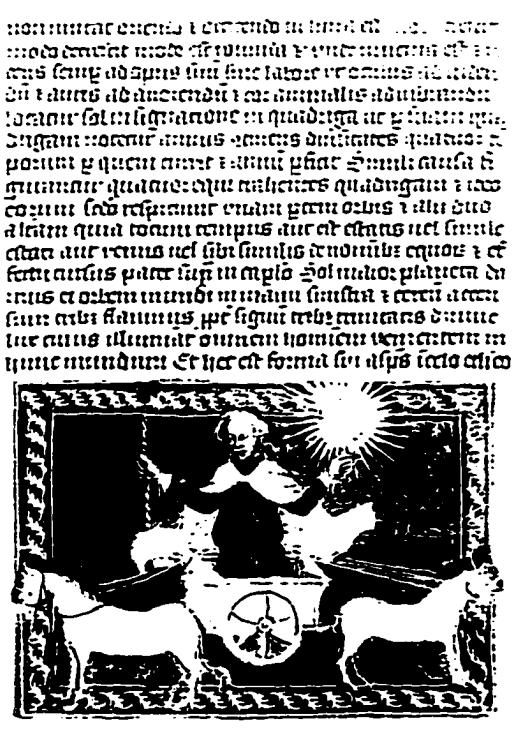
V:8 Saturn, Jupiter, Venus, Mars, and Mercury (ca. 1320). Michael Scotus, *Liber introductorius*. BS, Clm.10268, f.85r.

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V:9.A Venus and Mercury (1392-93). Michael Scotus. *Liber introductorius*. ÖNB, cod.2352; f.28v.

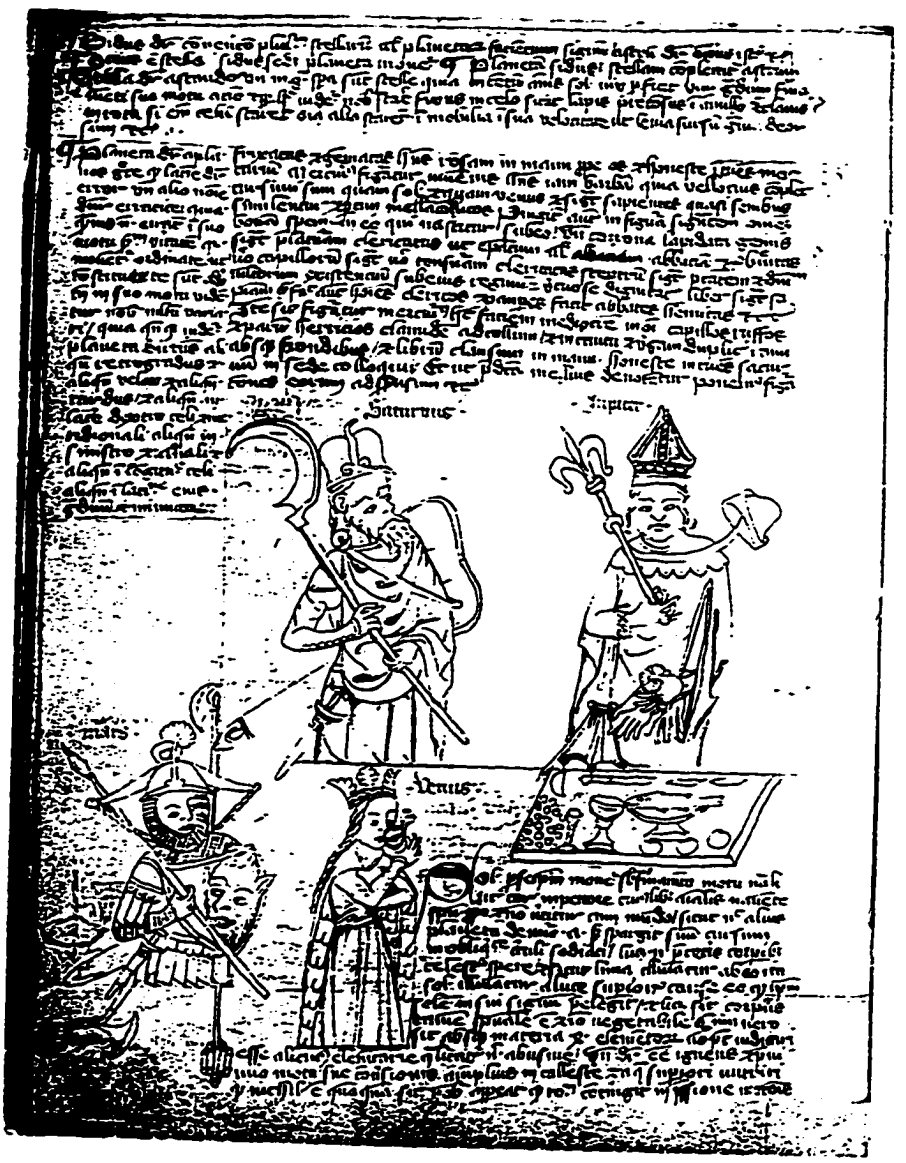
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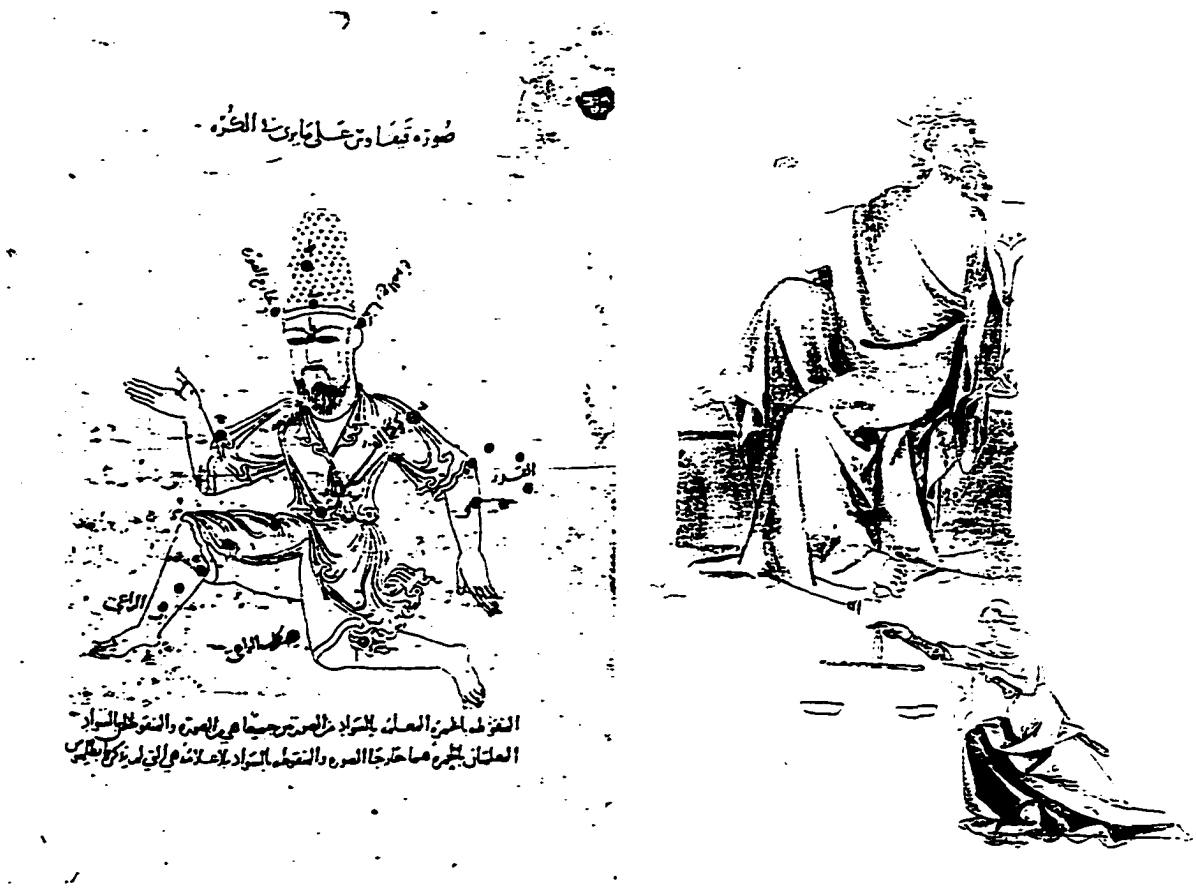
V:9.B-C The sun (left) and the moon (right); (1392-93). Michael Scotus. *Liber introductorius*. ÖNB, cod.2352; f.29v and f.31v.

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V:10 Saturn, Jupiter, Mars, and Venus (ca. 1400). Michael Scotus, *Liber introductorius*. ÖNB, cod.2378; f.12v.

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V:11-12 The constellation of Cepheus (left). ʿAbd al Rahmān b. ʿUmar al-Sūfī, *Suwar al-kawākib al-thābitah* (1009-10), copied and illustrated by al-Husain b. ʿAbd al-Rahmān b. ʿUmar b. Muhammad. Bodleian, Marsh 144. The planet Saturn (right). Fendulus B.

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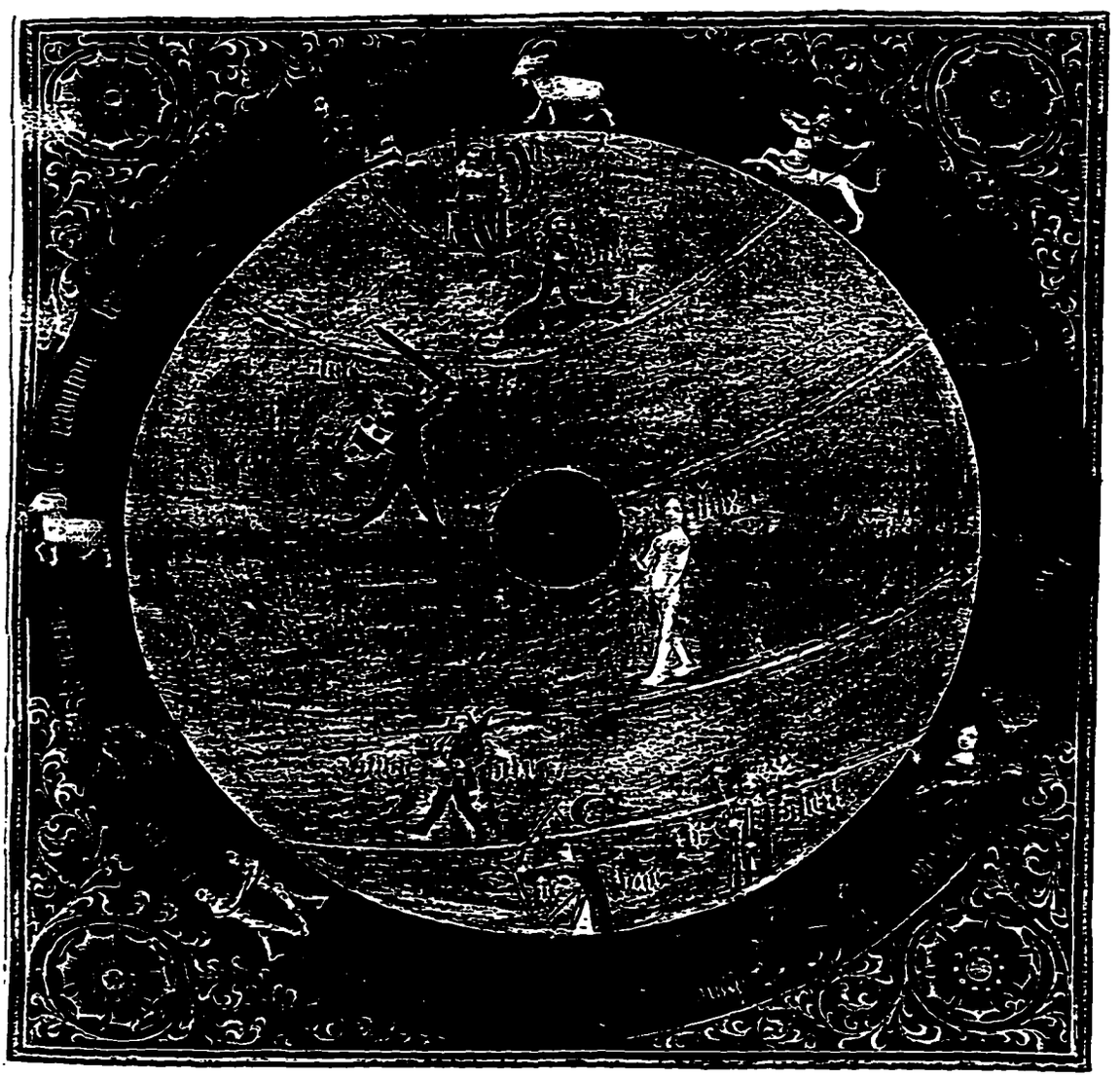
V:13 The *Clime V* with Venus playing an ʿūd (1399). Bodleian, MS 133, f.49v.

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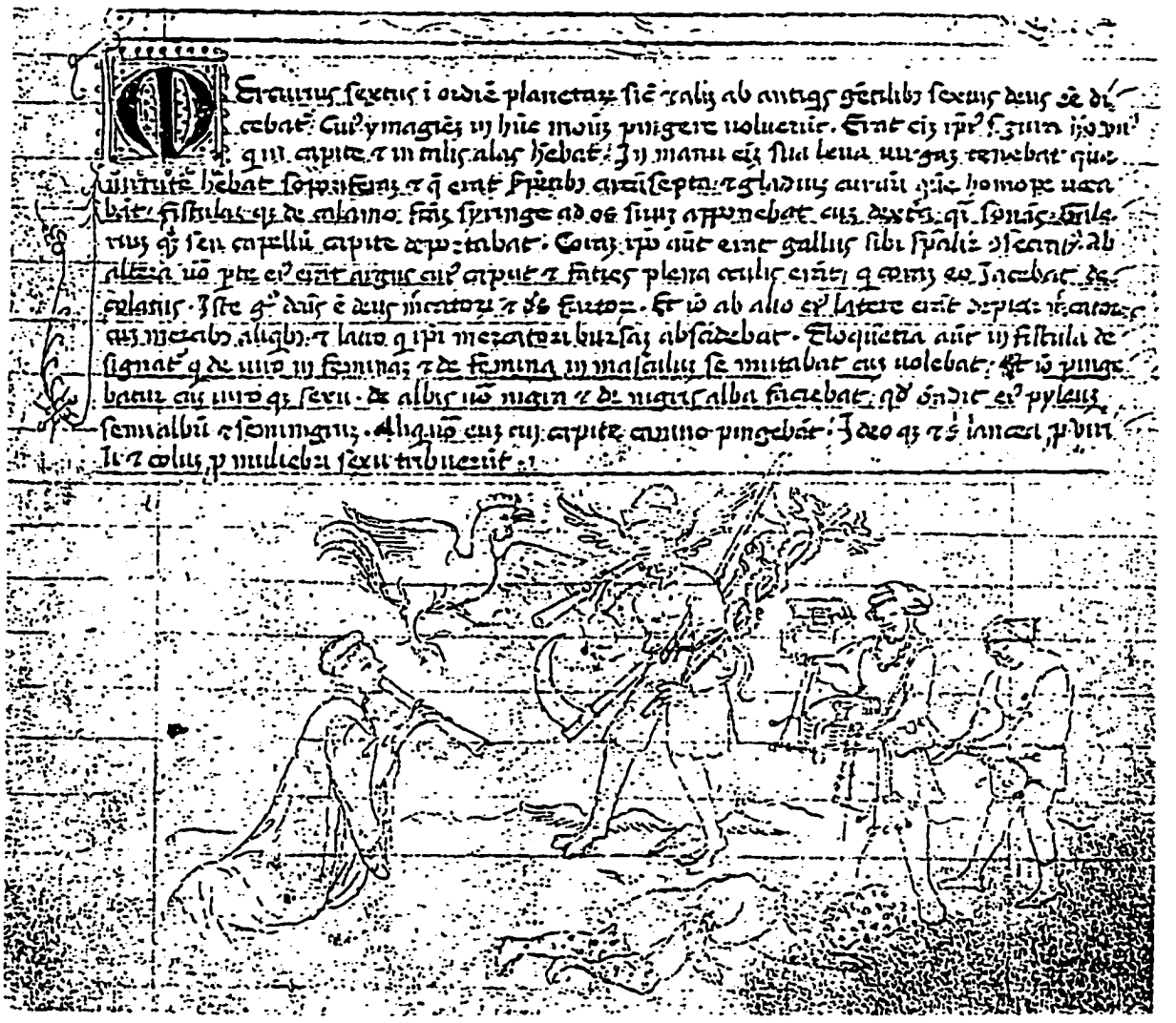
V:14 Venus with a rose and a harp (second half of 15th century). Michael Scotus, *Von de gang des Himels und Sternen*. Morgan, M.384, f.31r.

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V:15 Personified images of the planets (15th century). Barthélémy l'Anglais, *Livre de propriétés des choses*. BNF, lat.9140.

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V:16 Mercury (ca. 1420). Anonymous, *Albricus sive Libellus de imaginibus deorum.* Vatican, Reg.Lat.1290, f.3v.

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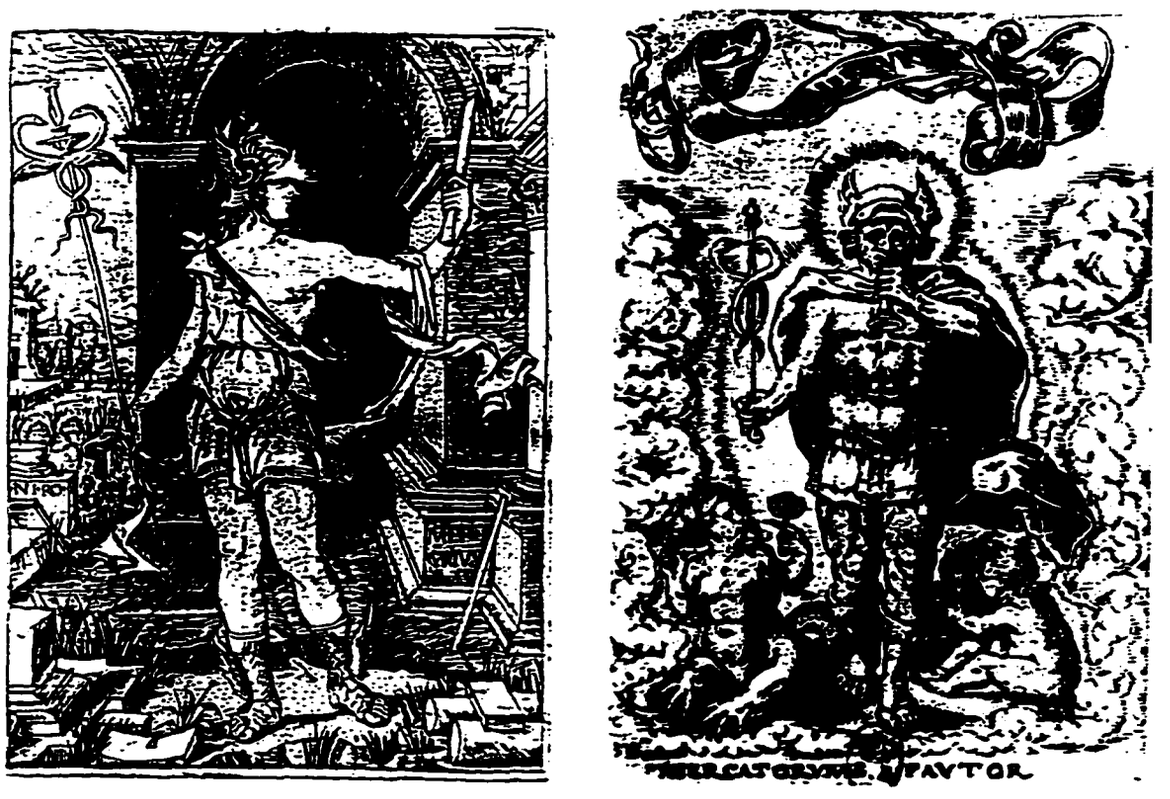
V:17 Mercury (ca. 1465). The so-called *Tarocchi del Mantegna*, no. XXXXII.

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V:18 Mercury and his children. Lübeck calendar of 1519 (Lübeck: Stephan Arndes, 1519).

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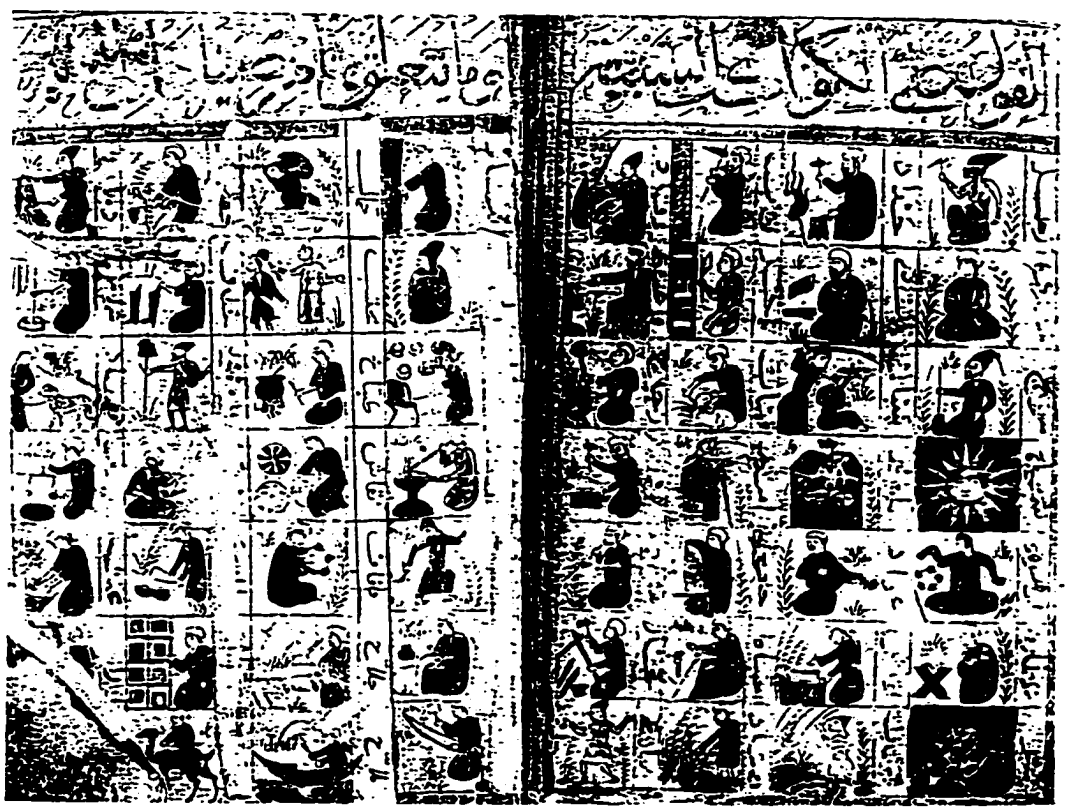
V:19-20 Left: Nicoletto da Modena (Nicolo Rosa), Mercury (early 15th century). Paris, Musée de Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild. Right: Monogramist B.H.S., Mercurius (16th century). BNF, Cabinet des Estampes.

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V:21 Charles Burney, *Musik der Alten* (Leipzig: Schwickert, 1781) title page.

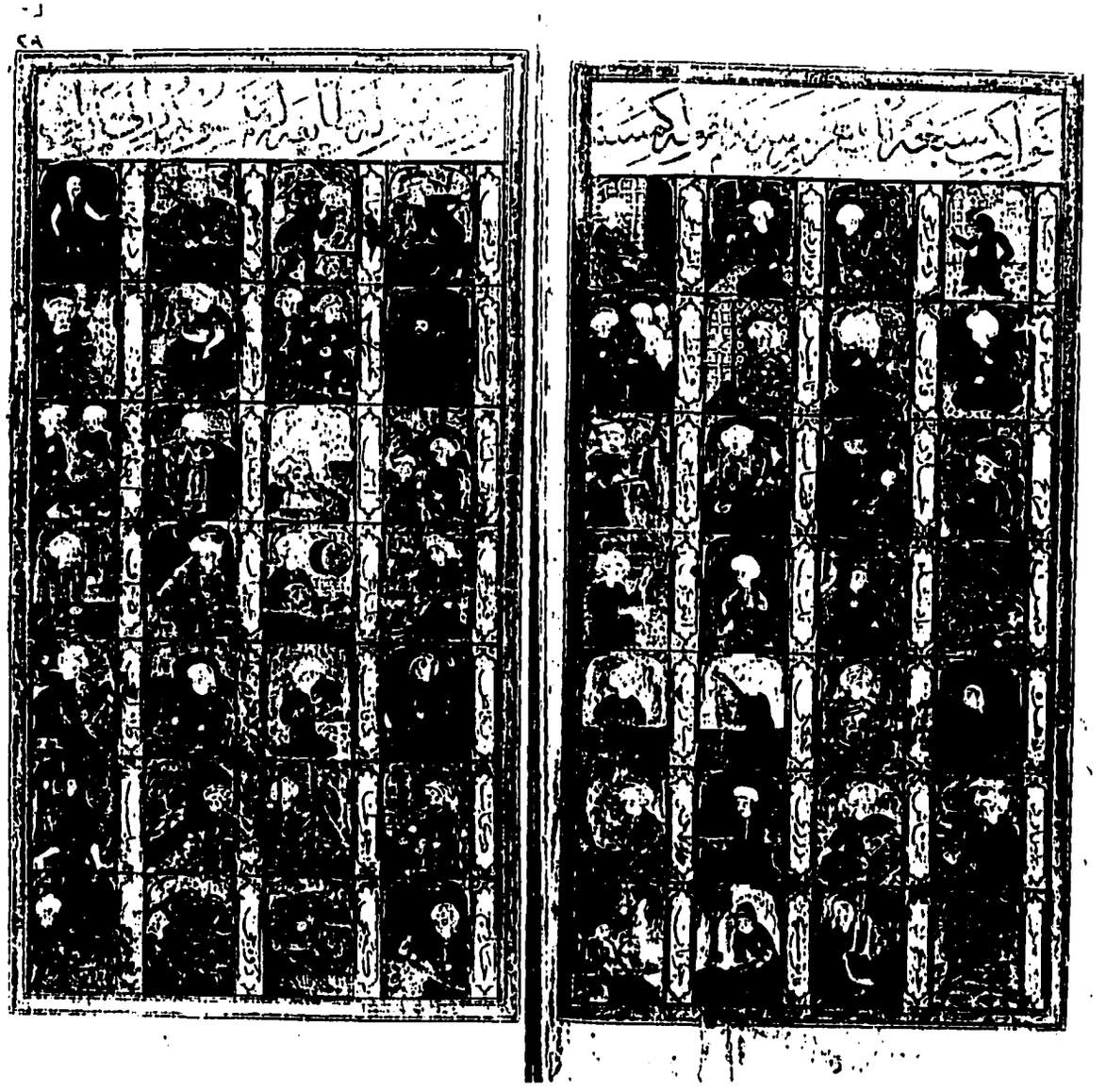
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V:22 Planets' children (1399). Oxford, Bodleian, MS 133.

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V:23 Planets' children (1582). *Matāliʿ al-Saʿāda wa-manābiʿ al-siyāda*. New York, Morgan M.788, f. 32r-31v.



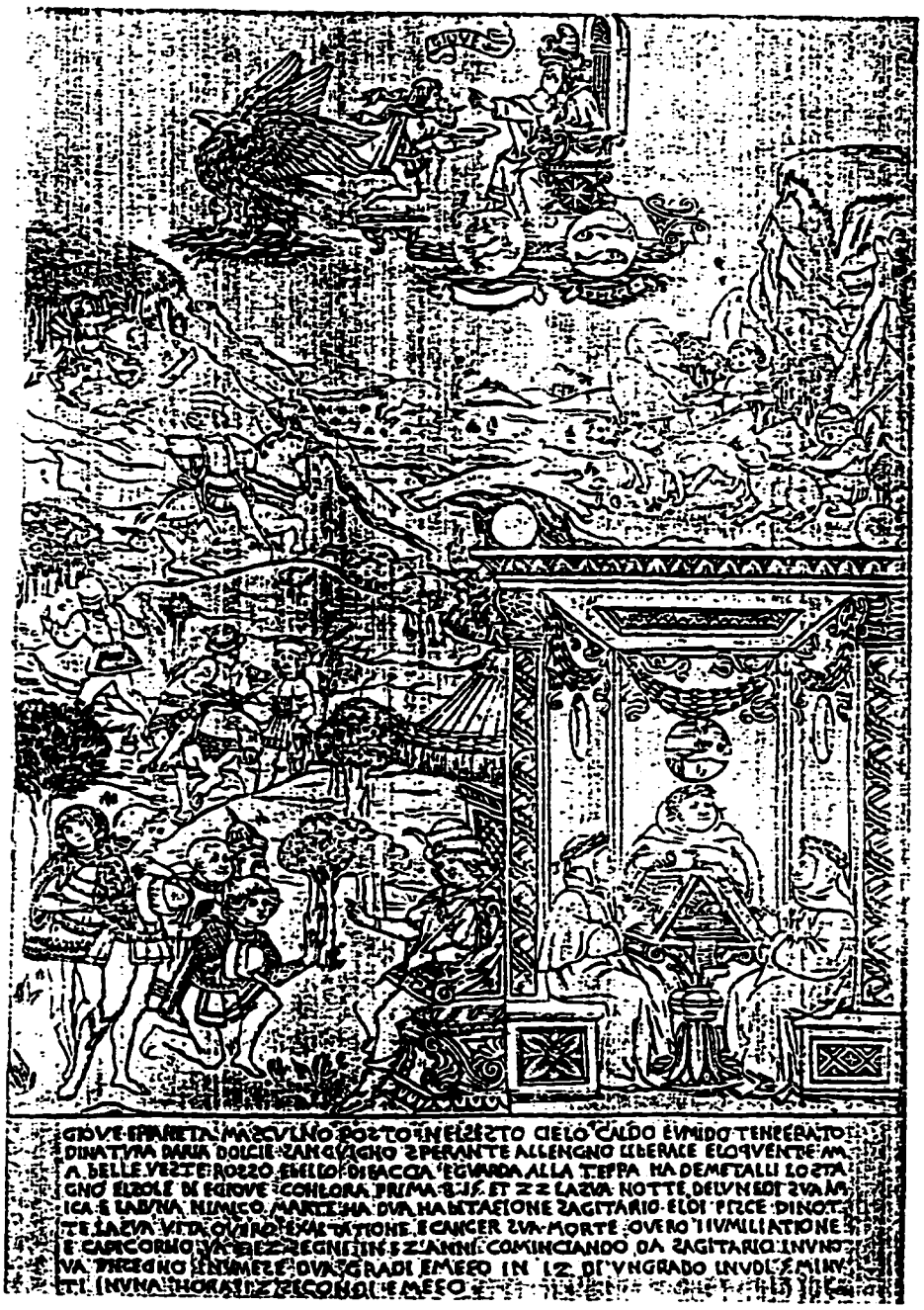
V:24 Mercury and his children. Left: London, BL, Harley 4431, f.102r; Right: Paris, BNF, fr.606, f.7r.

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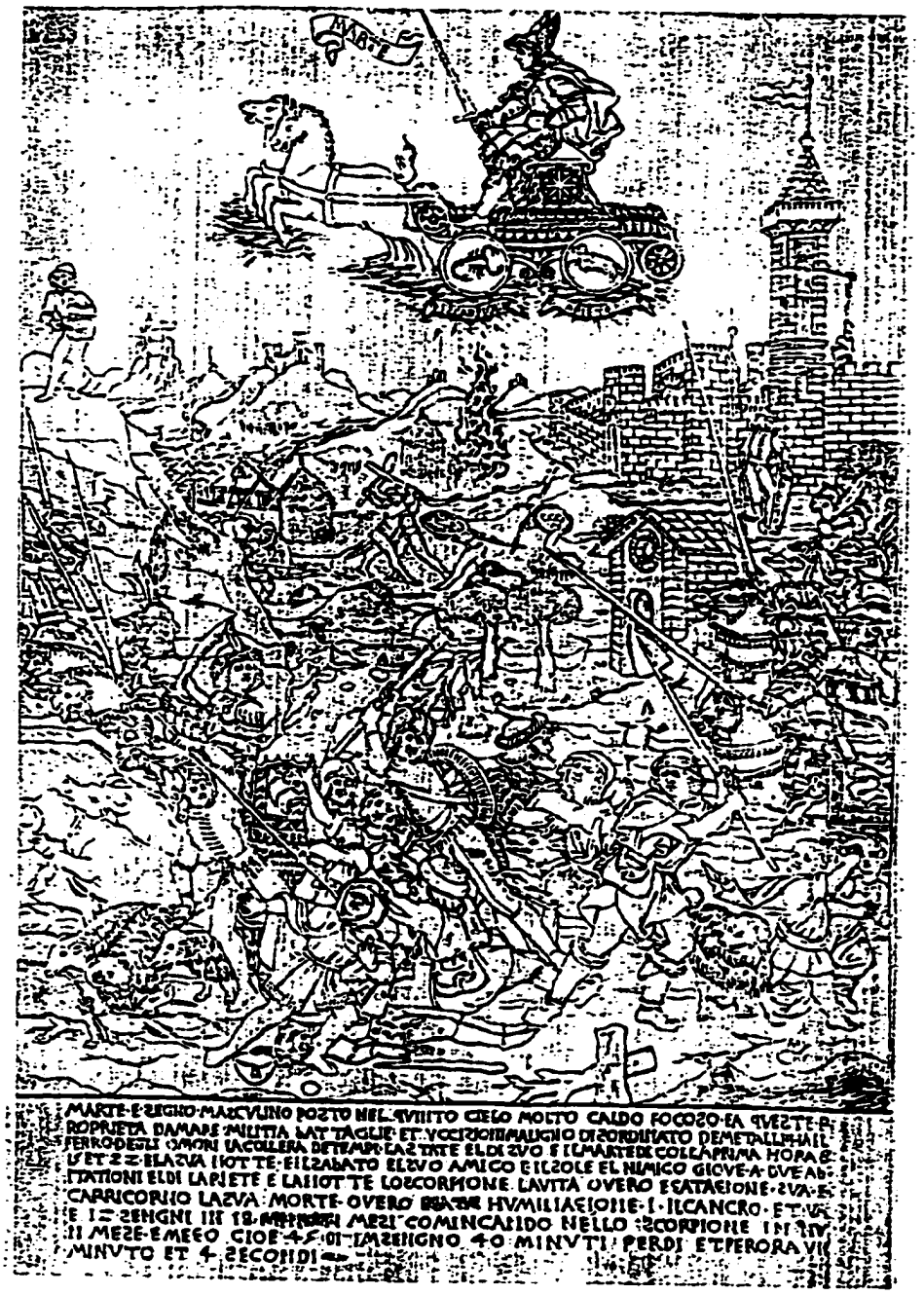
V:25 Attr. to Maso Finiguerra, Children of Saturn (ca. 1460).

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V:26 Attr. to Maso Finiguerra, Children of Jupiter (ca. 1460).

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V:27 Attr. to Maso Finiguerra, Children of Mars (ca. 1460).

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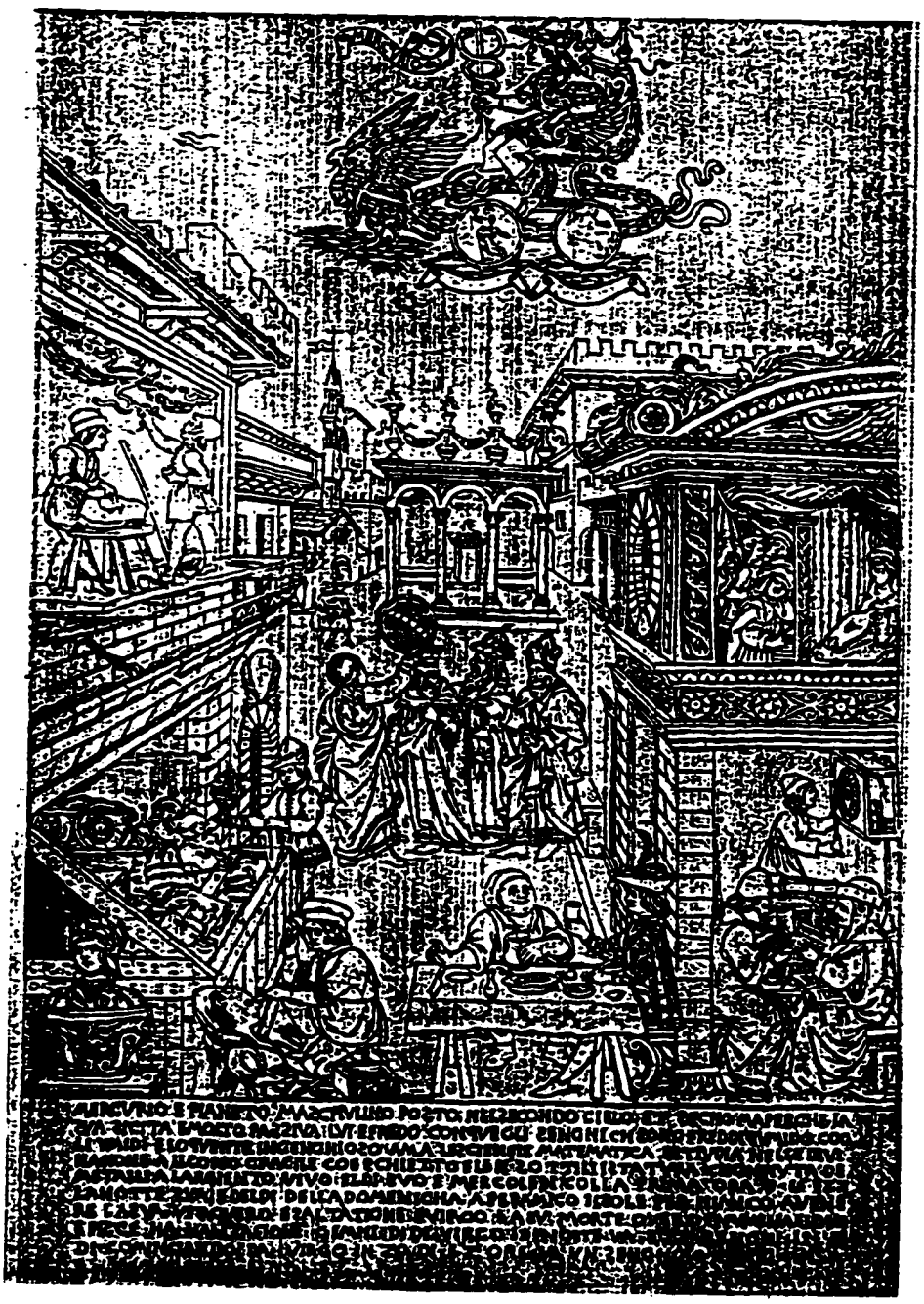
V:28 Attr. to Maso Finiguerra, Children of the sun (ca. 1460).

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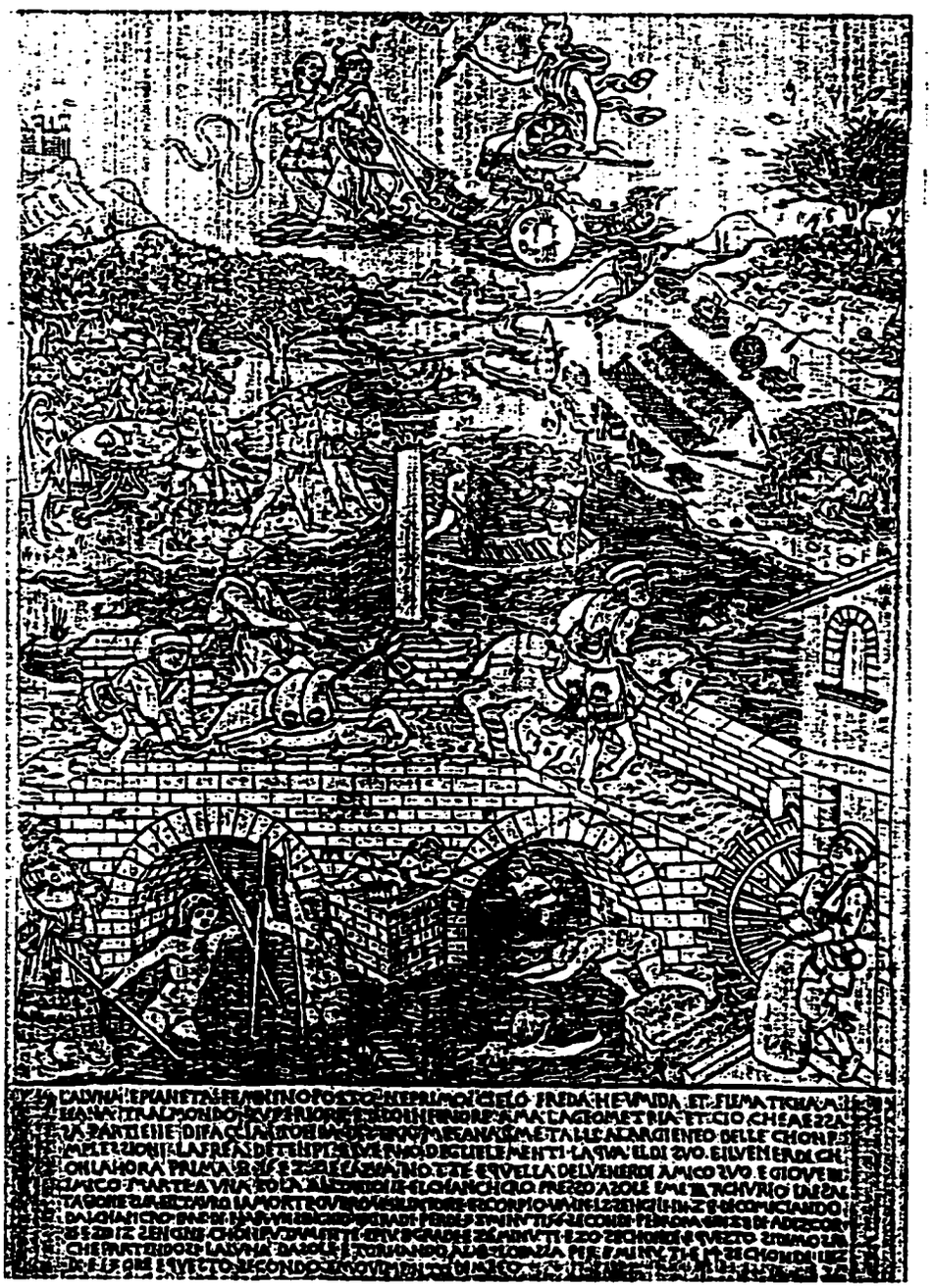
V:29 Attr. to Maso Finiguerra, Children of Venus (ca. 1460).

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V:30 Attr. to Maso Finiguerra, Children of Mercury (ca. 1460).

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V:31 Attr. to Maso Finiguerra, Children of the moon (ca. 1460).

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V:32 Attr. to Maso Finiguerra, Children of Venus (ca. 1464-65).

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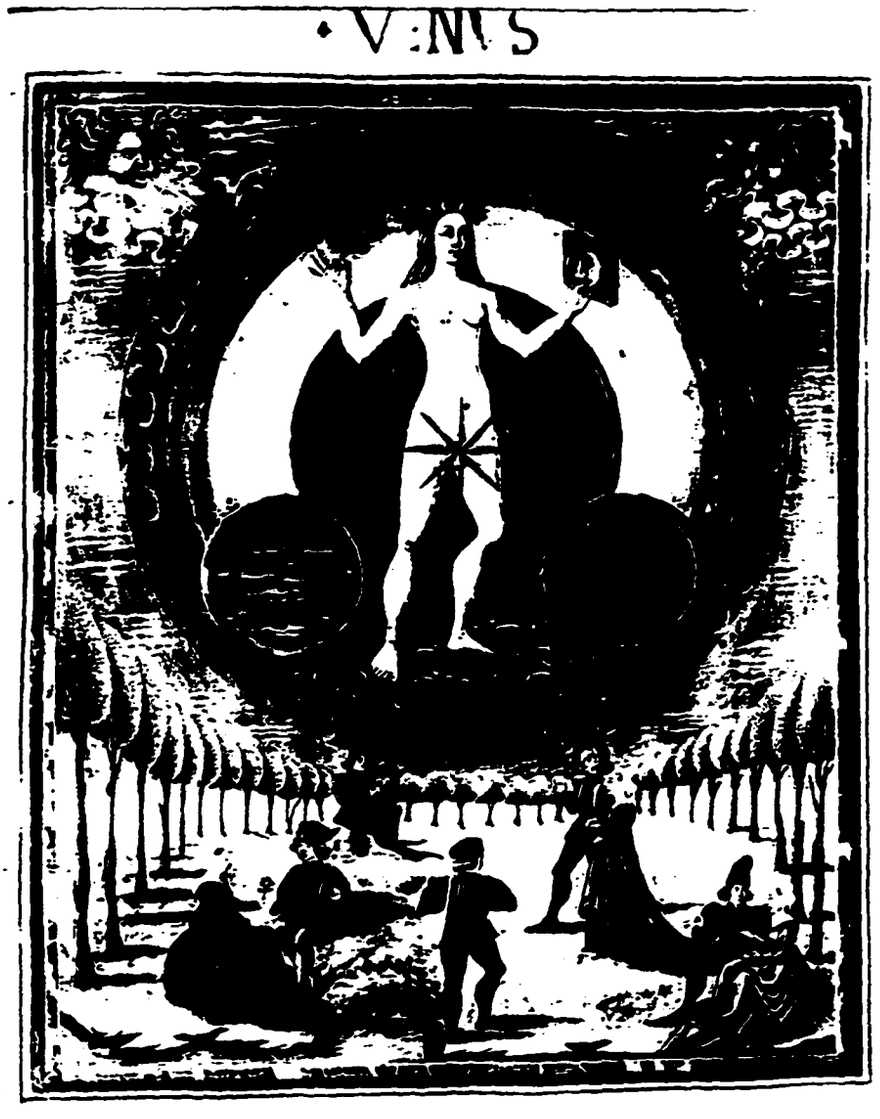
V:33 Attr. to Maso Finiguerra, Children of Mercury (ca.1464-65).

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V:34 Virgil Solis, Children of Venus (ca. 1500). Musée du Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild.

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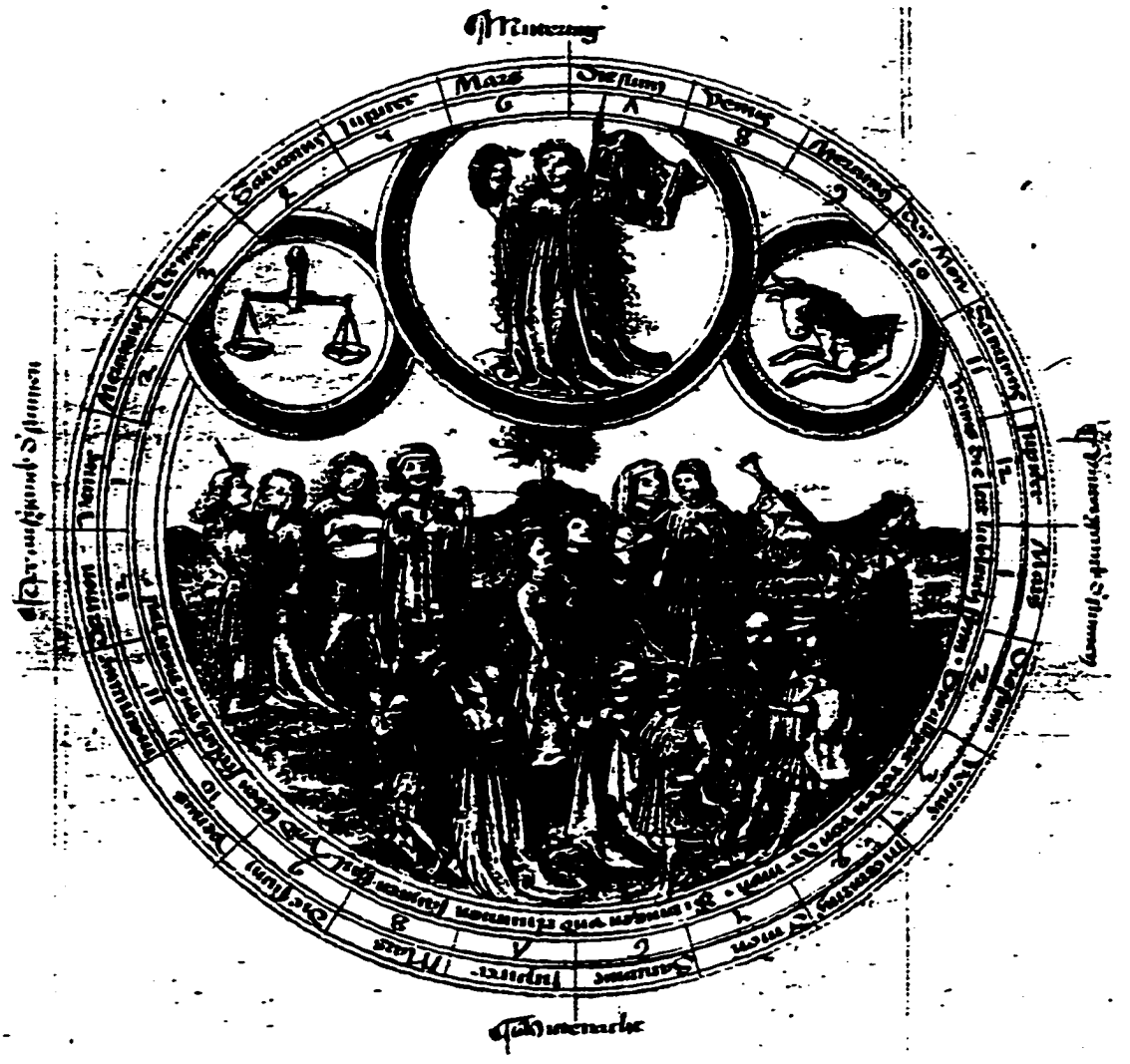
V:35 Children of Venus (1450-60). *De sphaera*. Modena, Biblioteca Estense, MS α.X.2.14=latin 209, f.10r.

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V:36 Gabriele Giolito, Children of Venus (16th century).

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V:37 German school, Children of Venus (1445). Kassel, Landesbibliothek und Murhardsche Bibliothek, 2° MS astron. 1.

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V:38 German school, Children of Venus (ca. 1490). BNF, allem.106, f.62r.

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V:39 Master of the *Hausbuch*, Children of Venus (1500-30). Waldburg-Wolfegg Castle, Austria.

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V:40 Hans Sebald Beham, Children of Venus (1531).

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V:41 Children of Venus (late 15th century). BNF, Cabinet des Estampes.

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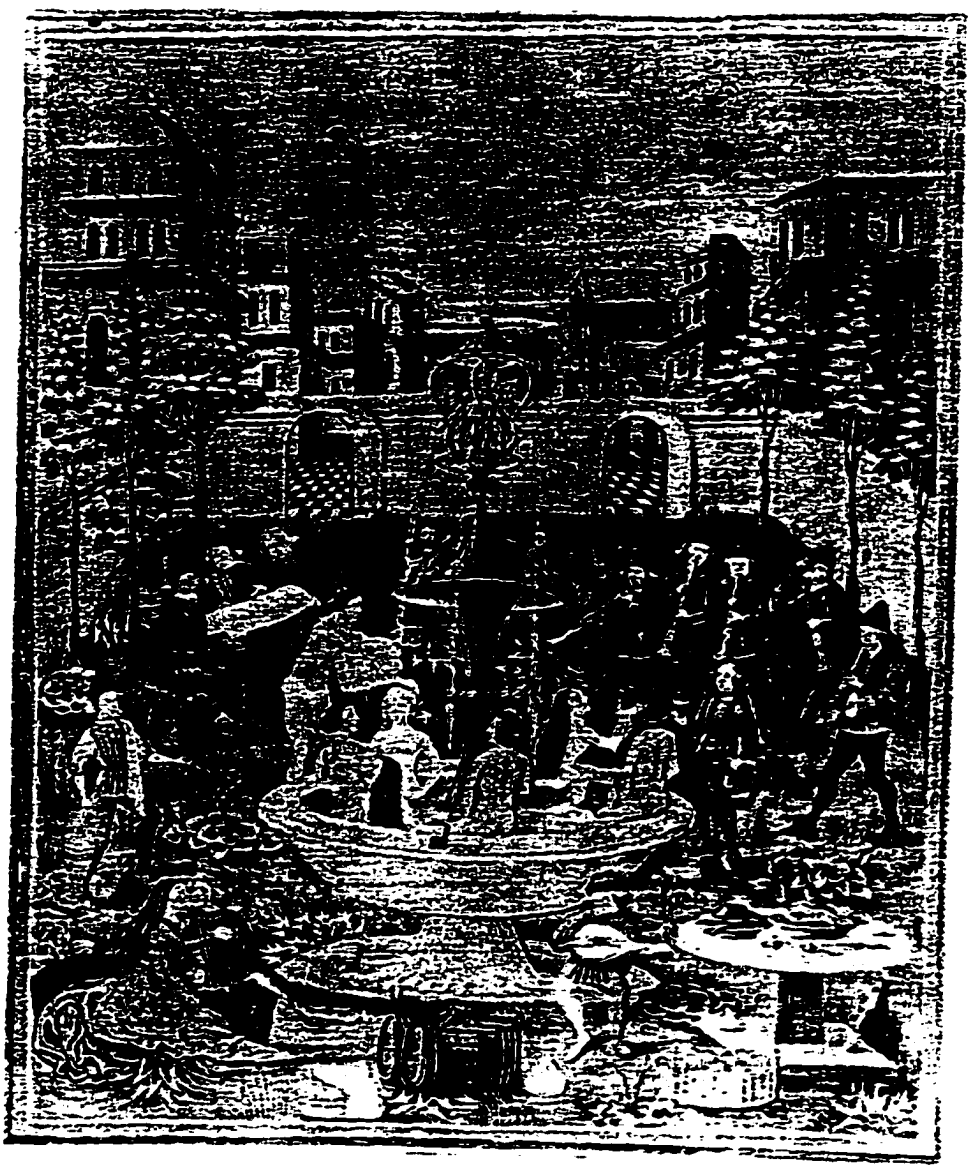
V:42 Netherlandish school, Children of Venus (16th century). Bodleian, Rawlinson, D1220, f.31v.

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V:43 Follower of Jacopo di Cione, Garden of Love (1370-80). Douai, Musée de la Chartreuse.

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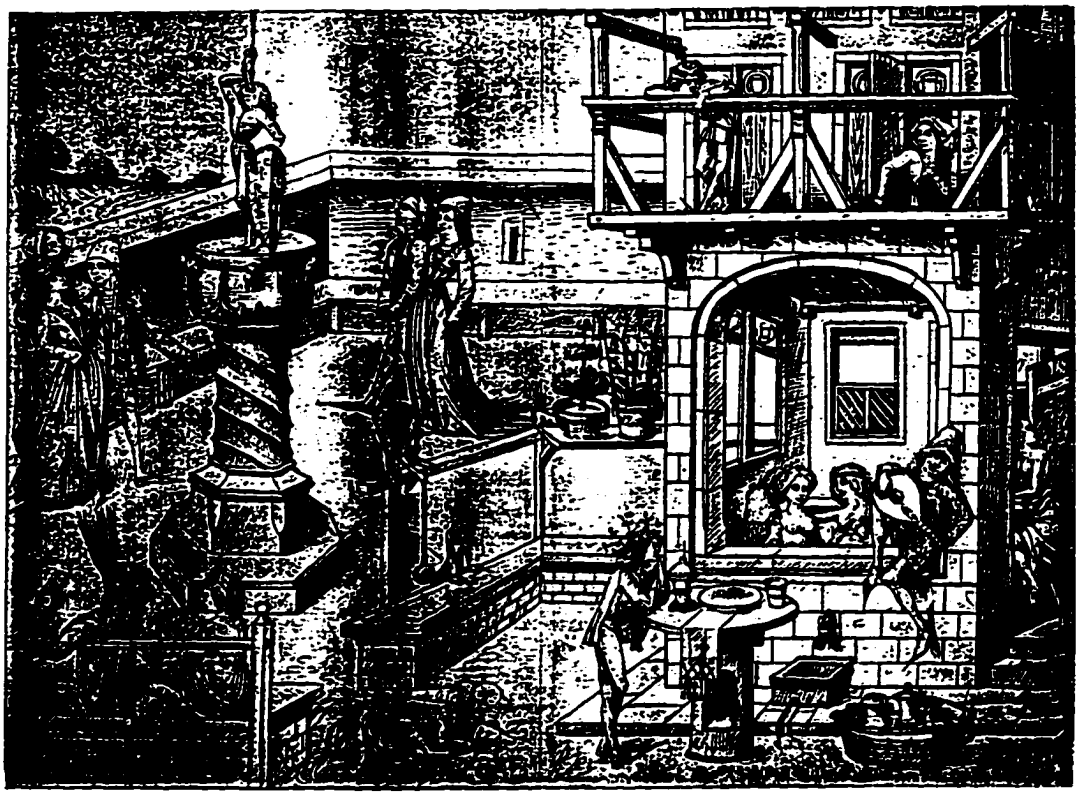
V:44 Garden of Love (1450-60). *De sphaera*. Modena, Biblioteca Estense, MS α.X.2.14=latin 209.

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V:45 Jardin d'amour. F. Colonna, *Hypnerotomachia Poliphili* (Venice, 1499).

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V:46 Master of the *Hausbuch*, Gallant bath (1500-30).

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V:47 Florentine School, The unchaste dance (1465-80). Paris, Musée du Louvre, Département des Arts Graphiques, coll. Edmond de Rothschild.

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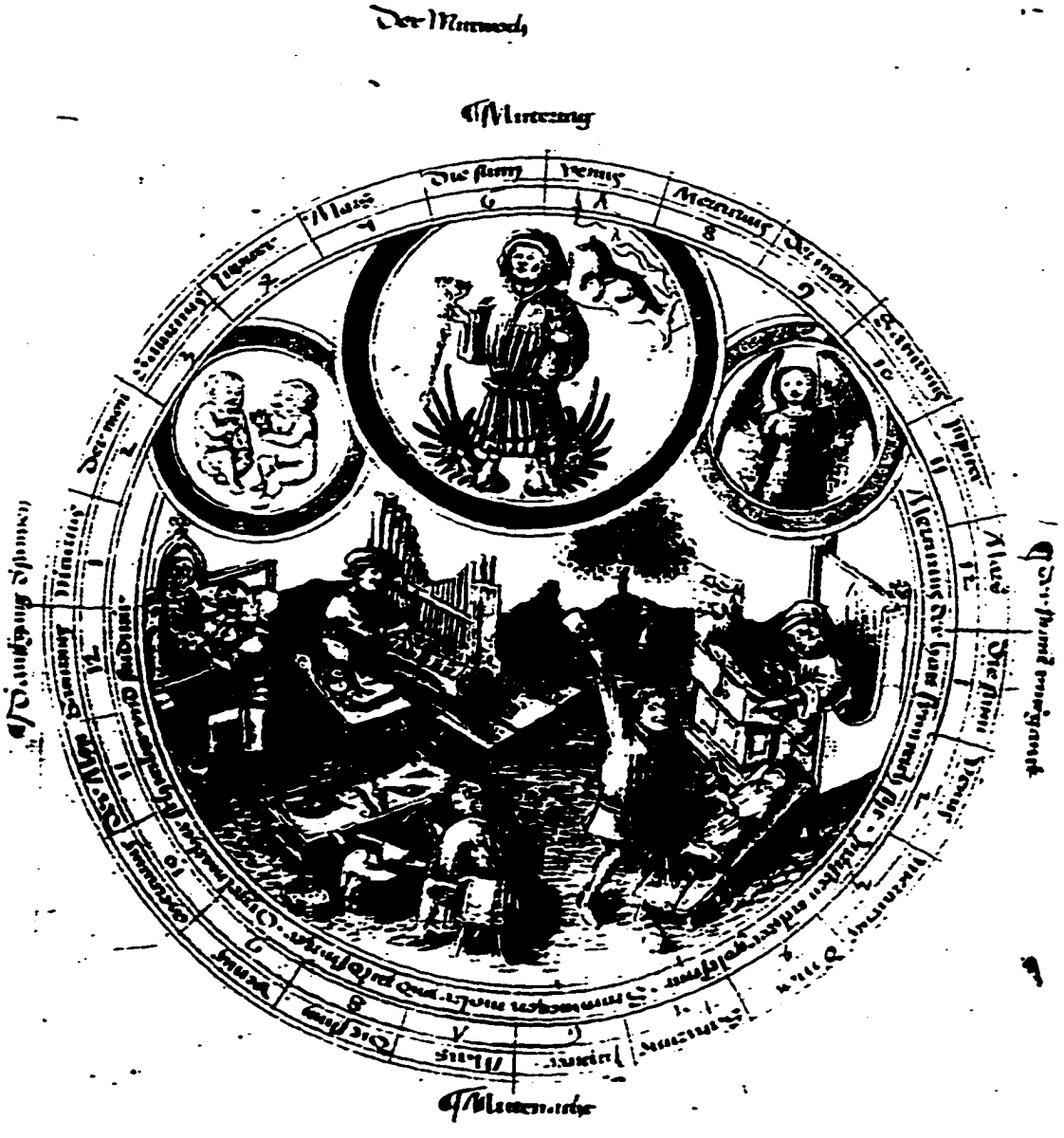
V:48 Israhel van Meckenem (1440/50-1503), Music-making couple. Dresden, Kupferstich Kabinett, inv.no.95755.

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V:49 Israhel von Meckenen, Dance of Love, New York, The Metropolitan Musem of Art, inv.no.31.3128.

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V:50 German school, Children of Mercury (1445). Kassel, Landesbibliothek und Murhardsche Bibliothek, 2° MS astron 1.

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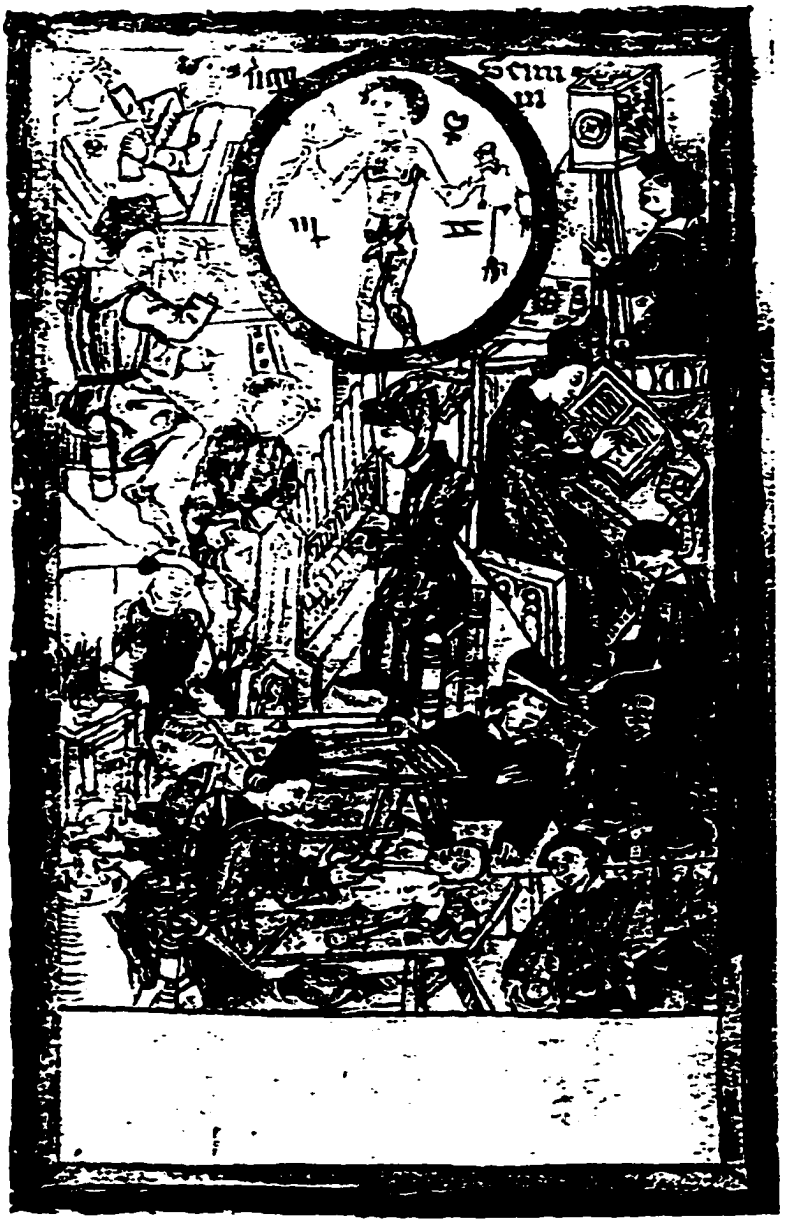
V:51 Those Born under the Planet Mercury (1450-60). *De sphaera*. Modena, Biblioteca Estense, MS α.X.2.14=latin 209, f.11r.

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V:52 Netherlandish school, Children of Mercury (ca. 1480). BNF, Cabinet des Estampes.

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V:53 Netherlandish school, Children of Mercury (16th century). Bodleian, Rawlinson, D1220, f.32v.

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V:54 Master of the *Hausbuch*, Children of Mercury (1500-30). Waldburg-Wolfegg Castle, Austria.

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V:55 Hans Sebald Beham, Children of Mercury (1531).

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V:56 Venetian school, Children of Mercury (16th century). BNF, Cabinet des Estampes.

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V:57 Bruxelles workshop, Children of Mercury (tapestry, ca. 1570). Munich, Bayerisches Nationalmuseum.

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V:58 Master of the *Hausbuch*, Children of the sun (1500-30). Waldburg-Wolfegg Castle, Austria.

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V:59 Hans Sebald Beham, Children of the sun (1531).

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V:60 Netherlandish school, Children of the sun (end of 15th century). BNF, Cabinet des Estampes.

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V:61 Netherlandish school, Children of the sun (16th century). Bodleian, Rawlinson, D1220, f.30v.

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