

The First Italianate Englishmen GEORGE B. PARKS	197
Rowland Whyte, Elizabethan Letter-Writer LISLE C. JOHN	217
Music and <i>The Mad Lover</i> JOHN P. CUTTS	236
Sacred 'Parody' of Love Poetry, and Herbert ROSEMOND TUVE	249
'I was but an inverted tree': Notes toward the History of an Idea A. B. CHAMBERS	291

ILLUSTRATIONS

The elements as regular solids (Kepler, <i>Harmonice mundi</i> , 1619)	page 12
Tetrad of qualities	13
Tetrad of elements and qualities	15
Tetrad (Peyligk, <i>Philosophiae naturalis compendium</i>)	16
The number four as a solid	17
Theological tetrad	19
Christ and the four elements (Bartholomaeus Anglicus, <i>De proprietatibus rerum</i> , 1482)	20
The four elements (Isidore of Seville, <i>De natura rerum</i> , 1472)	21
The natural sciences (Isidore of Seville, <i>De natura rerum</i> , 1472)	22
The alchemical hermaphrodite (Thurneysser, <i>Quinta essentia</i> , 1574)	23
Wind-rose (Apianus, <i>Cosmographicus liber</i> , 1524)	24
Wind-rose (Aristotle, <i>Meteorologica</i> , 1519)	25
The signs of the zodiac (<i>Kalendar of Shepherds</i> , 1503)	26
Philosophers' stone (Ashmole, <i>Theatrum chemicum Britannicum</i> , 1652)	27
Title page of Celtis, <i>Quatuor libri amorum</i> (1502)	29
Lady Philosophy in tetrads (Celtis, <i>Quatuor libri amorum</i> , 1502)	30
Moguncia Metropolis (Celtis, <i>Quatuor libri amorum</i> , 1502)	31

37
HENINGER, S.K.
1961

1540. HENINGER S.K. Jr., *Some Renaissance versions of the Pythagorean tetrad*: StudRen 8 1961 7-33.

Après un résumé des principales théories de Pythagore, Heninger décrit, images à l'appui, la fortune que connaît en particulier la tétrade dans la physique, la théologie, la médecine, la météorologie, l'alchimie et la poésie de la Renaissance.

Some Renaissance Versions of the Pythagorean Tetrad¹



IN 1538 when Sir Thomas Elyot printed his *Dictionary*, he included the following entry for Pythagoras: 'An excellente Phylosopher, whose Phylosophye was in mystycalle sentences, and alsoo in the Scyence of noumbers.' The 'mystycalle sentences' were the *Carmina aurea* and *Symbola*, collections of spurious precepts with hidden meanings which had received extensive explication; and 'the Scyence of noumbers' recalled Pythagoras' fundamental postulate that all things have innate numerical relationships. Elyot's entry indicates concisely what facets of the Pythagorean doctrine appealed to the Renaissance and how Pythagoras could appear as the fountainhead of both mysticism and physical science. Reuchlin cited Pythagoras as source of the mystical wisdom contained in *De arte cabalistica*,² while Copernicus in *De revolutionibus orbium caelestium* claimed support from the ancient Pythagoreans for his belief that the earth moved.³ In the next century Galileo expounded a Pythagorean cosmology refined by Copernicus,⁴ while Henry More used Pythagoras to devise the *Conjec-*

¹ Read at the Southeastern Renaissance Conference at the University of North Carolina 26 April 1958.

² (Haguenau, 1517), epistle dedicatory to Pope Leo X.

³ (Nuremberg, 1543), prefatory letter to Pope Paul III. For Copernicus' debt to Pythagoreanism, see E. A. Burt, *The Metaphysical Foundations of Modern Physical Science* (London, 1927), pp. 40-44; and Angus Armitage, *Copernicus* (London, 1938), pp. 20-25.

⁴ See the author's preface to *Dialogo . . . sopra i due massimi sistemi del mondo* (Florence, 1632). In January 1611 Tommaso Campanella wrote an enthusiastic letter to Galileo extolling the *Sidereus nuncius*: 'Tu, vir clarissime, non modo restituis nobis gloriam pythagoreorum a græcis subdolis subreptam, eorum dogmata resuscitando, sed totius mundi gloriam tuo splendore exstinguis' (Campanella, *Lettere*, ed. Vincenzo Spampinato, Bari, 1927, p. 165). See also Campanella, *The Defense of Galileo*, tr. Grant McColley (Northampton, Mass., 1937), p. 11: 'Galileo's theory of the motion of the earth, of a central Sun, and of the systems of stars with waters and earthly elements is indeed an ancient conception. It comes from the mouth of Moses himself, and from Pythagoras.' Cf. pp. 11-12, 72-73. Galileo, however, explicitly rejected the number symbolism of the Pythagoreans.

tura cabbalistica,⁵ a mystico-moral interpretation of Genesis. Pythagoras was easily adapted to any one's philosophy, especially at a time when mysticism and science had not become dissociated. The harmonious world-view of Pythagoras was hugely satisfying, and the precise body of beliefs attributed to him was highly meaningful in the Renaissance even if not today. For that reason Ralph Cudworth pronounced categorically: 'Pythagoras was the most eminent of all the ancient Philosophers.'⁶

In the annals of philosophy, Pythagoras himself is an exceedingly tenuous figure. Neither he nor his immediate disciples left any writings because the master insisted upon oral transmission of his teachings and swore the initiated few to the utmost secrecy. Plato, obsessed as he was with Pythagorean doctrine, recorded no direct information about the founder of the school; and Aristotle, though he examined Pythagorean tenets in considerable detail, never spoke about Pythagoras, but always in a general way about the Pythagoreans. By late classical times, however, the fame of this enigmatic figure demanded scholarly investigation, and a sizable corpus of neo-Pythagorean literature developed. Most of this the Renaissance inherited and avidly enhanced.⁷ There were two biographies of Pythagoras in the spirit of hagiography: a largely legendary *Vita* by Porphyry in the third century and a much better known account by Iamblichus, a student of Porphyry. There were the *Carmina aurea* and the *Symbola*, two lists of aphorisms purportedly prescribed by Pythagoras for his disciples, and a copious commentary on the *Carmina aurea* by Hierocles in the fifth century. There were several apocryphal letters. Pythagorean arithmetic had been set forth by Nicomachus of Gerasa,⁸ Pythagorean musicology had been

⁵ (London, 1653), fol. B1: 'What is Plato but Moses Atticus? And for Pythagoras it is a thing incredible that he and his followers should make such a deal of doe with the mystery of Numbers, had he not been favoured with a sight of Moses his Creation of the world in six days, and had the Philosophick Cabbala thereof [not been] communicated to him, which mainly consists in Numbers.'

⁶ *The True Intellectual System of the Universe* (London, 1678), p. 370.

⁷ Note at the end of this article the *editiones principes* of the major Pythagorean publications between 1474 and 1695. This rather lengthy list by no means exhausts Pythagorean literature in this period. For a critical survey of all Pythagorean writings in the classical period, see Eduard Zeller, *A History of Greek Philosophy*, tr. S. F. Alleyne (London, 1881), I, 306-323.

⁸ Nicomachus' *Arithmetica libri duo*, translated by both Apuleius (no longer extant) and Boethius, was the most influential arithmetical text in the middle ages. The *editio princeps* of the Greek text was printed in Paris, 1538. Boethius' version first appeared in *Opera*

elaborated by Nicomachus⁹ and Boethius,¹⁰ Pythagorean cosmology had been delineated by Timaeus Locrus¹¹ and Ocellus Lucanus,¹² while Pythagorean ethics had been poignantly illustrated by Philostratus' *Vita Apollonii Tyanei*.¹³ In addition to these neo-Pythagorean writings and in addition to Plato's *Timaeus* and Aristotle's *De cælo* and *Metaphysica*,¹⁴ there was full coverage of Pythagoras in Diogenes Laertius' *Vita* (VIII. 1-50), and there were frequent references to Pythagoreanism in several standard classical texts: Plutarch's *Opuscula moralia*,¹⁵ Ovid's *Metamorphoses*,¹⁶ and Lucian's *Dialogues*.¹⁷ This large and varied body of literature was completely assimilated into the mainstream of Renaissance thought.

Interest in Pythagoras was first ancillary to the rise of Neoplatonism in the Florentine Academy, and a brief consideration of his tradition shows why. In the sixth century B.C., after reaching manhood in his native Samos, Pythagoras undertook a quest for knowledge, which, according to ancient sources, gave him firsthand experience among the Phœnicians, the Chaldeans, the Persian magi, the Hindus, the Arabians, the Jews, the Thracians, the Druids of Gaul, and especially the Egypt-

(Venice, 1491-1492). There is a modern translation into English with invaluable notes by Martin Luther D'Ooge (Ann Arbor, Mich., 1938).

⁹ Nicomachus' *Manuale harmonicum* was first printed in *Aristoxenus, Nicomachus, Alypius, auctores musices antiquissimi*, ed. Jan van Meurs (Leyden, 1616).

¹⁰ Boethius' *De musica libri quinque*, a redaction of Nicomachus' musical work, was first printed in *Opera* (Venice, 1491-1492).

¹¹ The *De anima mundi et natura libellus* of Timaeus Locrus was first printed with Nicophorus Blemmidas, *Logica* et al. (Venice, 1498). Although modern scholars know this work to be a spurious paraphrase of Plato's *Timaeus*, the Renaissance did not doubt its authenticity.

¹² The text attributed to Ocellus Lucanus is probably not authentic but was accepted in the Renaissance. It was first printed as *De universi natura brevis et absoluta qualitatum elementarium enarratio* (Paris, 1539).

¹³ The *editio princeps* was an Aldine publication (Venice, 1501).

¹⁴ The most notable passages in which Aristotle discusses Pythagorean doctrine are *De cælo* 290 b 12-291 a 28, 293 a 15-293 b 21, and *Metaphysica* 985 b 23-990 a 32, 1080 a 37-1080 b 21, 1083 b 8-1085 a 2, 1090 a 16-1090 a 35, 1091 a 13-1091 b 15. See also *De anima* 404 a 16-404 a 20, 407 b 20-407 b 23.

¹⁵ Especially the spurious *De placitis philosophorum*.

¹⁶ The first half of Book xv is devoted to a favorable exposition of Pythagoreanism.

¹⁷ Pythagoras figures most prominently in ONEIPOΣ Η ΑΛΕΚΤΡΥΩΝ (a dialogue in which one speaker is a cock, the present incarnation of Pythagoras), in ΒΙΩΝ ΠΙΡΑΙΣ (a satire in which several philosophies of life are offered for sale), and in ΑΝΑΒΙΟΤΝΤΕΣ Η ΑΛΙΕΤΕΣ (an answer to the protest over ΒΙΩΝ ΠΙΡΑΙΣ in which the ancient philosophers return to avenge the calumny).

tians.¹⁸ Rather late in life, after syncretizing the wisdom of all these disparate cultures, Pythagoras settled at Crotona in Magna Græcia, where he founded a secret brotherhood which held out to its members the hope of divine perfection.¹⁹ Each brother was dedicated to the release of his soul from its encumbering body, a purification to be effected through contemplation of the universal order revealed in nature. To achieve this purpose, Pythagoras offered instruction which began with mathematics, then progressed to a study of nature and an investigation of primary principles, and finally promised knowledge of God. Despite the concomitant mysticism, the master and his immediate followers made extraordinary scientific discoveries. Pythagoras was the acknowledged father of pure arithmetic and geometry,²⁰ of numerology,²¹ of internal medicine,²² of acoustics and musicology,²³ and of literary emblems.²⁴

¹⁸ For sources relating to these legendary travels, see William Enfield, *The History of Philosophy* (London, 1837), pp. 212–214, and Zeller, *History of Greek Philosophy*, I, 327–335. Although Enfield and Zeller rightly submit these authorities to question, the Renaissance did not. See, for example, Alexander ab Alexandro, *Genialium dierum libri sex* (Paris, 1570), fol. 49^v–50.

¹⁹ Full accounts of this 'school' are in Diogenes Laertius and Iamblichus; see also Aulus Gellius, *Noctes Atticæ*, I. ix. 1–12, and Walter Burley, *Liber de vita et moribus philosophorum*, ed. Hermann Knust (Tübingen, 1886), pp. 70–72. Burley's imitation of Diogenes Laertius was first printed at Cologne in 1467, and was exceedingly popular in the late fifteenth century (at least twenty incunables). For a modern reconstruction of the beliefs promulgated in Pythagoras' school, see Enfield, *History of Philosophy*, pp. 217–230, and F. M. Cornford, 'Mysticism and Science in the Pythagorean Tradition', *Classical Quarterly* xvi (1922), 139 ff.

²⁰ 'Isidorus vero .III. ethimologiarum dicit: Numeri disciplinam apud grecos primum Pythagoram nuncupant perscripsisse' (Burley, *De vita*, p. 68). The reference to Isidore is *Etymologiae*, III. ii. 1. Cf. Diogenes Laertius, *Vita*, VIII, 11–12, and Batman upon Bartholome, *His Book De Proprietatibus Rerum* (London, 1582), fol. 95. For modern opinions, see Zeller, *Greek Philosophy*, I, 347; Nicomachus, *Arithmetic*, ed. D'Ooge, pp. 18–19; and George Sarton, *A History of Science: Ancient Science through the Golden Age of Greece* (Harvard Univ. Press, 1952), pp. 203 ff.

²¹ See Iamblichus, *Vita*, chap. 19. See also Zeller, *Greek Philosophy*, I, 419–425; John Burnet, *Early Greek Philosophy* (4th ed., London, 1945), pp. 107–108; and Tobias Dantzig, *Number: the Language of Science* (N. Y., 1930), pp. 40–45.

²² Pythagoras' claim to medical knowledge rests mainly upon his disciples, Alcmaeon and Empedocles: see Enfield, *History of Philosophy*, pp. 232–233; John Burnet, *Greek Philosophy: Part I, Thales to Plato* (London, 1928), pp. 41, 49–51; and Sarton, *History of Science*, pp. 214–215. Hartmann Schedel, after lauding Pythagoras' pioneering in cosmology, music, and mathematics, added: 'et medicinam non neglexit' (*Liber chronicarum*, Nuremberg, 1493, fol. 61^r).

²³ Pythagoras discovered the numerical ratios which determine the concordant intervals of the musical scale; ergo, 'Hic Pythagoras, ut ait Boecius in primo musice, artis musice inventor fuisse apud grecos dicitur' (Burley, *De vita*, p. 68). The reference to Boethius is *De musica*, I, x. André Dacier gives an open-minded review of scholarship on

He posited a spherical earth in a circular orbit,²⁵ an infinite universe,²⁶ a deistic monotheism,²⁷ and an immortal soul subjected to reward and punishment.²⁸ For such a man, a golden thigh was a minor accomplishment.

Pythagoras' invention of 'harmonical Measures' (*The Life of Pythagoras*, etc., tr. Nicholas Rowe, London, 1707, pp. 82–83). See also Burnet, *Thales to Plato*, pp. 45–49.

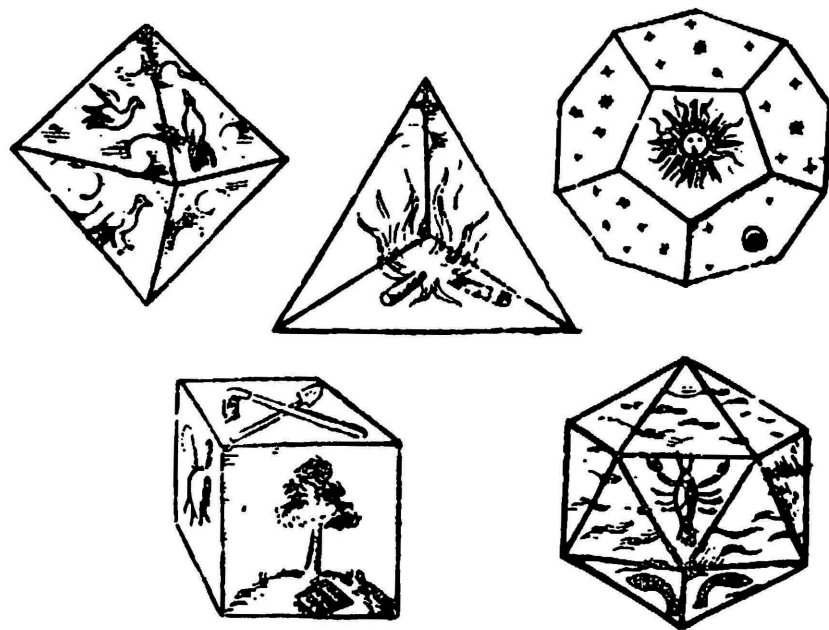
²⁴ Pythagoras delivered his moral teachings in the form of dicta with recondite meanings, hence the *Symbola*. This practice derived from his extended visit among the priests of Egypt. These *Symbola*, reinforced with literary esoterica such as the *Hieroglyphica* of Horapollo and the mystic symbols of the Kabalists, were assimilated by Neoplatonists of the Florentine Academy and eventually gave rise to the prolific emblem literature of the sixteenth century. See Plutarch, *Of Isis and Osiris* in *Moralia*, tr. Philemon Holland (2d ed., London, 1657), p. 1051; Vincenzo Cartari, *Les Images des dieux des anciens*, tr. Antoine du Verdier (Lyons, 1581), p. 4; Lilio Gregorio Giraldi, *Libelli duo . . . in altero Pythagoræ symbola . . . sunt explicata* (Basle, 1551), pp. 71–85 (prefatory letter to Pico della Mirandola); G. P. Valeriano, *Hieroglyphica* (Basle, 1556), title page; and Pierre Bayle, *Dictionnaire historique et critique* (Rotterdam, 1697), 'Pythagoras', footnote H. Claude Mignault (better known as Minos) wrote a 'Syntagma de symbolis' which after 1573 became a frequent addition to Alciati's *Emblemata*. The 'Syntagma' offered a history of symbols from their invention through the Chaldeans, Egyptians, and Hebrews, to Pythagoras and beyond. This is the best summary of Pythagoras' contribution to the emblem tradition.

²⁵ See Diogenes Laertius, *Vita*, VIII, 48. 'It is well known that the Pythagoreans held the Motion of the Earth about the Sun' (Henry More, *Conjectura cabalistica*, p. 154). Although this interpretation of Pythagorean cosmology is not strictly true, Copernicus and others attributed a heliocentric universe to Pythagoras. For other discoveries made by Pythagoras in astronomy, see J. L. E. Dreyer, *A History of Astronomy from Thales to Kepler* (2d ed., N. Y., 1953), pp. 37–38. For modern evaluation of Pythagoras' contributions to astronomy, see Burnet, *Early Greek Philosophy*, pp. 110–111; Theodor Gomperz, *Greek Thinkers*, tr. Laurie Magnus (N. Y., 1908), I, 110 ff.; Sarton, *History of Science*, pp. 212–213. Pierre Duham began his monumental *Le Système du monde* with 'L'Astronomie pythagoricienne' (Paris, 1913).

²⁶ See Aristotle, *Physica* 202 b 36–203 a 16, 204 a 8–204 a 34, 213 b 22–213 b 27; and Plutarch, *Opinions of Philosophers* in *Moralia*, pp. 671, 672 [II, ix, xiii]. Thomas Digges' famous diagram of an infinite heliocentric universe is drawn 'according to the most auncient doctrine of the Pythagoreans' (in *A Perfit Description of the Cælestiall Orbes*, London, 1576, reprinted in Alexandre Koyré, *From the Closed World to the Infinite Universe*, Baltimore, 1957, p. 37). See also Zeller, *History of Greek Philosophy*, I, 466–468; and Burnet, *Early Greek Philosophy*, p. 108.

²⁷ Cudworth quoted St. Cyril: 'Pythagoras held there was One God of the whole Universe, the Principle and Cause of all things, the Illuminator, Animator and Quickener of the Whole, and Original of Motion; from whom all things were derived, and brought out of Nonentity into Being' (*Intellectual System*, p. 377). The reference to St. Cyril is *Contra Julianum* (Leipzig, 1696), p. 30 [Liber I]. See also Cicero, *De natura deorum*, I, xi; Iamblichus, *Vita*, chap. 30; Bayle, *Dictionnaire*, 'Pythagoras', footnote N; and Enfield, *History of Philosophy*, pp. 227–228.

²⁸ 'Pythagoras primus apud grecos invenit immortales esse animas, sed erravit ponendo eas de corpore ad corpora transire' (Burley, *De vita*, p. 78). Cf. Plutarch, *Opin. of Phil.*, p. 683 [IV, vii]; Natalis Comes, *Mythologiae* (Padua, 1616), pp. 147 [III, xx], 537–538 [X 'De Lethe fluvio']; and Zeller, *Greek Philosophy*, I, 481–487.



1. The elements as regular solids (Kepler, *Harmonice mundi*, 1619)

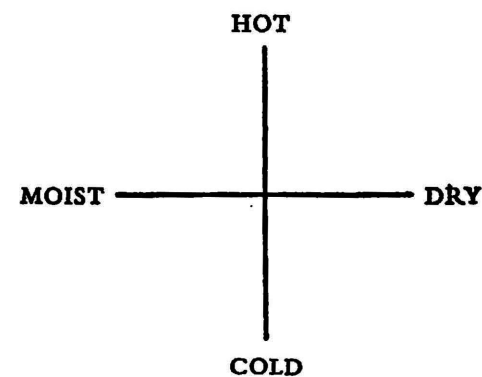
In the Renaissance, Pythagoras was perhaps best known for his theory about the transmigration of souls—the ‘Pythagorean metempsychosis’ that Faustus, according to Marlowe, so pitifully envied at the end of his hedonistic career. But much more fundamental to the Renaissance world-view was the discovery attributed to Pythagoras of the mathematical relationships in musical harmony and the application of these harmonic ratios to the physical universe. In Plutarch’s words, as translated by Philemon Holland, Pythagoras ‘held that the principle of all things were Numbers, and their symmetries, that is to say the proportions that they have in their correspondency one unto another . . . are termed by him Geometrical’.²⁹ For the Pythagoreans, God was the arch-geometer,³⁰ and He had fashioned each of the four elements so that its inherent shape was one of the four regular solids: fire was a pyramid, earth a cube, air an octahedron, and water an icosahedron. God had used the dodecahedron, the fifth regular solid, as a model for the universe in its entirety. This lore had been accepted by Plato in the *Timaeus* (55D–56C), and the geometrical designation of the elements was seri-

²⁹ *Opin. of Phil.*, p. 660 [I, iii]. Cf. Aristotle, *Metaphysica* 985 b 23–986 a 21.

³⁰ See Plutarch, *The Symposiakes in Moralia*, pp. 628–630 [VIII, 2].

ously discussed even so late as Johann Kepler, from whose *Harmonice mundi* figure 1 is taken.³¹ Because of this cosmological geometry, Pythagoras was acknowledged as the first philosopher.³² In fact, he invented the name ‘philosopher’ to replace the presumptuous σοφός or sapiens.³³

More important, Pythagoras was credited with originating the term ‘cosmos’.³⁴ And as might be expected, this cosmos is represented in a geometrical design, a tetrad (fig. 2). Arranged in a square were the four basic qualities, the contraries opposite one another: hot opposite cold, and dry opposite moist. The four elements, partaking of these four



2. Tetrad of qualities

³¹ (Linz, 1619); figure 1 is inserted after fol. *4. On the elemental solids, see Plutarch, *Opin. of Phil.*, p. 671 [II, vi], and *Platonique Questions in Moralia*, p. 836 [no. 4]; Peter Crinitus, *De honesta disciplina* (Basle, 1532), p. 206 [XIII, x]; Dacier, *Life of Pythagoras*, pp. 72–73; Zeller, *History of Greek Philosophy*, I, 436–438; and Eva Sachs, *Die fünf platonischen Körper* (Berlin, 1917). The symbolism of the dodecahedron has been recently employed by Salvador Dalí in his ‘Sacrament of the Last Supper’ (National Gallery of Art, Washington, D. C.).

³² Thales was probably a generation older than Pythagoras, but he inaugurated no continuing tradition. The seven wise men of Greece, of course, also antedated Pythagoras; but he superseded them by choosing the appellation ‘philosopher’ in place of σοφός.

³³ This is probably the most widespread story about Pythagoras. The *locus classicus* is Cicero, *Disputationes Tusculanae*, v, 3–4. Cf. Iamblichus, *Vita*, chap. 12; Isidore, *Etymologiae*, VIII.vi.2; and Hermannus Torrentinus, *Dictionarium poeticum* (Paris, 1550), ‘Pythagoras’.

³⁴ See Diogenes Laertius, *Vita*, VIII, 48; Plutarch, *Opin. of Phil.*, p. 670 [II, i]; Photius, *Myriobiblon* (Geneva, 1611), col. 1318; and Thomas Stanley, *The History of Philosophy* (London, 1656), p. 14.

qualities, then also formed a tetrad (fig. 3). Using the terminology of Empedocles, a follower of Pythagoras, we can see that Hate operating between the opposites would produce an outward thrust tending to disrupt the cosmos. But Love between the elements that share a common quality—for instance, air and fire share the quality 'hot'—would form a tension around the circumference of the circle. As Pierre de la Primaudaye explained in his *Third Volume of the French Academie*:

The elements are agreeable one to another, with their coupled qualities. . . . So that the fower elements are (as if each one of them had two hands, by which they held one another) as in a round daunce:³⁵ or else, as if they were conjoined and linked together, as with chains and buckles.³⁶

The system is stable because it is harmonious, because it incorporates extremes. In this configuration, there is a perfect balance of tensions, a reconciliation of opposites, an orderly arrangement of a unified whole. In the words of Nicomachus:

Harmony always arises from opposites; for harmony is the unification of the diverse and the reconciliation of the contrary-minded.³⁷

According to Hierocles, as translated by John Hall, this was Pythagoras' greatest achievement: 'the knowledge of the Creative Tetrad'.³⁸

³⁵ This was the notion of the cosmic dance; cf. Guillaume Saluste du Bartas, *Devine Weekes and Workes*, tr. Joshua Sylvester (3d ed., London, 1611), p. 33:

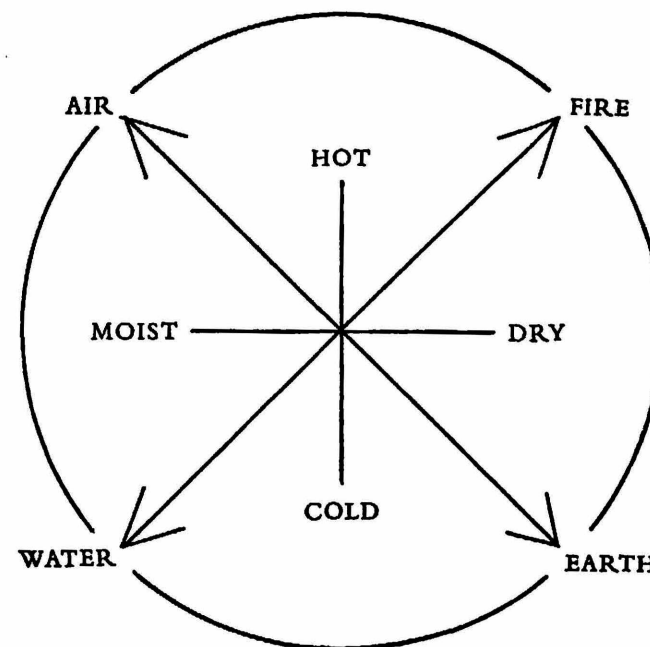
Water, as arm'd with moisture and with cold,
The cold-dry Earth with her one hand doth hold;
With th'other th'Aire: The Aire, as moist and warm,
Holds Fire with one; Water with th'other arm:
As Country Maydens, in the Month of May,
Merrily sporting on a Holy-day,
And lusty dancing of a lively Round,
About the May-pole, by the Bag-pipes sound;
Hold hand in hand, so that the first is fast
(By means of those between) unto the last.

³⁶ Tr. R. Dolman (London, 1601), p. 179. Macrobius had described the mechanism of the tetrad in complete detail in his *Commentary on the Dream of Scipio*, tr. William H. Stahl (N. Y., 1952), p. 105 [i.vi.25–28]. Cf. Giovanni Battista della Porta, *Natural Magick* [1658], ed. Derek J. Price (N. Y., 1957), p. 5. Edmund Spenser described the elemental cosmos with surprising succinctness:

. . . Water fights
With Fire, and Aire with Earth approaching neere:
Yet all are in one body, and as one appeare.
(*Faerie Queene*, vii.vii.25.7–9)

³⁷ *Arithmetic*, tr. D'Ooge, p. 260.

³⁸ *Hierocles upon the Golden Verses of Pythagoras* (London, 1657), p. 127.



3. Tetrad of elements and qualities

After delineating this mechanism for cosmos, Pythagoras applied the pattern to the various categories of existence:

Indeed the Tetrad cements al things that have any existence together, as the Elements, Numbers, Seasons of the year, and periods of Age. Neither are we to doubt that these flow not from the Tetrad as the root and spring: for the Tetrad, as we said before, is in the Creatour and cause of all things, the Intellectuall God, the Sonne of the Celestiall and Sensible God.³⁹

Pythagoras was the first man in western culture to propose a persistent pattern that prevails throughout each level of creation—which is, of course, the ideological basis for the entire microcosm-macrocosm analogy. This integrated system provided a basis for scientific hypothesis and for optimistic philosophical speculation. As Dacier said: 'He first call'd the Universe κόσμος, *Mundum*, to mark the Beauty, the Order and the Regularity that reign thro' all its Parts.'⁴⁰ It was recognized that κόσμος means 'embellishment' as well as 'order'.

³⁹ *Ibid.*, p. 126.

⁴⁰ *Life of Pythagoras*, p. 74.

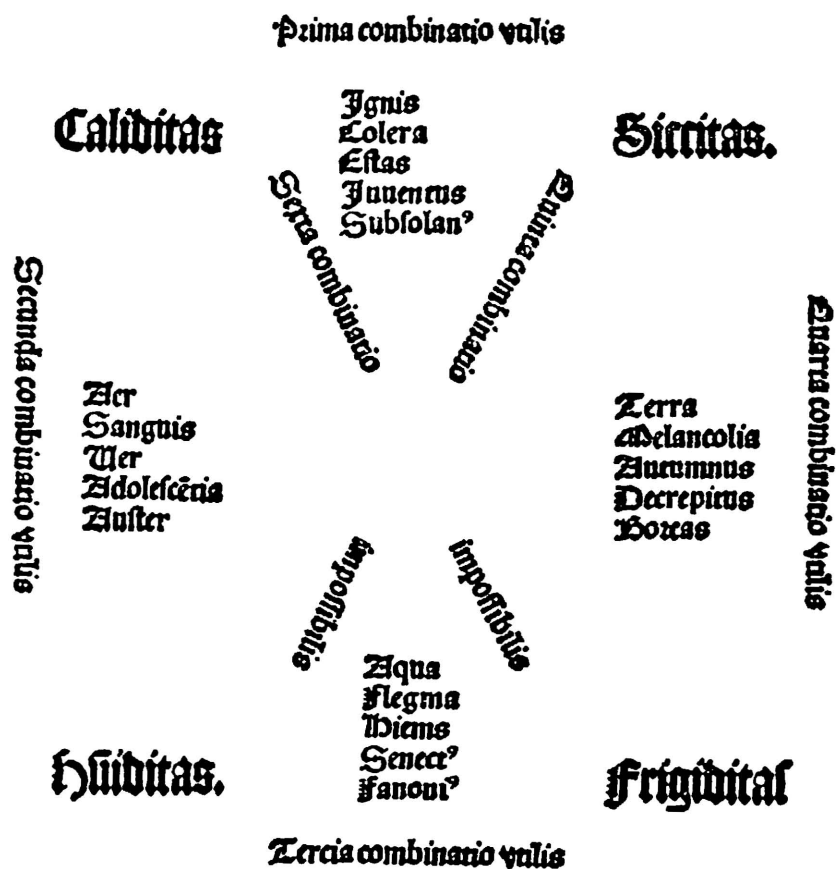
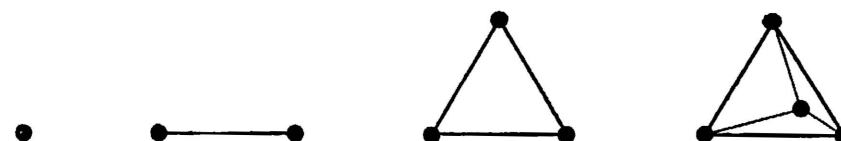
4. Tetrad (Peyligk, *Philosophiae naturalis compendium*)

Figure 4 is a Renaissance version of figure 3 taken from Johann Peyligk, *Philosophiae naturalis compendium*, printed in 1499 (sig. H1).⁴¹ At the corners are the four basic qualities. On the periphery of the tetrad the possible combinations of these qualities are indicated, while diagonally across the tetrad the impossibility of combinations is noted. The first combination, between hot and dry, produces fire, choler, summer, youth, and Subsolanus, the east wind. The second combination, between hot and moist, produces air, blood, spring, adolescence, and Aus-

⁴¹ Cf. the diagrams in Agostino Nifo, *In libris Aristotelis meteorologicis commentaria* (Venice, 1540), fol. 3^r; and Oronce Finé, *De mundi sphaera* (Paris, 1542), reprinted in Edna Kenton, *The Book of Earths* (N. Y., 1928), p. 170.

ter, the south wind. The third combination, between moist and cold, produces water, phlegm, winter, old age, and Favonius, the west wind. The fourth combination, between cold and dry, produces earth, black bile, autumn, decrepitude, and Boreas, the north wind. The fifth combination, however, between dry and moist, is *impossibilis*, as is also the sixth combination between hot and cold.



5. The number four as a solid

The fundamental importance of the number four was verified to the Pythagoreans by other impressive evidence. The name of God in all languages is composed of four letters: e.g., Zeus, Jove, and Jehovah.⁴² Geometrically speaking, the number four provides the first solid body (fig. 5): 1 makes only a point, 2 makes only a straight line, 3 makes only a plane surface, but 4 makes a solid with volume,⁴³ and therefore is the proper number to represent the extended universe. What clinched the essentiality of four, however, was its relationship to the perfect number, ten; $1+2+3+4=10$, and consequently four contains within itself the potentiality of perfection.⁴⁴

The idea of cosmos, then, was a central thesis of Pythagoreanism, and

⁴² This was a major point of contact between Pythagoras and the Jews: Pythagoras' τετρακτὸς (see note 44) was equated with the Hebrew tetragrammaton. 'Therefore did the Pythagorians swear by this number, as by some holy thing, making (as may be easily conjectured) allusion to that great fower-lettered name of the Hebrues' (La Primaudaye, *French Academie*, p. 178). See also Bayle, *Dictionaire*, 'Pythagoras', footnote H; and Dacier, *Life of Pythagoras*, pp. 32, 316.

⁴³ Hierocles, *Upon the Golden Verses*, tr. Hall, p. 126 [comm. on ll. 47-48]. La Primaudaye turned even this notion into a tetrad: 'All quantitie is divided into fower, to wit, into a point, into a length, bredth, and depth' (*French Academie*, p. 177). See also Aristotle, *De anima* 404 b 18-404 b 24; Henry More, *Conjectura cabbalistica*, p. 152; and Zeller, I, 434-436.

⁴⁴ This relationship between 4 and 10 was expressed in a sacred symbol called the τετρακτὸς. For an explanation of why 10 represents perfection, see Nicomachus, *Arithmetic*, tr. D'Ooge, p. 219, n. 1. See also La Primaudaye, *French Academie*, p. 178; Zeller, I, 427-428; and Cornford, 'Mysticism and Science', *Classical Quarterly* xvii (1923), 1 ff. For a critique of these various arguments for the special significance of four, see Cudworth, *Intellectual System*, p. 376.

the tetrad—sometimes called the ‘quaternion’—was the symbol which expressed this all-inclusive principle. The tetrad was the basic pattern which subsists throughout the universe. In consequence, there are not only four elements, but also four humors, four seasons, four ages of man, four corners of the world, four cardinal winds, four mental faculties, four rivers of Paradise and four of Hell, four archangels, four evangelists, four cardinal virtues, and so on literally *ad infinitum*. La Primaudaye quoted Hierocles on this point:

Hierocles the interpreter of *Pythagoras*, doth so extoll this number of fower, that he affirmeth it to be the cause of all things, and that nothing can be said or done, which proceedeth not from it, as from the roote and foundation of all nature (p. 178).

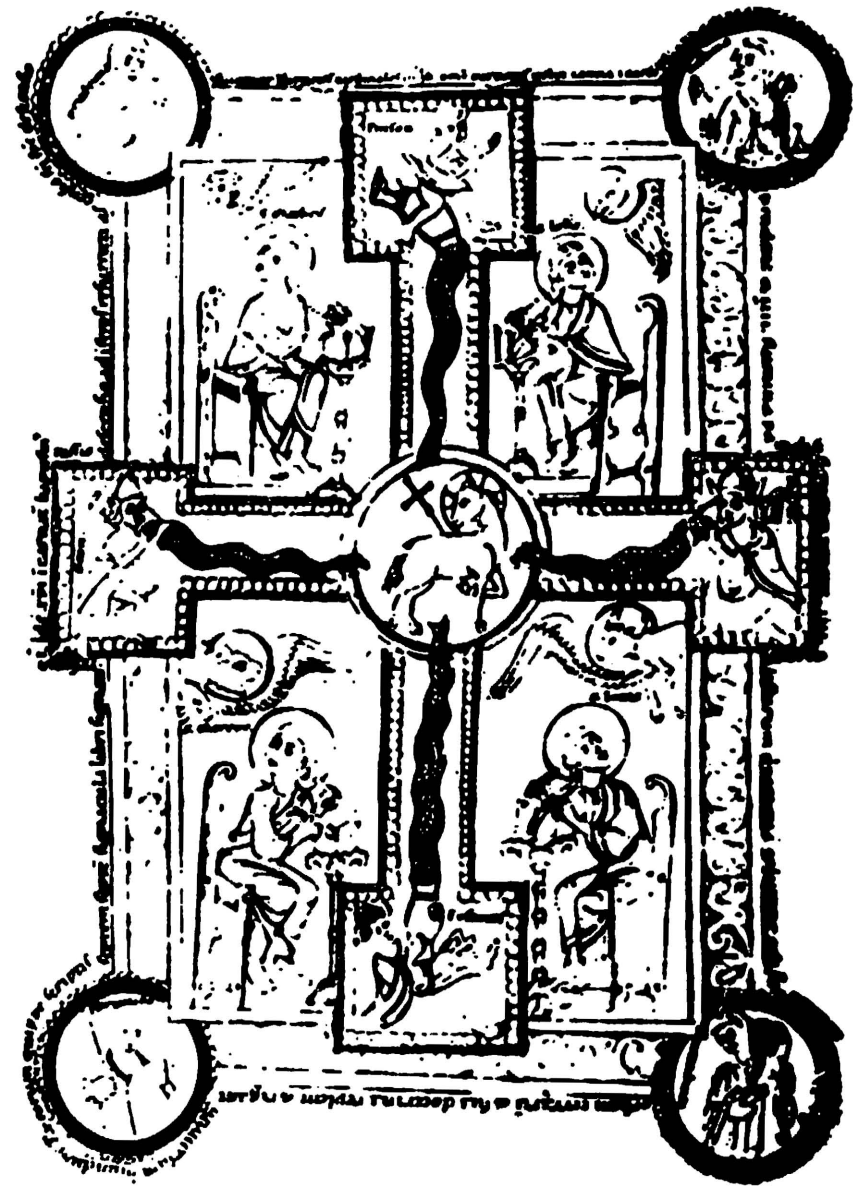
Lists of evident tetrads must have been an integral part of the Pythagorean doctrine from its inception. In extant writings, however—and we must remember that the Pythagoreans were sworn to secrecy and oral communication—explicit delineation of specific tetrads begins in the second century B.C. with the *Expositio rerum mathematicarum ad legendum Platonem utilium* by Theon of Smyrna, who explicated eleven tetrads.⁴⁶ But from then on, the tetrad enjoyed a continuous and prolific tradition,⁴⁶ culminating for the Renaissance in the elaborately diagrammed ‘Scale of the Number Four’ in Henry Cornelius Agrippa’s *De occulta philosophia* which includes no less than thirty-one tetrads.⁴⁷

Since the tetrad pattern is omnipresent, it was used in the Renaissance to depict the first principle in many different fields of knowledge: ‘All the foundation of every deepe studie and invention, must be settled upon the number of fower, because it is the roote and beginning of all

⁴⁶ Ed. Eduard Hiller (Teubner ed., Leipzig, 1878), pp. 93–106. The *editio princeps*, Greek text with Latin translation, appeared in Paris, 1644.

⁴⁶ For examples well-known in the Renaissance, see Philo Judaeus, *De plantatione Noë*, 120 ff., and *De opificio mundi*, 48 ff.; Plutarch, *Opin. of Phil.*, p. 661 [i, iii]; Hierocles, *Upon the Golden Verses*, p. 126; Isidore, *De natura rerum*, vii, 4, xi, 1–3; Martianus Capella, *De nuptiis philologiae et Mercurii*, II, 106 ff., vii, 734; Carolus Bovillus, *Liber de sapiente* (1509), in *Individuum und Kosmos in der Philosophie der Renaissance*, ed. Ernst Cassirer (Leipzig, 1927), pp. 311–312; Du Bartas, *Devine Weekes*, pp. 40, 361; La Primaudaye, *French Academie*, pp. 177, 179 [a redaction of Hierocles]; John Davies of Hereford, *Microcosmos* (1603), ed. A. B. Grosart (London, 1877–1878, Chertsey Worthies’ Library), pp. 30–32; and William Lilly, *Christian Astrology* (London, 1647), p. 183. For modern studies of the origin of the tetrad tradition in literature, see Armand Delatte, *Études sur la littérature pythagoricienne* (Paris, 1915), p. 255, and Paul Kucharski, *Étude sur la doctrine pythagoricienne de la tétrade* (Paris, 1952), pp. 18–26.

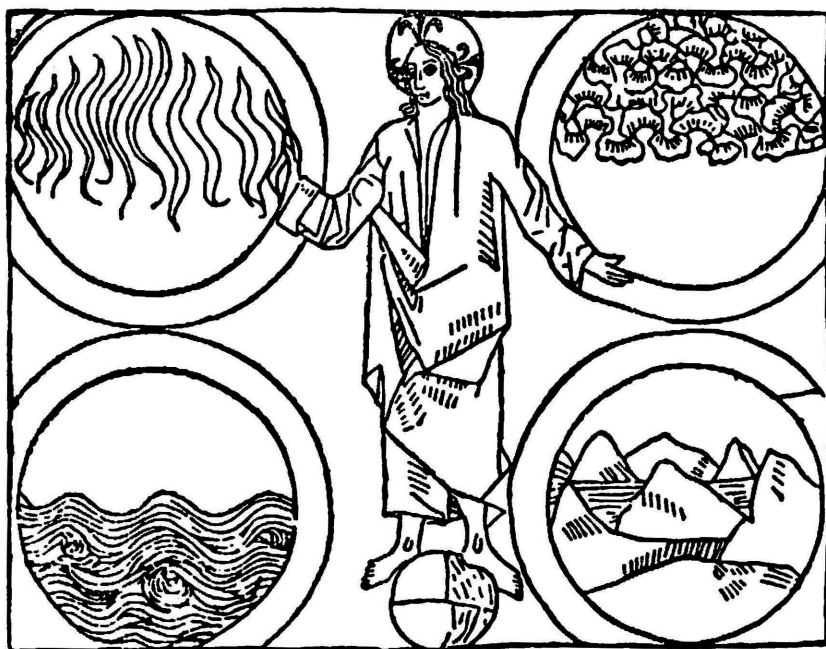
⁴⁷ Tr. J[ohn] F[reake?] (London, 1651), pp. 186–187.



6. Theological tetrad

numbers.⁴⁸ In natural philosophy, as already noted, the tetrad explained the arrangement of the four elements; in theology, it represented the relationship between Christ and the evangelists; in medicine, it balanced the four humors and differentiated the four ages of man; in meteorology, it provided a wind-rose; in astrology, it organized the twelve signs of the zodiac into four seasons; and in alchemy, it showed how the philosophers' stone was the perfect center of the universe. My purpose now is to consider representative examples of these Renaissance tetrads.

Figure 6⁴⁹ is an illumination from a twelfth-century breviary. This theological tetrad shows the Lamb of God in the center, the four evangelists with their symbols in the squares surrounding Him (Matthew, John, Luke, Mark), the four rivers of Paradise (the Phison, the Tigris, the Euphrates, and the Geon), and the four cardinal virtues (prudence,



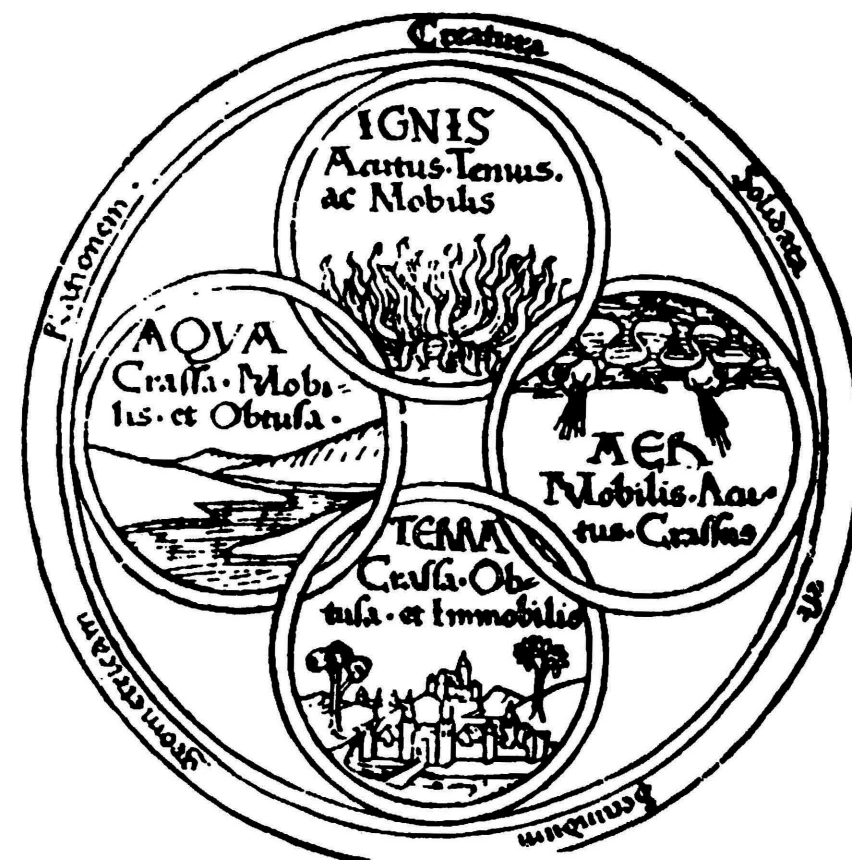
7. Christ and the four elements
(Bartholomaeus Anglicus, *De proprietatibus rerum*, 1482)

⁴⁸ La Primaudaye, *French Academie*, p. 177.

⁴⁹ Reproduced in C. G. Jung, *Psychology and Alchemy* (N. Y., 1953, Bollingen Series XX), p. 125.

justice, temperance, and fortitude). Such a tetrad is more typical of the middle ages than of the Renaissance, although Henry More provided a belated gloss for it: 'There was a very pleasant River that water'd this Garden [of Eden], distinguishable into four streams, which are the four Cardinal Virtues, which are in several degrees in the Soul.'⁵⁰

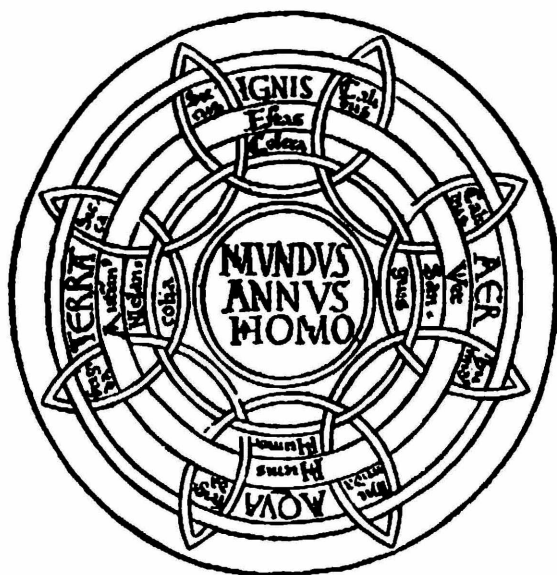
Now moving into the era of the printed book, we see in figure 7⁵¹ an illustration from a French version of Bartholomaeus Anglicus' *De proprietatibus rerum*, printed in 1482. Christ stands in the midst of the four elements and represents the ideal synthesis of these mundane materials. The elements are not arranged in a true tetrad pattern—that is,



8. The four elements (Isidore of Seville, *De natura rerum*, 1472)

⁵⁰ *Conjectura cabalistica*, p. 38. See also La Primaudaye, *French Academie*, p. 179.

⁵¹ Reproduced in Jung, *Psychology and Alchemy*, p. 127.



9. The natural sciences (Isidore of Seville, *De natura rerum*, 1472)

fire and water, though opposites, are juxtaposed; but this oversight can be explained, I believe, by the probability that this illustration derived from another drawing, a woodcut in the first edition of Isidore of Seville's *De natura rerum*, printed in 1472 (fig. 8). Here we have the four elements similarly arranged, to illustrate the Pythagorean tenet printed around the rim: *Creatura solidata est secundum geometricam rationem*.

This first edition of Isidore provides another woodcut (fig. 9), illustrative of the natural sciences, which shows how the tetrad pattern subsists in the related cosmoi of *mundus*, *annus*, and *homo*. For *mundus*, there are the four elements; for *annus*, there are the four seasons which correspond to the four elements; and for *homo*, there are the four corresponding humors. All is interrelated, unified, harmonious; and the medieval flavor of Isidore is nicely retained in the delicate interlacings. In his *Devine Weekes and Workes*, du Bartas likewise expounded 'a fourefolde Consort in the humors, seasons, and elements' (pp. 377-378).⁵²

⁵² These correspondences between the elements, the seasons, and the humors were commonplace in classical, medieval, and Renaissance thought; see Rosemond Tuve, *Seasons and Months* (Paris, 1933), pp. 54, 68, 98. The tradition derived from Hippocratic and Galenic medicine, but no doubt originated in theories enunciated by Alcmaeon, most prominent of the Pythagorean physicians, who had postulated: 'Health is the equality of rights of the functions, wet-dry, cold-hot, bitter-sweet and the rest. . . health is the

The little world of man traditionally integrated the four humors, as in figure 10,⁵³ where the alchemical hermaphrodite is surrounded by the signs of the zodiac. But man was also the embodiment of other tetrads. The four ages of man corresponded to the four seasons, as Peter Crinitus noted:

Has autem ætates idem Pythagoras quatuor anni temporibus condigna similitudine comparabat: videlicet verno tempore pueros, ætati adolescentes, autumnio iuvenes, hyemi senes.⁵⁴



10. The alchemical hermaphrodite (Thurneysser, *Quinta essentia*, 1574)

harmonious mixture of the qualities' (Kathleen Freeman, *Ancilla to the Pre-Socratic Philosophers*, Cambridge, Mass., 1948, pp. 40-41).

⁵³ From Leonhard Thurneysser, *Quinta essentia* (Leipzig, 1574), reproduced in Paracelsus, *Selected Writings*, ed. Jolande Jacobi (New York, 1951, Bollingen Series xxviii), p. 93.

⁵⁴ *De honesta disciplina*, p. 88 [v, ix]. Crinitus was quoting Diogenes Laertius, *Vita*, viii, 10. Cf. Ovid, *Metamorphoses*, xv, 199-213.

11. Wind-rose (Apianus, *Cosmographicus liber*, 1524)

Paracelsus formed a tetrad from the four basic tastes:

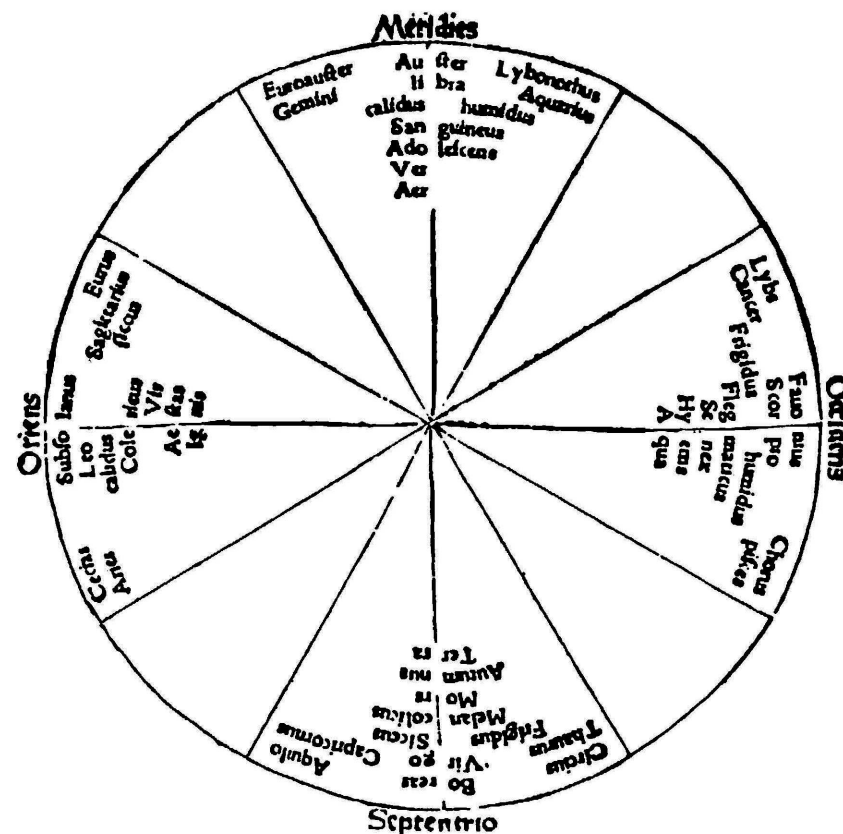
The body has four kinds of taste—the sour, the sweet, the bitter, and the salty. . . . Everything bitter is hot and dry, that is to say, choleric; everything sour is cold and dry, that is to say, melancholic [etc.].⁵⁵

Alexander ab Alexandro applied the tetrad to man's soul:

Pythagorei per quaternionem: siquidem hunc numerum ad animæ integritatem spectare dicunt: in his fuere mens, scientia, opinio, & sensus.⁵⁶

⁵⁵ Paracelsus, *Writings*, p. 93.

⁵⁶ *Genialium dierum libri sex*, fol. 266^v. Alexander is quoting Plutarch, *Opin. of Phil.*,

12. Wind-rose (Aristotle, *Meteorologica*, 1519)

The tetrad therefore presented a psychological as well as physiological integration of the human microcosm.

Meteorologists used a tetrad to set forth the winds, such as the representative wind-rose in Apianus' *Cosmographicus liber* of 1524 (fig. 11). The twelve winds are named in various languages, and each cardinal wind is also identified with its appropriate element: the south wind with air, the west wind with water, the north wind with earth, and the east wind with fire. A more complex, though less decorative, wind-rose appeared in Johann Eck's edition of Aristotle's *Meteorologica* prepared for the University of Ingolstadt in 1519 (fig. 12). Here are not only the

p. 661 [i, iii], or Hierocles, *Upon the Golden Verses*, p. 126. Cf. Aristotle, *De anima* 404 b 25-404 b 27; see Kucharski, *Étude sur la tétrade*, pp. 11 ff.

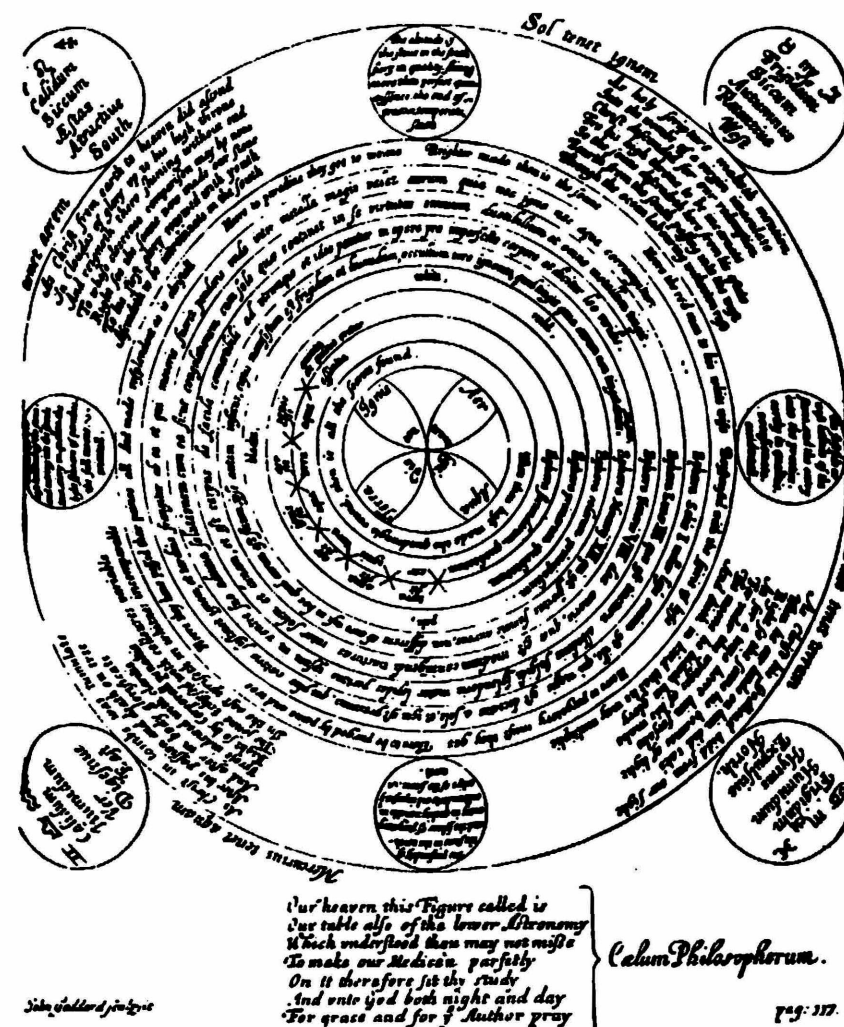
13. The signs of the zodiac (*Kalendar of Shepherds*, 1503)

points of the compass and the twelve winds (given in four groups of three), but also the twelve signs of the zodiac (given in four groups of three), the four basic qualities, the four humors, the four ages of man, the four seasons, and the four elements.

The tetrad arrangement of the twelve signs of the zodiac was, of course, an astrological commonplace. It was also a commonplace, inherited from the middle ages, to associate a human occupation with each of the twelve months.⁵⁷ The resultant arrangement, such as figure 13 from the *Kalendar of Shepherds* (1503), epitomized the good life, a perfect integration of all human experience. In the center medallion the lady with her flowers beneath a green tree and the gentleman beside his

⁵⁷ This tradition is brilliantly documented by Miss Tuve, *Seasons and Months*, pp. 122-170.

Here followeth the Figure conteyning all
the secrets of the Treatise both great & small

14. Philosophers' stone (Ashmole, *Theatrum chemicum Britannicum*, 1652)

fire beneath a bare tree suggest the reconciliation of opposites, of summer and winter, of female and male—in fact, as in figure 10, they represent an hermaphrodite, the obvious symbol of completeness used by the alchemists.

From astrology to alchemy was a short hop, and without surprise we

find the alchemists relying upon the tetrad to explain the mystery of the philosophers' stone. Elias Ashmole in his *Theatrum chemicum Britannicum* (1652) reproduced an intricate diagram (fig. 14) showing, amongst a myriad of other things, the four elements with the stone placed idealistically at their conjunction. Where air, water, earth, and fire come together in perfect balance, there is the *centrum lapidis*.

The Renaissance can boast at least one major creative work based on the tetrad: the long Latin poem of Conrad Celtis, *Quatuor libri amorum* (Nuremberg, 1502). The title page (fig. 15) reveals an elegant tetrad which includes the four cities at the geographical extremes of Germany, the four bodies of water which mark its boundaries, the four parts of the day, and the four ages of man. In the center is Bohemia and the Elbe. The work is organized according to this plan.⁵⁸

After the prefatory matter, but preceding the text of the poem itself, there is a woodcut by Albrecht Dürer (fig. 16) depicting Lady Philosophy enthroned amidst a tetrad of the wisest men from the most renowned civilizations: Ptolemy, representing the priests of Egypt and Chaldea; Plato, representing the philosophers of Greece; Cicero and Vergil, representing the orators and poets of Rome; and Albertus Magnus, representing the scholars of Germany. From the corners blow the four cardinal winds: Eurus, associated with fire and choler; Zephyrus, associated with air and blood; Auster, associated with water and phlegm; and Boreas, associated with earth and black bile. And the whole is entwined with garlands appropriate to the seasons to form a pseudo-cosmos.

Immediately preceding each of the four books of this poem is an appropriate woodcut setting forth a prospect of the city to which the book is dedicated, including the river that flows by it; and at the top is indicated the corresponding season, age of man, part of the day, wind, humor, zodiacal sign, quality, element, and color. For example, figure 17, which introduces book II, shows Mainz on the Rhine; and in the boxes at the top we have, in correspondence, autumn, youth, sunset, Zephyrus, phlegm, Libra, heat, water, and red. Our observation that these correspondences do not jibe with those established by the tetrad on the title page bespeaks our interest in fact rather than in poetry.

The tetrad also appears prominently in the writings of Thomas Browne, that inquiring *medicus religiosus*. He confided: 'I have often admired the mysticall way of *Pythagoras*, and the secret Magicke of num-



15. Title page of Celtis, *Quatuor libri amorum* (1502)

⁵⁸ See Lewis W. Spitz, *Conrad Celtis* (Cambridge, Mass., 1957), pp. 86–87.

16. Lady Philosophy in tetrads (Celtis, *Quatuor libri amorum*, 1502)17. Moguncia Metropolis (Celtis, *Quatuor libri amorum*, 1502)

bers.⁵⁹ By his usual method of conglomerating authorities, Browne educed the fact that when Cyrus planted his gardens he ordered the trees in rows which formed a 'Quincuncial Lozenge'—in fact, a continuous tetrad. Browne observed that tetrads are an omnipresent pattern in both art and nature, and he exhorted his fellow scientists to continue the search for them:

A large field is yet left unto sharper discerners to enlarge upon this order, to search out the *quaternio's* and figured draughts of this nature, and moderating the study of names, and meer nomenclature of plants, to erect generalities, disclose unobserved proprieties, not only in the vegetable shop, but the whole volume of nature.⁶⁰

Yet Browne was not willing to subscribe to unbridled numerology:

To enlarge this contemplation unto all the mysteries and secrets, accommodable unto this number, were inexcusable Pythagorisme.⁶¹

This denunciation of esoteric Pythagorism was no doubt for the benefit of the Cambridge Platonists.

In baroque form the tetrad appears on the title page of Sandys' translation of Ovid's *Metamorphoses* (1632).⁶² The splendid engraving presents Jove as fire, Juno as air, Neptune as water, and Ceres as earth, with the pointed inscription: *Ex his oriuntur cuncta*. An accompanying poem which gives 'the minde of the frontispiece' begins:

Fire, Aire, Earth, Water, all the Opposites
That strove in *Chaos*, powrefull Love unites;
And from their Discord drew this Harmonie,
Which smiles in *Nature*.

In this same vein, Dryden opened his well-known 'Song for St. Cecilia's Day':

From Harmony, from heav'nly Harmony
This universal Frame began;
When Nature underneath a heap
Of jarring Atomes lay,
And cou'd not heave her Head,
The tuneful Voice was heard from high,
Arise, ye more than dead.

⁵⁹ *Religio Medici*, ed. Jean-Jacques Denonain (Cambridge, 1953), p. 19 [I, xii].

⁶⁰ *The Garden of Cyrus* printed with *Pseudodoxia Epidemica* (4th ed., London, 1658), pp. 72-73.

⁶¹ *Ibid.*, p. 69.

⁶² Cf. the title page of G. B. della Porta's *Natural Magick* (1658).

Then cold and hot and moist and dry
In order to their Stations leap,
And MUSICK's pow'r obey.
From Harmony, from heavenly Harmony
This universal Frame began:
From Harmony to Harmony
Through all the Compass of the Notes it ran,
The Diapason closing full in Man.

This poem reflects the inevitable culmination of Renaissance humanism. The chief product of creation is man, in whom is heard the diapason of nature, the perfect harmony of God's great variety. The philosophers' next task, clearly, was to analyze the make-up of this abstract harmony; the time was ripe for psychology, for Descartes, Locke, Berkeley, and Hume. The proper study of mankind became not God, not the heavens, not the universe, but *man*. Nonetheless, the tetrad persisted. And today, in the terminology of Jung, modern man must still integrate his personality according to the archetypal pattern of the mandala, which in actuality is a tetrad.⁶³

Duke University

S. K. HENINGER, JR.

⁶³ Jung, *Psychology and Alchemy*, pp. 91 ff.

APPENDIX

FIRST EDITIONS OF MAJOR
PYTHAGOREAN PUBLICATIONS TO 1700

- Giovanni Aurispa, tr., *Hieroclis . . . in aureos versus Pythagoræ opusculum præstantissimum et religioni christianæ consentaneum* (Padua, 1474).
- Pythagoras, *Carmina aurea*, in Constantinus Lascaris, *Erotemata* . . . (Venice, 1494).
- Marsilio Ficino, tr., *Pythagoræ philosophi aurea verba. Symbola Pythagoræ philosophi*, in *Iamblichus de mysteriis Ægyptiorum, Chaldæorum, Assyriorum et al.* (Venice, 1497).
- Philippo Beroaldo, tr. and comm., *Pythagoræ symbola moraliter explicata* (Bologna, 1500).
- Stefano Negri, *Commentarioli in aurea carmina Pythagoræ*, in *Elegantissime e græco authorum subditorum translationes* (Milan, 1521).
- Johannes Alexander Brassicanus, tr. and comm., *Proverbiorum symmicta. Quibus adjecta sunt Pythagoræ symbola XVIII* (Vienna, 1529).
- Veit Amerbach, tr. and comm., *Poemata Pythagoræ et Phocylidis* (Strasbourg, 1539).
- Lilio Gregorio Giraldi, *Libelli duo, in quorum altero ænigmata pleraque antiquorum, in altero Pythagoræ symbola . . . sunt explicata* (Basle, 1551).
- Joachim Camerarius, ed., *Pythagoræ versus aurei in Libellus scolasticus utilis* (Basle, 1551).
- Nicolò Scutellio, tr., *Pythagoræ vita ex Iamblichio collecta* (Rome, 1556).
- Michael Neander, tr. and comm., *Pythagoræ carmina aurea in Opus aureum et scholasticum* (Basle, 1559).
- Jean de Strazeele, tr. and comm., *Aureorum Pythagoræ carminum, quibus ratio vitæ bene ac sapienter instituendæ continetur, brevis explanatio* (Paris, 1562).
- Claude Mignault, 'Syntagma de symbolis, stemmatum et schematum ratione, quæ insignia seu arma gentilitia vulgo nominantur: deque emblematis', appended to Andrea Alciati, *Emblemata* (Antwerp, 1573).
- Jean Antoine Baïf, tr., *Les vers dorés de Pitagoras in Étrènes de poëzie fransoeze* (Paris, 1574).
- Jean de Sponde, ed. and tr., *Pythagoreorum veterum fragmenta politica in Aristotelis politicorum libri octo* (Basle, 1582).
- Willem Canter, ed. and tr., *Pythagoreorum veterum fragmenta ethica in Aristotelis ethicorum Nicomachiorum libri decem* (Basle, 1582).
- Joannes Curterius, ed. and tr., *Hieroclis philosophi commentarius in aurea Pythagoreorum carmina* (Paris, 1583).
- Théodore Marcile, tr. and comm., *Aurea Pythagoreorum carmina* (Paris, 1585).
- Joannes Arcerius Theodoretus, ed. and tr., *Iamblichi . . . De vita Pythagoræ . . . Additæ sunt in fine Theanus, Myiæ, Melissæ & Pythagoræ aliquot epistolia* (Heidelberg, 1598).
- Didier Hérauld, *Adversariorum libri duo. Quibus adjunctus est animadversionum eiusdem in librum Iamblichi de vita Pythagoræ* (Paris, 1599).
- Joachim Zehner, ed. and tr., *Pythagoræ fragmenta* (Leipzig, 1603).

- Dardi Bembo, tr., *Commento di Ierocle filosofo sopra i versi di Pitagora, detti d'oro* (Venice, 1604).
- Conrad Rittershus, ed., *Malchus [i.e., Porphyry] de vita Pythagoræ* (Aldorf, 1610).
- Giovanni Donati Ferrario, tr., *[Porphyrii] Pythagoræ vita* (Milan, 1629).
- Lucas Holstein, ed. and tr., *Porphyrii liber de vita Pythagoræ. . . Dissertationem de vita et scriptis Porphyrii et ad vitam Pythagoræ observationes adfecit . . .* (Rome, 1630).
- Johann Elichmann, tr., *Aurea carmina Pythagoræ in Simplicii commentarius in enchiridion Epicteti* . . . (Leyden, 1640).
- Thomas Stanley, tr. and comm., *Carmina aurea in Poems* (London, 1651).
- Meric Casaubon, *Notæ ad commentarium Hieroclis in aurea carmina in Hieroclis de providentia et fato . . .* (London, 1655).
- John Hall, tr., *Hierocles upon the Golden Verses of Pythagoras* (London, 1657).
- [Count] Francesco Berni, *Arcana moralia ex Pythagoræ symbolis collecta* (Ferrara, 1669).
- John Norris, tr., *Hierocles upon the Golden Verses of the Pythagoreans* (London, 1682).
- Edmund Arwaker, *Thoughts Well Employ'd; or, the Duty of Self-Observation. To which are Added Pythagoras's Golden Verses Made Christian* (London, 1695).