

KNOWING THROUGH SEEING:
DIAGRAMS, SCHEMATA AND TABLEAUX
IN EARLY PRINTED BOOKS, MEDIEVAL MANUSCRIPTS,
AND PRINTS

Princeton University Library

Gould Exhibition Gallery

October 16, 1987 - January 10, 1988

Notes on the Exhibition compiled by

Stephen Ferguson

Assistant University Librarian for Rare Books and Special Collections

Curator of Rare Books

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INTRODUCTION

Diagrams serve as windows through which readers can see into the writer's intricate construction of words. Even though such illustrations have their origins in ancient times, the printed book, in particular, facilitated the urge to make text more visually accessible. Walter Ong summed up this trend:

[There occurs a] drive toward thinking [from the Renaissance onwards] not only of the universe but also of thought itself in terms of spatial models apprehended by sight. In this context, the notion of knowledge as word, and the personalist orientation of cognition and the universe which this notion implies, is due to atrophy. Dialogue itself will drop more than ever out of dialectic. Persons, who alone speak (and in whom alone knowledge and science exist), will be eclipsed insofar as the world is thought of as an assemblage of the sort of things which vision apprehends -- objects and surfaces.¹

With the printed book, the number of "visuals" attached to text became more commonplace, e.g. titlepages, indexes, running heads, abstracts at the head of chapters, tables of contents, in addition to diagrams and illustrations, both naturalistic and schematic.

The Library's collections of early printed books, manuscripts and prints provide ample evidence of the trend toward the visual, and this exhibition provides a sampling of diagrams, schemata and tableaux from nearly 80 items. While the exhibits are chiefly from the collections of the Princeton University Library, four generous loans are included: one book each from the University of Pennsylvania and Lehigh University; a manuscript and a printed book from the Scheide Library here in Princeton.

The exhibition is arranged by the following list of subjects, beginning with COSMOLOGY on the front entrance wall, then moving clockwise around the room to the final exhibits in the alcoves behind the introductory case. Because of the physical restraints of the gallery, only a few of the larger number of visually augmented books within each subject can be shown.

Cosmology	Chronology	Allegory
Geology	Genealogy	Poetry
Astronomy	Theology	Artificial Memory
Astrology	Philosophy	Systems of Knowledge
Alchemy	Logic	Diagrams in use

¹ Walter J. Ong, Ramus, Method, and the Decay of Dialogue. (New York: Octagon Books, 1979), p. 9.

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COSMOLOGY

The Greeks selected their word 'kosmos,' meaning 'order' or 'ornament,' as a descriptor for the universe, in order to emphasize it as an ordered and harmonious system. Such an all-encompassing and intangible idea as the totality of the universe has always been a common theme for visual presentation. In this case are two such depictions.

1. Hartmann Schedel
Nuremberg Chronicle
Nuremberg, 1493
ExI 1016.816f

The Nuremberg Chronicle was a popular and extensively illustrated world history first printed in the 1490's in both Latin and German. Here the universe is a system of concentric spheres, with earth at center; God and angels outermost; beyond them the Four Winds.

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2. John Blagrave
The Mathematical Jewel
London, Walter Venge, [1585?]
Ex 81075.184

"Heere follow the principles and rudiments of Astronomy and Cosmographie... Of the placing of the spheres and the division of the world." Diagram of the 11 spheres lying concentrically around the earth.

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3. Bartholomaeus Anglicus
De proprietatibus rerum
Westminster, ca. 1486

Gift of Robert H. Taylor '30
ExI 2949.1486.1495q

Important chronicle of world history and encyclopedia of human knowledge. Each book of the work opens with a large woodcut illustration. In Liber Octanus, at the head of the first page of this book is a diagram of the schema of the Universe -- earth at center, divided into its 3 parts, then moon, sun, stars in concentric spheres and the angels outermost

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4. Agostino Caesaro (?)

Arte del navegare

Italian, ca. 1580. Preface dated 1567.

Kane MS 54 Manuscripts Division

Italian manuscript on the art of navigation, ca. 1580. This opening page shows the geocentric universe.

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5. Astronomical tracts. France, 13th century. Garrett 99, fol. 136 verso.
Manuscript Division.

Shown is a diagram of a lunar eclipse in one treatise forming part of a collection of 21 astronomical and astrological works dating from the 13th century. Note that the earth is at the center of the diagram and that the sun revolves around it.

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GEOLOGY AND ASTRONOMY

6. Thomas Burnet

Telluris Theoria Sacra (the Sacred Theory of the Earth)

Amsterdam, 1699

Ex 6252.228.22

"The frontispiece to Thomas Burnet's *Telluris theoria sacra* (The Sacred Theory of the Earth) may be the most comprehensive and accurate epitome ever presented in pictorial form -- for it presents both the content of Burnet's narrative and his own internal debate about the nature of time and history. Below the requisite border of cherubim (for Burnet's baroque century), we see Jesus, standing atop a circle of globes, his left foot on the beginning, his right on the culmination of our planet's history. Above his head stands the famous statement from the Book of Revelation: I am alpha and omega (the beginning and the end, the first and the last.) Following conventions of the watchmakers' guild, and of eschatology (with bad old days before salvation to the left, or sinister, side of divinity), history moves clockwise from midnight to high noon. We see first (under Christ's left foot) the original chaotic earth "without form and void," a jumble of particles and darkness upon the face of the deep. Next, following the resolution of chaos into a series of smooth concentric layers, we note the perfect earth of Eden's original paradise, a smooth featureless globe. But the deluge arrives just in time to punish our sins, and the earth is next consumed by a great flood (yes, the

little figure just above center is Noah's ark upon the waves). The waters retreat, leaving the cracked crust of our current earth, "a broken and confused heap of bodies." In times to come, as the prophets foretold, the earth shall be consumed by fire, then made smooth again as descending soot and ashes reestablish concentric perfection. Christ shall reign for a thousand years with his resurrected saints on this new globe. Finally, after a last triumphant battle against evil forces, the final judgment shall allocate all bodies to their proper places, the just shall ascend to heaven, and the earth (under Christ's right foot), no longer needed as a human abode, shall become a start.²

7. Allessandro Piccolomini

De la sfera de mondo...dele stelle fisse
Venice, 1540
Ex 8409.717

First known star atlas with many diagrams. Piccolomini (1508-1578) was a member of a noble Sienese, some of whom became important political figures, writers, and scientists. In addition to the charts in this book, Piccolomini introduced a system for the classification of stars according to their magnitude. The system was keyed to the Roman alphabet, but was eventually abandoned for another system. Here opened to the first two full page woodcut diagrams in the book -- two famous constellations of the Northern Hemisphere: the Big Dipper (right page) and the Little Dipper (left page).

8. Philipp Cluver

Introductio in Universam Geographiam...ac Notis
olim ornata a Johanne Buno
London, 1711
Ex 1007.265

Frontispiece shows the celestial systems of Copernicus, Tycho Brahe, Ptolmey, and Descartes. This very copy may have been used at Princeton during the colonial period, for, although, early Library markings can not be seen in the book, this edition appears on page 10 of the catalogue of the Library of the College of New Jersey (now Princeton University) published in 1760.

9. René Descartes

Opera
Paris, 1685
Ex 6128.1685

Descartes discusses this elaborate diagram over the course of more than 30 pages in the third part of his Principles of Philosophy. The diagram summarizes various features of his views on the composition of the heavens, including such propositions that: [1] The heavens consist of various bodies, such as the planets and fixed stars. In the diagram, S, F, f are fixed stars.

² Stephen J. Gould, Time's Arrow and Time's Cycle Myth and Metaphor in the Discovery of Geological Time (Cambridge: Harvard University Press, 1987) p. 21.

[2] The fixed stars have their own "heavens" which are like a vortex. Points I, E, A, R, and Q mark the boundaries of the "heaven" of S (= the Sun) and [3] N and it's "tail" (numbers 1 to 7) is evidently a comet.

ASTROLOGY AND ALCHEMY

10. Padre Maestro Vincenzo Maria Coronelli

"Idea dell' Universo"

Venice, ca. 1700.

Print acquired by the Library in January, 1987. *Graphic Arts.*

Compendium, in chart form, of astrological information. Labeled in banner at top: Idea dell' Universo (Plan or Likeness of the Universe); it is an assemblage of a central panel of five wheels surrounded by a border of 28 other wheels and spheres. The central five are labeled A to F; the main series in the border are numbered 1 to 22. The dominant, center-most wheel is that of the zodiac, the chief "informational operator" for astrology. (Astrology is a kind of "processing machine"; data comes in at one end, results [i.e. what the data means for everyday life and actions] comes out the other.) Within the zodiacal wheel is a sort of horoscope chart. The smaller wheels in the border epitomize various topics of astrological data: the star signs that govern parts of the body (number 20); the "seven climates" of the earth (number 4); and so on. At bottom are wheels useful for reckoning dates, such as Easter.

11. George Ripley. Scroll of alchemical emblems on preparing the philosopher's stone with also some verses from Richard Carpenter.

England, 16th Century.

Princeton MS 93. Manuscript Division

Panels: Portrait of an Alchemist (next to title case)

Bird of Hermes (side wall, front)

Serpent of Araby and the Philosopher's Stone
(side wall, front)

Waters of Life surrounded by Seven Alchemists
(side wall, front)

Portrait of a Man (not shown)

The gift of Robert H. Taylor '30, the several sections of what was once a long parchment roll contain a series of colored pictures and English verses which describe in mystical terms the making of the philosophers' stone. This extraordinary document is one of a number of similar objects ascribed to the most famous of English alchemists, George Ripley, Canon of Bridlington, an Augustinian who died about 1490 and whose works continued to be studied as late as the eighteenth century. To judge from its similarity to the Ripley scroll in the British Museum, which bears the date 1566 (Add. Ms. 5025), the Princeton exemplar is the work of some late sixteenth-century copyist, perhaps the same Thomas Mundye whose name occurred on a scroll mentioned by Elias Ash-

mole (Catalogue of the Manuscripts Bequeathed unto the University of Oxford by Elias Ashmole, Oxford, 1645, No. 1530).³

In addition to the British Museum example, several others of this alchemical scroll by Ripley are known: one at Yale (Mellon MS 41); another in California (Manly P. Hall Collection MS 205); Fitzwilliam Museum (Cambridge); and in 1658 Sir Thomas Browne sent his friend Elias Ashmole "Ripley's Emblemati-call or Hieroglyphical Scrowle in parchment, about 7 yards long with many verses somewhat differing from those in your first part of Ripley's vision" which is presumably still at the Ashmolean at Oxford.

Alchemy -- in one sense, the effort to turn base metals into gold, but in another sense, the art of transmutation -- was alleged to have been founded by the god Hermes (Mercury). Thus, alchemy became known as the 'hermetic art' and alchemists' vessels were sealed with the seal of Hermes or 'hermetically sealed.'

Alchemy was based on a general theory that all substances were modifications of one primitive matter and that subtracting qualities from compounds would yield prime matter which in turn could be augmented to make other, desired compounds. Prima materia was the essence of mercury; in turn, it was treated with sulfur to make the desired substance, such as gold.

Within the scope of this theory, the desired compound is a balancing of opposite -- the red lion over against the green lion.

Bird of Hermes (side wall, front)

Serpent of Araby and the Philosopher's Stone (side wall, front)

The dragon with its wings fixed to the chaotic material orb gives its blood for the making of the red and white stones and the elixir, the triple goal of alchemy.⁴

Waters of Life surrounded by Seven Alchemists (side wall, front)

The eternal unity of opposites: the tree of life where the sun is inspired by the Spirit from above, the waters of life surrounded by the alchemists in which man and woman find the fruitful vine.⁵

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12. Heinrich Khunrath.

Amphitheatrum sapientiae aeternae

Hanau, 1609

Edgar Fahs Smith Memorial Collection,
Special Collections, Van Pelt Library,
University of Pennsylvania.

³ James Holly Hanford, "A Sixteenth-Century Scroll of Alchemical Emblems," in the Princeton University Library Chronicle, XIX, 3-4 (Spring-Summer, 1958), p.201-202.

⁴ C.A. Burland, The Arts of the Alchemists, (New York: Macmillan Company, 1968) p. 81.

⁵ C.A. Burland, The Arts of the Alchemists, (New York: Macmillan Company, 1968) p. 83.

(Call number SMITH 540.1 K527.2)

13. Society of the Mercurii.

The Astrologer of the Nineteenth Century or the Master Key of
Futurity being a complete System of Astrology, Geomancy & Occult
Science.

London, 1825

Ex BF1691.xS6

At the right is Heinrich Khunrath's Amphitheatrum sapientiae aeternae, published in 1609 and loaned to the Library for this exhibition by Special Collections, Van Pelt Library, University of Pennsylvania. The engraving shows Khunrath himself on his knees in his alchemical oratory -laboratory. Before him on the table is a book of diagrams, such as the pentagram, the five-pointed star credited with magical powers.

Heinrich Khunrath (1560?-1605) received an M.D. from the University of Basel in 1588, then practiced medicine in Hamburg and Dresden. On February 1, 1625, the Sorbonne condemned his Amphitheatrum for its mixture of Christianity and magic. The book was reprinted as late as 1900. Remarkably in London in 1825 a portion of the Khunrath self-portrait was copied for the frontispiece of The Astrologer of the Nineteenth Century shown at the left.

14. Leohard Thurneisser.

Quintae essentiae

Leipzig, 1574

Ex S013.905

This illustrated text covering the teachings of alchemy portrays a number of the activities and concerns of the alchemist. Here the "Tree of Life" is like the refraction apparatus and retort of the alchemist.

Alchemy -- in one sense, the effort to turn base metals into gold, but in another sense, the art of transmutation -- was alleged to have been founded by the god Hermes (Mercury). Thus, alchemy became known as the 'hermetic art' and alchemists' vessels were sealed with the seal of Hermes or 'hermetically sealed.'

Alchemy was based on a general theory that all substances were modifications of one primitive matter and that subtracting qualities from compounds would yield prime matter which in turn could be augmented to make other, desired compounds. Prima materia was the essence of mercury; in turn, it was treated with sulfur to make the desired substance, such as gold.

The woodcut here begins the first chapter of the Tenth Book which is on the subject of the quicksilver or mercury. Cut shows the "Tree of Life" in operation: the roots of the various elements (arsenic, zinobar, mercury, etc.); the trunk labeled with the various alchemical operations (distillation, sublimation, coagulation, reduction, etc.) yielding the fruits of the alchemist's efforts, which are "fixed".

15. Athanasias Kircher.

Oedipus Aegyptiacus

Rome, 1652-4

Volume III, p. 358

Ex 2181.523q

"Figure reflective of the microcosm with the macrocosm"

For astrologers, the duality of the universe was paramount; that is, "things above are as they are below," thus, various signs of the zodiac governed various parts of the human body.

16. Johannes de Indagine

Chiromancie

Utrecht, 1536

Ex 6483.49

A portrait of the book's author Johan van der Jaght who labels himself "Theologian and Astrologer." Opposite is an astrological chart. Beneath the portrait is a motto saying: "You who research the course of the stars and the sense of the gods; you carry all so well the name 'Indagator,' namely, researcher or hunter (vernacular: van der Jaght)."

The chart is "the figure of the revolutions of the zodiacal signs and of the planets in accordance with the Natural Astrology in whose horoscopes is Aries and his master Jupiter." Following the chart is a table which is a "continuation of the represented picture of the first year of Aries until the 84th year."

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GENEALOGY

17. Hartmann Schedel

Nuremberg Chronicle

Nuremberg, 1493

ExI 1016.816f

The Nuremberg Chronicle was a popular and extensively illustrated world history first printed in the 1490's in both Latin and German. Here the beginning of the human race portraied in the chain of lineage starting with Adam.

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18. Rudimentum Novitiorum.

Lübeck, 1475.

Loaned by the Scheide Library, Princeton.

Important book of chronicles said to have been compiled for the instruction of young ecclesiastics. It is also the first dated book printed in Lübeck. The text includes fullpage genealogical tables, in the form of chains, the round links sometimes filled with figure subjects, the smaller ones show, among other thins, the building and storming of a city, battles, representations of emperors, pope and saints. Also included are important early maps. Shown is the immediate lineage of Jesus.

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19. King James Bible

London, 1611

Ex 3179.1611f (Kane Room)

The King James Bible was intended to bring the Scriptures into the intellectual reach of ordinary people, through translation into English from the original Hebrew and Greek. Another means of reaching them was by an elaborate series of 34 genealogical charts. The intent of these "Genealogies of the Holy Scriptures" was to help the reader fix his understanding of sacred history in terms of "Person", that is, as tangible substance. Such understanding is in contrast to "Time" and "Space," which are abstractions. (See explanation headed "The Genealogies of Holy Scriptures. To the Christian Reader.") Shown here are two tables showing: [1] The inter-relatedness of the peoples of the world as stemming from Noah (whose origins are given on the preceding table which shows Adam and Eve) and [2] Particulars about the offspring of two of Noah's sons.

20. Lignies des roys de France.

Genealogical chart of the Kings of France.

A vellum roll of six parts derived from the

Grandes Chroniques de France. France, 15th century.

Princeton MS S6. Purchased on the Robinson Fund in 1947.

Manuscript Division.

The roll begins with Priam, the legendary founder of the French line. In separate chains of medallions at the sides, contemporary persons and events are noted. to the left are the popes; th the right the first three roundells are the death of Ovid, the conversion of St. Paul, and the bishopic of St. James.

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CHRONOLOGY

21. Jean Boulaese

Tabula chronographica ex collatione temporum Hebraeorum,
Italorum, Chaldaeorum, et Aegyptiorum

Paris, 1573

(Ex)D11.B68e.

Boulaese was born about 1540 in the parish of Arrou near Courtalain. In 1611 one writer described him as the "fiery Boulaese." His life seems to have been filled with striving. He entered the priest-hood in 1556 and took vows of poverty in 1568. A professor of Hebrew, he became principal of the College de Montaigu, but the position proved difficult to hold. Between 1568 and 1571 Boulaese seems to have been in Rome in order to present to Church officials details of the 1566 exorcism of a demon from a young girl in the Cathedral of Laon. Upon his return, Boulaese learned that his position as principal had been challenged by one Jean Margot; the dispute was not settled until 1578 in Boulaese's favor. Boulaese then proceeded to impose a change on the College, ordering that it be a school for the religious who had taken vows of poverty, and calling himself "father of the religious poor." This action did not please the wealthy regents of the College. In the end Boulaese lost, was condemned for obstinacy and was excommunicated in 1579.

Boulaese published a number of books which were highly esteemed in their day. His mainstay was an account of the exorcism performed at Laon. This account first appeared in 1573 and again in an expanded form in 1578 and in 1593; Princeton has both versions of the story issued during the 1570s. In addition to this, Boulaese published a commentary on Daniel, books on Hebrew, and another Biblical work. Unrecorded and published during Boulaese's turbulent years of the 1570s is his Tabula chronographica.

Boulaese's Tabula lays out in detail four time systems: the Biblical (based on the genealogy of Christ as given in Luke), the Roman, the Babylonian, and the Egyptian. He names his sources, including among them Philo, Bero-sus, Metasthenes, Manetho, Eusebius, and Jerome. According to Boulaese's chartings, all systems demonstrate clearly that 3960 years had passed from the creation of the earth to the birth of Christ. As Boulaese points out at the end of the dedication to René de Birague, his chart is intended to aid Christians engaged in acquiring the "sacred things." In the dedication he also expresses his interest in eschatological matters (anagogicus).

The eschatological import of the Tabula chronographica is of particular interest. It is known that Boulaese was concerned with the Second Coming of Christ. In his Ad mysticos sacrae scripturae sensus varia dictionum significatio in compendium collecta...., published in Paris in 1575, he mentions the star of 1572: "From the 11th or 12th of November 1572 up to this day on which I write, the 22nd of November 1574, two entire years and 11 days have occurred since the day the new star appeared. It is not certain what this signifies, but it is possible, as the Scriptures say, that it indicates the Second Coming."

In his Tabula chronographica, Boulaese is at pains to demonstrate that his estimate of the time that had passed from the creation of the world to the birth of Christ was correct. Why such anxiety over fixing the precise number of years? And, why 3960? As C. A. Patrides points out, during the Renaissance, there was a distinct received tradition that the world would last no longer than 6,000 years. But determining where one was in that sequence of 6,000 years was not a simple matter. The learned of the age knew that the Second Coming was near, but how close? Over 100 writers of Boulaese's period agonized over this question, presenting more than 40 separate solutions to the problem. Luther, for example, chose exactly 4,000 years. The learned Joseph Scaliger settled on 3948. The variations depended in part on the source of one's information. If one selected the Septuagint, then at the time of the Renaissance the world was at least 6,500 years old. This was some 500 years past the "due date" and the world had not yet ended. So, for some, the chronology of the Septuagint contained an error, and the answer to the eschatological question must lie elsewhere.

Boulaese, like others, chose Luke's recounting of the forebears of Christ as his primary authority: the 42 generations listed there worked out nicely to 3960 years. Moreover, given the authority of Luke, the chronologies of the Romans and others could all be shown to agree with the Bible. In Boulaese's Tabula chronographica, columns two, three, and four to the right of the listing of Luke's 42 generations show in detail the parallels as well as the sometimes arbitrary adjustments required to make the eschatological chronology work out.

The Tabula chronographica has its original imprint canceled by a pasted-over square of paper. Underneath it reads "Apud Thomam Belot, sub D. Barbarae

signo, in via Iacobaea." Belot held a 10-year royal privilege granting exclusive rights to the works of Boulaese. Apparently Belot wished to disassociate himself from Boulaese; he sold the publication to Denis Leval, whose name as printer/publisher appears in the lower left corner. Exactly why Belot ended the relationship (he never published a Boulaese work again) is not known. Certainly Boulaese's life was in turmoil in 1573, and he had his detractors. And in the 16th century, as Anthony Grafton points out, chronology could make tempers flare. It was a subject fiercely argued. Moreover, the authenticity of one of Boulaese's sources, Berosus, was debated by a number of scholars; perhaps Belot decided to distance himself from Boulaese because of such doubts regarding his sources⁶

22. Werner Rolewinck

Fasciculus Temporum

Strasburg, 1467

ExI 3126.383.1489

In Werner Rolewinck's chronicle of the events of human history, time is depicted as a continuous line moving from right to left. The scene here is Noah and his ark. Other woodcuts show the Tower of Babel, the Temple of Solomon, views of important cities, Christ as Salvator Mundi. Rolewinck, a Carthusian monk of Cologne, used as a model Marianus Scotus, the 11th century chronicler.

23. Werner Rolewinck

Fasciculus Temporum

Venice, 1479

Kane Collection

In this first Italian edition of Werner Rolewinck's chronicle is the first known view of the city of Venice. The year is 464 AD and the 5663rd year since the Creation of the Earth.

24. Henry Issacson

Saturni ephemerides sive Tabula

Historico-Chronologica, Containing a Chronological Series or Succession of the four Monarchies, with an Abridgement of the Annual Memorable Passages in them, as also, A Succession of the Kings and Rulers over most Kingdoms and Estates of the World, with a Briefe Chorographical Description of them.

London, 1633

Ex 1018.492f

Said to be the only edition of the first tabular chronology of its kind published in England. The Library's copy is opened to show the events of the turbulent 1550's in England, when Edward VI died and Elizabeth I eventually came to the throne.

⁶ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xlix, 1 (Autumn, 1987), pp 21-29.

THEOLOGY

25. The Map of the Man of Sinn

G.W.

A Mappe of the Man of Sin: wherein is most lively delineated the Rising Raigning and Ruine of the Kingdom of AntiChrist....

[London, 1622-23]

Print purchased by the Library in Spring, 1987. (Ex)BT985.w5e

"The progress of a sinful man from 'A', the Antichrist as a bishop on a hill blinded by the sun, to 'T' and 'V', the Kingdom of Heaven or New Jerusalem, where "none unclean" are admitted. Way-stations include the Fountain of Silo with its stream muddied by churchmen, abbeys and cathedrals being jugged by simoniacs around the Pope, Rome, and tis cloisters, and Babel and its Tower collapsing. The 'route' is illustrated with scriptural analogues and at the foot are sixty lines of explanatory verse signed "W:G: scripsit et trans:" Perhaps this is William Gouge, the arch-puritan preacher at Blackfriars and chronicler of the 1623 'Fatal Vespers'."⁷

26. Richard Dey

The Tree of Mans Life

[London, engraved by John Goddard, not later than 1653]

Print purchased by the Library in Spring, 1987. (Ex)BT985.w5e

The "tree" image elaborated to show the progress of life from birth to death. On the left is the life of the poor; on the right is the life of the rich. The lesson of the comparison is that, in the end and at the beginning, humans share the same lot, regardless of wealth or social standing.

27. Biblia Sacra Latina

MSS. written in England in 13th century (about 1230)

Lent by the Scheide Library

At the back of this Latin Bible written in manuscript on vellum are several tables and diagrams, such as:

Beginning at:

Leaf 397b: Table of nine spheres and four elements as well
as a table for finding the date of Easter

Leaf 398: Tree of virtues and vices showing 7 petitions
(Lord's prayer)

Leaf 398b: Table connecting the 12 prophets,
12 articles of faith and 12 apostles.
Another of the same [with differences]

⁷ [Arthur Freeman] in Four Centuries of English Books with a Few Manuscripts
Catalogue number 1043 issued by Bernard Quaritch, Ltd., London, ca. 1985.
Item 77. This item is also described in STC (new ed.) as 11511.2

Leaf 400b: Tree of vices and 7 branches

Leaf 401: Tree of virtues

Ls. 402-3: Four hands treated a "memoria technica:"

the first of the Church - its duty in preaching;

the second, the Devil's wiles:

the third, of God calling to repentance;

the fourth is blank (i.e. outline of hand only)

Leaf 404: Table connecting 10 plagues of Egypt;

10 commandments; and 10 contrarieties

These tables and diagrams appear to have been added in the 14th century. Shown are the hands of leaves 402 verso and 403 recto.

28. Tabula Christianae religionis

[Italy, 15--]

Purchased on the Reed Fund in 1986.

(Ex)BX1754.T32.1495s

This early 16th-century book of only 18 pages is headed Tabula Christianae religionis. The closely printed text covers all the essential points of faith: the Apostles Creed (complete with an Apostle's name next to a point to serve as a mnemonic), the Ten Commandments, the Lord's Prayer, the Seven Sacraments, the Seven Cardinal Virtues, the Seven Deadly Sins, the Seven Ages of Man, the Six Eras of the World, important feast days, and the like. No images are included. At least nine editions of the Christianae religionis are known, all undated and with no indication of printer. Most of them are thought to have been printed in Italy between ca. 1485 and ca. 1520.

Given the simplicity of both content and language, this was just the sort of book appropriate for a wide and general audience. It could have been used by clergy for training new clergy or instructing the laity. Similarly, it could have been used by laity to help them learn the basics of the faith, or when teaching other laity, as a household master would have taught servants. Such a book was the companion to missal and breviary, both of which are essential for the outward demonstration of inward faith; it would also supplement Italian vernacular literature such as saints' lives, which played a major role in the religious life of ordinary clergy and laity alike. Because tabulae like this one were undoubtedly heavily-used, their casualty rate might have been high, much higher, perhaps, than the 10 to 25 percent estimated loss of all books produced during the 15th century.*

Protestant and Catholic alike used diagrams in order to present Church dogma. At the left, is:

29. William Perkins

An Exposition of the Symbole, or Creed of the Apostles:
According to the tenour of the Scripture, and the consent
of Orthodox Fathers of the Church.

* Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xl ix, 1 (Autumn, 1987), pp. 19-21.

London, 1635.
Ex 5709.707q

At the right, is:

30. Jacobus à Sancto Michaele.

Sacrorum Novi Testamenti librorum omnium analysis
catholica, et oeconomia generalis.

Lyon, 1670.

Purchased in 1987 on the Sanxay Fund.

Ex BS2355.S23

Perkins, the staunch Calvinist, and Jacobus, the Catholic religious, both illustrate points of doctrine by means of tree diagrams which show subdivisions within divisions of categories. Some scholars point out that this dichotomizing methods seems to stem from the influence of the 16th century figure, Peter Ramus.

In his Sacrorum Novi Testamenti librorum omnium analysis catholica, et oeconomia generalis of 1670, Jacobus à Sancto Michaele used schematic trees turned on their sides to make systems of divisions and parallelisms. At the left, we read the single summarizing statement; as we progress from left to right, the divisions of the unity are explicated. In turn, each of these parts is subdivided yet again. In the entire book, two of the tabulae analyse the New Testament as a whole, and one sets out Roman Catholic doctrines in a hierarchy (shown here.) All the remaining sheets tabularly explicate the contents of one or more New Testament books beneath a short prose synopsis in large italic type.⁹

31. Epitome of Gospel Mystery emblematically illustrated.

[London, c. 1650].

Purchased on the Reed Fund during 1984-85.

(Ex)N7710.E64.1650f

In the Epitome of Gospel Mystery emblematically illustrated (London, ca. 1650), the major visual elements and their arrangement in space serve as an exposition of theological dogma. The central scene is flanked by two tall columns covered with text, and surmounted by open sky and clouds. A cherub floats over each capital and trumpets a banner on which a rhymed triplet is inscribed. Below the banner and filling the central space is a scene emblematic of the "Gospel Mystery." Flowing from a fiery sun, a river runs through two hearts (one "of love," the other "of stone") and thence through wounds to irrigate the Tree of Life, beneath which is a portal to a holy place. In front of the porch is a porch, which only a few figures have reached. In front of the porch is "The Broad Way to Destruction" on which figures in wigs and waistcoats walk toward a burning pit. To the left of the porch stand Adam and Eve exiting Paradise. All of the figures and scenes are labeled, usually in rhymed couplets and triplets.¹⁰

⁹ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xlix, 1 (Autumn, 1987), p. 19.

¹⁰ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eight-

The scene depicted and the visual elements used (double hearts, flowing river, and so on) suggest those used in the "Testamentum Christi" diagram of Jacob Boehme show in the table case below. Even though the plate in the case dates from ca. 1730, Boehme's work was known in early to mid-17th century England when this Epitome was published. (See in this catalogue number 34).

•
32. The New Jersualem

[London, 169?]

Print acquired by the Library in Spring, 1967. (Copy 1)

Depiction (overhead view) of the Heavenly City based on the account of its physical features as given in chapters 21 and 22 of the Revelation of St. John.

"And [the New Jerusalem] had a wall great and high, and had had twelve gates, and at the gates twelve angels, and the names written on thereon which are the names of the twelve tribes of of the children of Israel:

"On the east three gates; on the north three gates;
on the south three gates; and on the west three gates...

"And the city lieth foursquare, and the length is as large as the breath ...

"And I saw no temple therein; for the Lord God Almighty and the Lamb are the temple of it ...

"And he showed me a pure river of water ... proceeding from the throne and ... there [was] the tree of life, which bare twelve manner of fruit ...

•
Tree of sermons
in

33. Joannes von Keisersberg

Sermons.

Strasbourg, 1521

Ex 6167.37.1521

In this text of sermons on the Christian Life, the tree diagram sets out in order clock-wise around the tree the letters of the alphabet. The entire image is intended to aid the memory recall the 24 sermons which follow the cut. Each sermon begins with a word starting with the letter of the alphabet which is proper to it's place in the alphabetical order. The tree diagram evokes the "Tree of Life" symbolism, common in Christian art since early medieval times.

•
Jacob Boehme (1575-1624) German mystic whose influence spread throughout Europe and was studied by Sir Isaac Newton as well as other Englishmen such as William Law (mentor of John and Charles Wesley), William Blake, Samuel Coleridge, and William Butler Yeats.

"Boehme was a devout Lutheran whose mystical experiences led him to formulate a strikingly original account of God and Creation, which he expressed in a complex, private terminology drawn in part from alchemy. Although born of well-to-do farmers, he was apprenticed to a shoemaker at an early age and later moved to GLrlitz, then one of the most important cities in what is now East Germany, to practice his trade. There, at age twenty-five, he had his first mystical experience, in which he felt himself penetrated by the "Light of God." He later wrote that "in one quarter of an hour I saw and knew more than if I had been many years together in a University. . . . I saw and knew the Being of Beings, the Byss and Abyss, the eternal generation of the Trinity, the origin and descent of the world, and of all creatures through Divine Wisdom" (quoted in Rufus M. Jones, Spiritual Reformers in the Sixteenth and Seventeenth Centuries [1914; Boston: Beacon Press, 1959], 159). Another major mystical experience occurred ten years later, in 1610. He published an account of his experiences and beliefs in 1612. He immediately ran into hostility from Lutheran authoritatics and was forbidden to continue publishing. Nevertheless, as a result of further internal growth, hed resumed writing in 1618, but published nothing until 1623. From then until his death the following year, he was under constant attack by ecclesiastical officials who doubted his orthodoxy.¹¹

34. Jacob Boehme

[Collected works]

Germany, ca. 1730

Ex 6157.19.1730 vol 6

In this plate "the vessel of the heart is doubled and converted into a circulatory system that assures perpetual interchange and interaction between the upper arc of divine light and lower arc of corrosive fire. The left-right opposition of the divine bipolar eye in Boehme's original diagram has been rotated to the left ninety degrees into a bottom-top opposition. The trunk of the tree/cross sinks its roots/veins into prima materia, and the life blood of the system is conveyed through alchemical transmutations into the heart of the upper realm. At the point of intersection of the horizontal and vertical of the cross, the blood with its source in base matter is converted into the wine/blood of the Son, and the tree itself, rooted in the devouring flames, becomes the tree of eternal life. The circulatory system is constructed so that there need be no end to this process of alchemical transmutation."¹²

Jacob Boehme
The Philosophical Globe

¹¹ Robert Galbreath, "Boehme" in The Spiritual in Art: Abstract Painting 1890-1985, Organized by Maurice Tuchman with the assistance of Judi Freeman. (New York: Abbeville Press, 1986), p. 367.

¹² Harriett Watts, "Arp, Kandinsky, and the Legacy of Jakob Böhme" in The Spiritual in Art: Abstract Painting 1890-1985, Organized by Maurice Tuchman with the assistance of Judi Freeman. (New York: Abbeville Press, 1986), p. 246.

"The diagram that Boehme designed for Forty Questions of the Soul and his explication of this drawing achieved a visual structure that could accommodate all his propositions. He gave the illustration two titles: The Philosophical Sphere and Wondrous Divine Eye of Eternity. Boehme explained that the divine eye, a circle, must be split into two and the two resulting arcs placed back to back and rotated in opposite directions. One eye becomes two eyes, which propel one another through their mutual opposition to one another. One arc issues from the corrosive fire eye of the Father, the other, from the loving eye (of sustaining warmth and illumination) of the Holy Spirit. The heart at the center point of contact between the arcs is the Son. Although the circle that contains the system has a center focal point, this center is in fact engendered by the two foci of the opposing arcs, which project their respective arcs to the point of contact, which is also the spark of ignition. Only when ignited can this center point engender the outer circle that contains and unifies the entire system. The geometrical figure of a perfect circle with a single center point has been used for millennia as a metaphysical symbol of unity and equilibrium. Boehme strains the confines of this figure to the limits by insisting upon the initial split into two eyes, the two foci that between them generate a center to the circle. At the beginning of the nineteenth century, the two foci within a circle caught the attention of German Romantic poets and philosophers, such as Baader, Friedrich von Schelling, Ludwig Tieck, and Friedrich von Schlegel. The Romantics sought a symbolic representation of a unity that could embrace diversity, even polarities, two foci rather than one, and Boehme was the Western philosopher to whom they looked for suggestions."¹³

35. Jacob Boehme

[Collected works]

Germany, ca. 1730

Ex 6157.19.1730 vol 6.

36. Jacob Boehme

Forty Questions for the Soul

London, 1647

Ex 6157.19.335.9

Copy 1 and Copy 2.

37. Jacob Boehme,

The Works of Jacob Behmen, the Teutonic theosopher

London, 1764-81. 4 volumes.

Copy of the English translation on loan from Special Collections, Linderman Library, Lehigh University. (Lehigh call number: 248.B676w.T). The entire work is illustrated. At the front of the first volume is a life of the author by William Law, who influenced Methodism.

¹³ Harriett Watts, "Arp, Kandinsky, and the Legacy of Jakob Böhme" in The Spiritual in Art: Abstract Painting 1890-1985, Organized by Maurice Tuchman with the assistance of Judi Freeman. (New York: Abbeville Press, 1986), p. 251. Also see her footnote to this section referring to the work of Marshall Brown.

Volume I. Colored chart "The True Principle of All Things"

Evidently a depiction of Boehme's look into the 'Byss and Abyss'
 Volume II. Second Table

Explained in Volume III (p.27, last count):

"The Second Table shews the condition of Man in his old, lapsed, and corrupted State; ... first, ... his earthly visible Body; second, ... his more interior and invisible Astral Body, in conjunction with his Transitory and Astral Spirit;... third, his immortal Soul...; and his Eternal Spirit, which is the Inmost of all."

Volume III. The Origin of Things and the Process of Christ

Shown step by step, starting with the first event at the topmost panel and continuing onward down the right and across the bottom ("The Lowest Parts") then up the left to "Finis."

Volume IV. Plate VI. The Fall of Lucifer

Explained in Volume II (at end): "He [Lucifer] commits High Treason, revolts, lets his dark, proud Will-Spirit, in a false Magia, without any Occasion given him from without ... [Lucifer] falls through the Fire into Eternal Darkness ...

38. Athanasius Kircher.

Oedipus Aegyptiacus

Rome, 1652-4

Volume II.

Ex 2181.523q

The Seventy-Two Names of God

"The Cabala says that there are seventy-two names of God, which Kircher interprets by giving God's name in the seventy-two languages: each is spelt with four letters, to reflect the Hebrew Tetragrammaton IHVH (no. 1). Sometimes this leads to compromise, as in Italian IDIO (no. 15) and English GOOD (no. 22). The other circles contain God's various attributes: Creator, Perfection, Light, etc. In the centre is Jesus, whose name is comprised of the 'mother' letter Shin inserted in the Tetragrammaton: IHSVH. The two trees are those of the seven planets and angels (left) and the twelve signs of the Zodiac and tribes of Israel (right). The leaves at the top bear seventy-two names in Hebrew, distributed among the nine angelic orders -- with the caution that they are on no account to be used for magical invocations."¹⁴

39. Athanasius Kircher.

Ars Magna Sciendi.

Amsterdam, 1669.

Goertz 11012

"Ars Magna Sciendi is one of his most difficult, books being an elaboration of the Art of Ramon Lull, the thirteenth-century Majorcan philosopher, into a kind of symbolic logic. Its object is nothing less than the categorization of all qualities and relationships, and the application of the symbol-

¹⁴ Joscelyn Godwin, Athanasius Kircher. A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 63.

ic formulae thus obtained to every department of learning. The frontispiece shows the eye of God presiding over this formidable list: Theology, Metaphysics, Physics, Logic, Medicine, Mathematics, Moral Ethics, Ascetics, Jurisprudence, Politics, Scriptural Interpretation, Controversy, Moral Theology, Rhetoric, and the Combinatorial (i.e. Lullian) Art. On the tablet in the hand of the Divine Sophia is the 'Alphabet of the Arts', the archetypes of all experience and knowledge. To construct such a system as this book unfolds would have been a reasonable life's work, yet for Kircher it was only one among many encyclopaedic undertakings, and its Greek inscription might well serve as his own motto: 'Nothing is more beautiful than to know the All.'"¹⁵

"The Jesuits' Universal Horoscope" in

40. Athanasias Kircher.

Ars Magna Lucis

Amsterdam, 1671

Ex 8013.523q

"The tree of the Society of Jesus, with its roots in Rome, sends its leaves into every corner of the known world. The purpose of the chart is to show the time and length of the day in every land. Such tables, less fancifully drawn, are used by astrologers today to align birth times throughout the world with Greenwich Mean Time. The corner panels show in thirty-four languages the words 'From sunrise to sunset, praised be the Name of the Lord.'"¹⁶

41. Athanasias Kircher.

Musurgia Universalis

Rome, 1650

Graphic Arts

Frontispiece to Musurgia Universalis, Rome, 1650 by J. Paul Schor

"The symbol of the Trinity sheds its rays on the nine choirs of angels, who sing a 36-part canon (by Romano Micheli), and thence on the earth. The terrestrial sphere is shown encircled by the Zodiac and surmounted by Musica, who holds Apollo's lyre and the pan-pipes of Marsyas. In the landscape are seen dancing mermaids and satyrs, a shepherd demonstrating an echo, and Pegasus, the winged horse of the Muses. On the left is Pythagoras, the legendary father of musical theory. He points with one hand to his famous theorem, and with the other to the blacksmiths whose hammers, ringing on the anvil, first led him to discover the relation of tone to weight. On the right is a muse (Polymnia?) with a bird perched on her head -- possibly one of the nine daughters of Pierus, who for their presumption in attempting to rival the Muses were turned into birds. These figures are surrounded respectively by antique and modern instruments."¹⁷

¹⁵ Joscelyn Godwin, Athanasias Kircher. A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 9.

¹⁶ Joscelyn Godwin, Athanasias Kircher. A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 78.

PHILOSOPHY

42. Louis de Lesclache.

La philosophie expliquée en tables.

Paris, 1652-63.

Purchased on the Zabriskie Fund in 1983.

(Ex)B1869.L4 P5 1651.

The tree diagrams are horizontal rather than vertical, and schematic rather than naturalistic, as in Louis de Lesclache's La philosophie expliquée en tables (Paris, 1652 - 1653). His three-volume set of bound engraved plates shows the points of philosophy in schematic, tree-like diagrams turned on their side so that we read them left to right, rather than bottom to top, as with standard tree diagrams. The utility of the tables, the author declares, is that many things can be compressed into a few words. Moreover, they show an orderliness that aids memory and reason, and they display the correspondence that one thing has with another. Here, "philosophie" is construed in a wide sense to include moral teaching, logic, and metaphysics.¹⁷

43. Gregor Reisch

Margarita Philosophica

Basel, 1583

Gift to the Library from the Estate of Harold L Ruland

Ex 6179.7522.361.11

Reisch's text was a kind of desk-top encyclopedia of knowledge in its day. In this woodcut of the "Figure of Logic," we see logic shown as a huntsman chasing the hare ("Problem"). He is armed with the sword of "syllogism" and the bow and arrow of "inquiry." Off in the distance are the woods of insoluble problems. In the pages following the reader is taught the rules of logical deduction and other matters, all means toward solving intellectual problems.

44. Gregor Reisch

Margarita Philosophica

Strasbourg, 1512

Ex 6179.7522.361

Reisch's text was a kind of desk-top encyclopedia of knowledge in its day. In this woodcut of the "Figure of Grammar," first of the Liberal Arts, we see a matron with leading a student to school. She holds out a hornbook

¹⁷ Joscelyn Godwin, Athenasias Kircher. A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 68.

¹⁸ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xlix, 1 (Autumn, 1987), pp. 17-19.

with the alphabet on it in her right hand; in her left a key unlocks the school door, a "tower of learning" with classes in session in the lower floors and in the upper stories await the ancient masters: Cicero to teach rhetoric; Ptolmey for astronomy; Peter Lombard for Theology and Metaphysics; Aristotle for logic; Euclid for geometry and so on.

LOGIC

45. Martin Meurisse

Artificiosa totius logices descriptio
("A technical and artfully-done depiction of logic
in its entirety")

Paris, 1614.

This engraving is kept with other oversize prints of 17th century France in the Graphic Arts Collection of the Library.

At the bottom edge of this engraving a Franciscan monk gestures towards several novices. Behind him is a walled courtyard surmounted by a formal garden above which stands a grove of trees. Exactly what is the monk doing? Why such an exotic scene of trees, fountain, half-clad women, and numerous small objects?

The monk is Martin Meurisse (1584 - 1644), a Cordelier Franciscan who eventually became Bishop of Madaure. His duties included training novices, and toward that end he prepared three instructional charts. (List of the others in the series is below.) In 1983 Princeton University Library acquired the first in the series, "A technical and artfully-done depiction of logic in its entirety" (Artificiosa totius logices descriptio), published in 1614. In the Logices descriptio, Meurisse is shown teaching the novices how the three chief operations or processes of the intellect -- according to Duns Scotus and Aristotle, as interpreted by Meurisse -- can be apprehended by studying the details of the chart.

The chart is divided into two principal parts: the three-tiered central feature depicting the *operationes mentis*, and a surrounding border of emblems. The three tiers of operations are the traditional Scholastic processes of the intellect arranged in a hierarchy, with the lowest, Categories, at the bottom, followed by Judgement, and Syllogism at the top.

Categories are represented by a walled-in courtyard entered by ascending five steps and going through a portal. The steps are the five predicables of Aristotelian logic as interpreted by Porphyry, among others: genus, species, difference, property, and accident. Within the courtyard are Aristotle's ten categories (substance, quantity, quality, relation, action, passion, place, time, position, and state) flowing from the central source, the *fons* of being. The *fons* is a pool adorned with a statue of a half-clad man standing with one foot on a sphere. A banner over his head reads: "The first process of intellect refers to differentiating thinking, which explains the nature of an object."

The second process of intellect, Judgment, is depicted as a formal, hedged-in garden at the gate of which sits a half-clad woman, perhaps Judgment

personified. Like the man below, she has a banner over her head. Hers reads: "This is the dividing process in which the whole is distributed into its parts, or the manifold is separated according to the multiplicity of the whole." In the garden behind the woman are inscriptions giving particulars concerning the process of judgment.

Syllogism is a grove of three trees that sit above the second realm. The central tree is the "Tree of Knowledge," flanked on the left by the "Tree of Sophisms," and on the right by the "Tree of Beliefs." Each tree is ripe with its corresponding fruit; the Sophists' tree bears the fruit "error" and "ambiguity." In front of the central tree sits a gowned woman with outstretched arms. An inscription above her arms reads: "This is argumentative process (syllogism) in which the one is concluded from the other."

Embedded in the border surrounding the three realms of operationes mentis are many emblems. Outside the first and lowest realm lie bits and pieces of reality (*ens incompletus*) separated from their completed form by the wall of carentia, or deprivation. Outside the second realm the Sophists pipe on their harmonicas, perhaps a reference to fools and their pipes. In the upper corners are miniature portraits of Aristotle (right) and Duns Scotus (left), whose doctrines Meurisse is explicating in his chart. In the uppermost compartment, the Logices descriptio is dedicated to Jacques Auguste de Thou, the great French bibliophile, a nobleman and member of the Third Order of St. Francis.

These are only a few of the most obvious readings of the chart. A full explanation would take many pages, just as Meurisse intended, and just as is entailed by the instructional form which he used, a tabula.¹⁹ Other charts in the series:

Clara totius Physiologiae Synopsis
("A clear synopsis of physiology in its entirety")
(1615)

Artificiosa totius Moralis Philosophiae tabella
("A technical and artfully-done tableau of moral philosophy in its entirety") [1630?].

Logic is the science of the processes of inference, that is the 'mental operation which proceeds so as to cause a consequent conclusion.' In short, the art of reasoning.

In western culture, Aristotlean logic has been studied since earliest times and his works on logic were commonly used as school texts. Over time, visual aids for understanding Aristotlean logic developed -- such as the square of contradiction or the tree of Porphyry. (Porphyry was an 3rd century commentator on Aristotle.)

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Tree of Porphyry

¹⁹ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xlix, 1 (Autumn, 1967), pp. 8-11.

46. Paulus Pergulensis

Logica
Venice, 1495
ExI 6275.702
and

47. Peter Hispanius

[Work on Logic]
Vienna, 1516
Ex 6275.501.2

The Tree of Porphyry "set out the relationship between genera and species and called for a multiplicity of choices. It originated as an illustration to commentaries on Porphyry's Isagoge (late 3rd cent) and proceeded from the ultimate genus, substance, to the ultimate species, individual men, by a series of dichotomous divisions. Each bifurcation of the tree contained a positive and negative side."²⁰

Paulus Pergulensis, Doctor Insignis, Acutissimus and Perspicacissimus, born at Pergola near Urbino. He was canon of St. Mark's and lecturer in Science at Venice where he died ca. 1451. His Logica on leaf aii shows a Tree of Porphyry; also seen in this logic text of Peter of Spain, published in 1516.

•

Square of Contractions

48. Peter Hispanius

[Work on Logic]
Venice, 1622
Ex 6275.501.2

Logic is the science of the processes of inference, that is the 'mental operation which proceeds so as to cause a consequent conclusion.' In short, the art of reasoning.

In western culture, Aristotlean logic has been studied since earliest times and his works on logic were commonly used as school texts. Over time, visual aids for understanding Aristotlean logic developed -- such as the square of contradiction. The square demonstrates the inter-relatedness of particular premises and illustrates the so-called "principle of contradiction," that contradictory statements can not both be true at the same time.

On leaf 43r, in the Tractatus Primus is a diagram of the square of contradictions.

•

²⁰ Michael Evans in "Geometry of the Mind" AAQ: Architectural Association Quarterly vol 12, no 4 (1980) p. 45.

ALLEGORY

49. Robert Burton
Anatomy of Melancholy
London, 1621
Ex 3658.86.312.122 copy 1

Robert Burton (1577-1640), the Oxford scholar, is best remembered for his Anatomy of Melancholy, which went through nine editions between 1621 and 1676. Burton revised the book continually after its first appearance in 1621. The Anatomy was widely read in the 17th century, admired by Samuel Johnson and by Charles Lamb. The "Arguement of the Frontispiece" explains the content of the book. Moreover, the book is divided into three 'Partitions' -- the First defining the disorder as well as covering causes and symptoms; the Second discusses cures; the Third is devoted to Love-Melancholy and Religious Melancholy. Shown across the gallery is his five page diagram of the divisions for the understanding of diseases.

50. Thomas Greenhill
Necrokedelia or the Art of Embalming
London, 1705
Ex RA623.G81
The "Explanation of the Frontispiece" faces the titlepage.

51. Michael Sparke
The Narrative History of King James
London, 1651
Ex 14431.669
Its "Emblematic titlepage explained" is opposite the titlepage.

POETRY

52. William Blake
Visions of the Daughters of Albion
1793
Ex3631.3.393q

Opened to "The Argument" and the First page of the poem. The theme of this poem is contained in Oothoon's cry "Love! Love! Love!, happy, happy Love! free as the mountain wind!" It consists chiefly of the complaint of Oothoon, bound by prejudice to an unhappy marriage with the rational Bromion, whereas her true love is for the emotional Theoormon. The latter is withheld by jealousy and will not listen. Oppressed womanhood in the persons of the Daughters of Albion "hear her woes, and echo back her sighs."²¹

²¹ Note on a loose page laid into the Princeton copy.

53. William Blake

Songs of Innocence and of Experience

1794

Ex3631.3.388.1794

"Song of the Rose"

Blake was influenced by among others Jacob Boehme whose works in English translation published in the 18th century are displayed in a case across the gallery.

Shaped or pattern poetry in English Literature is chiefly a 17th century phenomenon. No pattern poetry is known to have been printed during the 18th century in England. Virtually all of the shapes used for these poems are those prescribed in Puttenham's The Art of English Poesie. In shaped poetry, the physical form of the printed poem and the emotional flow of the text reinforce each other. Herbert's "Easter Wings" is an excellent example of such re-enforcement.

54. George Herbert

The Temple

London, 1634

Ex 3780.5.388.19 (3rd Edition)

On page 34-5 is his pattern poem "Easter Wings" (wings)

55. Philip Ayres

Lyric Poems, Made in the Imitation of the Italians

London, 1687

Ex 3612.827.1687

On page 162 is his "The Trophy" (monument)

56. Edward Benlowes

Theophila, or Love's Sacrifice

London, 1652

Ex 3625.6193.389

On page 14 is an altar poem. Also shown is an allegorical engraving of "Theophila" or the soul, shown here in meditation on the Trinity, symbolized by the triangle.

57. Facetiae. Musarum Deliciae: or the Muses-Recreation.

(London, 1656)

and

Wits Recreations. Selected from the Finest Fancies of Modern Muses.

(London, 1656)

Ex 3598.333

Facsimile edition printed in London in 1817.

A love-knot, one of several in the book.

ARTIFICIAL MEMORY

"Artificial memory" is a technique of memorization in which memory is developed purposefully by an individual. The technique is actually quite ancient and was once considered to have been developed by Cicero. It rests on the common judgment that sight is the most powerful of the six senses and thus should be used for remembering. Just as the distinction between object and background is necessary for seeing to occur, so is this distinction central to the classical theory of memory.

In essence, the theory tells us that, to establish background, we must first memorize places. Go to a building, view the doorway, fix it in mind, move along, view a window, fix it and so forth. At this first stage, we build a storage system, an aggregation of niches into which something can be put. Secondly, we proceed to fill these places (topoi or loci) with images. The images (imagines agentes) represent specifics that are intended to be remembered. The images are to be striking (e.g. a bloodied face) so that their power to provoke emotion helps the mind to remember. To recall the memorized data, we then visualize a gallery of images in place, and by scrutinizing them carefully we decode the abstractions represented by the images.

58. Johannes Buno

Memoriale juris civilis Romani, quo tituli omnes et praecipuae leges, quae in quinquaginta Digestorum seu Pandectarum libris sunt, emblematis imaginibus ita effecta exhibentur, ut una cum titulorum materiis eorum etiam numeri memoriae imprimi, contineri ac reddi quin etiam leges illae praecipuae ad suos referri titulos facili negotio queant ... edidit Johannes Buno.

Hamburg, 1673-74.

Ex KDB.B86 1673.

Recently, the Philadelphia rare-book dealer, Bruce McKittrick, gave the Library a bold example of a memory aid. It is from a Latin text discussing the Justinian Code, and was published in Hamburg in 1673 - 1674. Distinguishing this text from many other schoolbooks on the Code are a series of 22 engravings designed to assist students with memorizing important points. The text and plates are the ingenious work of Johannes Buno, a schoolmaster who also prepared a Bible similarly adorned with exotic aids to memory.

Buno's engravings were to be used in accord with a specific program. First, the student had to discover the underlying image. In this engraving for the Digests of Justinian, there are ten such principal images, starting in the upper left with a stone and moving left to right and then down to the leftmost image in the second row, to the last image, a sheath. To learn the subdivisions of each Digest, the student next examined and memorized the series of small images fixed on the principal image. These images are arranged according to the numerical order in which the subdivisions of the Digest appear. Each small, tagged scene depicts the gist of a sub-division. These many sub-divisions are explained in the accompanying diagram, giving English translations of the Latin.²²

²² Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eight-

59. Johannes Buno

Memoriale juris civilis Romani, quo tituli omnes et praecipuae leges, quae in quinquenta Digestorum seu Pandectarum libris sunt, emblematis imaginibus ita effecta exhibentur, ut una cum titulorum materiis eorum etiam numeri memoriae imprimi, contineri ac reddi quin etiam leges illae praecipuae ad suos referri titulos facili negotio queant ... edidit Johannes Buno.

Hamburg, 1673-74.

Ex KDB.B66 1673.2.

In this engraving for the Institutes of Justinian, there are four such principal images, starting in the upper left and moving clockwise: a young man, a rucksack, a money-purse, and a barrel. To learn the sub-divisions of each major section, the student next examined and memorized the series of small images fixed on the principal image. These images are arranged according to the numerical order in which the major subdivisions appear. Each small, tagged scene depicts the gist of a sub-division. These many sub-divisions are explained in the accompanying diagram, giving English translations of the Latin.

60. Cosmas Rosellius

Thesaurus Artificiosae Memoriae
Venice, 1579

Copy bought in Feb. 1987 for the Rare Books Collection

Cosmas Rosellius, the author of this "Treasury of Artificial Memory" was a Florentine and member of the Dominican Order. In the book, Rosellius offers a number of memory place systems for the storage of information, as directed by the techniques of artificial memory. Suggested place systems included: abbeys, cathedrals, the constellations, human figures, Hell, and Heaven. "The place of Paradise is to be imagined as surrounded with a wall sparkling with gems, In the centre is the throne of Christ; ranged in order below are the places of the celestial hierarchies, of Apostles, Patriarchs, Prophets, Martyrs, Confessors, Virgins, Holy Hebrews and the innumerable concourse of saints. There is nothing at all unusual about Rosellius's Paradise, except that it is classed as 'artificial memory.' With art and exercise and vehement imagination we are to imagine these places."²³

Shown here are repeating cuts of the design of Heaven. The two cuts straddle at either end the section of the book on Paradise.

61. Johannes Romberch

Congestorium Artificiose Memorie
Venice, 1533

"eenth Centuries" in the Princeton University Library Chronicle, xlix, 1 (Autumn, 1987), pp. 13-17.

²³ Frances Yates, The Art of Memory, Chicago: University of Chicago Press, 1966, p. 122.

Ex 6443.782

"The visual alphabets illustrated in the memory treatises, were ... intended to be used for making inscriptions in the memory. In fact, this can be proved from the example (shown here) in the third part of Romberch's book of a memory image covered with inscriptions in visual alphabets (Xerox adjacent). This is one of the very rare cases in which a memory image is illustrated; and the image turns out to be the familiar figure of old Grammatica, the first of the liberal arts, with some of her familiar attributes, the scalpel and the ladder. She is here, not only the well-known personification of the liberal art of Grammar, but a memory image being used to remember material about grammar through inscriptions on her. The inscription across her chest and the images near or on her are derived from Romberch's visual alphabets, both the 'objects' one and the 'birds' one which he is using in combination. He explains that he is memorising in this way to answer the question whether Grammar is a common or a particular science; the reply involves the use of the terms 'predicato', 'applicatio', 'continentia'. 'Predicatio' is memorized by the bird beginning with a P (a Pica or pie) which she holds, and its associated objects form the object alphabet. 'Applicatio' is remembered by the 'Aquila' and associated objects on her arm. 'Continentia' is remembered by the inscription on her chest in the 'objects' alphabet (see the objects representing C, O, N, T, in the 'objects' alphabet)."²⁴

*

62. Robert Fludd

Title page of 'Ars Memoria'

in Tomus II (concerned with the lesser world or the microcosm
of the world of man) of his

Ultriusque Cosmi, Maioris scilicet et Minoris, metaphysica,
physica, atque technica Historia

("Metaphysics, physics and
technical history of two cosmoses, namely the greater
world and the lesser world")

Oppenheim, 1621

Ex 6252.352q

Robert Fludd lived in England when he wrote this fascinating 'History of the Two Worlds' in which he expounds his own learned theories of what is nowadays called 'occult' thinking. In the arts of the microcosmos section of his book, he covers 'artificial memory.' "The chapter on 'the science of spiritual memorising which is vulgarly called Ars Memoriae' is introduced by a picture illustrating this science. We see a man with a large 'eye of the imagination' in the fore part of his head; and beside him five memory loci containing memory images. Five is Fludd's favorite number for a group of memory images, ... and the diagram also illustrates his principle of having one main image in a memory room. The main image is an obelisk; the others are the Tower of Babel, Tobias and the Angel, a ship and the Last Judgment and the damned entering the mouth of Hell -- an interesting relic in this very late Renaissance system of the mediaeval virtue of remembering hell by artificial memory. These five

²⁴ Frances Yates, The Art of Memory, Chicago: University of Chicago Press,
1966, p. 119-120.

images are nowhere explained ... in the text."²⁵

•
63. Petrus de Rosenheim

Memorabiles evangelistarum figurae

Pforzheim, 1502

Ex NE1235.A7P4

Striking examples of the technique of artificial memory is to be found in this series of woodcuts summarizing the contents of the four Gospels. The example above is typical of the device used. The dominant figure is the standard symbol of the Gospel writer -- Luke is represented by the bull. Fixed on the body of the bull, starting at the head are six 'sub-images', each depicting a section in the Gospel. In this cut, the six are the beginning of the Gospel -- to be read starting at the head of the bull, and reading down his torso, then over to the left and across to the right:

5. Selection of Peter

(his fishing net and
his bed roll)

6. Teaching the Sermon

on the Mount

(the Eight Beatitudes)

1. the Angel announcing the birth of Christ
2. the Nativity narrative
3. Baptism of Jesus
4. Temptation in the Desert

•
64. Petrus de Rosenheim

Memorabiles evangelistarum figurae

Pforzheim, 1502

Ex NE1235.A7P4 copy 2

Another copy of the same book described above. In this woodcut the beginning sections of the Gospel of Mark are depicted. By learning all the images in proper series, one could recall the entire contents of a particular gospel.

•
SYSTEMS OF KNOWLEDGE

Denis Diderot, editor.

Encyclopédie ou Dictionnaire Raisonné des Sciences, des Arts et
des Méiers

Paris, 1751

Ex 0984.325q and shelved in the Dulles Reading Room

One of the great intellectual achievements of the 18th century, Diderot's Encyclopédie stated that one of its expressed purposes was "to set forth, as far as possible, the order and and the interrelationship of human knowledge"

²⁵ Frances Yates, The Art of Memory, Chicago: University of Chicago Press, 1966, p. 326.

The organization of knowledge into a general scheme is explained in the "Preliminary Discourse" at the beginning of the first volume and then set forth graphically in three other ways:

65. I. Allegorical frontispiece showing Truth surrounded by Reason and Philosophy with Theology kneeling at her feet [Frontispiece in smaller format in Atlas encyclopédie volume 1 of the Encyclopédie méthodique. (Ex AE25.E5q)]

66. II. A schematic "tree" diagram showing that Human Understanding perceived the world through the faculties of Memory, Reason, and Imagination.²⁶ [Système Figuré des Connoissances Humaines. Entendement: Mémoire, Raison, Imagination]

History and related sciences derive from Memory

Moral and natural philosophy derive from Reason

Poetry and related arts derive from Imagination

67. III. A naturalistic "tree" diagram showing the "genealogical distribution of the principal arts and sciences" was drawn up by Christian Frederic Wilhelm Roth of Weimar and in 1769 published as the frontispiece for volume one of the Tables for the Encyclopedia. Roth developed his endeavors at presenting a system of knowledge by publishing separately the next book (Erfurt, 1785) [number 68].

68. IV. Christian Frederic Wilhelm Roth.

Versuch einer Mappemonde litteraire.

Erfurt, 1785.

Purchased on the Sanxay Fund during 1986.

(Ex)Z2000.R67.1785f

Christian Frederic Wilhelm Roth's Versuch einer Mappemonde litteraire (Erfurt, 1785) offers an interesting contrast. Roth covers the whole range of knowledge. He charts a Mappe-monde Litteraire -- "Map of the World of Letters." He does so using a columnar arrangement, with each column filled with text and disposed left to right across the page. There are no images on the tabula, only text. In Roth's thinking, "Letters" is the total intellectual culture of humankind, not just philosophy, theology, and the genealogies of Kings. Significantly, financial backing for the book did not come from a single patron, but from a group of subscribers. True, the list is headed by eight members of the German nobility, but they are far out-numbered by the more than 150 others on the list. These others are lesser men: merchants, booksellers, Cappelmeisters, and so forth. From both the list of subscribers and Roth's ambitious attempt to represent all the new knowledge of his time, we get a glimpse of the democratic age arriving, an age when knowledge would be transmitted by means more accessible to the common man, unversed in the systems and schema of "artificial memory" and the often esoteric meanings of emblems.²⁷

²⁶ Howard C. Rice in Diderot's Encyclopedia 1751-1780 An Exhibit Commemorating the 200th Anniversary of Its Publication. Princeton University Library. Exhibition Catalogues Number 8. (Princeton, 1951), p. 7.

²⁷ Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eighteenth Centuries" in the Princeton University Library Chronicle, xlii, 1 (Autumn, 1987), pp. 29-30

69. Robert Burton

Anatomy of Melancholy

London, 1621

Ex 3658.66.312.122 copy 2, 3, and 4

Robert Burton (1577-1640), the Oxford scholar, is best remembered for his Anatomy of Melancholy, which went through nine editions between 1621 and 1676. Burton revised the book continually after its first appearance in 1621. The Anatomy was widely read in the 17th century, admired by Samuel Johnson and by Charles Lamb. The book is divided into three 'Partitions' -- the First defining the disorder as well as covering causes and symptoms; the Second discusses cures; the Third is devoted to Love-Melancholy and Religious Melancholy. This tabular synopsis of the First Partition of the book extends five pages. The beginning sections is at the far right and the table continues across to the far left.

70. John Dee

"Here have you (according to my promise)
the Groundplat of my mathematicall Preaface: annexed
to Euclide (now first) published in our English tongue.

An 1570. Febr. 3."

London, 1520 (Feb. 25)

Ex 2654.331.570q

Diagram of dichotomys showing that the Sciences and Artes Mathematicall are either Principall (2 such) or Derivative (19 such)

71. Robert Fludd

"Temple of Music" in Tomus I (covering the macrocosm)
Ultriusque Cosmi, Maioris scilicet et Minoris, metaphysica,
physica, atque technica Historia

("Metaphysics, physics and
technical history of two cosmoses, namely the greater
world and the lesser world")

Oppenheim, 1618

Ex 6252.352q

"This extraordinary structure, obviously influenced by Renaissance theatrical architecture, was probably conceived as a mnemonic device for the rules of music. Proceeding along the bottom we find first a lute, an instrument which Fludd honours with the following encomium:

'No other invention, ancient or modern, is more seemly for consorts nor more desirable for symphonies, nor more admirable to the ears of listeners. Time destroys not the sweetness of its sounds, neither do fickle inventions seduce men's affections from it, however rare, unusual, or more easily learnt these may be.' (p. 226)

Next is the famous scene of Pythagoras entering the forge in which he noticed the consonant pitches produced by four hammers. Examining the hammers, he found their weights in the proportion 12, 9, 8 and 6, giving the intervals of fourth, fifth and octave. The massive foundation obscuring the remainder of the arcade is in the form of a staff with a bass clef. The low-

est note is G, the bottom of the gamut, and as the notes proceed up the scale so their values get smaller, from maximus to semifusa (the latter equal to our quaver or eighth-note). This is the basis which the rest of the temple amplifies.

In the second storey we find first a column-monochord with the notes of the gamut marked off for two octaves, two higher octaves being indicated only by Gs. Skipping the chart, we come to another gamut between the first two Tuscan columns, running up from F to a": the normal limits of most music in Fludd's day. The next three spaces explain the three species of hexachords, the six-note 'scales' of medieval music whose lowest note, 'ut', could fall on an F, C or G. These were called respectively the soft, natural and hard hexachords. In the engraving the soft hexachord is surmounted by a round tower and round organ pipes, the hard hexachord by square ones. These reflect the different versions of the note B as it falls in the respective hexachords: in the soft one it sounds B-flat, written with a round b that became the familiar flat sign; in the hard one it sounds B-natural, written with a square b which survives in our natural sign. These two accidentals may be seen in the top of the ground-floor arcading. The natural hexachord runs for six notes up from C, hence avoids B altogether. It being the highest of the three, Fludd likens it to the highest element, fire, and gives it the highest tower, pointed like a flame.

We consider next the clock above Apollo. Aptly surmounted by Father Time, the upper dial shows 12 hours, the lower one the different note-values. The two outer circles contain the notes 128 semifusae. (The last note should have two flags on its tail.) To each of these are added their appropriate rests. For some reason each is also accompanied by a note of the next value down, and their relationships: 1 maxima (Fludd calls it larga) equals 2 longs, 4 breves, 8 semibreves, 16 minimis, 32 semiminims, 64 fusae, but this system fails when the fusa is reached.

The area above Pythagoras is divided diagonally. On the left is the Platonic lambda, described in the Timaeus. There are two errors, rectified in the text (p. 204): 16 should be 12, and 24 should be 27. The ramifications of this 'net' are vast, but here it serves simply to show the proportions of note-values to each other. In medieval and Renaissance notation a breve could contain either 4, 6, or 9 minimis, depending on the time-signature. The possibilities for longer notes were correspondingly greater. ;P. The 'chess-board' is an aid to composition, constructed rather like the charts which show the mileage between cities: it shows the distances between the notes of the scale. But it only gives consonances. Suppose one has written a low A and wants to write a middle C against it. The chart shows that all is well: the interval is a tenth. Try a B, however, and one meets a blank: the interval is a discord.

The 'clerestory' on the level of the three towers is a similar device, enabling one to check at a glance the notes respectively an octave, sixth, third and fifth from any given note. The windows for the sixths and thirds are smaller, these being only imperfect consonances as opposed to the perfect octave and fifth.

Finally, in the alcove beneath the twin portals representing ears, a Muse stands pointing at a phrase in three parts, the triumphant result of these

compositional aids (right).²⁸

DIAGRAMS IN USE

In this case are displayed illustrations intended to show some of the circumstances in which diagrams were used.

72. John Booker, alleged translator.

The Dutch fortune=Teller: Discovering XXXVI several questions. Which Old and Young, Married Men and Women, Bachelors and Maids, Delight to be Resolved of.

London, [1690?]

Ex 3633.9225.331

Cut on the title page shows Astrologer at his desk with the wares of his business, including an open book of diagrams. To the side of his desk, a ordinary Englishman who has come to consult him. The text of this book is quite bizarre with a page of instructions and many pages of wheels and the "results" of using the wheels.

73. Christopher Marlowe

The Tragical History of the Life and Death of Doctor Faustus.
London, 1620.

Robert H. Taylor Collection.

The cut shows the famed actor of the period, Edward Alleyn, in role of Mephistopheles, who stands inside the zodiacal circle, with book of magical lore in hand.

74. George Fisher

The American Instructor
New York, 1760

Graphic Arts. Sinclair Hamilton Collection.
Frontispiece shows diagrams in the school room

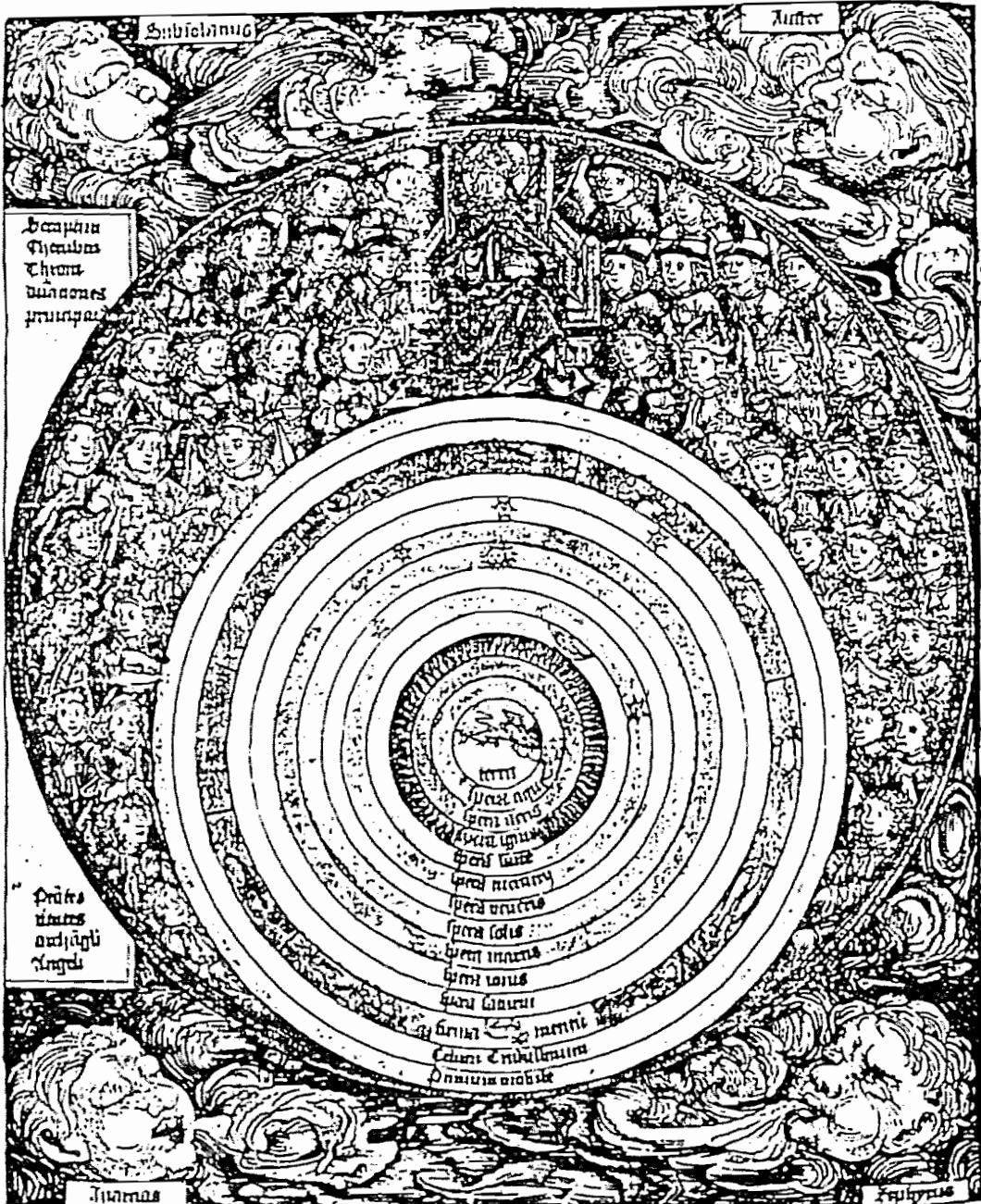
²⁸ Joscelyn Godwin, Robert Fludd. Hermetic Philosopher and Surveyor of Two Worlds (Boulder: Shambala Publications, 1979), p. 78

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XEROXES OF EXHIBITS



The Mathematicall Jewel. I. Bookes

wherefore if you haue a large circle of two foote diametre alwayes reddie diuided into 360. equall parts, and another
365 $\frac{1}{4}$ equall parts, the same shall stand you in great sted to diuide any circle of the Jewel or any other astron omicall in
ment, be they never so small.

Heere follow the principles and rudiments of Astronomy
and Cosmographic with the understanding of cuetic circle of the
Spheare and their vocables.

What Cosmographie Geographic and Topographic are.

Chapter 1.

Osmographic is as much to say, as the description of the world: as well his Aetheriall part, as Elementall, and in this differeth from Geographic, because it distinguishest the earth by the celestiall circles
ly: and not by Hilles, Riuers and such like.

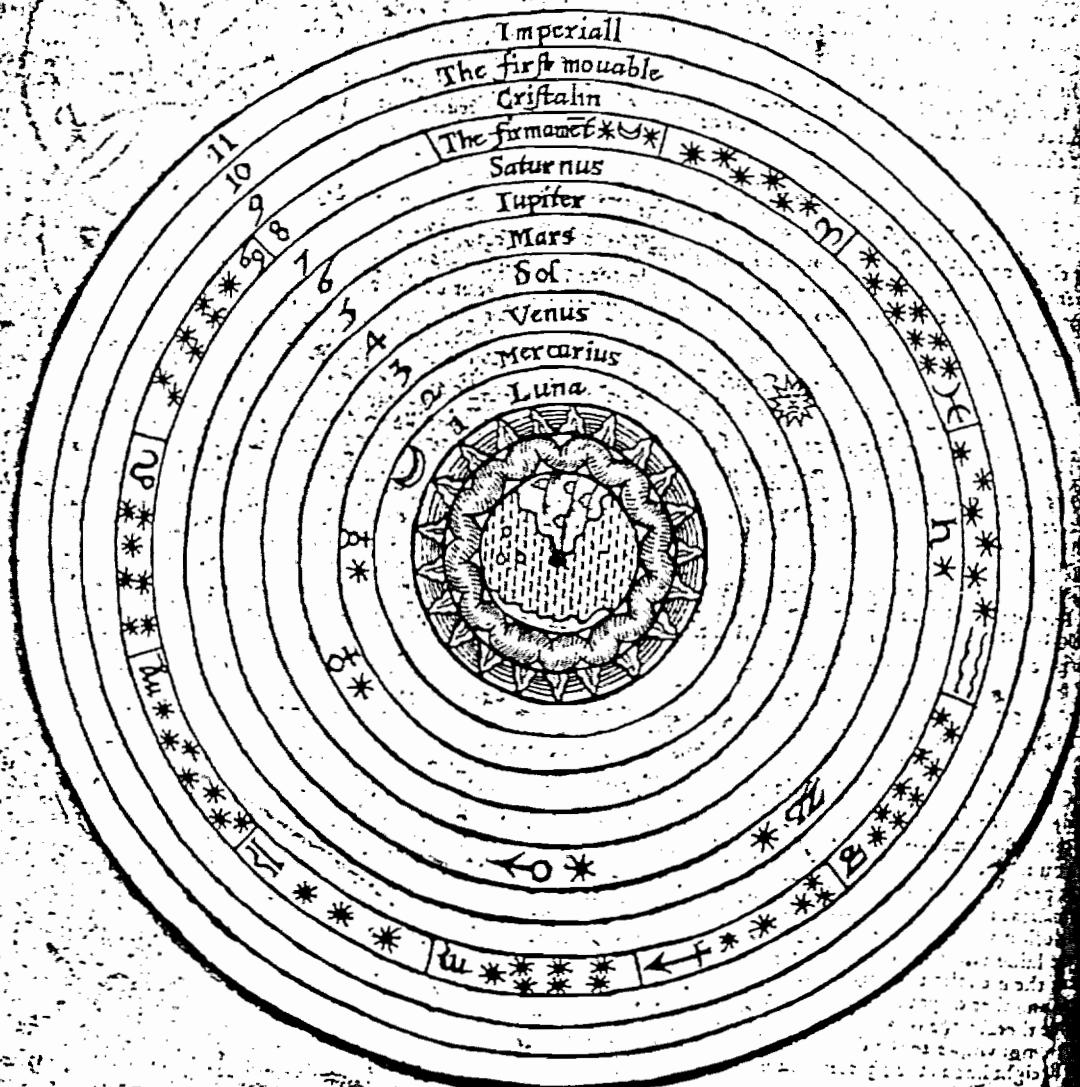
Geographic is a certeine forme and imitation of the picture of the earth, and of his chiefe knownen parts, and differeth from Cosmography, because it distinguishest the earth by hilles, riuers, seas, and other notable matters, not respecting the circles of the spheare.

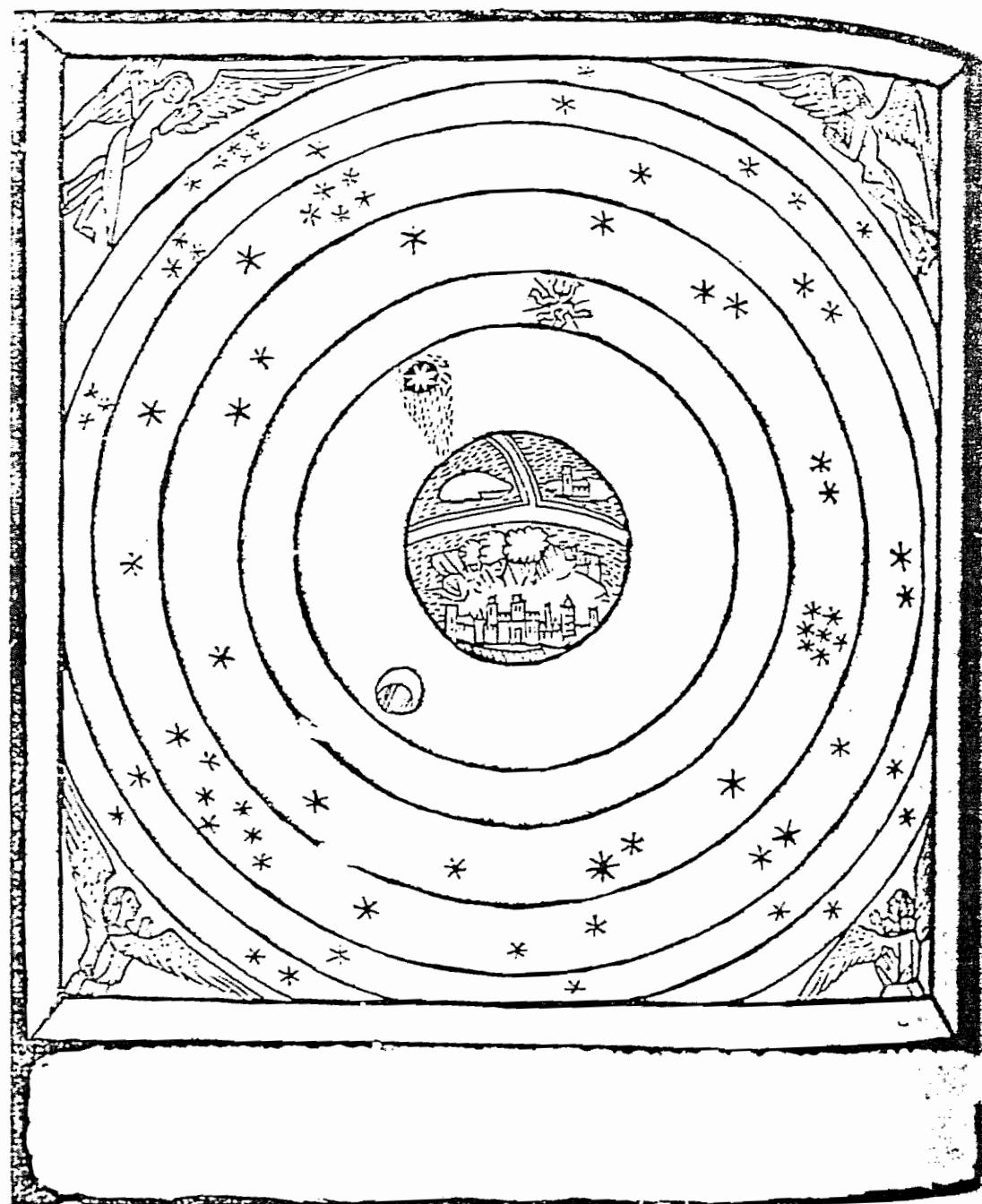
Topographic called also Corographie, is the describing of any particular place without relating the whole, not leauing out the smalles contents thereof, as ports, townes, small ryuers, buildings, houses, towers, walles, &c.

Of the placing of the spheres and the diuision of the world.

Chapter 2.

The world is diuided into two parts: viz. Elementall, and Aetheriall. The Elementall is subiect to dayly alteration
conteneith the 4. elements, the earth, water, ayre, and fire. The Aetheriall part, called of the Philosophers





After that we haue by helpe of god full ended þ treas
atyle of mannes body .or
god & of properteys of an
gelles & of men & of accy
dentes & condicōns of men

Now we shal speke of þ properteys
worlde that we se & fele by the helpe of
god whiche is lende to vs fro above
we maye drawe matere to the þeys
of god of the properteys of vertuys
the maker and condicōur of thyngys

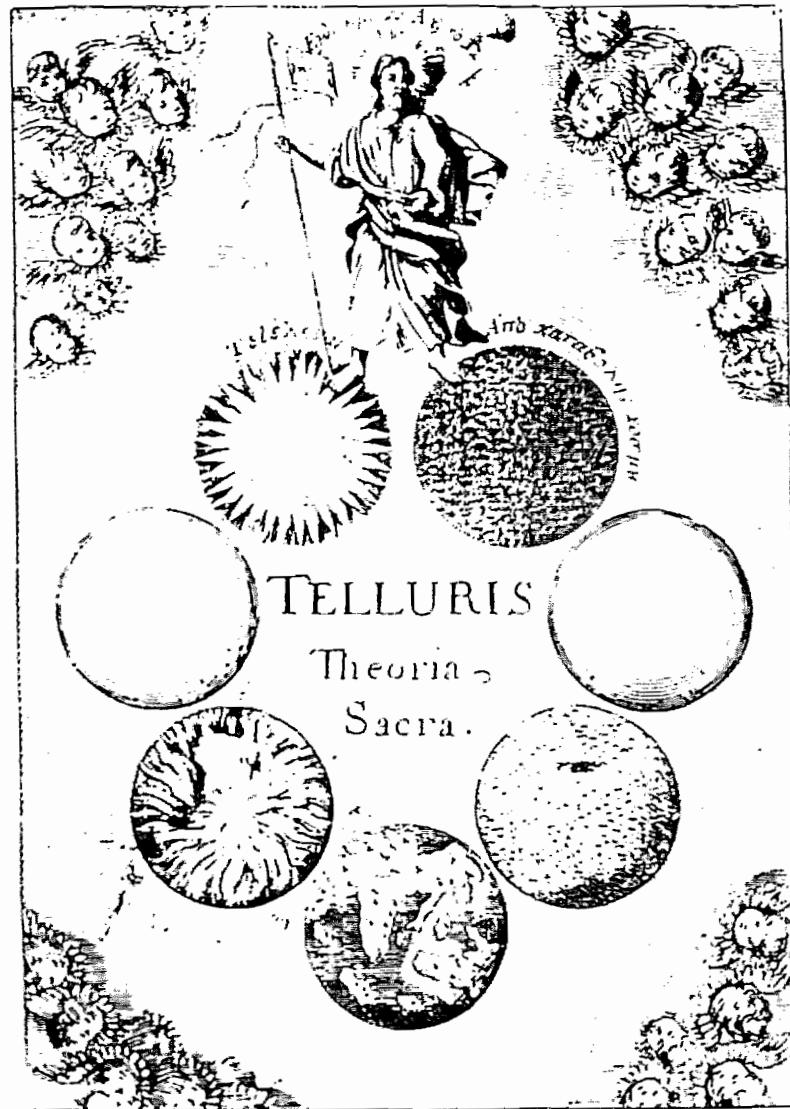


Figure 2.1

The frontispiece from the first edition of Thomas Burnet's *Telluris Sacra, or Sacred Theory of the Earth*.

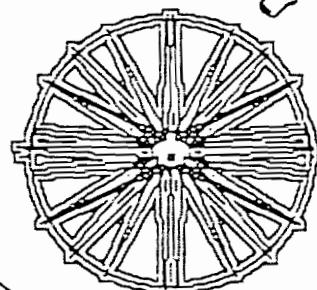
I am

the alpha

and the

omega

a star



without

form

and

void

Sacred Theory

of

Earth



Figura I.

DONDE

POLO



VERSO DOVE

4

Dell'orsa maggiore.

VERSO DOVE

PARTE VERSO
IL POLO

DONDE

Figura II.

84



DONDE

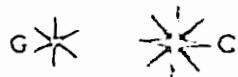
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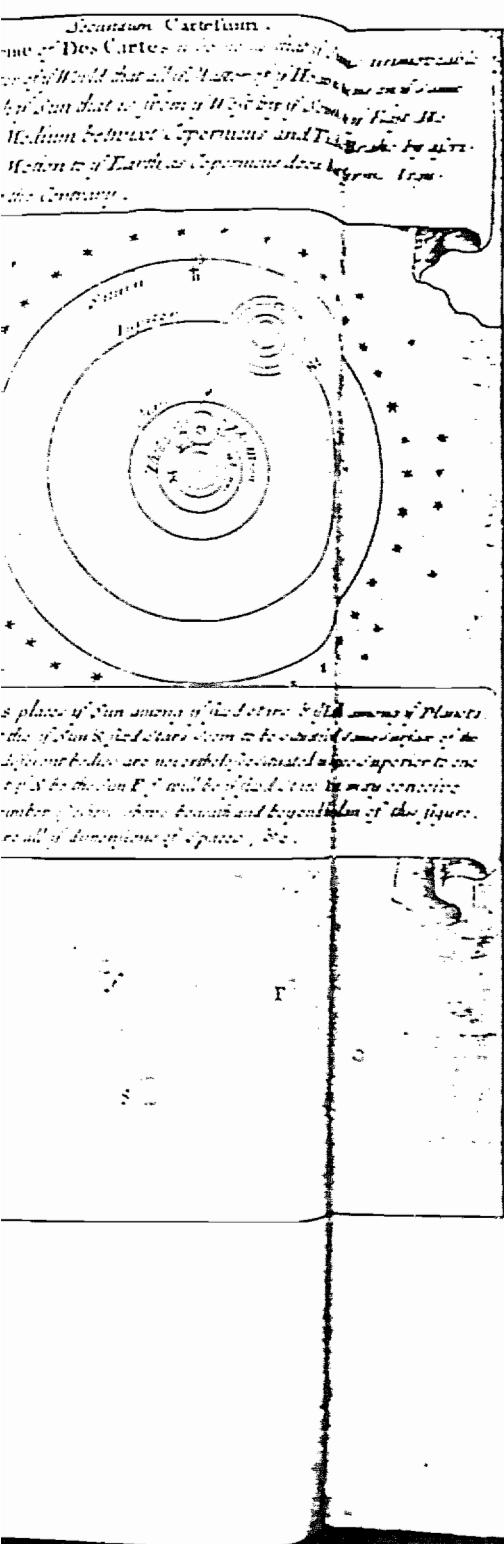
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VERSO DOVE

20

4	4	4	4	4
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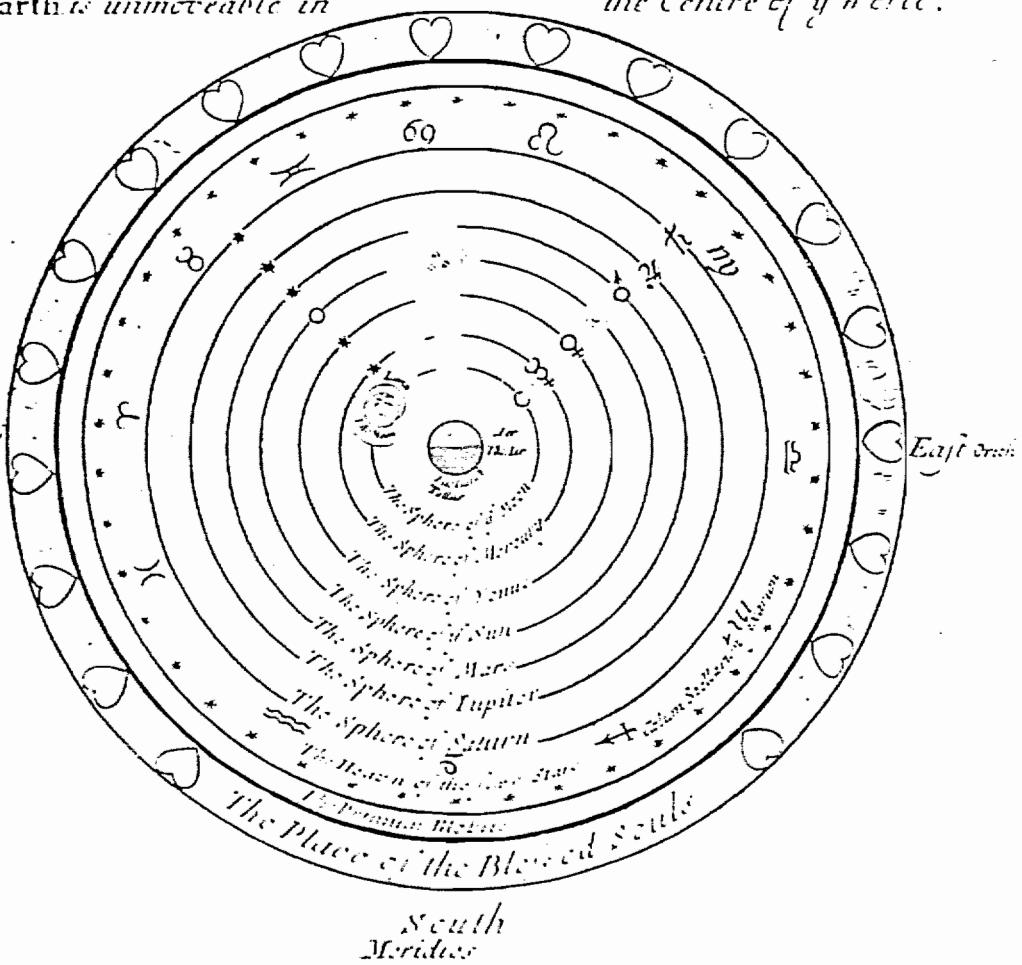


252

Systema Ptolomei.

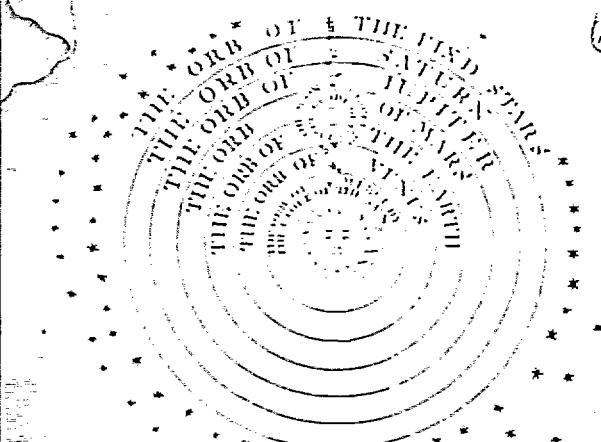
The Figure of the World

According to the System of Ptolomee who holds that the Earth is immovable in *North* the Centre of the *World*.

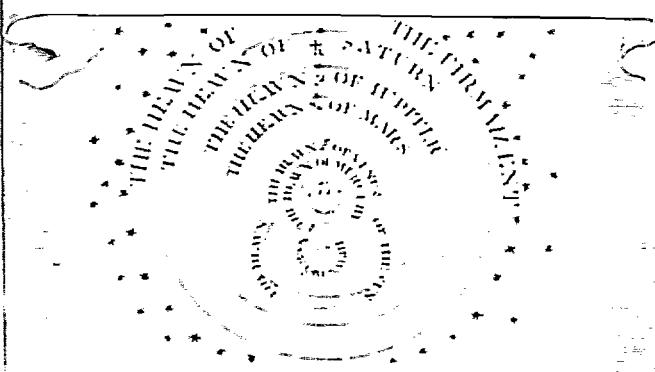


Systema Mundi secundum Copernicum.

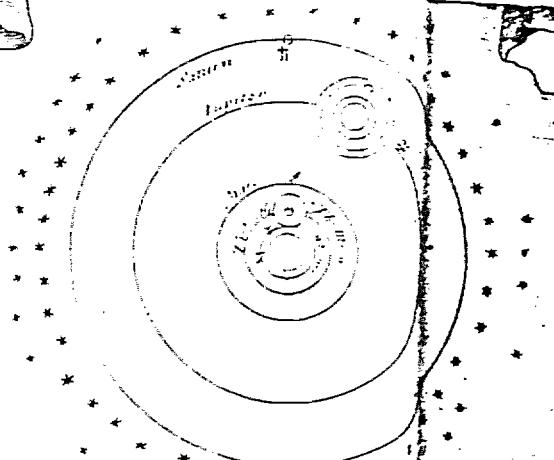
The Systeme of Copernicus who holds the Sun is immovable in the Center of the World, Mercury makes his Revolution round of Sun in 80 Days. Venus makes her afterward in 228. The Earth in a year, the Moon goes round Earth in about 27 days and after another it the Jupiter, Saturn & Fixtament &c.

*Secundum Tichonem Braheum.*

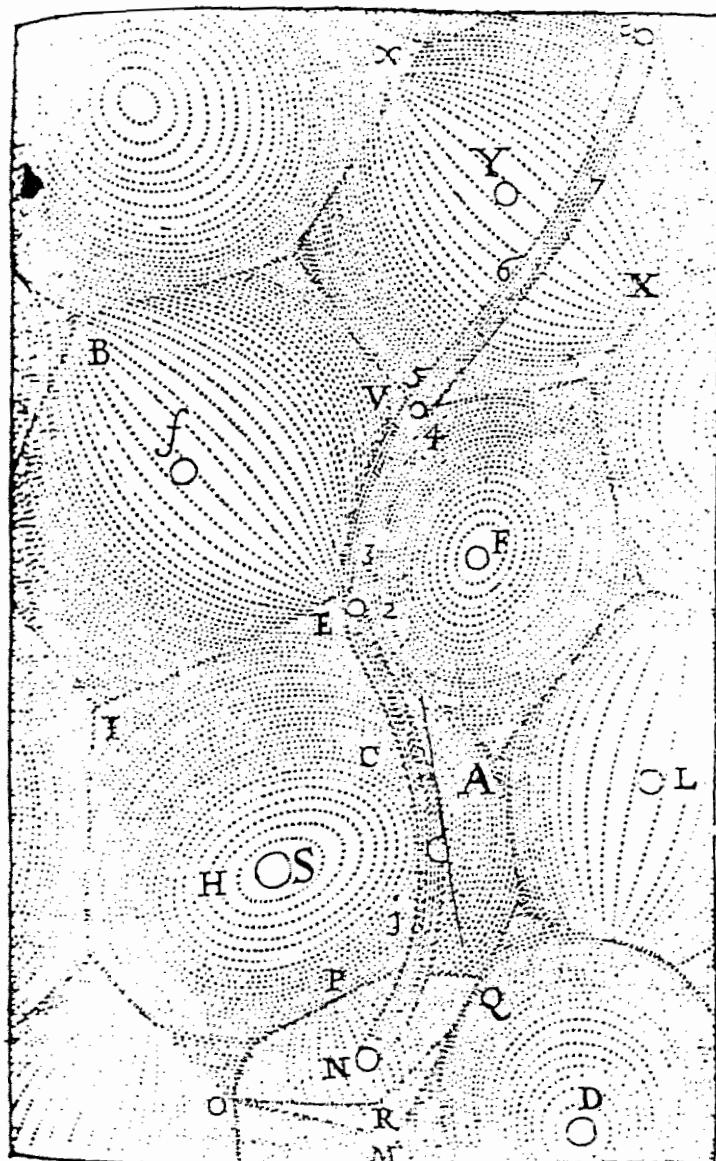
The Systeme of Ticho Brahe who deides a Earth to be Immovable Center of World, of Heaven by his Luminaries and of the Fixtament. Mercurie as he makes it Sun to be Center of the Heaven, the Moon, Jupiter & Saturn &c.

*Secundum Cartesium.*

The Systeme of Des Cartes who holds that the Sun is immovable in Center of World that all in Heaven is Heaven and the same side with it Sun that is from it West by South East He finds a Medium between Copernicus and Ticho to be agreeable. Motion of Earth as Copernicus doth before him in respect to the Sunnary.



Des Cartes places of Sun among of the Fixtament. *De M. de la Place*
He says that the Sun & fixed stars seem to stand in the Center of the Sphere. The fixed stars are nevertheless situated in Superior to the Sun & the Earth will be fixed stars in the Center of the Sphere and finite Number of them above beneath and beyond the figure. Separated from all p. Assumptiones of Space, &c.



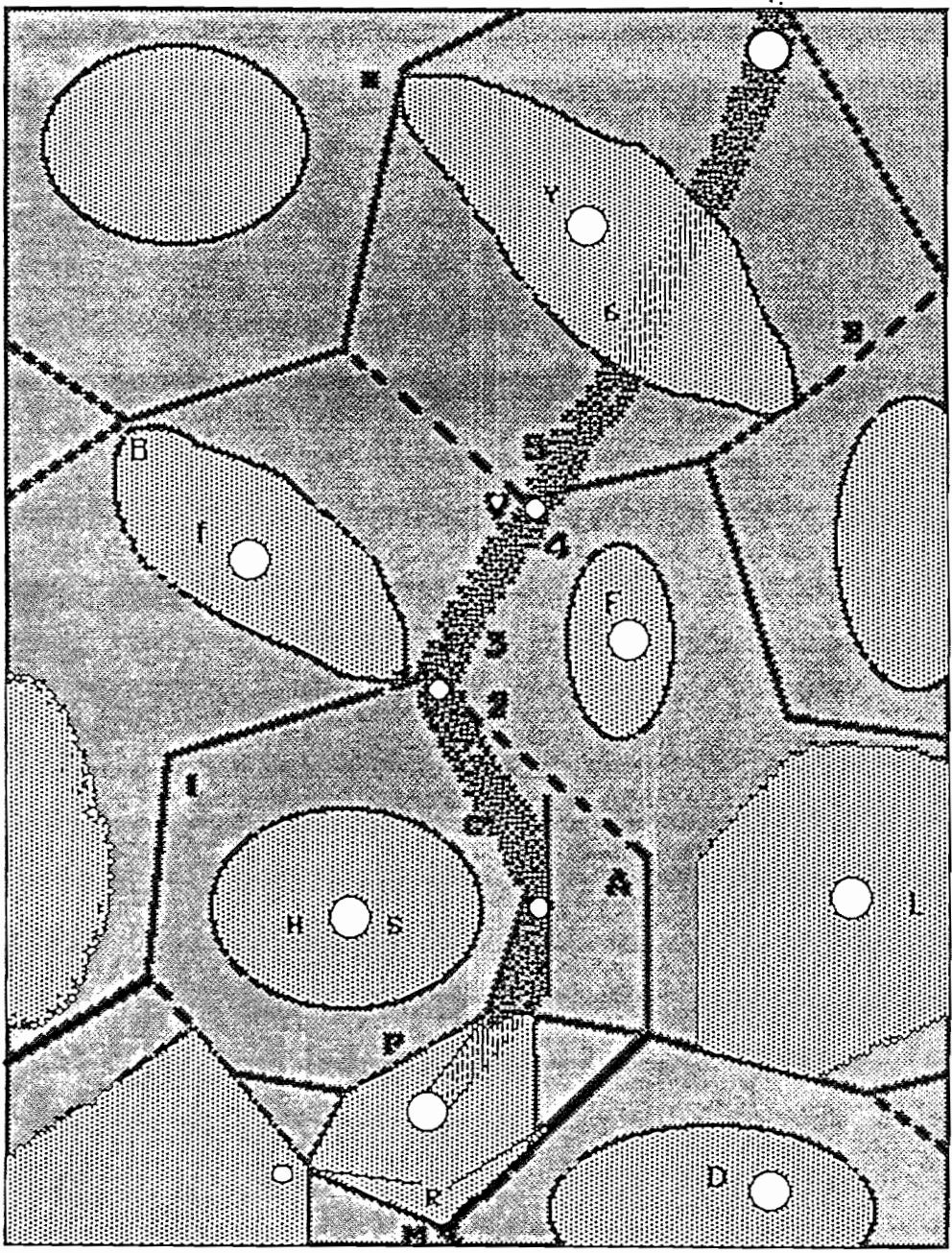
Descartes

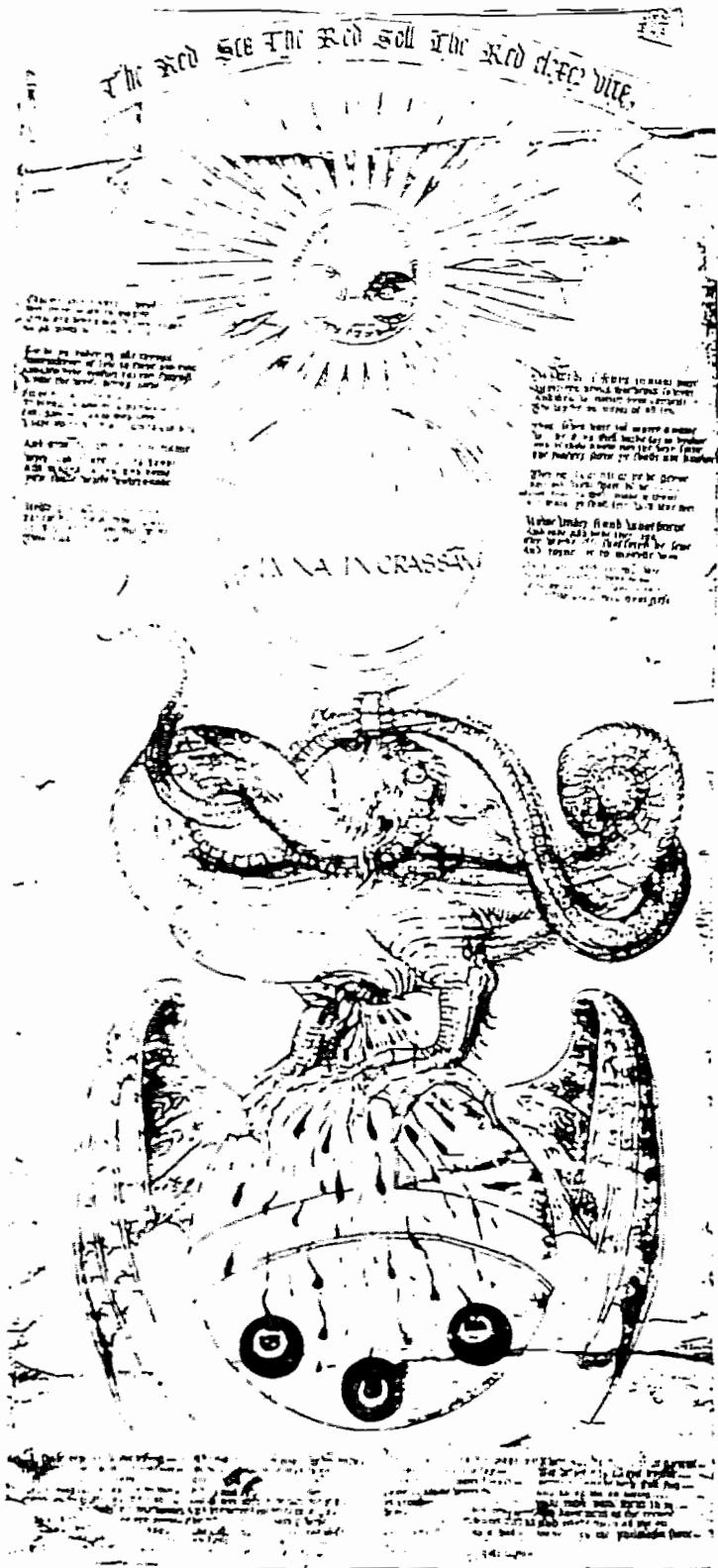
Opus

Ex 6128.1685 m.1

Deniq

Pars Tertia





V. Ripley scroll of alchemical emblems
Det. II showing "Serpent of Araby" and philosophers' stone
Princeton University Library



Itt is þ last of the red lion. & þ beginning to put a weye þ ded-deft



In the þre Arrows first
gather the birds of Hermes
and make them into a nest
and cover them with the best
and fairest silk that you can find
and then let them have a nest
in which no bird is by present.

In the Arrows second and third
take the best of the best
birds of all and form them into a nest
and cover them with the best
and fairest silk that you can find
and then let them have a nest
in which no bird is by present.

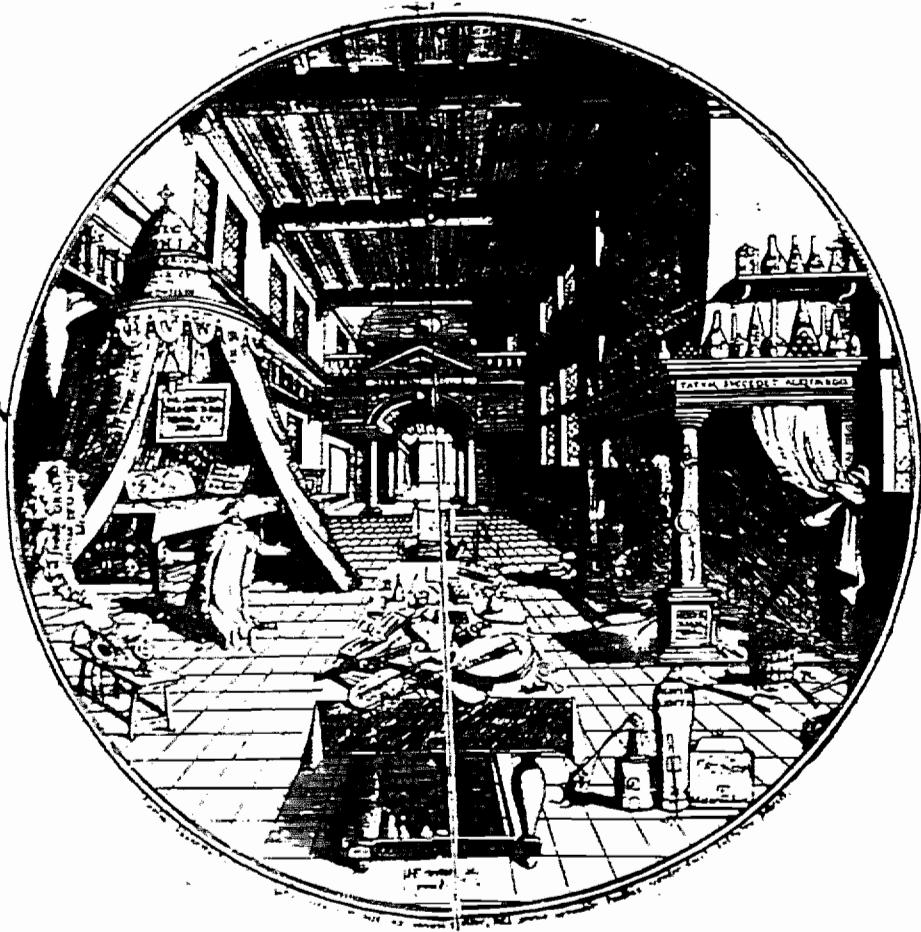
The bird of Hermes is my name enye my synagoges to make me nunt,

IV. Ripley scroll of alchemical emblems
Detail showing the "Bird of Hermes"
Princeton University Library

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Heinrich Khunrath, *Amphitheatrum sapientiae aeternae*, 1609 (courtesy University of Pennsylvania, Van Pelt Library).

NjP°

Magic Ceremonies.

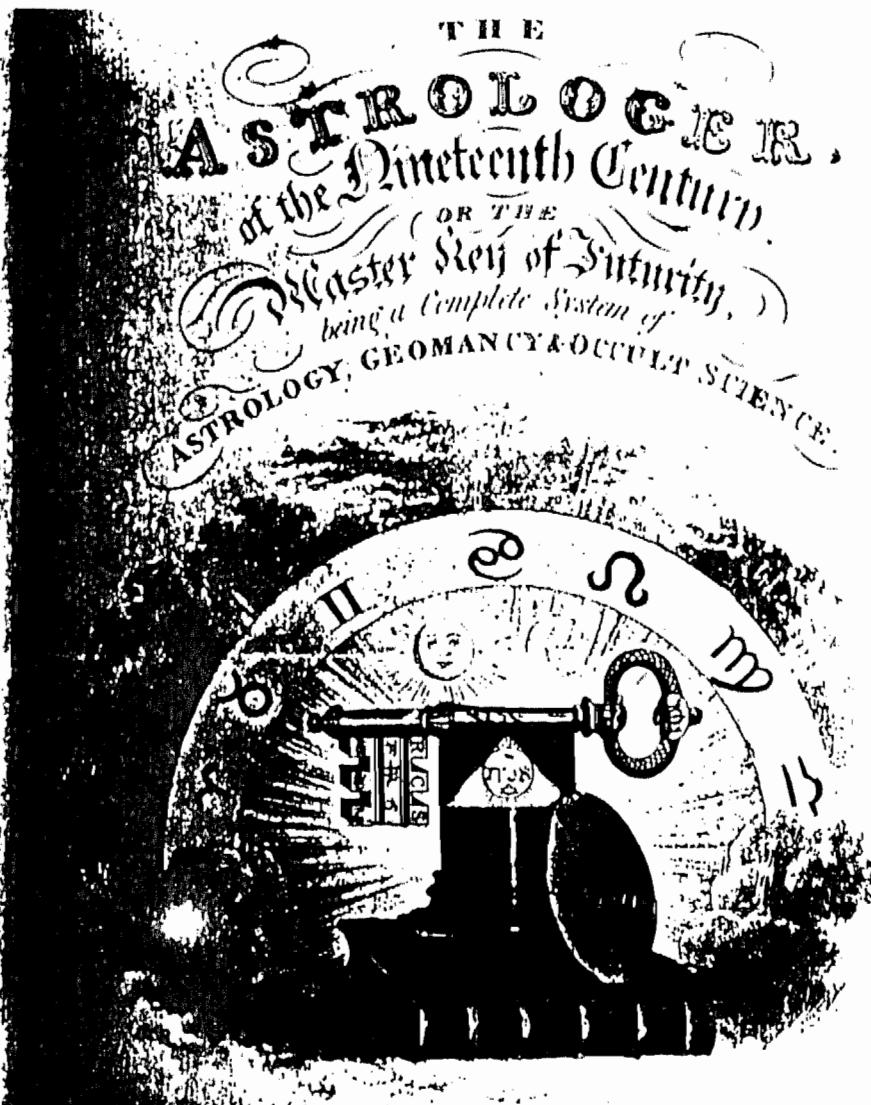


Such were the mystic rites, ceremonies and incantations, used by the ancient Theurgists to burst asunder the bonds of natural order, and to obtain an awful intercourse with the World of Spirits.

LONDON.

Published by William Charlton Wright, 65 Fleet Street, London.

See page 23



in the heavens the work of thy fingers, the moon and the stars which thou hast ordained. Psalms viii. 3.
And from heaven the Star in that nation fought against the woman. Judges v. 20.

Et illas adit umquam Clio.

London,

KNIGHT AND LACEY,
Fater Noster Row.

WATKINS & TIRRELL, DUBLIN, & W.H. M'PHIN, GLASGOW.

on the table, book opened to diagram: on
being p'g'd



Heinrich Khunrath, *Amphitheatrum sapientiae aeternae*, 1609 [courtesy University of Pennsylvania, Van Pelt Library].

HjP*

12

Doctor
gay—tl
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magici

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Shakesp
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echoed,
ever, the
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thoroug



This are the mystic rite ceremonies and invocations used by the
ancient Magicians to call down the gods of nature and
to obtain an awful influence over the world of Greece.

PORTRAIT
Published by William Claxton Wright & Son, 1886.

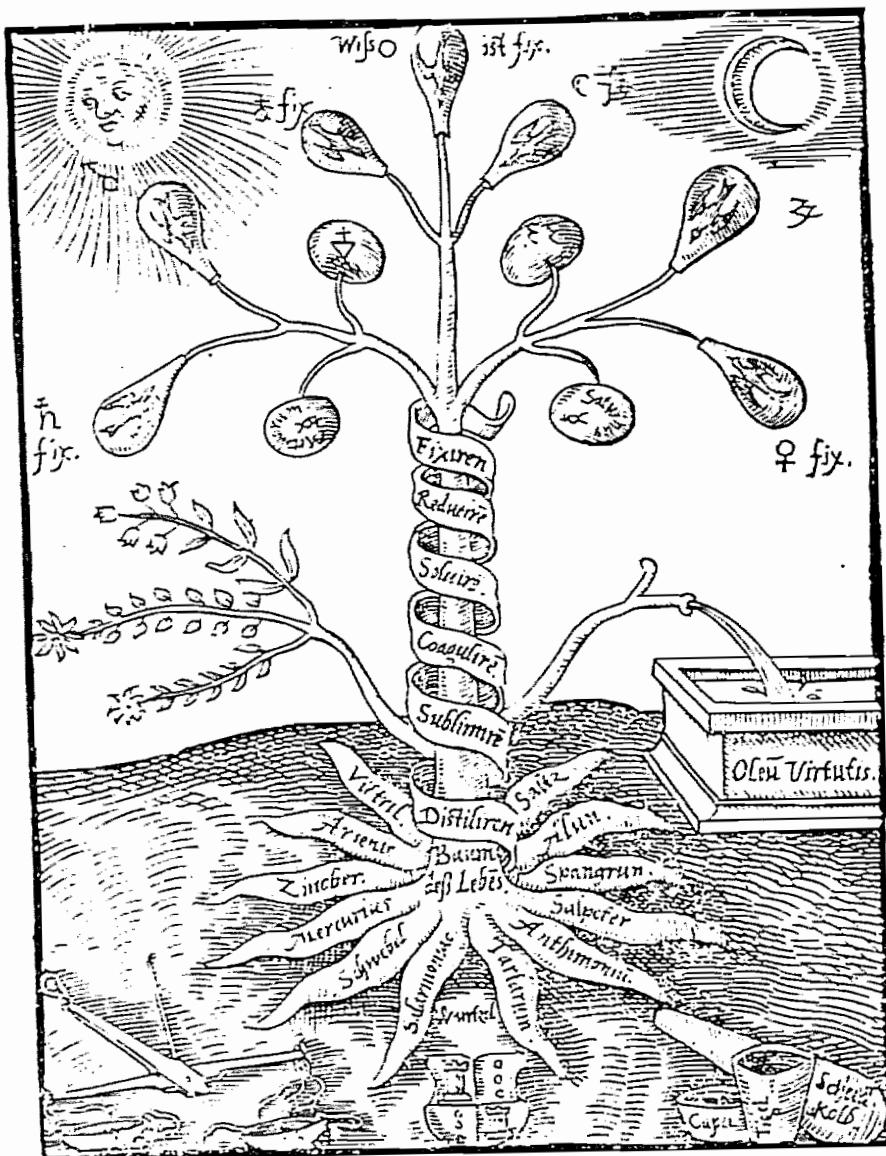
13

ct: vi

Das Lehende Buch /
Das Erste Capitel.

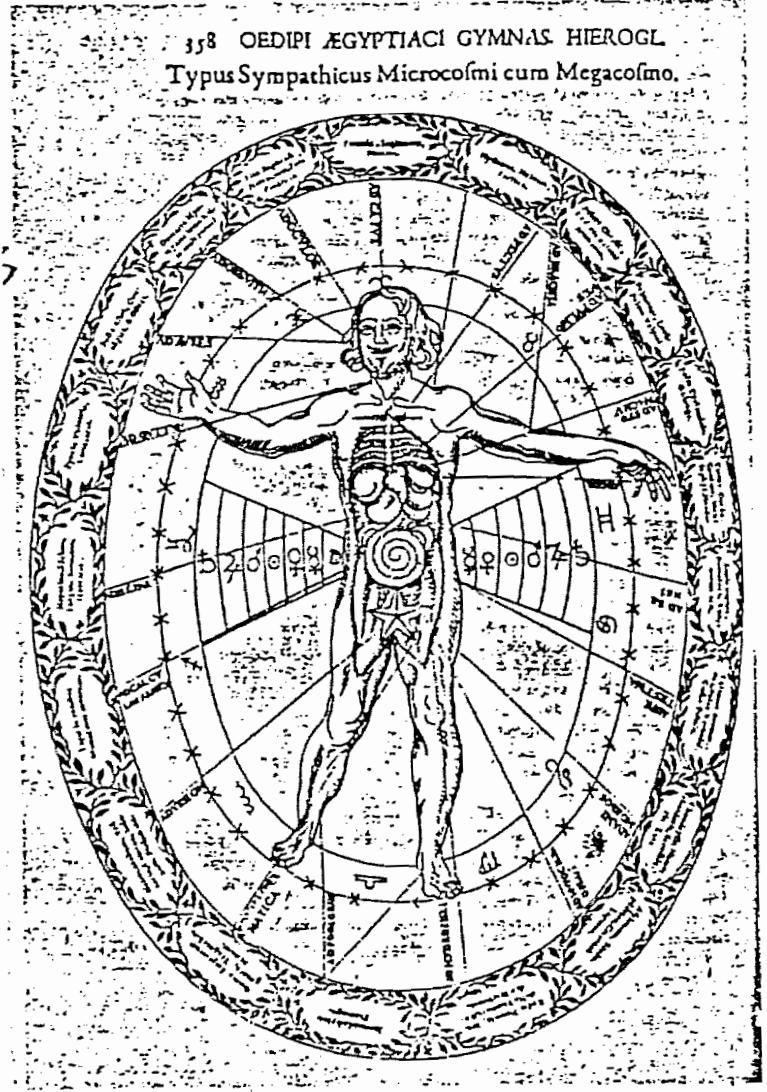
Som quetschsilver.

So diese nun sind alle fix/
Feuer, wasser, bstand, er darff zu glucks/
Das jedes hab sein farb vnd gewicht/
Alldein der Kunst wirdt mangeln nicht.



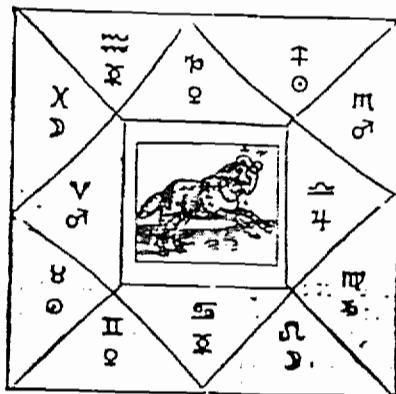
H Ich bin ein unzeitig Metall/
Glatt, schwüppiger, in diesem fall
Für machen. Von niemande ich mag behalten werden
Zer mich möcht zwingen mit geberden.

Das



Astrologia Naturalis

Die Signer des revolutionis der planeten en planeten
na die natuerliche Astrologie vvens hyslocoope xriens
zijn heer Juppiet.



Combinarij den voor ghestelde signers na de hyslocoope
des eersten laers xriens vor dat Juppij iaert toe.

1 V ♂	13 ♂	25 ♀	37 ♂	49 ♀	61 ♂	73 ♂
2 ♀ ♀	14 ♀	26 ♂	38 ♀	50 ♂	62 ♂	74 ♂
3 II ♀	15 ♂	27 ♂	39 ♀	51 ♂	63 ♀	75 ♂
4 ♂ ♀	16 ♂	28 ♀	40 ♂	52 ♀	64 ♂	76 ♂
5 ♂ ♂	17 ♀	29 ♂	41 ♂	53 ♂	65 ♂	77 ♂
6 ♂ ♂	18 ♂	30 ♂	42 ♂	54 ♂	66 ♀	48 ♂
7 ♂ ♂	19 ♂	31 ♀	43 ♂	55 ♂	67 ♂	79 ♂
8 ♂ ♂	20 ♂	32 ♂	44 ♂	56 ♂	68 ♂	80 ♂
9 ♀ ♂	21 ♀	33 ♂	45 ♀	57 ♂	69 ♂	81 ♂
10 ♂ ♀	22 ♂	34 ♂	46 ♂	58 ♂	70 ♂	82 ♂
11 ♂ ♂	23 ♂	35 ♀	47 ♂	59 ♀	71 ♂	83 ♂
12 X ♂	24 ♀	36 ♂	48 ♂	60 ♂	72 ♂	84 ♂

Gelezen op een hooge de rekenkam wile ghe
ontlyck toe. Deur
Jnagatoris quam bene nomen habet. I 4

E Kennisse der Completerien



dan Galenus en
gheschreuen hebben
wi ghearbeitheit

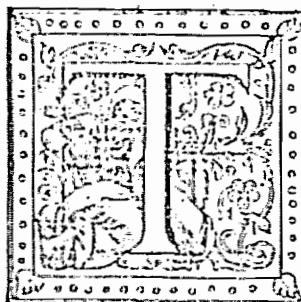




THE GENEALOGIES OF HOLY SCRIPTURES.

To the Christian Reader.

L Tim. 1.4.



The Spirit of God in the sacred History, hath laid downe such helps, as are the light and life of all Nations originals. In them the circumstances of Person, Time, and Place, are the chiefe; else doe we wander as without a guide: and of these the Person is principall. Genealogies then drawne from them, from whom all are descended, and by Gods owne warrant recorded unto us, must moue a speciall reverence that they are holy, and farre from those other against which S. Paul writeth. Amongst whose manifold uses, this is the chiefeſt, that by them is prooued how Christ was made very man. And therefore in ſeverall Tables they are heere exhibited even from their firſt roote, and ſo continued through their ſpreading branches, ſo farre as the Scripture giueth them ſap. In the reading whereof, let these ſew direccons be thy guides.

1. Such deſcents as hold on from the Parents to their Children, without interruption, are very plaine by their double lines, which runne from rundle to rundle.

2. Those whose Parents are not certainly knowne, but are named of their Country, Citie, or Tribe, are ioined each vnder other, with this figure here in the margent.

3. And likewiſe ſuch as are ſet in ranke ſide by ſide, and diſtinguiſhed by this marginall mark, are not to be reputed Brethren, but ſome other Perſons of note, of that deſcent where they are ſo inserted.

4. The names of Nations and People, (as likewiſe ſometimes of Cities and other places of note) wee haue not incompaſſed in rundles as the reſt, but in Compartiments, and diſferent letters betwixt direct lines, that ſo they might bee knowne from particular perſons, and the Names next vnder them, are not inserted as certainly thence deſcended, but as eminent Perſons among them.

5. And where of neceſſity we are to breake off the ſucceſſion, to be continued in ſome other page, that doe we at ſome principall Perſons: as at the flood with Noahs ſonnes; at the Promiſe, with Terah and Abraham, &c. So that euer the Man at which we breake off, is againe ſet in the firſt place of ſome enſuing page, where his iſſue is continued, though many times whole leaues fall betwixt them; which are ſupplied with other collaterals: ſuch is from Abraham pag. 3. unto his wiues and ſeed, pag. 6. and 7. &c.

* Mauth. 1. 6. The lineage of our blesſed Sauour (which is our principall ſuſcep.) is knowne in it, a Chaine like traile, continued from Adam to Sem, pag. 1. and thence to Terah and Abraham, pag. 3. &c. So likewiſe from David, pag. 22. to his ſonnes Solomon and Nathan, pag. 33. And laſtly, to our Sauours parents, pag. 34. linked together (as other marriages here are) by the ſcripture of an hand in hand. Both deſcended from Zorobabel, as the holy Euangelifts haue recorded:

* Rab. Ha- 9.1. from David, Iudah, and Abraham, as Moles and the Prophets haue ſpoken; and Iewes ecaſt. themſelues thus farre grant, that the Meſiah ſhould be the Sonne of a * Virginc, her name

Rab. Ha- Rob. Tis. Talmud. the trea- 9.2. Marie, and ſhe of Beth-lehem, the daughter of Eli, of the house of Zorobabel, and Tribe of Iudah. In all which, our Christ is maniſteſtly deſigned, and by theſe Iewes both acknowledged to haue been of the bloud-royal, and alſo recorded in the number of the Priests, in their publike Re-

bedin, Chap Ni- gmat Hadin. * Theodos. the Jew in Suidas on the word Iesuſ. Col.1.15. Heb.1.3. Apoc.7.12

gigler at Ierusalem, by this title, I E S U S T H E S O N N E O F T H E L I V I N G G O D, A N D Q U E T H E V I R G I N M A R I A. Thus is he Davids Sonne, and Abra- hamis Heire, in whom all the kindreds of the earth are bleſſed, being the very Image of the inuiſible God, the brightneſſe of the glory, and the ingrauen forme of his Per- son, in whom dwelleth the fulneſſe of the God-head bodily, and unto whom be aſcribed all gloriy, praiſe, wiſdomē, thanks, power and might for euer- more, Amen.

TABVLA CHRONOGRAPHICA EX COLLATIONE TEMPORVM HEBRAE-
ORVM, ITALORVM, CHALDÆORVM, ET AEGYPTIORVM, SECUNDVM PVBLICE FIDEI,
etiamque authoris ab Adamo ad Crisium ad Veram factorem intelligentem, & rectum historiarum ordinem habendum, Collecta per
Johannem Bouisse, Procurum, auersum Codicis 2. foliis acuti, Hebreos linguis profectorum.

ILLVSTRISSIMO ET AMPLISSIMO EQUITTI ET D. RENAT.

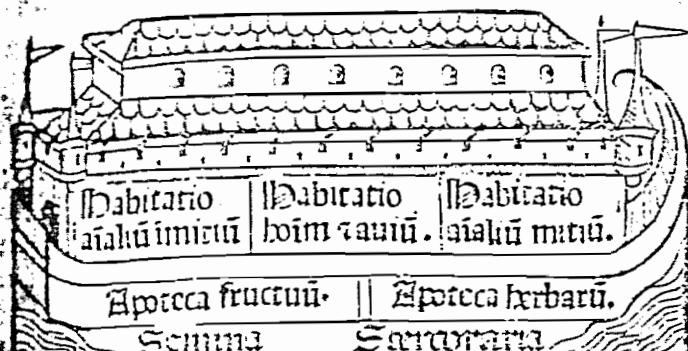
Angli Camarum Regi, Cantabrigi, Johanne Boobrie Piscatori paperi consignato, S. P. D.

Hebreorum	Italorum	Chaldaeorum	Egyptiorum
Exodus	Cantus	Genes	Exodus
Levitus	Exodus	Exodus	Levitus
Numbers	Levitus	Levitus	Numbers
Deuteronomium	Numbers	Levitus & Numbers	Levitus & Numbers
Judicium	Deuteronomium	Exodus	Exodus
1. Kings	1. Kings	Exodus & Levit.	Exodus & Levit.
2. Kings	2. Kings	Exodus & Levit.	Exodus & Levit.
1. Chron.	1. Chron.	Exodus & Levit.	Exodus & Levit.
2. Chron.	2. Chron.	Exodus & Levit.	Exodus & Levit.
Ezra	Ezra	Exodus & Levit.	Exodus & Levit.
Nehemiah	Nehemiah	Exodus & Levit.	Exodus & Levit.
Job	Job	Exodus & Levit.	Exodus & Levit.
Psalms	Psalms	Exodus & Levit.	Exodus & Levit.
Prophets	Prophets	Exodus & Levit.	Exodus & Levit.
Matthew	Matthew	Exodus & Levit.	Exodus & Levit.
Mark	Mark	Exodus & Levit.	Exodus & Levit.
Luke	Luke	Exodus & Levit.	Exodus & Levit.
John	John	Exodus & Levit.	Exodus & Levit.
Act	Act	Exodus & Levit.	Exodus & Levit.
1. Cor	1. Cor	Exodus & Levit.	Exodus & Levit.
2. Cor	2. Cor	Exodus & Levit.	Exodus & Levit.
Galatians	Galatians	Exodus & Levit.	Exodus & Levit.
1. Thess	1. Thess	Exodus & Levit.	Exodus & Levit.
2. Thess	2. Thess	Exodus & Levit.	Exodus & Levit.
1. Tim	1. Tim	Exodus & Levit.	Exodus & Levit.
2. Tim	2. Tim	Exodus & Levit.	Exodus & Levit.
Titus	Titus	Exodus & Levit.	Exodus & Levit.
Philemon	Philemon	Exodus & Levit.	Exodus & Levit.
Hebrews	Hebrews	Exodus & Levit.	Exodus & Levit.
1. Peter	1. Peter	Exodus & Levit.	Exodus & Levit.
2. Peter	2. Peter	Exodus & Levit.	Exodus & Levit.
1. John	1. John	Exodus & Levit.	Exodus & Levit.
2. John	2. John	Exodus & Levit.	Exodus & Levit.
3. John	3. John	Exodus & Levit.	Exodus & Levit.
Revelation	Revelation	Exodus & Levit.	Exodus & Levit.

folium. III.

Nota sūt doctores debitā penā h̄ tpe mūndo infuctam
rū luxuria abundauit que corpora polluit. ideo p aquā ter
abu c mūdā fuit. In fine autē mūdi q̄ cupiditas abū
pignē exuret. Hic c̄m t argētū igne purgari solēt.

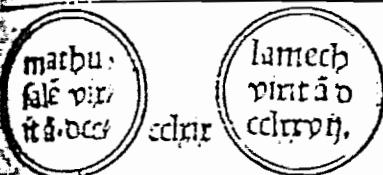
Dic signū fedes q̄d tō inter me
7 vos. t ad om̄es aīaz. gen̄. ix



Scimia Seroraria

Archā nac hāit in lōgitudine. cc. cubitos. in latitudie. l.
cubos. t̄ in altitudie. xx. t̄ in sumitate. i. cubitū gen̄. vi

CCCLXXXVII φCCCCLIIII II^o CCXLII



Tempus diluuij.

II^o DCCCLVI in oīda III^o DCCCLVII

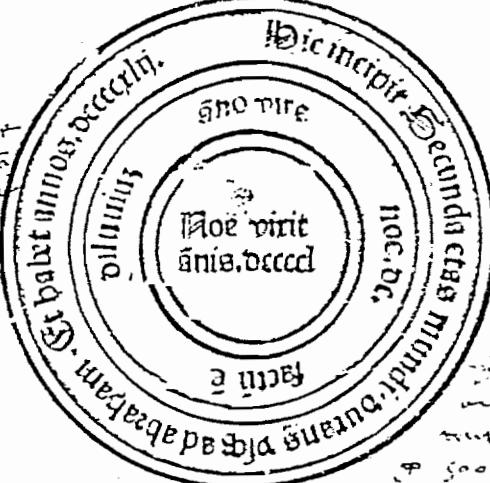
Dic matusalē senissim quo ad
multitudinē annoz oīm quos
scriptura memorat. Cū eīn. d.
nos h̄bet dixit ei dñs. Edifi
cōmū si vis. qm̄ adhuc. d. an
vies. r̄ndit. Propter tā
llū t̄pis nō edificab̄ domū. t̄
actib̄ t̄ circa vipes dor
muit ut prius p̄fuerat.

Iste Lamech cū iā
seruissz t̄ caligasset
ocli ei t̄ puento du
cebat. qui putas p
ferā vidissz. idicauit
ei ut sagittaret. t̄ sic
ipm̄ caym̄ transfixit
Cū ob h̄ puer t̄tes
ribi adeo afflit. ut
etiā mortet.

Son t̄ filiis eorumq; vxoribus archam intraret. t̄ cum animalib; t̄. t̄ statim diluuium inun
davit. Stetiusq; aqua sup altissimos mōtes cubitis. xv. gen̄. viii. Et nota q̄ eodē die dñico in
tempo in quo ingressus fuit. eno revoluto cū vniuersis que ibi erāt egreditus est. Post diluuium
en accidit ip̄i noe illa famosa ebrietas. cui? occasione ip̄e filijs. s. sem t̄ iaphet p honore pa
remo t̄ honesta secundia bñdixit. filio. vo suo chā p irriſōe irreuerētia maledicit. Et hic sū
fit prima mētio de fuitute. t̄ p opositum de nobilitate. Nec putādum est q̄ om̄is de chā
decedentes fuerint ignobles t̄ impotentes. cū ip̄i ceperūt primo esse potētes sup terrā. ut p̄t
benmroth t̄ regib; chanan t̄ afftoz t̄. Nec oēs de sem t̄ iaphet fuit p̄t uosi sūc nobiles
potētes. cuni pene omnes in idolatrie crīmē ceciderunt. t̄ ab alijs oppressi sepe fuerunt. s̄
p̄t maledictio t̄ benedictio vicia t̄ virutes respicit. p̄t que vel quās homo veraciter di;

Arcus
pluvialis sive iris
duos colores principa
lit̄ h̄. qui duo iudicia re
p̄ntat. Aque? diluuui p̄re
ritū figurat ne apli? time
ar. Igne? fatus iudiciuz significat p
igne. ut certitudinaliter expectet.

ionic
bus filius noe



Nōe vir justus grām inuenit corā w
mino Cū em̄ eēt anoz. d. genuit sem
cham t̄ iaphet. Arcā de mādato dñi e
dificare cepit eāq; in c. annis p̄fecit.

Cētesimo gāno iā archa p̄pleta itez
dñs apparuit ei. mādans ut cū uxore

Aiii

Prima etas. Adam.

Omnes etates filitorum accipiuntur. Et in etates homines. et a diversis diuisimode assignantur. multi sunt. quare sic vel sic quoniam etiam inchoetur vel terminetur. de quibus nihil ad prius. sed hanc sufficit est ad utendum. vi. sunt etates mundi. quae prima incipit a mundi creatione et duret usque ad diluvium. et hec est hebraicam vitatem annos. Octo. Secundum. Interpretes sicut fidem habent et ali quae dicuntur quae hic sequimur hec annos. q. cc. xl. et sic differt in annis. dclxxvi. quae hebrei minus habent. Quae est ratio tamen diuisitatis invenire non possumus. Tertia etas incipit a nativitate abrahe et duret usque ad initium regni domini. hunc est in hebreos annos. dccccxli. et in. lxx. dccccxli. Quarta incipit a primo regni dauid. et duret usque ad transmigrationem babilonie. et hec annos. cccclxxiiij. et in hebreos. iij. est in leptuaginta. cccclxxv. Quinta etas incipit a transmigratione babilonie. scilicet quando mundus fructus fuit. et templum in ea intefusum. et duravit usque ad beatitudinem nativitatem christi. hunc annos est in hebreos. modum predictum quem hic sequimur. dicitur. et sicut predictum est gratias est altricatio de suppuratione annorum hec etatis. diversi diuisimode operari. sed non minus multum differunt inter se. Eligat quisque quod sibi placuerit. quod nobis visus fuit possumus. Sexta etas incipit a christi nativitate et duret usque ad finem mundi. cuius terminus solus deus novit. et hoc dicit senectus siue hora ultima.

cxxv. Adam moritur sepeliturque in ebron

Anno mundi mcccxcv

Dcccclxx

DCXXII

malalei
elvirit. a
dccccxv

Zareth
virit. an
dccccxvi

Enoch.
annis
ccccxvi.

marbu:
fale vir/
it. a. dccc
cc

mcccix

III. CCCXIX

III. LXXVII

mcccxi

Curiositas

Nomus quod oes artes vel sciencias liberales siue mechanicas vel phisicas humanas curiositatem defuerentes a filio lamech legum iniuste. et sic filii adulteri non primi subtiliores alii sunt. Et quod timebatur futurum piculum diluvium et ignis. ideo tuba et balia eisdem artes in duas columnis sculpsit. una lateritia. et alia marmorea.

Bigamia

lamech ab his
litis proibito afflicta fuit. quod per
cepit per ipsius

Iste lamech primus est. naturam et mores bigamias instituit adulterium coniunctum. Ipse etiam carnem osci- dit. non carnem voluntarie.

Iste Enoch iustus placuit deo. et propter nimis scitatem suam trastulit eum dominus in paradiso. ubi a helia vivit in magna corpore et spissitate usque ad aetatem aduenientem. Tunc enim erubet propter confortationem electorum. et martyres coronabuntur. Enoch scripta reliquit.

Iste Iacob portatoria pastorum primus instituit portatoria fecit. Occupatio aurum.

Iste tubal pater canentium in citharais et sonis. et musice artis inventorum. proportiones quoque sonorum ex malleorum sonitu perpendiculariter.

Occupatio oculorum. Iste tubalcaen fuit primus malleator et fabrikator opus et ferri. et inuenitor artis sculpturales.

Occupatio carnis. Ista noema iuenerit arte varie diuiseg- lanam et linum in fila trahit. et panum teruit. propter tem. nam atea pellibus bestiarum pro vestibus utaber-

bitur. Multitudine a scripturam nos habet. dicitur. et domum si vis. nos viues. ruridum in ipsiis non erit arbitrio et invenit ut prius

sonum et filius eorum ducit. Et stetit Mayo in quo in unum accedit ipsi. sermo et boneficius. fit prima decimeta fuit de nemroth et aut portantes. cum de maledictis.

I Fratres recte britanicis mortuissim⁹ in victor⁹: quadragesim⁹ scragita viros gladio suo interfecit. Ecclesie dei subuenit: et fides valde ampliavit: oēsq⁹ terras francie: datus: nouus reg⁹ t̄c. sibi scrutare coegerit. Perditur tandem: nec usq⁹ hodie secur⁹ ubi manserit.

Dobriscus p̄mas anglie: vir sanctus: miraculis clarus: post heremita: coronauit arctarum.

Imperatores

Ghelici⁹ ppbete ossa transscrūtur de samaria in alexandriam.

Marcus euāgelist⁹ corp⁹ transcr̄t ad venetias de alexandria.

Petante minor⁹ instituitur a mamerto ep̄o vicen⁹.

Remigii⁹ remen⁹ ep̄s: q post clodoniu⁹ reges frāc⁹ ouertit.

Rerpenius ep̄scopus uironens⁹.

Prospere ep̄s vir clarus scia sanctitate vite: de agtante terra.

Ebodus ep̄s syrie scripsit cronicas: et plura alia.

Cyprian⁹ amilicen⁹ ep̄s: vir supra modū misericors: totus quod habuit fratib⁹ in necessitate dedit.

Cheres accephalo⁹ fuit: que impugnauit ociliu⁹ calcedonēsc⁹.

Merent⁹ qdām peperit infantes ⁊ uno p̄tu: et in piscinaz p̄iecit: et unus factus est rex lōgobardoz.

gerunt: cctiderūt. Est siquidē miserabilis victoria: quādo vīctor paucos aut nullos milites retinet. Unde audacia plurimū nocet: quādo prudētia non gubernatur. sic arcturo cōtigit.

Anno mudi

1563

Ep̄pe



sardus

tyburni⁹

Anno xpi

164

Iste hilarius dedicauit ecclesiam beati stephani iuxta basilicam beati laurenciu⁹. Hic cōstituit: et nullus pontifex sibi successorem cōstituat: et habetur. viij q. pleriq⁹. Sepelitur in monasterio sancti laurenciu⁹: quod ipse cōstruit.

Clūcetiaz ciuitas.

Venetiaz ciuitas inclita condit⁹: aut potius ampliata circa hec tempa: āno 450. non a pastoribus si- cut Roma: sed a po- tentioribus ⁊ diuini- bus puinciarū adue- nis: illic p̄petr per-secutionē Attila con- fugientibus. Mirus est: ⁊ summo extolle- dum laudis p̄conio: poruisse a tot tāq⁹ diuersis vbi⁹ ⁊ oppidoz po- pulis eonditam ciuitatem per annos mille cum tali incremeto: ac glo- ric splendore: vnamq⁹ sagacitate conseruare.

Iste sc̄no fuit arrian⁹: et totaliter crudelis ḥ catholicos. Sed in utraq⁹ gothis: et filiu⁹ Leonis iterficie vō lens: alter simius d̄ offertur. Ipse theo- doricu⁹ p̄ue: postea regem gothoz a pa- tre suo in obſide ac cepit.

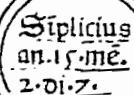
Ethelici⁹ senator⁹ i burgūdia tpe famis 4 milia paup̄ sustētau⁹: et celestis p̄missiōis vocē audiuit.

Gulgentius ep̄s ruspon⁹. clarct: luculentissim⁹ do- cto: sc̄u ⁊ fide plenus. afer.

Anglia i flore tpe arcturi: cui ter dena regna se- uicrūt: s̄ tpe p̄uo. Et nō signu⁹ ifallibilc: qñ vidd; militaris cōfūtudo bellū delectabili⁹ app̄ctit: et occa- sionez q̄rit: nūc seq̄ finis cōter miserabilis: iux illō pp̄p̄he. Dissipa gētes q̄ bella volūt. O si hoc tpe bri- tones q̄ nūc dñi anglici prudētia ḥa gubernassent totū europeū dñi fuissent. Et du⁹ du⁹ volunt fortiter cōtra fortes agere: pariter cu⁹ fortibus i quos impe-

gerunt: cctiderūt. Est siquidē miserabilis victoria: quādo vīctor paucos aut nullos milites retinet. Unde audacia

plurimū nocet: quādo prudētia non gubernatur. sic arcturo cōtigit.



Iste simplicius diuīs vīcīm in qnq⁹ regioncs: et plures ecclesias dedicauit. Hic cōstituit vt clericus inuestigara⁹ nō recipi- at a laico: quod fuit post per alios magis robo- ratum: vt patet. xvi. q. vi. per totum. Sepelitur in vaticano.

Gispesitio illa famosa fca est apud chartaginē s
eranos iussu honorici regis: cui scripta habet: s
malitibus catholicis: rex impius arriana bēsi ple
nas eos vīq̄ p̄sequit: s nō ipunc. nam octauo
anno regni sui p̄cessus a dño scatēs vermisbus mi
serabilis expiravit.

Achatius c̄ps c̄stantinopolitan⁹ in heretum ceci
nit dānatus: t famosus hereticus fuit.

Eugenius c̄ps carthaginē. Et felix c̄ps abrita
ccm. cū alijs c̄pis & clericis: t ecclēsie mēdus nūcro
miserabilis traxant: t in exilium mittunt ab
honorico rege Vandaloz. Et totus clerusafric
aus forit p̄ xpo agonizat vsc⁹ adhuc.

Dionysia cū filio suo maiorico: t germana dati
a lēncia filia sc̄i germani c̄pi. Emilius medicus.
Bonifacius martyres: t alij multi martyres & cō
fidores absq̄ nācro: multū manibus & linguis ab
sistis recte loquunt.

Victorianus p̄cōsul martyr mirabilis cruciatus
et victoriana honorabilis m̄ona: et alij tc̄.

Fames incredibilis fca ē q̄ totā africā vastauit &
alias regiōē: occasiōē cui p̄les sc̄i & sc̄e sc̄i credūt
pp̄ter elemosynas suas.

Sütaramundus rex Vandaloz q̄ post ho
norici rexit eugeniu ab exilio reuocauit: sed
castrimūdus q̄ post nouē annos ei succedit
itez ecclēsias claudit 215 ep̄os exiliando: er
ga q̄s symmachus papa clementissimus fuit.

Iste anasta
sius malū h̄z te
stimōū: q̄ fact⁹
fuit bēticus per

Anastasi⁹
annis. 26.

achaciū c̄stantinopolitanū c̄pm t cū a p̄p̄ mo
uerē p̄ solēnes legatos: vt ab arriana pfidia dis

cederet: m̄dit. Nos cū sumus impator: ubē vo
lumus: nō aut nobis iuberi. Qd̄ arrogātē f̄bū
eterne humilationis: l̄z inutilis subsecuta est vltio: q̄ p̄p̄ post
iusto dei iudicio fulmīc p̄cessus interr̄: sc̄ntatis p̄cipib⁹ sue
vesanīe horridū relinques exemplū. Ip̄se cū miserabilis fuit
nec vñq̄ meruit victoriā: deo p̄ter oculib⁹ & hoib⁹.

Theodericus qui arrianus fuit rex gothor: totā italiā posse
dir longo r̄pc: t quādā tyrāndes ē fideles fecit: ob qd̄ fuit p̄
iectus p̄ mortē in os vulcani o ioh̄m papa & symmachū patri
ciū: quos iniuste necauit fm̄ ḡregorii in dialogo.

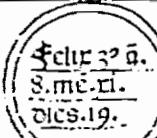
Inūtr̄o sc̄i michaelis in mōte ḡargano facra fuit hic.

Solenis c̄ps carnoren⁹. vir sc̄is insignis habet.

Pascasius vir sc̄is de quo facit mētionē ḡregorii dialogo
q̄ graue iustiniū p̄urgatoriū: q̄ in sc̄ismate p̄tinaciter adhescit
laurentio vsc⁹ ad finē vite: s̄ an mor̄e penituit.

Sācta brigida in scotia claret.

4623



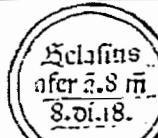
romān⁹ c̄r pa
tre felice et re
giōē fasciole

474

Felicis fca est: vt p̄p̄ et t̄mone b̄ti ḡregorii: vbi
narrat de trib⁹ sororib⁹ matris sue: fuit enī attauus ei⁹
q̄ p̄ dānauit achaciū: co q̄ ad cōdonē receperat petru⁹
alexandrinū c̄pm. Hic statuit q̄: accusato dāde sunt idu
de: vt ad r̄ndendū se pare possit: t q̄ accusatores & iudi
ces tales esse debet: q̄ oī careat inspitione & macula.
De ipso sit mētio. lvi. vñ. orosius.

Joh̄es damascenus fm̄ q̄dā fert his r̄p̄orib⁹ fui
se. Alij dicūt q̄ post ḡregorii: manū iūste sibi āputata
bē virgo sibi restiguit. multa scripta subtilia reliquit.

5683

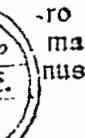


Gelasius
afer 2.8 m̄
8.dī.18.

484

Gelasiū canonē
missē ordinauit: p̄fatio
nē: hymnos: tract⁹: ofō
nes: sicut abrosius sc̄e
& int̄ libros ausēticos &
apocrisos distinxit xv.
dis. Sacroſcā. Ip̄se cū
impatore excoicauit: t
excoicari posse ostēdit
xvii. di. duo.

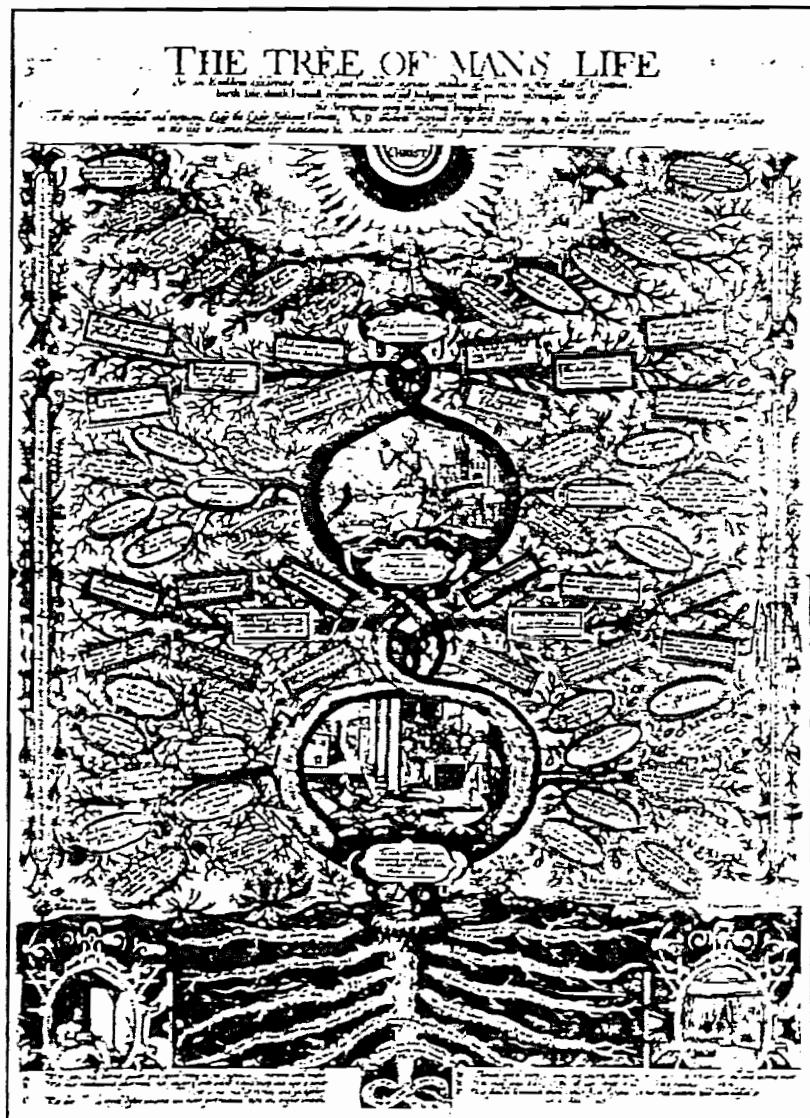
Iste anastasius p̄mo bon⁹ fuit
sed postea seductus ab achatio &
coicauit ei: t ob b̄ cler⁹ sepauit se
ab eo: t q̄ voluit restituē ach
aciū occulē: l̄z nō potuit: dīno iū
dicio p̄cessus ē: īestina cyciēdo
rit. di. anastasius. Et hic vñ sc̄ē
infamis papa: de toto carbalogo
p̄tūlū vsc⁹ hoc: q̄ p̄m⁹. l. lib
rius fauēbat arrianis: iste nestori
anis: v̄trobis occurrente vesania
imperatorum.



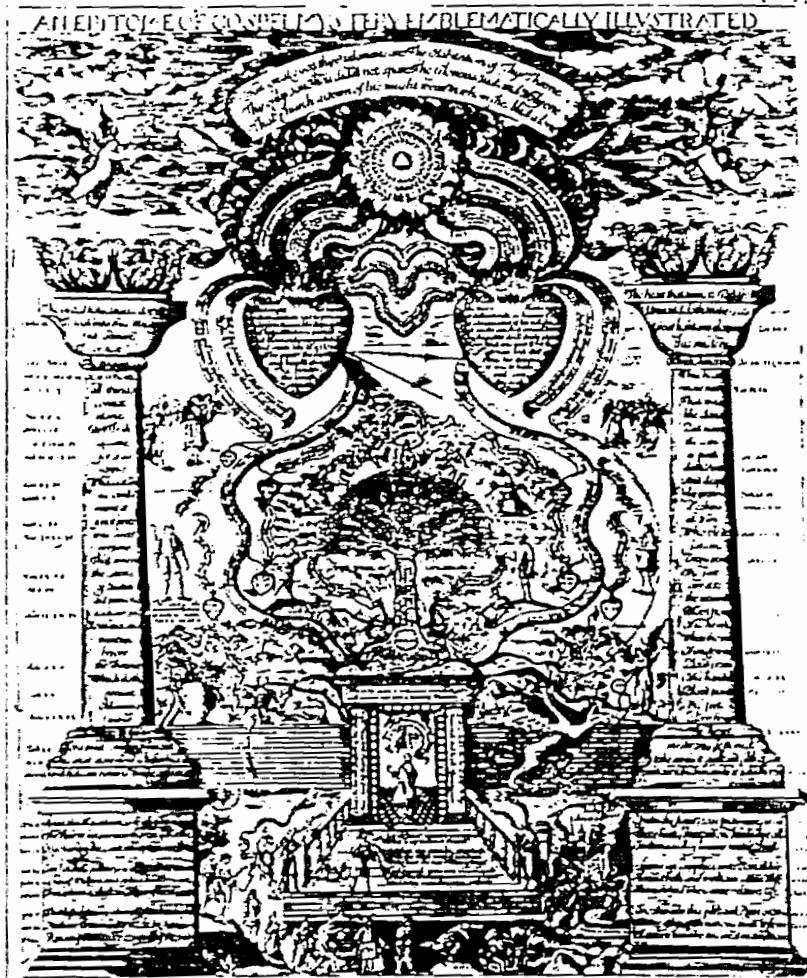
ro
ma
nus

A Mappe of the Maner of Spain wherein is shewen the Kingdomes and Realme of de Riwainyng and Leon, Castillia, Andalouia, Aragon, Valencia, Murcia, Granada, & other Conquerours Regions, showing the Cities, Townes, Superdior Provinces and Provinces, with their Extents, and the Number of Inhabitants.





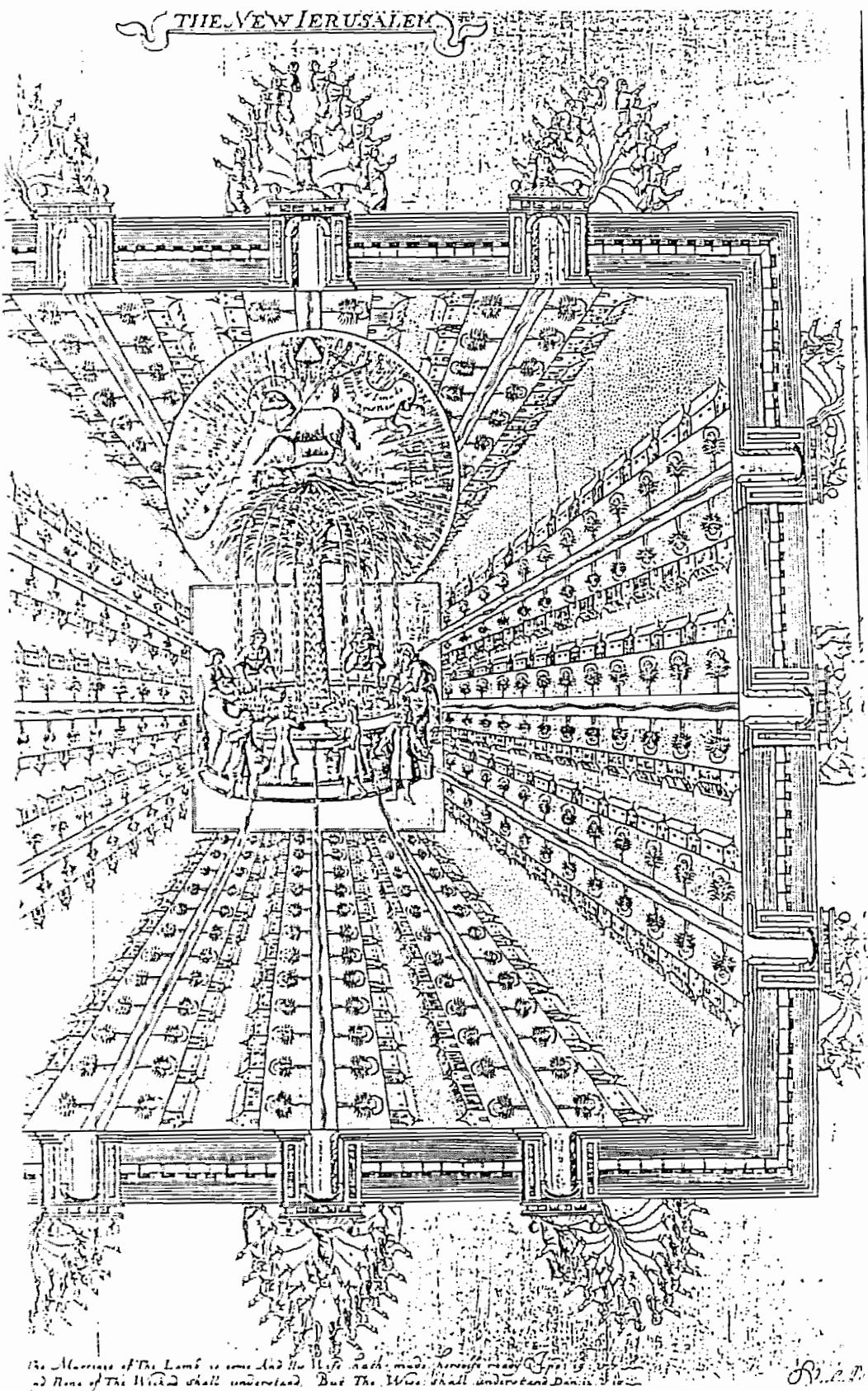
39. Richard Dey, *The tree of mans life*, engraved broadside by John Goddard not later than 1653



Epitome of Gospel Mystery Emblematically Illustrated [London, ca. 1650]. Rare Books Collection, Princeton University Library.

naturalistic, as in Louis de Lesclache's *La philosophie expliquée en tables* (Paris, 1652–1653).¹⁶ His three-volume set of bound engraved plates shows the points of philosophy in schematic, tree-like diagrams turned on their side so that we read them left to right, rather than bottom to

¹⁶ Purchased on the Zabriskie Fund in 1983, its Library call-number is (Ex) B188g.L4 P51651.



EX 6167.37

1521

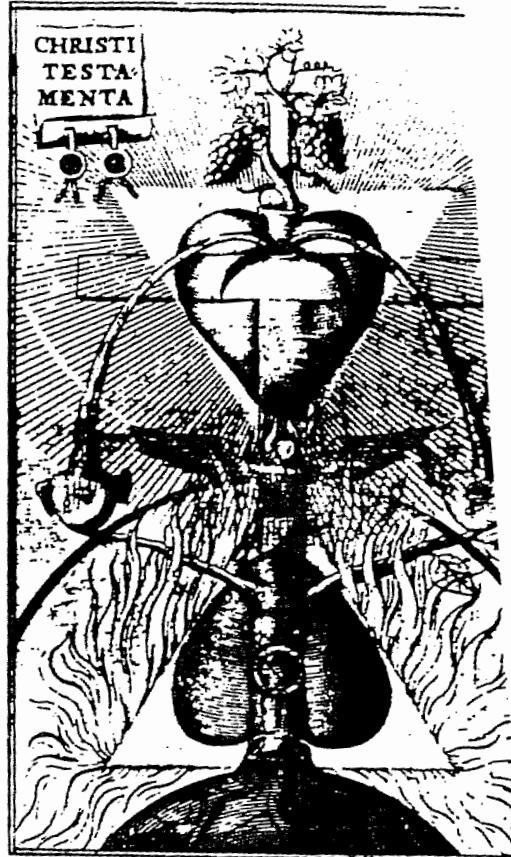
(Ez)

Sermones.

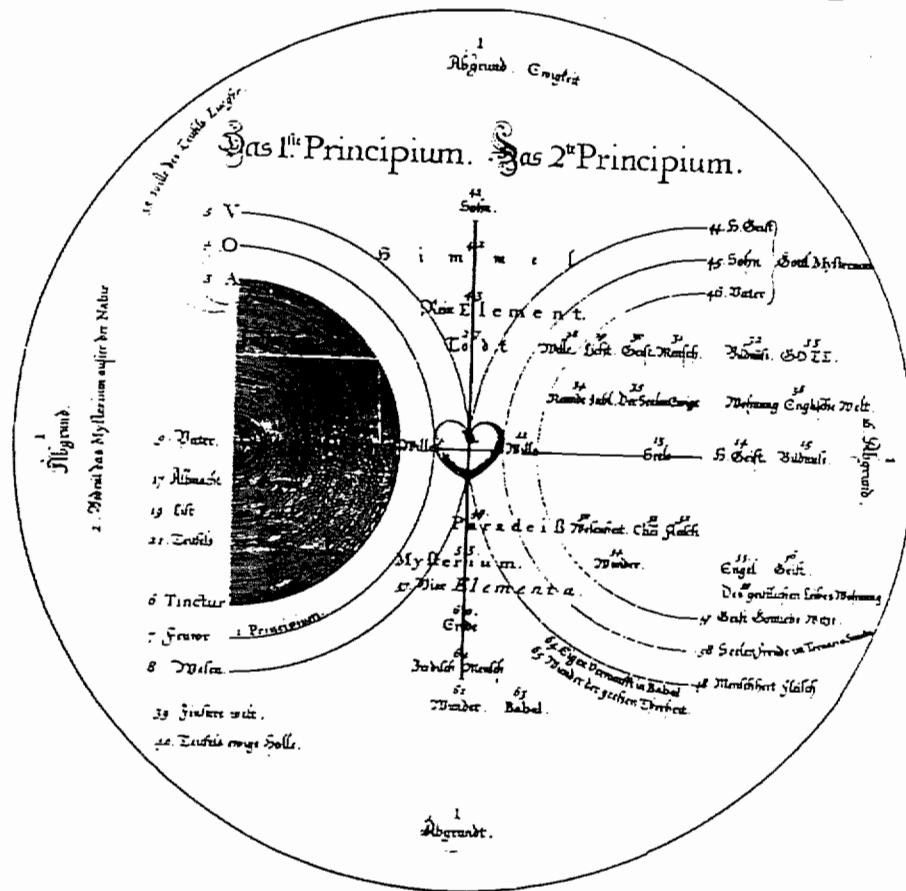
Sequuntur sermones viginti quatuor

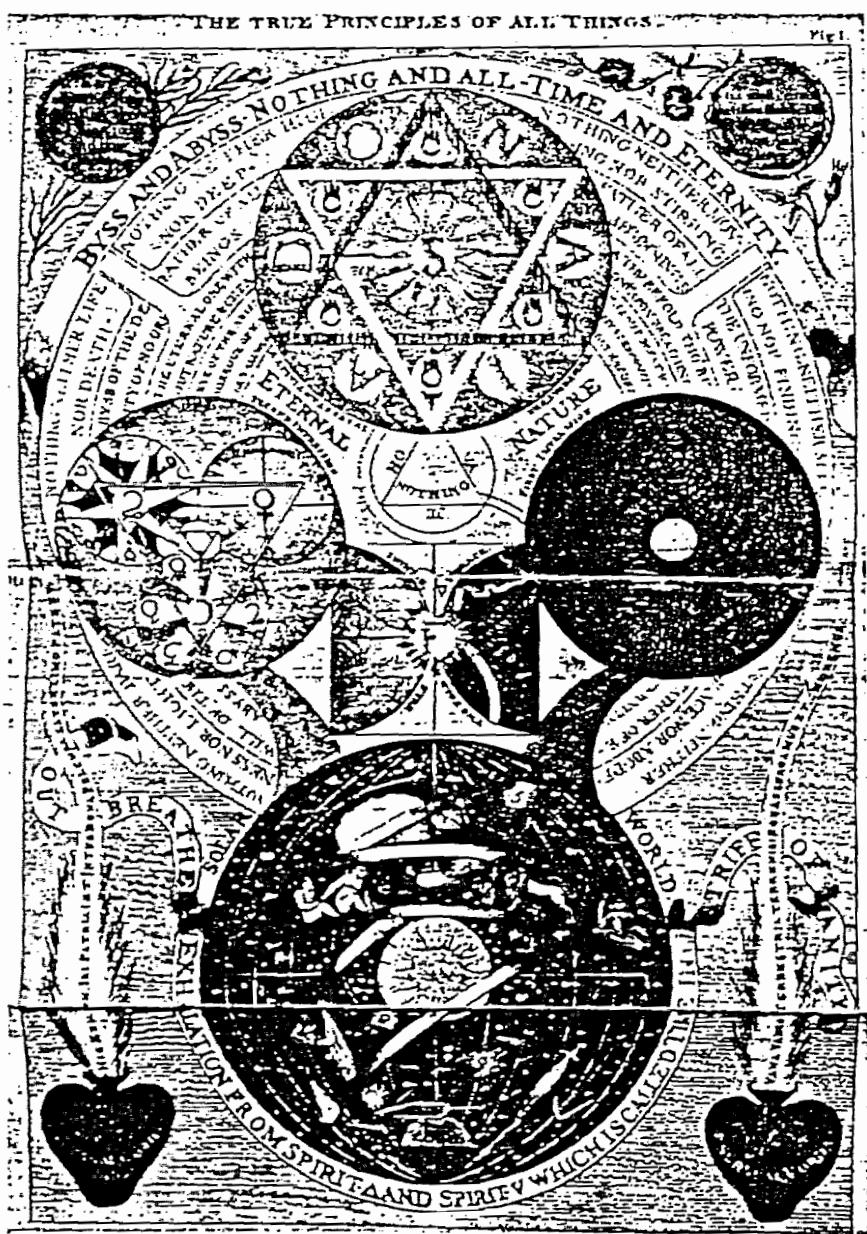
or fructuosisimi de Vita Christiana inscripti: utrumque ordinem
merum litterarum Alphabetique quas litteras in arborem redigunt
Doctor et iuratos mutauit. In quibus bono fidei et
cam suam secundum earum litterarum doctrinam re
gens ascendere potest in eternam gloriam.



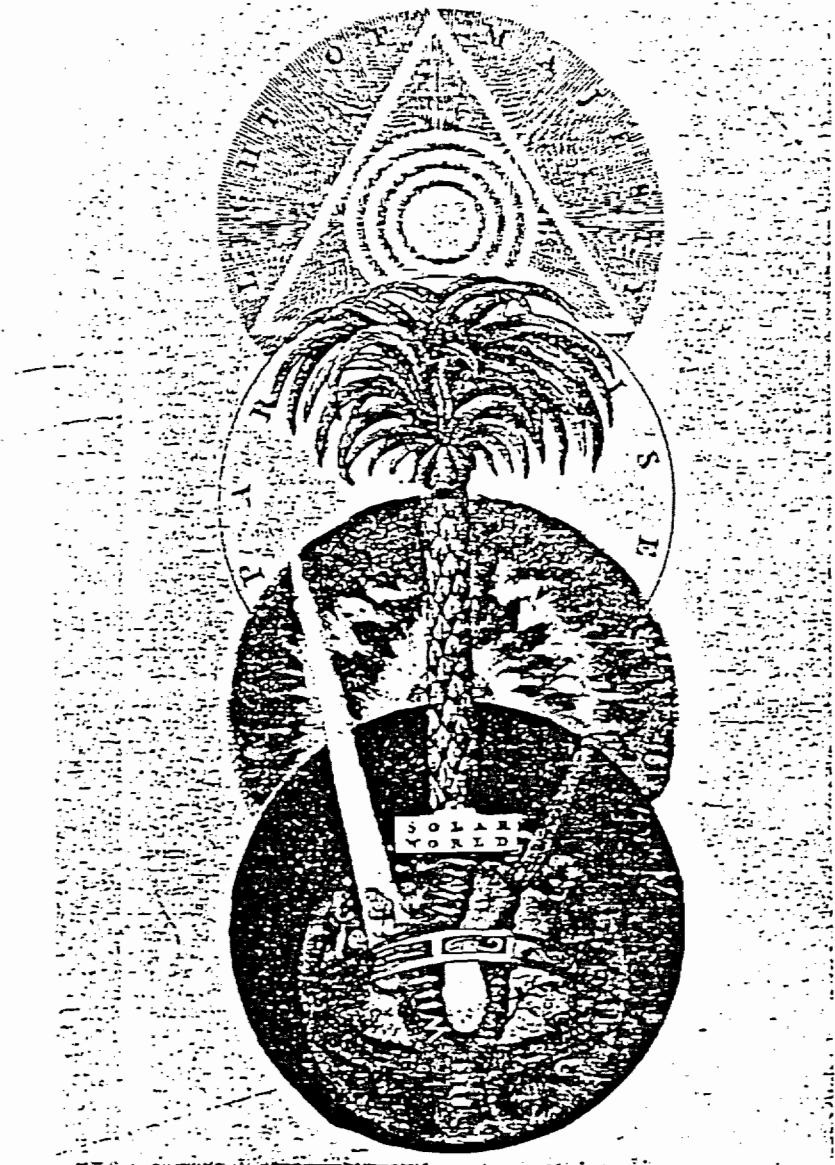


Die Philosophische Kugel oder das
Wunder Auge der Ewigkeit.





The TREE of the SOUL.



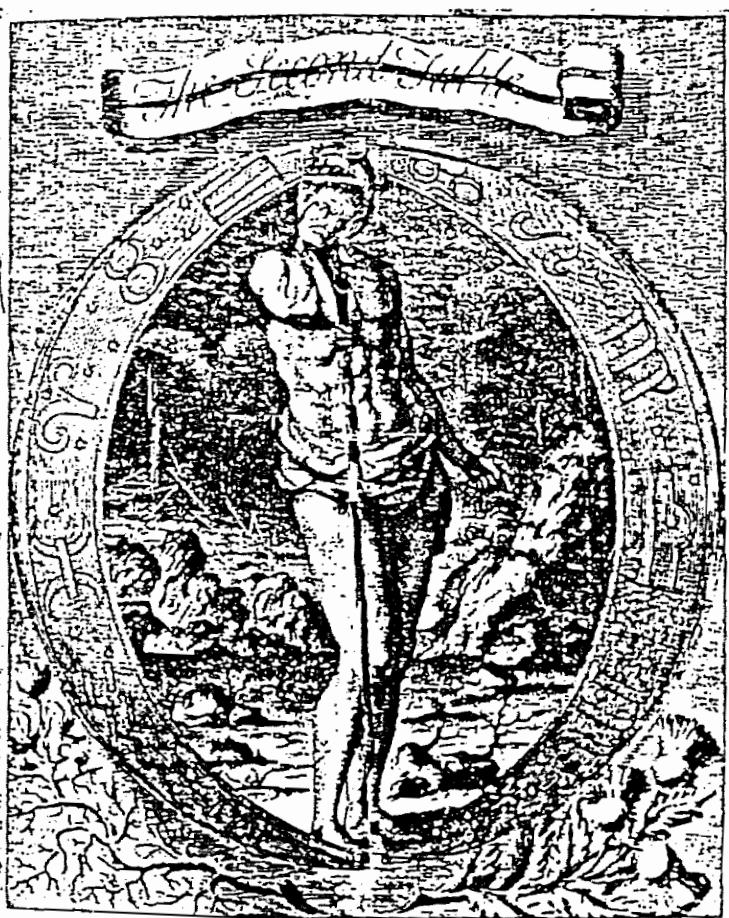
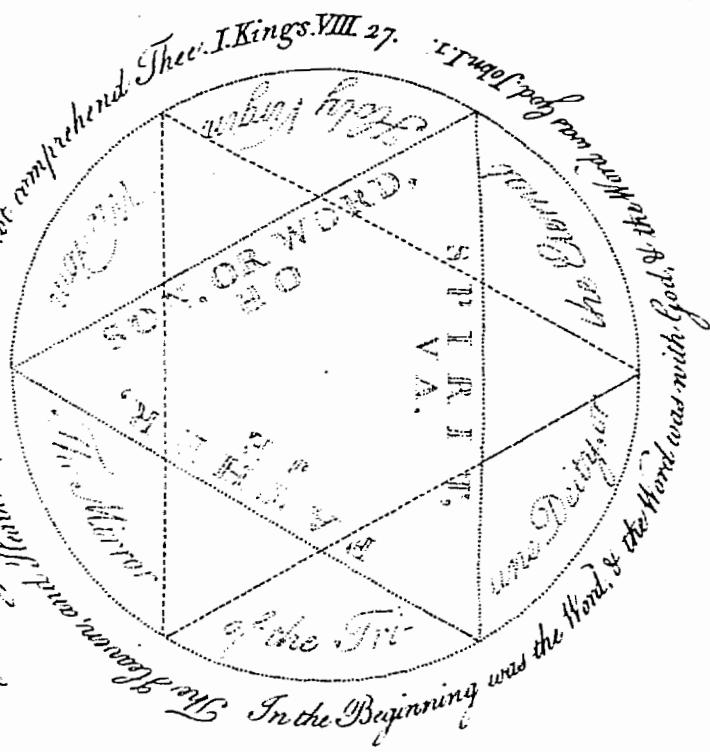


Fig. I.

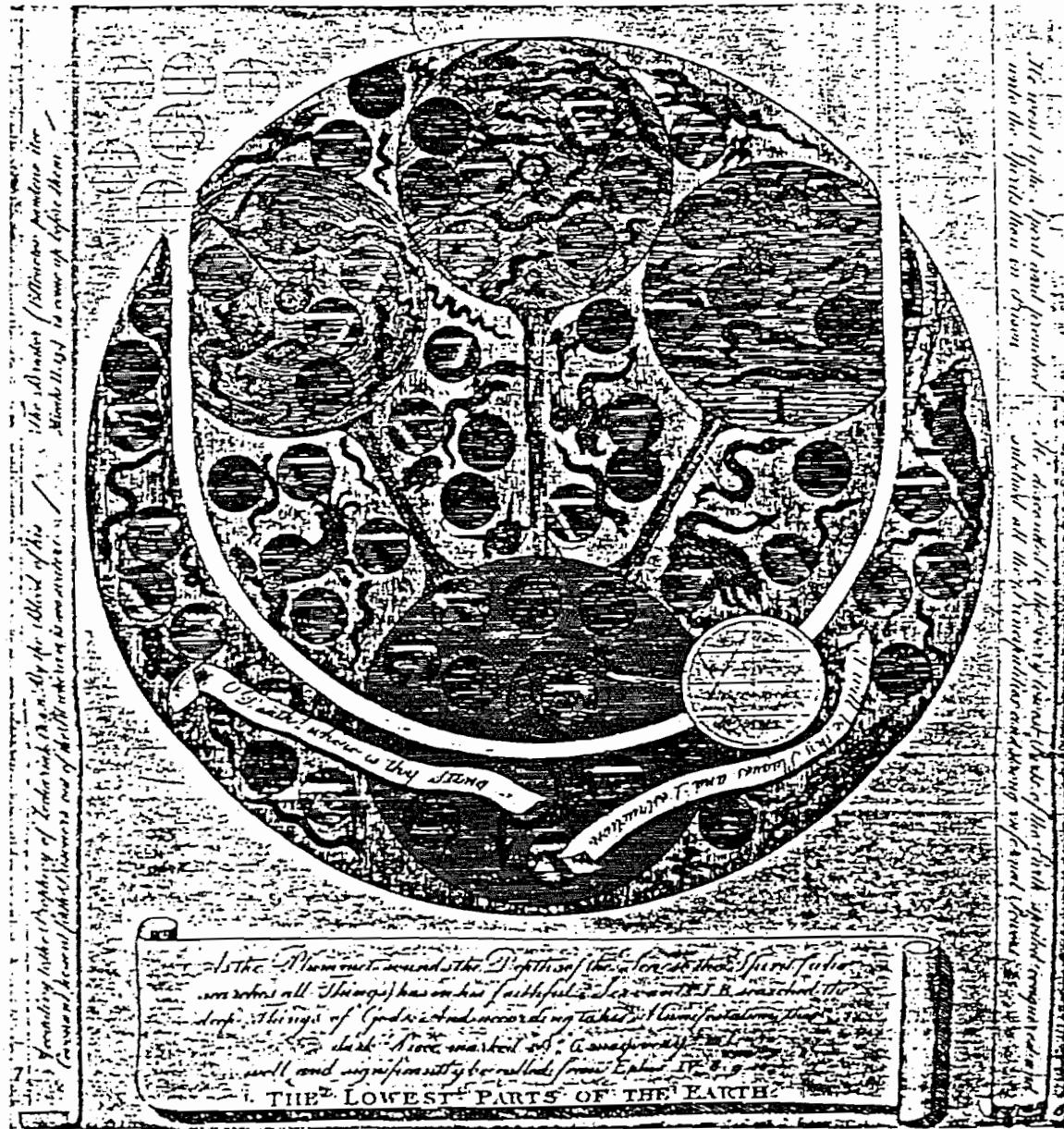
The Origin of Things, and the Process of Creation.

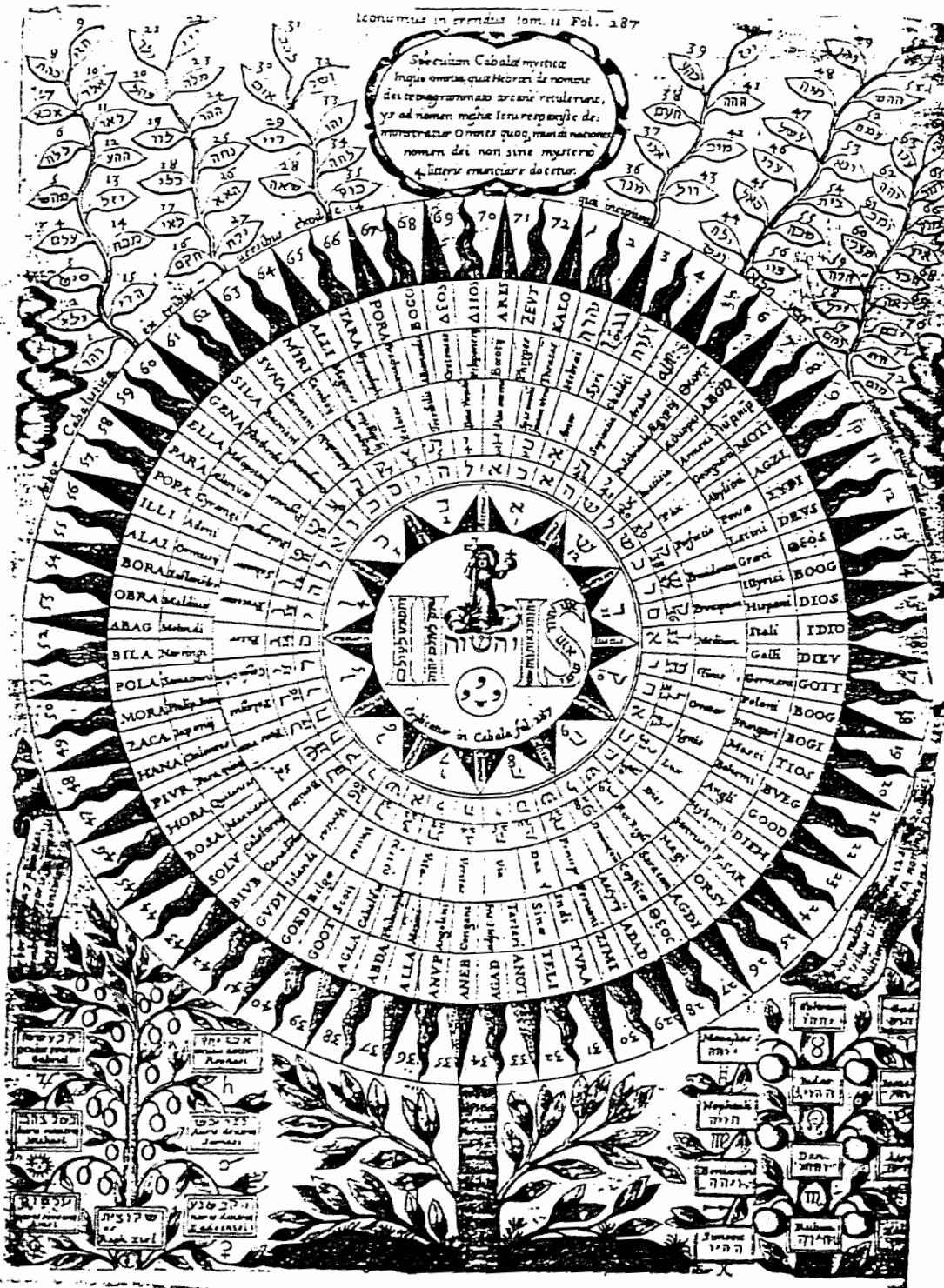
God considered as in himself only, & man of Heaven cannot comprehend Thee. I. Kings. VIII. 27.



Myriads of Numbers, about his Greatness and Depth, he should not yet have begun to speak out his Profundity for he is the Infinity. See Theof. Quat. I. This Triune Being (which is in our Sight as it were nothing and yet is all) in his Generation & Self-contemplation of Wisdom, was from all Eternity, one only Life, & one Will without Desire; for the Desire is the Beginning or the first attracting, binding, and darkening Spirit or Property of what is called the eternal Nature. See the Book of Proph. Chap. I.

Fig. I.

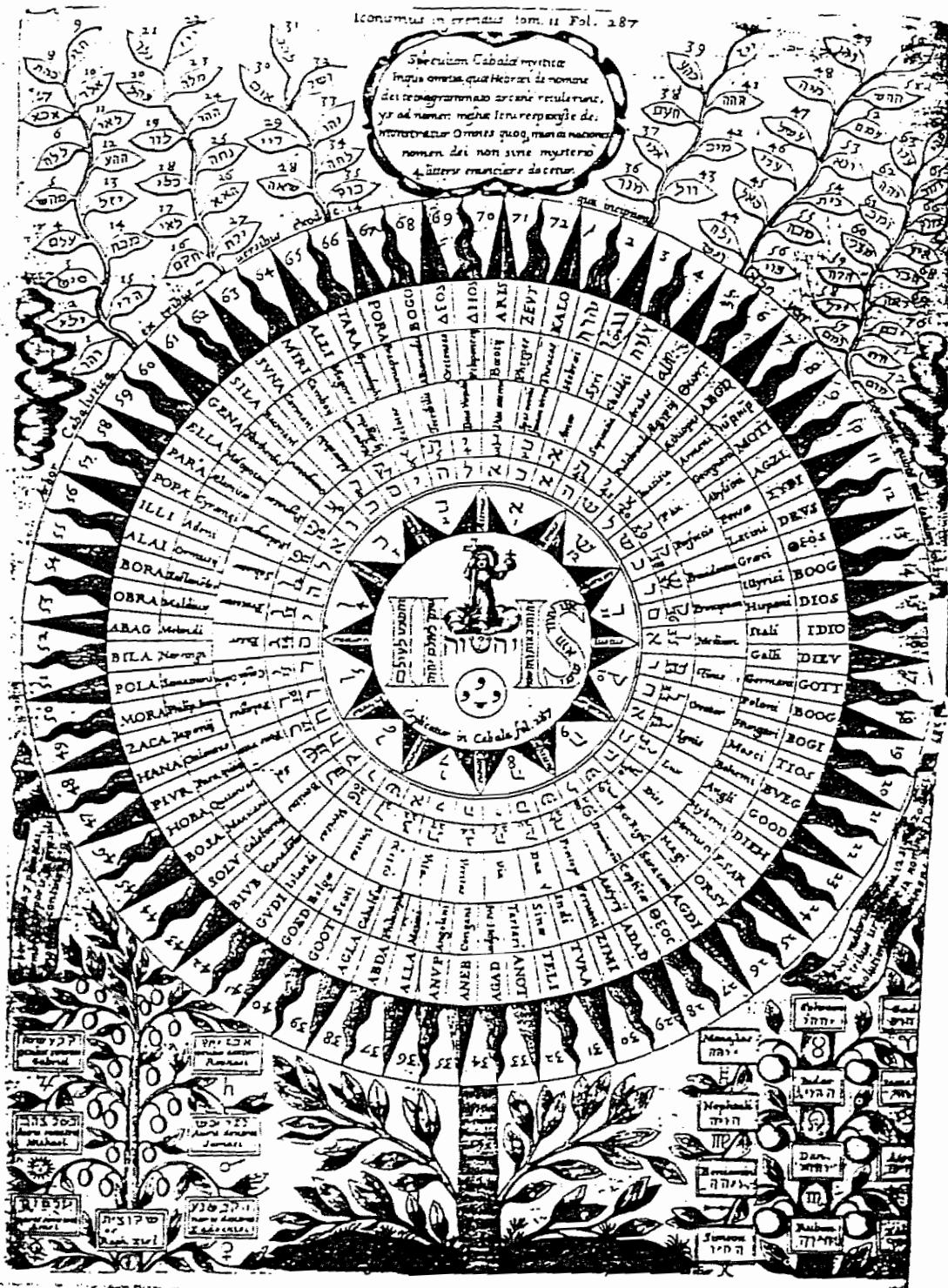




The Seventy-Two Names of God
Cabbala says that there are
seventy-two names of God, which
she interprets by giving God's name
in seventy-two languages; each is
with four letters, to reflect the
new Tetragrammaton IHVH (no. 1).
Sometimes this leads to compromise, as

in Italian IDIO (no. 15) and English
GOOD (no. 22). The other circles con-
tain God's various attributes: Creator,
Perfection, Light, etc. In the centre is
Jesus, whose name is comprised of the
'mother' letter Shin inserted in the
Tetragrammaton IHSVH. The two trees
are those of the seven planets and

angels (left) and the twelve signs of the
Zodiac and tribes of Israel (right). The
leaves at the top bear seventy-two
names in Hebrew, distributed among
the nine angelic orders – with the cau-
tion that they are on no account to be
used for magical invocations.
(Oedipus, II, i, p. 287)



52 *The Seventy-Two Names of God*
The Cabbala says that there are seventy-two names of God, which Kircher interprets by giving God's name in the seventy-two languages: each is spelt with four letters, to reflect the Hebrew Tetragrammaton IHVH (no. 1). Sometimes this leads to compromise, as

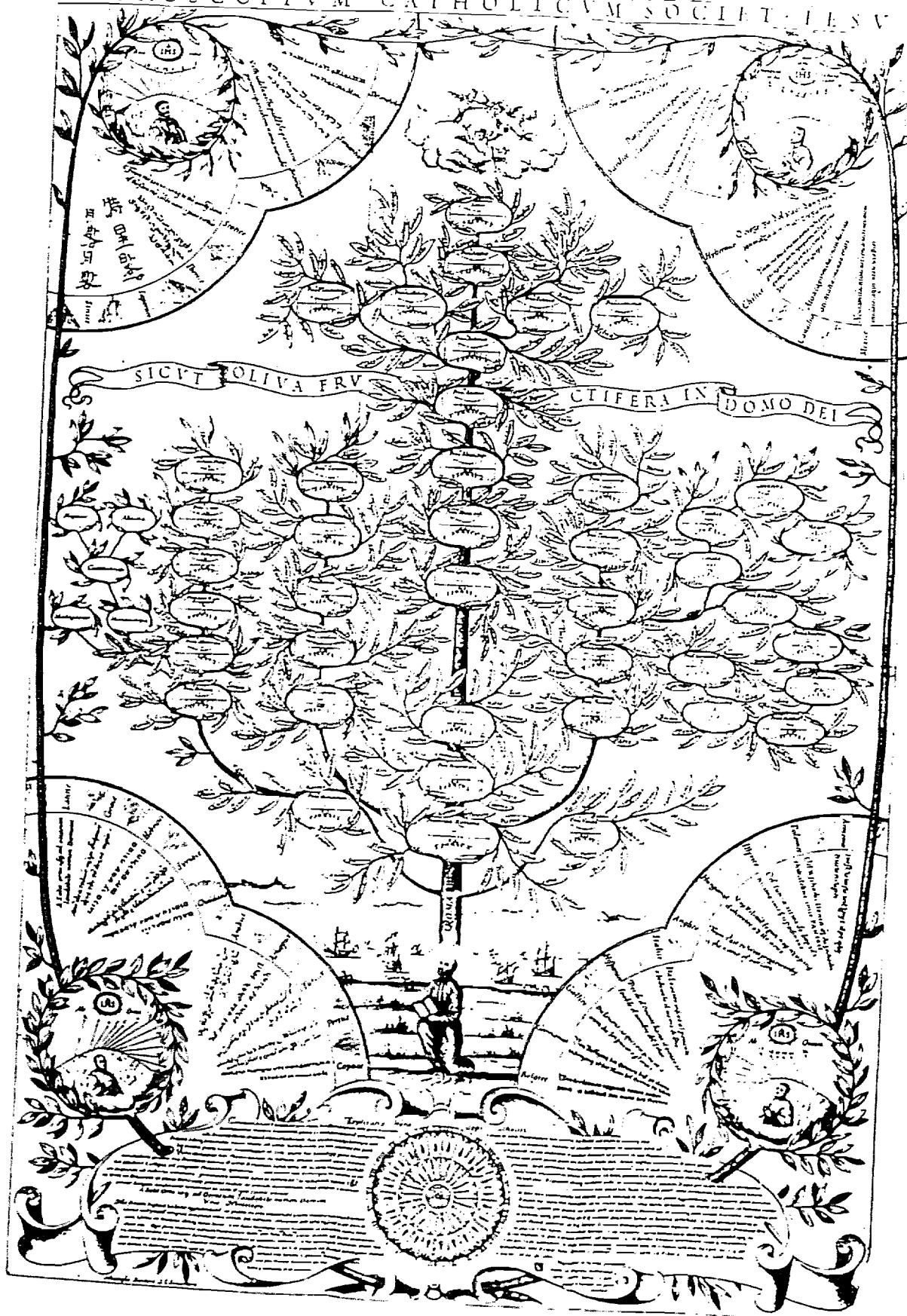
in Italian IDIO (no. 15) and English GOOD (no. 22). The other circles contain God's various attributes: Creator, Perfection, Light, etc. In the centre is Jesus, whose name is comprised of the 'mother letter Shin inserted in the Tetragrammaton IHSHV. The two trees are those of the seven planets and

angels (left) and the twelve signs of the Zodiac and tribes of Israel (right). The leaves at the top bear seventy-two names in Hebrew, distributed among the nine angelic orders – with the caution that they are on no account to be used for magical invocations. (Oedipus. II. i. p. 287)

Goertz 11012



HOROSCOPIVM CATHOLICVM SOCIETATIS IESU





Given the simplicity of both content and language, this was just the sort of book appropriate for a wide and general audience. It could have been used by clergy for training new clergy or instructing the laity. Similarly, it could have been used by laity to help them learn the basics of the faith, or when teaching other laity, as a household master would have taught servants. Such a book was the companion to missal and breviary, both of which are essential for the outward demonstration of inward faith; it would also supplement Italian vernacular literature such as saints' lives, which played a major role in the religious life of ordinary clergy and laity alike. Because *tabulae* like the *Tabula Christianae religionis* were undoubtedly heavily-used, their casualty rate

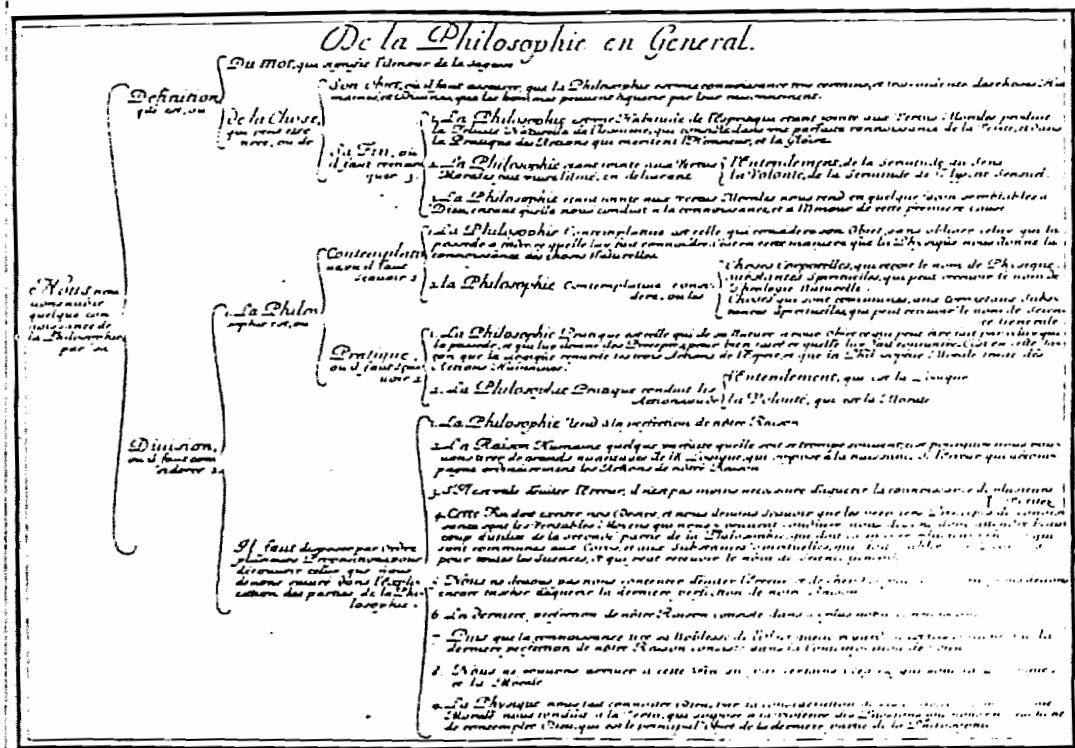


Plate from Louis de Lescleche, *La philosophie expliquée en tables* (Paris, 1652-1653). Rare Books Collection, Princeton University Library.

BB179.7522.361.11





Fig. 13

Anonymous, "Grammar", woodcut, from Gregor Reisch, *Margarita Philosophica*, Basel, 1517, Providence, John Hay Library, Brown University

44

Malvasia's account of Francesco Brizio's early withdrawal from school out of financial necessity illustrates, in the context of his later success, the prestige a man of humble origins could achieve through the intelligent practice of art.³⁴

The reporting of the elementary, and more importantly the secondary phase of artists' education, generally served to either distinguish them as impassioned individuals with irrepressible talents, or to insert them into a respectable movement in society. As will become apparent, the education of the artist at the Latin school was also often abbreviated to begin training in the workshop or academy.

The essence of "learning" for both the theorists of art and the definition of the gentleman was the knowledge of Latin. For centuries Latin had been spoken among the nobility, and was the language of international trade. At a

key to the c
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Civic and
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Catholic ci
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successful
school de:
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Francesco

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Netherland
35. Jesu
Ten were a
36. The
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grammar
letters, be
advanced
poems by
Grammar
prosody, -
ares, Ad A
elegies and
adoxa, Ca
Georgics,
"Humanit
Farrall,



Martin Meurisse, *Artificiosa totius logices descriptio*, [Paris], 1614. Graphic Arts Collection,
Princeton University Library.

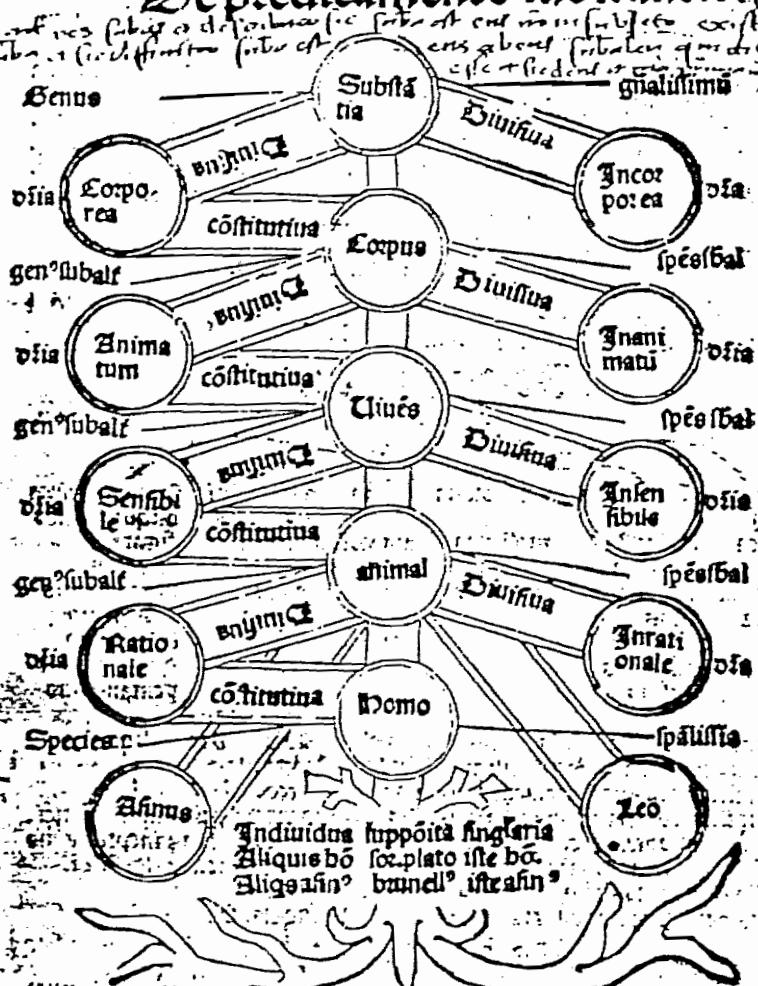
45

8

Fuit quod fuit analogia dicta dicitur a substantia et substantia est fuit
ad modum dicere substantia sunt quantum ois substantia
estent et fuit substantia uicilie necessaria. sicut substantia est
in prima. Et fuit enim in substantia fuit in
substantia ut in substantia fuit in substantia fuit in substantia

De predicamentis

De predicamento substantie.



Principia quae aliam substantiam
meti ostendunt respectu
meti quae a predictam
enarrat ordinatio vero per
predictam veluti pars predicta
enarrant. Iuxta quae predicta
dicitur dicitur ad predicta
metum unde predictam
sumit. quae. 3. sive sol
enarratio respectu predictam
de reproductam in quo
quod specificum supremum si
generale summa et metra
subalterna et specificata
summa et infinita. inveni

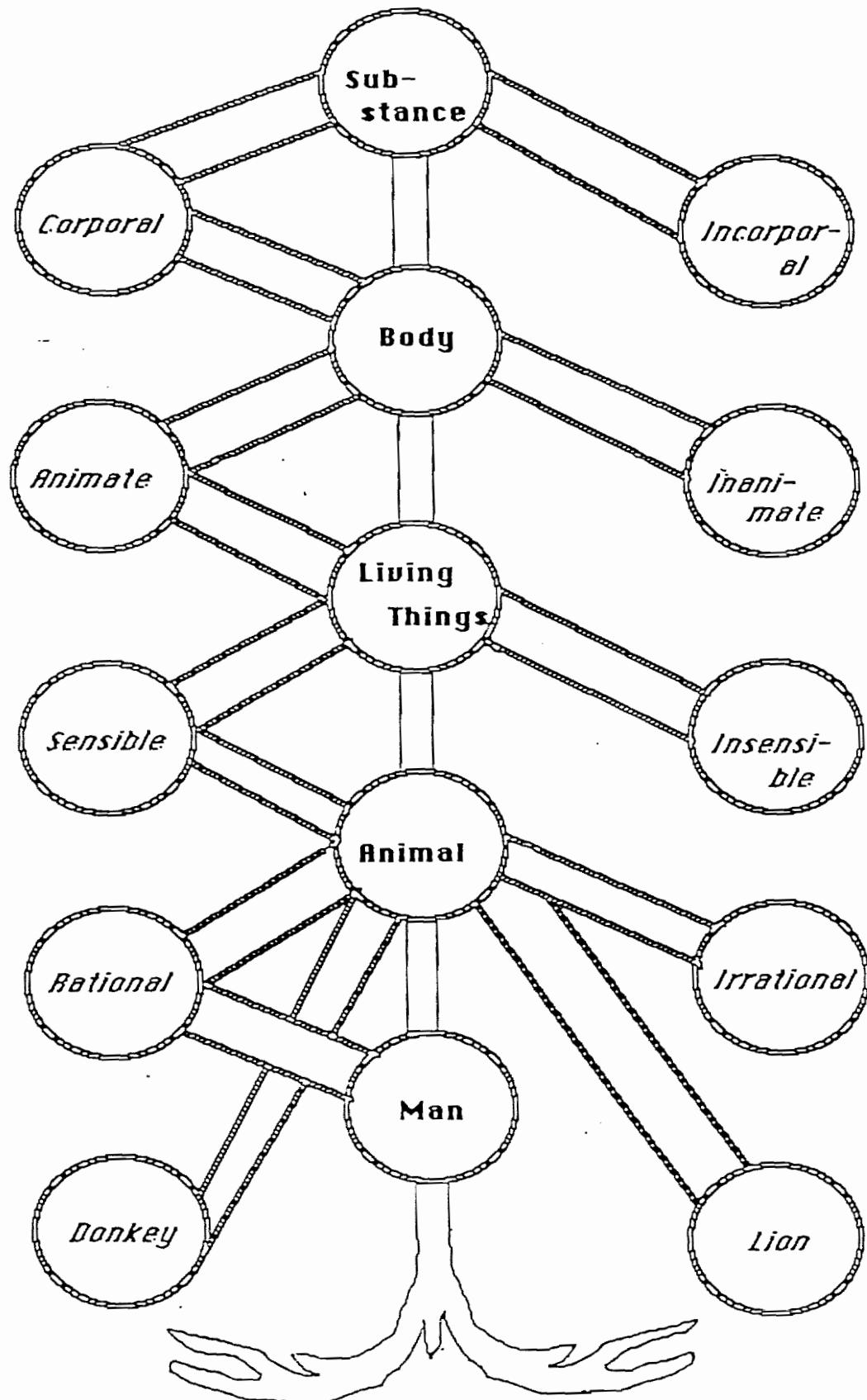
Prout quod est ibi inter
predicationem predictabilem
predictammetu predictam
Est iste quod predicta
est de diffinito vocante
false quod dicitur ultimi
extremum primum predicta
cabili dictio de quod est
caput natum predictam
quod approposito singulis
enarratio singulis et communis
tertius predictammetu
est predictam illa ordinatio

Ex I
6275
702

891981

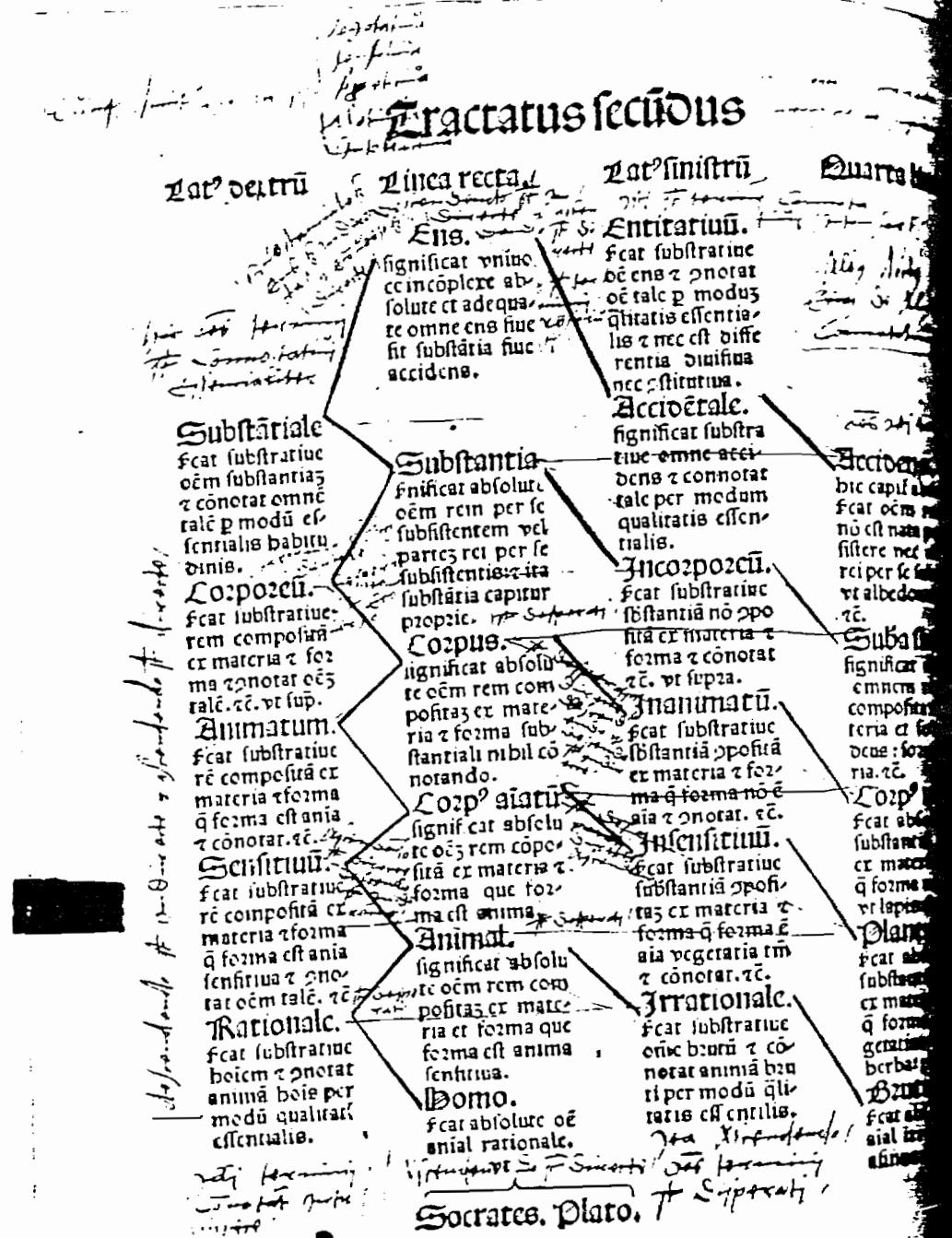
45

Concerning the Predicables



leaf 49^v

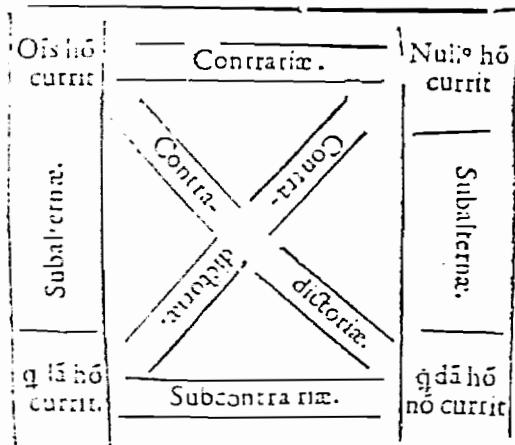
Tree of Porphyry



Peter of Spain (pc1 m.l. = Joanne XXI, pop)

Ex 6275.501

A D
*Præsentia figura propositionum oppositiones clare
conspiciuntur.*



E

*Detriplex propositionum materia naturali, seu necessaria, contingentia,
ac remota.*

*Propositionum triplex est materia, scilicet: naturalis, contingens, & remota.
Naturalis est illa, in qua predicatum est
esse, sicut uox, ut propositionem eius, ut homo
est animal homo risus.*

Postquam Auctor determinauit de
Qua rō oppositionibus oppositionum, conse-
ne propter quæ determinata de legibus op-
positionis, & quia dicit leges, vel regu-
lae nostra. Ie variantur secundum variationem ma-
teria in teris propositionum, ideo antequam de
fir. ipsis determinet prius agit de materia
propositionem, & hec propositione non
habeat materia propriæ dictam, quia
nullum accidens uel ens rationis habet
materiam proprie dictam, propositione
autem secundum suam materiam quod
est vox, est. eouersus & numerus ad for-
male, quod est. sign. in ea. et si co-
nvenient ut ens rationis. ita & in materia
proprie dictam. ad hoc studia
ræ turcam.

Primo sciendum, quod propositione ha-

bet materiam ex qua similitudinari. & materia in qua, et circa, quam vnde
materia ex qua sunt subiectum, & præ-
dicatum, & subiectum uocis est mate-
ria in qua vel ipsa vox si propositione co-
sideretur quantum ad suum formale,
sed enunciabile, de quo est ipsa proposi-
tio, est sua materia circa quam. hic autem
capitur materia propositionis solum pro
conditione materie que ex qua id est pro-
habitudo prædicati ad subiectum. ideo
materia propositionis, ut hic sumitur.
est habitudo prædicati ad subiectum,
in qua sit compositione prædicatum su-
bicto, & in qua subiectum, & prædicat-
um conuenient.

Secundo sciendum, quod triplex est
materia propositionum, scilicet natura-
lis, contingens, & remota, quod proba-
tur per insufficienciam quia materia pro-
positionis est habitudo prædicati ad su-
biectum uel ergo illa habitudo dicit re-
ponendum prædicatum subiecto, es-
tio est materia remota, uel dicit conve-
nientiam, & nos duplenter, ut i dicit cō-
uenientiam.

Ex 6275. 501.2

Peter q Spain

Square of Contradiction

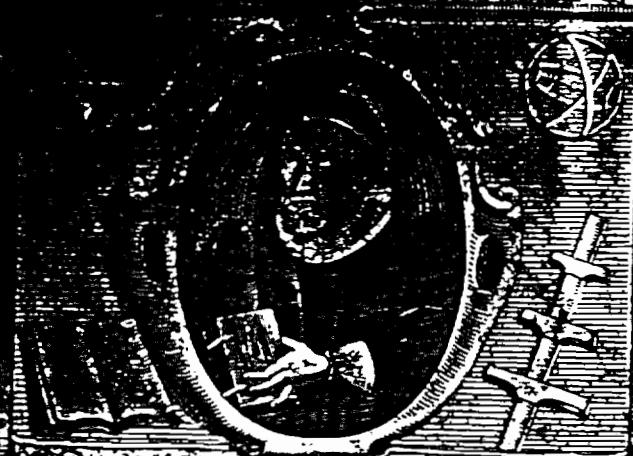
<i>Universal Affirmative</i> Every man runs			<i>Universal Negative</i> No man runs
contrary			
	c o n t r a d i c t o r y		
<i>Particular Affirmative</i> Some man runs	subcontrary		
	c o n t r a d i c t o r y		<i>Particular Negative</i> Some man does not run



Scitudo

11.0

MAP is Writ all the times causes
and reasons Praymng and Scuerall cures of it
Partitions with their severall
members & sublections
Geographically & Historically
Illustrated



Oxford
Printed for
George Bennet



The Argument of the Frontispiece.

Two distinct Squares here seen apart,
Are joyn'd in one by Cutters art.

1 Old Democritus under a tree,
Sits on a stone with book on knee ;
About him hang there many features,
Of Cats, Dogs and such like creatures,
Of which he makes Anatomy,
The seat of black choler to see
Over his head appears the skie,
And Saturn Lord of melancholy.

2 Tot h' left a landskip of Jealousie,
Presents it self unto thine eye :
A Kingfisher, a Swan, an Heron,
Two fighting Cocks you may discern,
Two roaring Bulls each other hit,
To assault concerning Venerie.
Symboles are these say no more,
Conceive the rest by that's afore.

The next of Solitariness,
A portraiture doth well express,
By sleeping dog, cat, Buck and Doe,
Faies, Conies in the desart go :
Bald Owls the shady bowers over,
In melancholy darkness hover.
Mark well If t' be not as't should be,
Blame the bad Author, and not me.

4 Iib under Colomne there doth stand
In amarato with folded hand,
Down hangs his head, terse and pale,
Some distie sure he doth indite.
His late and books about him lie,
The symptomes of his vanity.
I do not enquire disclose,
But take it by self by th' nose.

5 Hypocondriacus leans on his arm,
Wince in his side doth him much harm,
And troubles him full sore God knows,
Such pain he hath and many woes.
About him pots and glasses lie,
Newly brought from's Apothecary.
This Saturn's affects signify,
You see them portraied in the skie.

6 Beneath them kneeling on his knees,
A Superstitious man you see :
He fasts, prays, on his Idol fixt,
Tormented hope and fear betwixt :
For hell perhaps he takes more pain,
Then thou dost Heaven it self to gain.
Alas poor Soul, pitie thee,
What stars inclin thee so to be ?

7 But see the Mid man rage down right
With furious look, a gally fight,
Naked in others skinnes to be lie,
And some amazement knowes not why ?
Observe him for as in a glasse,
Thine angry portraiture it was.
His picture keep still in thy presence,
Twixt him and thee, ther's no difference.

8 9 Borage and Hellebor fill two scenes,
Soveraign plants to purge the veins
Of melancholy, and cheare the heart,
Of those black fumes which make it smart,
To clear the Brain of misty fogs,
Which dull our senses, and Soul clogs.
The best medicine that ere God made
For this malady, if well assaid.

10 Now last of all to fill a place,
Presented is the Authors face
And in that habit which he wears,
His Image to the world appears,
His mind no art can well express,
That by his writings you may guess.
It was not pride, nor yet glasse glory,
(Though others do it commonly)

Made him do this if you must know,
The Printer would needs have it so.
Then do not frown or scoffe at it,
Deride not, or detract a whit.
For surely as thou dost by him,
He will do the same again.
Then look upon't, behold and see,
As thou lik st it, so it likes thee.

And I for it will stand in view,
Thine to command, Reader Adieu.

NEKPOKHAEIA:
OR, THE
Art of Embalming;
Wherein is shewn
The Right of Burial,
AND
FUNERAL CEREMONIES,
Especially that of
Preserving Bodies
After the EGYPTIAN Method.

TOGETHER WITH
An Account of the *Egyptian* Mummies, Pyramids,
Subterranean Vaults and Lamps, and their Opinion of the *Me-*
tempychois, the Cause of their *Embalming*.

AS ALSO
A Geographical Description of *Egypt*, the Rise and
Course of the *Nile*, the Temper, Constitution and Physic of the
Inhabitants, their Inventions, Arts, Sciences, Stupendous Works
and Sepulchres, and other curious Observations any ways relating
to the Physiology and Knowledge of this *Art*.

In Three LETTERS.

Illustrated with a Map and Fourteen Sculptures.

By THOMAS GREENHILL, Surgeon.

LONDON: Printed in the Year, MDCCV.

The Explanation of the Frontispiece.

Reader thou in this *Frontispiece* may'st see
How mortal Man seeks Immortalitie ;
His beauteous Frame he sees with speed decline,
And soon dissolv'd by Death, tho' form'd by Hands Divine.
 Sadness in Widows Robes deplores his State,
While the Young Brood inspect the Book of Fate ;
Pensive they view the Rise and Fall of Man,
With Tears survey his Transitory Span.

But his great Soul, full of Cœlestial Flame,
Disdaining Death, strives to extend his Name ;
And conscious of our too too fickle State,
Would fain elude the Force of Time and Fate ;
The narrow Boundaries of Life would pass,
By Statues, Pillars, Monumental Brasi,-
Aspiring Pyramids, that lift on high
Their spiral Heads to reach his kindred Skie,
Which in their dark Repositories keep
The Bodies safe in their Immortal Sleep ;
While healing Balm and Aromatic Spice,
Death's odious Dissipation to their Form denies.

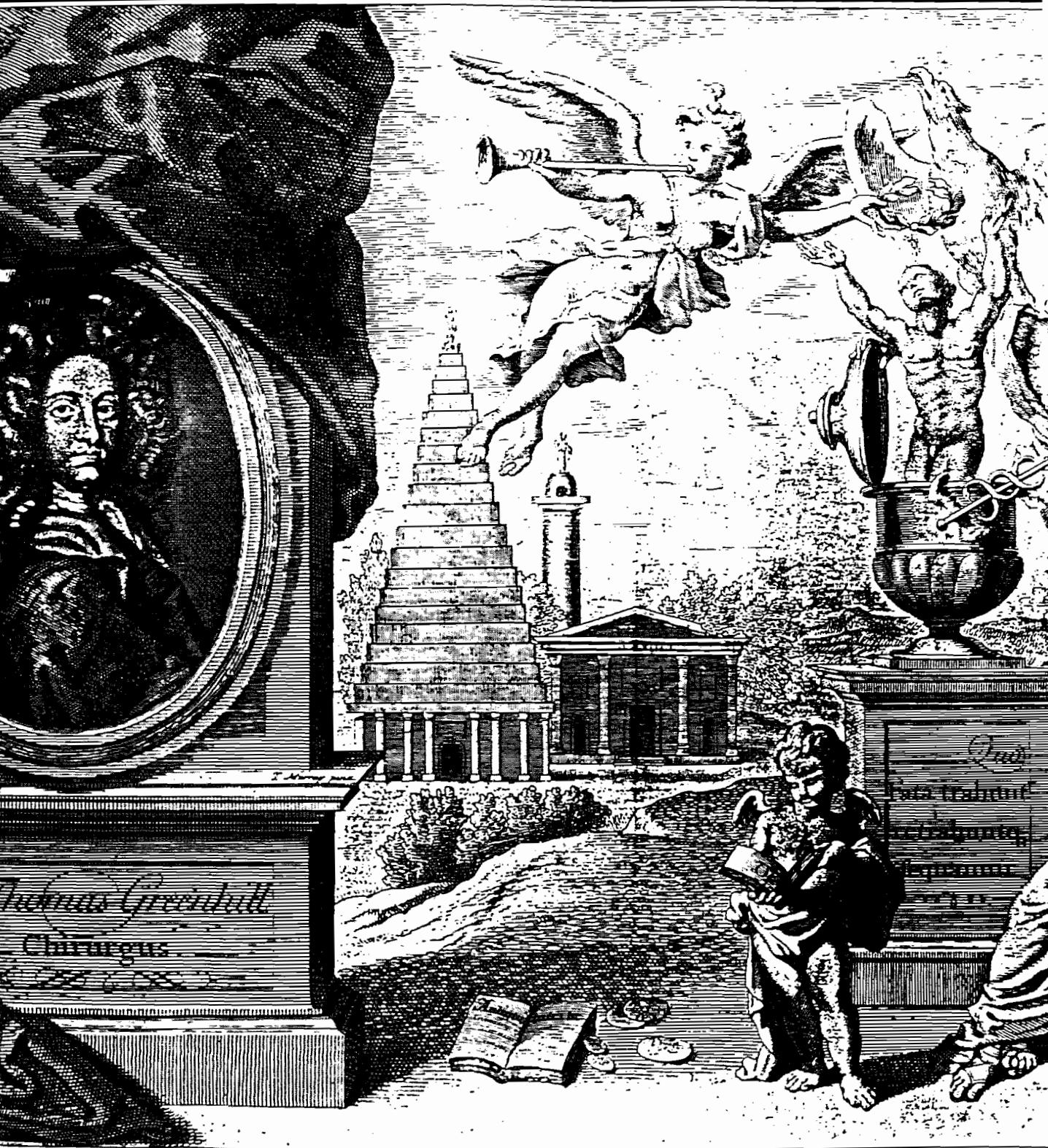
Death baffl'd thus by wise Chyrurgie Art,
Wounds Mortals there but with a blunted Dart ;
And half the Terror of the Griefly Fiend
Is lost, when Mortal Bodies know no end.

The Bodies thus Preserv'd, the thinking Part
Men strive to keep alive by various Art,
And fine wrought Medals and Inscriptions use,
But above all the bright recording Muse ;
Thro' Time's revolving Tide the faithful Page
Conveys their earliest Rise to the remotest Age,
While Death and Time oppose their Force in vain,
Superior Men above their Force remain ;
Temples and Fanes they to the Godhead raise,
To bribe the only Power, that can destroy, with Praise.

Jove pleas'd, in Pity of the pious Race,
Two Messengers sends down the Airy space,
To raise Man's Ashes from the silent Urn,
Which touch'd by Hermes wand resume their pristine Form.

Jove's Royal Bird attends to bear on high
Th'Immortal Soul up to its Native Skie,
While Fane aloud her Silver Trumpet sounds,
And with the Laurel Wreath the Victor Crowns.

And thus Eternal lives the deathless Mind,
Which, here on Earth, no fetted State could find.



Thomas Greenhill

Chirurgus

1576

THE EMBLEMATIC TITLE PAGE.

The Emblematical Title explained.

Truth brought to light and discovered by Time or Discourse and Historicall Narration first and second King James Reigne
Michael Sparke
Printed by Robert Cotes and sold by G. Sellier
London 1651



Emblematc title page. "Truth Brought to Light and Discovered by Time," from Michael Sparke, *The Narrative History of King James*, 1651.

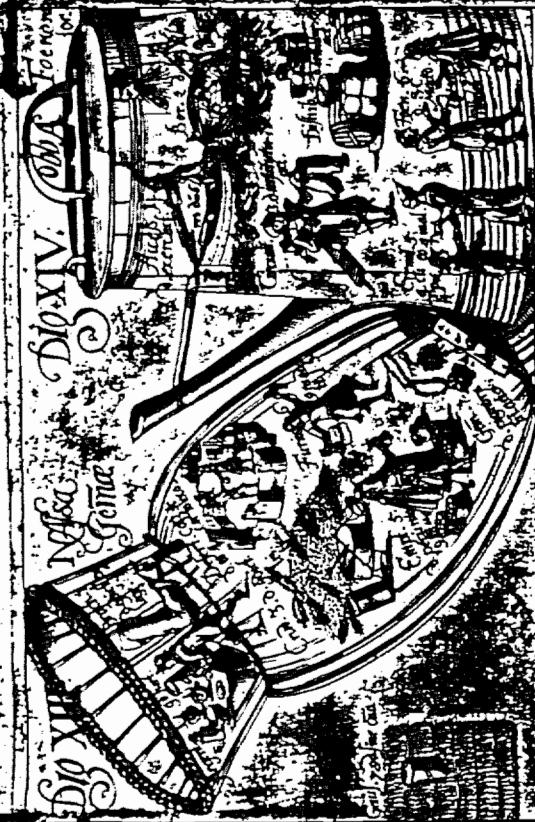
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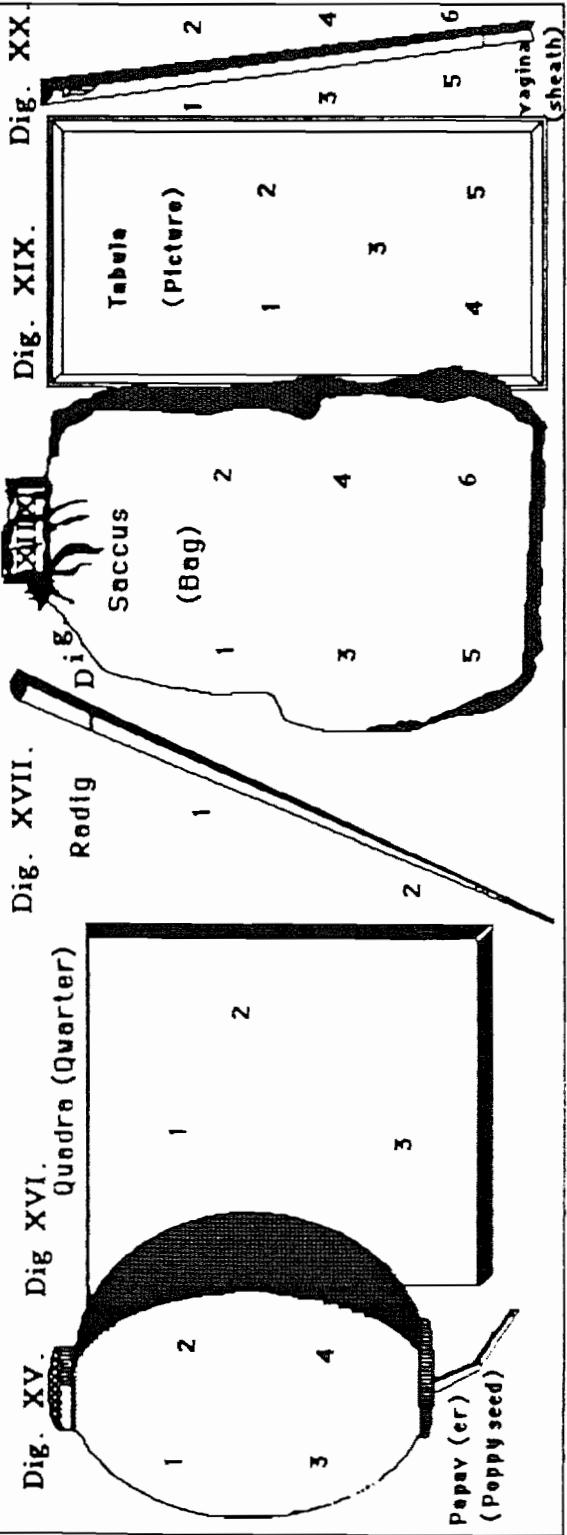
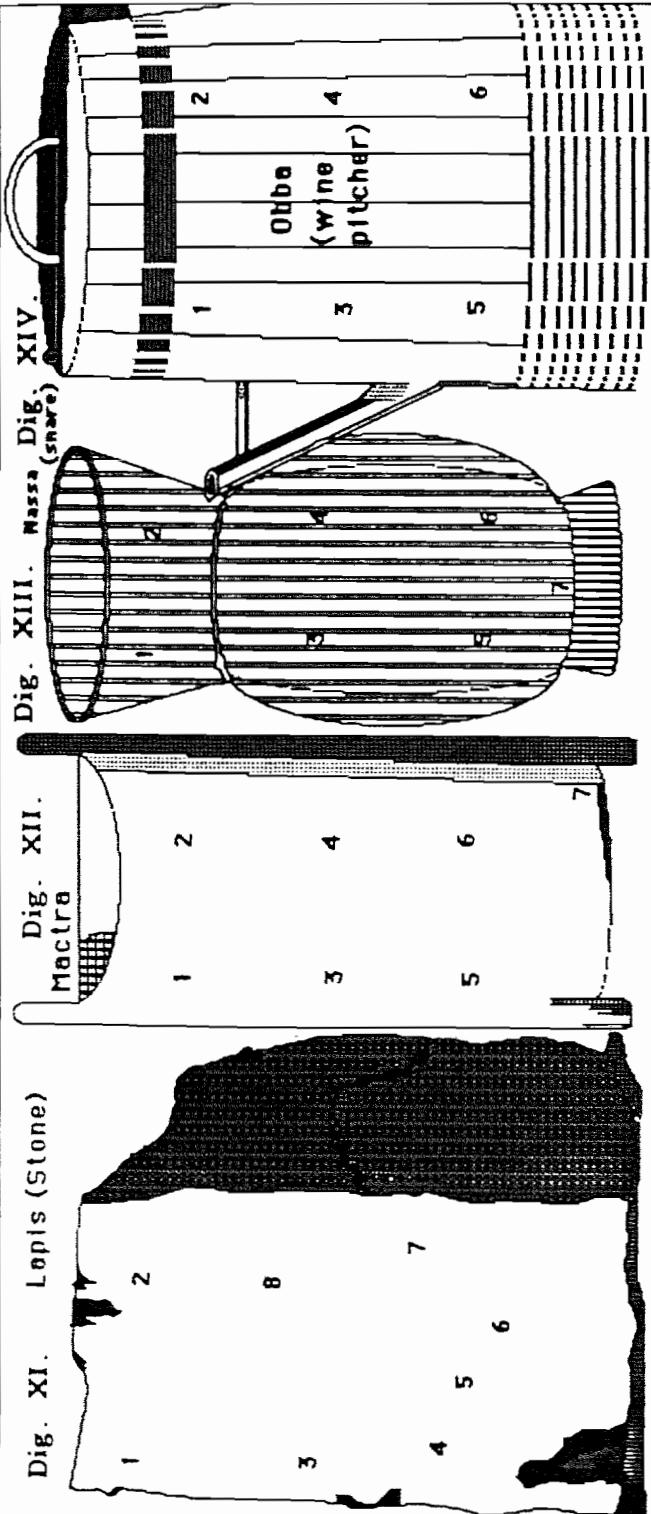
skirts the whole issue of time as harbinger of impermanence and destruction, implying instead that man has resources enough to withstand the effects of time and death by diligently opening himself to knowledge and progress. There were those who did simply abandon the problem of time in the embrace of Baconianism, Puritanism, and the Scientific Revolution.

The effects of time concerned writers and artists in the Renaissance perhaps more than in any other period of history. In later centuries, when scientific discoveries explained much about nature and disease which had been unknown in the Renaissance, time was not so much an enemy to

whom the ills of mankind were attributed, nor an instigator of progress, but a theoretical abstraction. And, as clocks and watches became ever more predominant, time became a commodity to be husbanded and a regulator of life. While we cannot rigidly document a progression in art and literature from one concept of time to another, we can note a maturing of the Renaissance view: a rich and hopeful response which acknowledged and accepted all that time could do for good as well as ill, and looked not so much for victory over time as fulfillment of human possibility within it.

This new maturity of tone can be noted in Shakespeare's later romances,





BOOK FIFTEEN

1. Interrogations before the Magistrate and Interrogatory Actions What Matters May Be Taken to the Same Judge
2. The Action for Making a Slave Worse Runaway Slaves
3. If a Surveyor Gives a False Report about Measurements Gamblers Religious Things, Funeral Expenses, and the Right To
4. Rescission of a Sale and the Circumstances in Which a Purchase May Be Departed From
5. The Forfeiture Clause
6. Risk and Benefit of the Thing Sold

BOOK ELEVEN

1. Conclusion of the Contract of Purchase, Special Terms Agreed between the Vendor and Purchaser, and Things Which Cannot Be Sold
2. In Diem Addictio
3. Sale of an Inheritance or of a Right of Action
4. Recession of a Sale and the Circumstances in Which a Purchase May Be Departed From
5. Purchase May Be Departed From
6. Risk and Benefit of the Thing Sold

BOOK TWELVE

1. Things Credited Giving Rise to Fixed Claims and the Condicione
2. Voluntary, Compulsory, and Judicial Oaths
3. Oaths as to the Value in Issue
4. The Condicione for Nonreciprocation
5. The Condicione for Immoral or Illegal Payments
6. The Condicione for Money Not Owed
7. The Condicione for No Fixed Cause

BOOK THIRTEEN

1. The Condicione for Theft
2. The Condicione under Statute
3. The Condicione for Fixed Quantities
4. Where the Obligation is To Give at a Fixed Place
5. The Constitutum of Money
6. Loans for Use: The Actions for and against the Lender
7. Pignus: The Actions for and against the Pledgee

BOOK FOURTEEN

1. The Action against the Shipowner
2. The Rhodian Law of Jetison
3. The Action for the Business Manager's Conduct
4. The Action for Distribution
5. Transactions Allegedly Effected with a Person in the Power of Another
6. The Senatus Consultum Macedonianum

BOOK FIFTEEN

1. The Pecullium
2. The Action on the Pecullium which Prescribes in One Year
3. Benefit Taken
4. Authorized Transactions

BOOK SIXTEEN

1. The Senatus Consultum Velleianum
2. Cust-Off
3. The Action and Contrary Action on Deposit

BOOK SEVENTEEN

1. The Action on Mandate or the Counteraction
2. Partnership

BOOK NINETEEN

1. The Actions for Sale and Purchase
 2. Lease and Hire
- BOOK TWENTY-ONE
1. The Edict of the Aedile, Rescission, and the Action for Diminution
 2. Factions and the Stipulation for Double the Price
 3. The Defense That the Thing Has Been Sold and Delivered

BOOK TWENTY-TWO

1. Interests, Fruits, Incidentals, Accessions, and Delays
2. Transmarine Loans
3. Proof and Presumption
4. Documentary Evidence and Loss of Documents
5. Witnesses
6. Mistake of Law and Fact

BOOK TWENTY-THREE

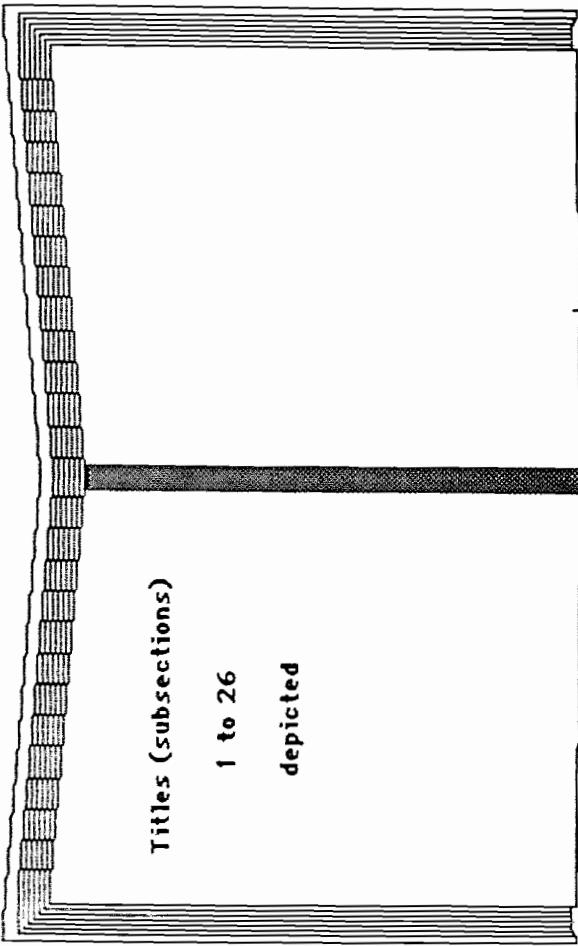
1. Retrotransfers
2. Formation of Marriage
3. The Law of Dowry
4. Dowry Pacts
5. Dotal Lane

BOOK TWENTY-FOUR

1. Gifts between Husband and Wife
2. Divorce and Repudiations
3. The Recovery of the Dowry on Dissolution of the Marriage

59
Book I. Institutes Adolescens (young boy)

Book II. *Bulgø* (Rucksack)

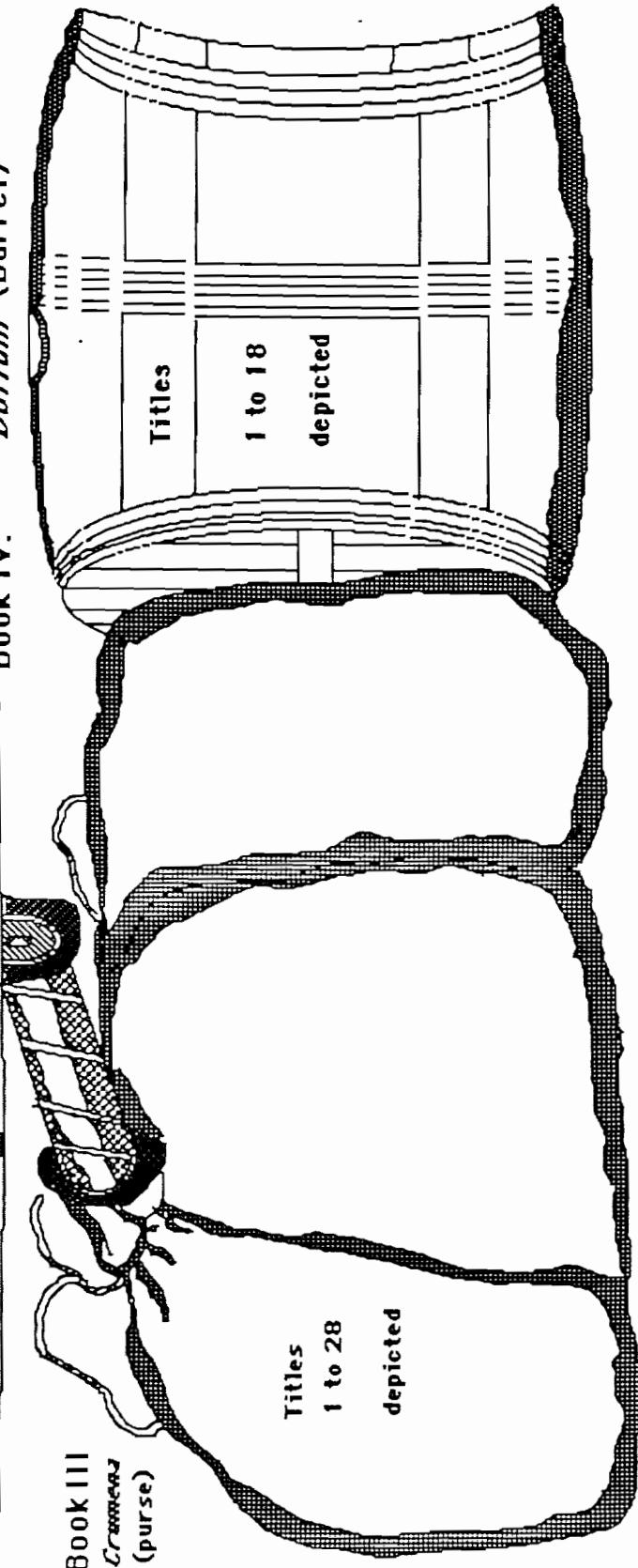


Titles (subsections)

1 to 26

depicted

Book IV. *Dalium* (Barrel)

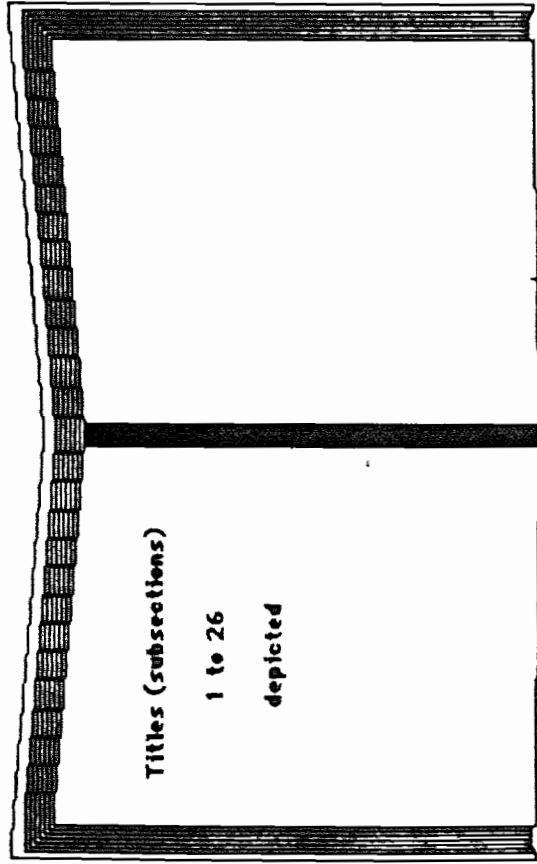


Book III
~~Crosses~~
(purse)

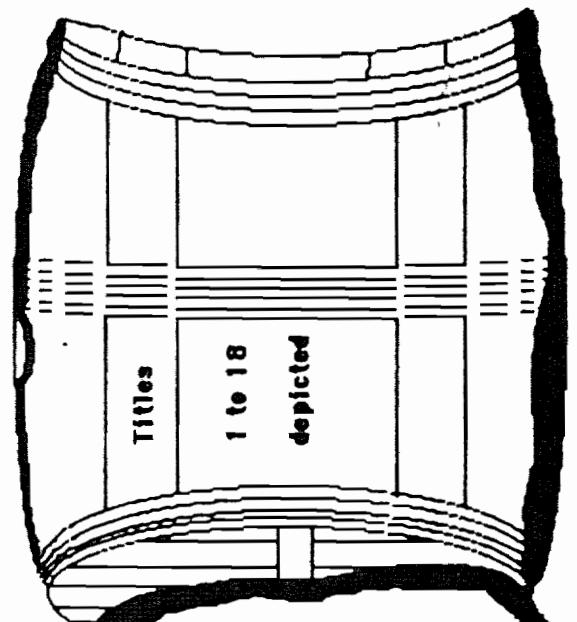
Titles
1 to 28
depicted

Book I. Institutes Adolescens (young boy)

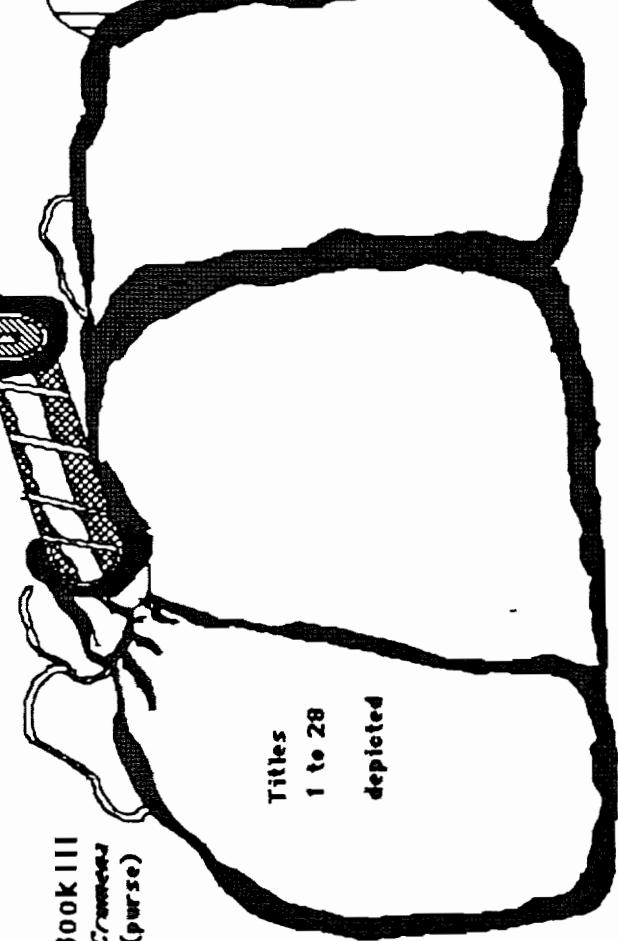
Book II. *Bulgo* (Rucksack)



Book IV. *Dolium (Barrel)*



Book III
Eromus
(purse)



BOOK I

1. Concerning Justice and Law
2. Concerning the Penal Law

BOOK III

1. Concerning Estates Which Pass by Intestacy
2. Concerning the Factual Law

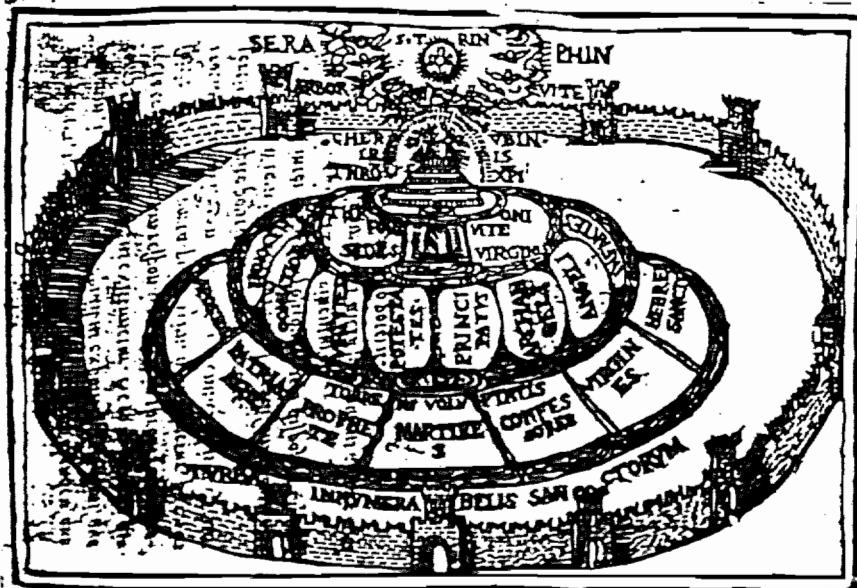
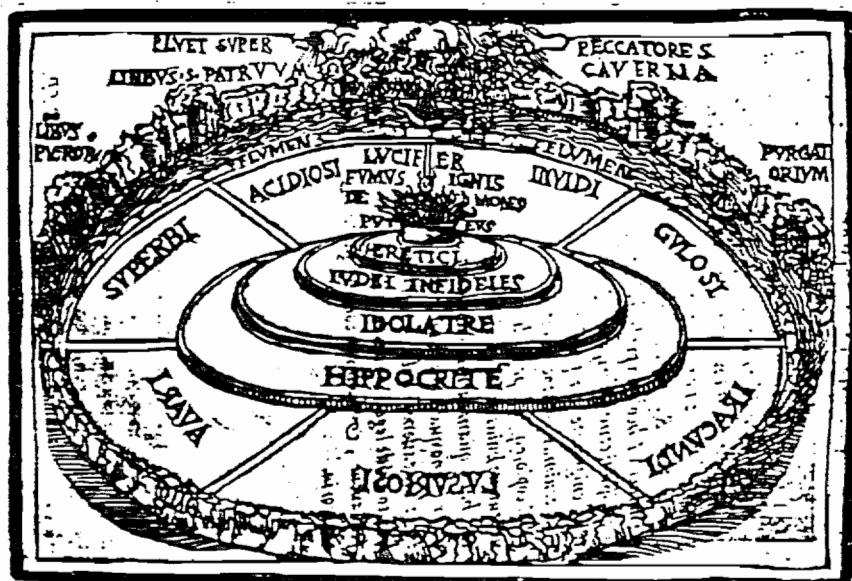
2. Concerning Natural Law, the Law of Nations, and the Civil Law
3. Concerning the Rights of Persons
4. Concerning Freedmen
5. Who Cannot Manumit Others, and Why They Are Unable To Do So
6. Concerning Those Who Are Their Own Masters, or Are Under the Control of Others
7. Concerning the Abrogation of the Lex Furia Caninia
8. Concerning Adoption
9. Concerning Marriage
10. Concerning Paternal Authority
11. Concerning the Right of Paternal Power is Abrogated
12. In What Ways the Right of Paternal Power is Abrogated
13. Concerning Guardianship
14. Who Can Be Appointed Testamentary Guardians
15. Concerning the Legal Guardianship of Agnates
16. Concerning the Laws of Civil Rights
17. Concerning the Legal Guardianship of Patrons
18. Concerning the Legal Guardianship of Ascendants
19. Concerning Fiduciary Guardianship
20. Concerning the Attlan Guardian, and the One Appointed Under the Lex Julia Et Titia
21. Concerning the Sanctio of Guardians
22. In What Ways a Guardianship is Terminated
23. Concerning Curators
24. Concerning the Giving of Security by Guardians and Curators
25. Concerning the Reasons for Excusing Guardians or Curators
26. Concerning Suspected Guardians or Curators

BOOK II

1. Concerning the Division of Things
2. Concerning Incorporeal Property
3. Concerning Servitudes
4. Concerning Usufruct
5. Concerning Use and Habituation
6. Concerning Usucaption and Possession for Long Time
7. Concerning Gifts
8. Who Is Permitted to Alienate, and Who Is Not Through What Persons Property Can Be Acquired for Us
9. Concerning the Execution of Wills
10. Concerning the Will of a Soldier
11. Who Are Not Permitted to Make Wills
12. Concerning the Disinheritance of Children
13. Concerning the Appointment of Heirs
14. Concerning General Substitution
15. Concerning the Substitution of Minors
16. In What Ways Wills Are Rendered Invalid
17. Concerning an Inofficious Will
18. Concerning the Different Kinds of Heirs
19. Concerning Legacies
20. Concerning the Revocation of Legacies
21. Concerning the Lex Faecidea
22. Concerning Trust Estates
23. Concerning Particular Things Left in Trust
24. Concerning Codicils

BOOK IV

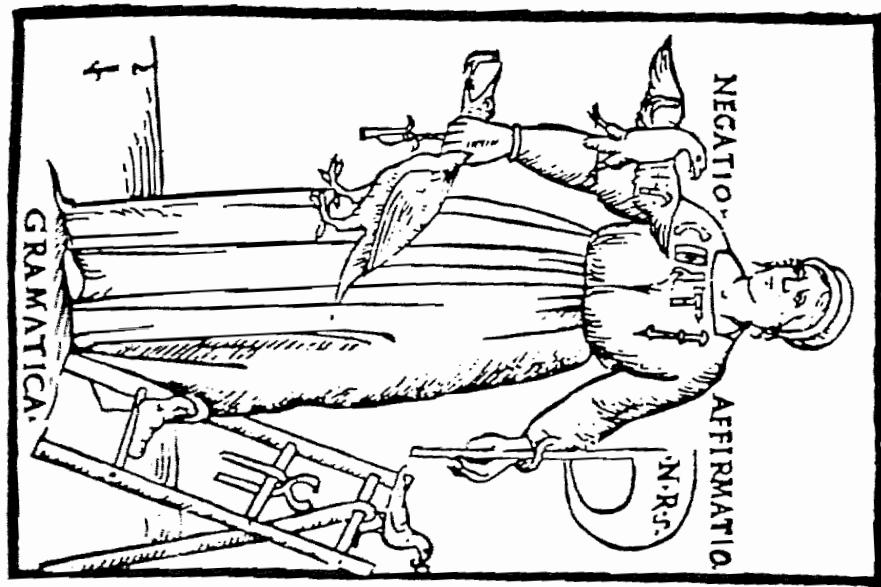
1. Concerning Obligations Arising From Crime
2. Concerning Robbery by Violence
3. Concerning the Aquilian Law
4. Concerning Injuries
5. Concerning Obligations Which Arise From a Quasi-Crime
6. Concerning Actions
7. Concerning Business Transactions Entered Into With A Person Under the Control of Another
8. Concerning Moral Actions
9. Where a Quadriga Is Sold to Have Caused Damage
10. Concerning Those by Whom We Can Bring Suit
11. Concerning the Giving of Security
12. Concerning Perpetual and Temporary Actions, and Those That Are Transmitted To, and Against Heirs, and Those Concerning Exceptions
13. Concerning Replications
14. Concerning Interdicts
15. Concerning the Penalty For Reckless Litigation
16. Concerning the Duty of a Judge
17. Concerning Public Prosecutions
18. Concerning the Abrogation of Successions Which Formerly Arose Through the Sale of an Estate and From the Claudian Decree of the Senate
19. Concerning Obligations
20. In What Way an Obligation is Contracted by Means of the Property
21. Concerning Verbal Obligations
22. Concerning Two Parties to a Stipulation or Promise
23. Concerning the Stipulation of Slaves
24. Concerning Inoperative Stipulations
25. Concerning Sureties
26. Concerning Obligations in Writing
27. Concerning Obligations by Consent
28. Concerning Purchase and Sale
29. Concerning Leasing and Hiring
30. Concerning Partnership
31. Concerning Mandate
32. Concerning Obligations Arising From Quasi-Contracts
33. Through What Persons an Obligation Can Be Acquired for Our Benefit
34. In What Ways an Obligation is Dissolved



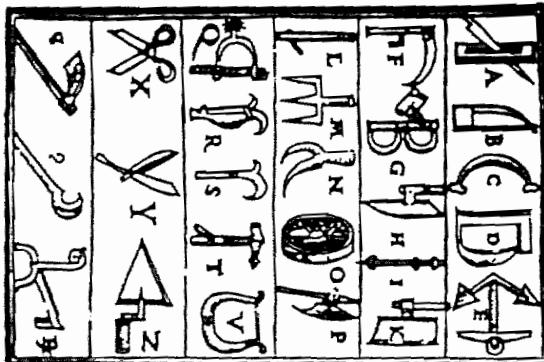
7a ABOVE Hell as Artificial Memory

7b BELOW Paradise as Artificial Memory

From Cosmas Rossellius, *Thesaurus Artificiosae Memoriae*, Venice 1579 (p. 122)



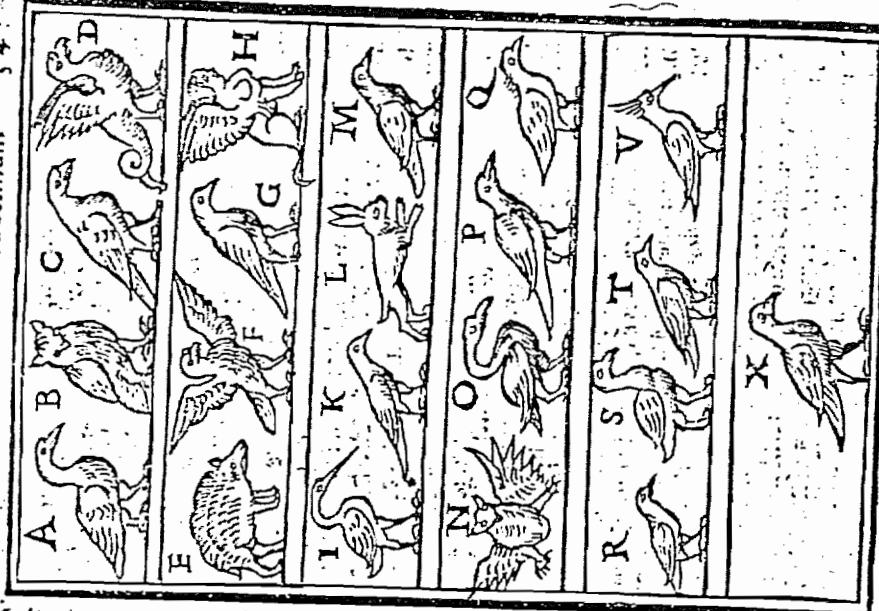
6a Grammar as a Memory Image
6b and c Visual Alphabets used for the Inscriptions on Grammar
From Johannes Romberch, *Congestorum Artificiosae Memorie*, ed. of
Venice, 1533 (pp. 119-20)



15

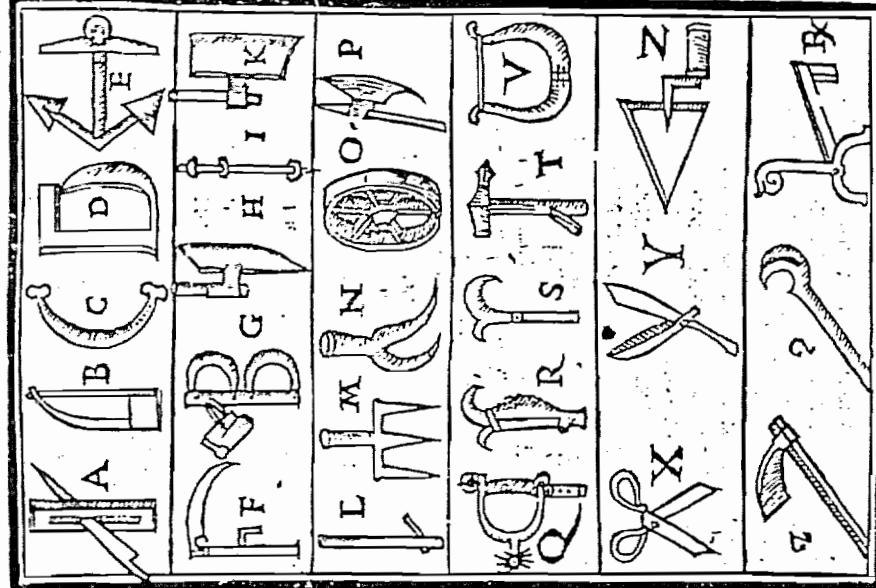
Capitulum 2. *Specimina*

54.

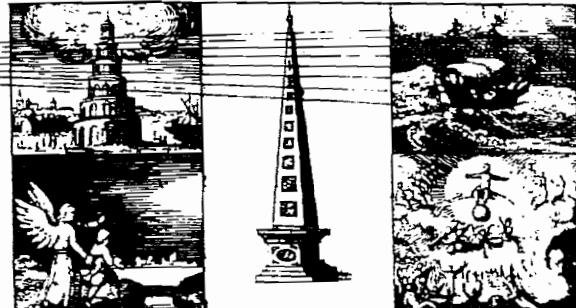


Capitulum Monum.

55.



A R S M E M O R I Æ.



Seeing with a “third eye” in the seventeenth century. After their original functions were outmoded, ancient memory arts acquired an occult significance and received a new lease on life in printed form. From Robert Fludd, *Utriusque cosmi maioris . . .* (Oppenheim: Johann-Theodor de Bry, typis Hieronymi Galleri, 1621, II, 47). Reproduced by kind permission of the Folger Shakespeare Library.

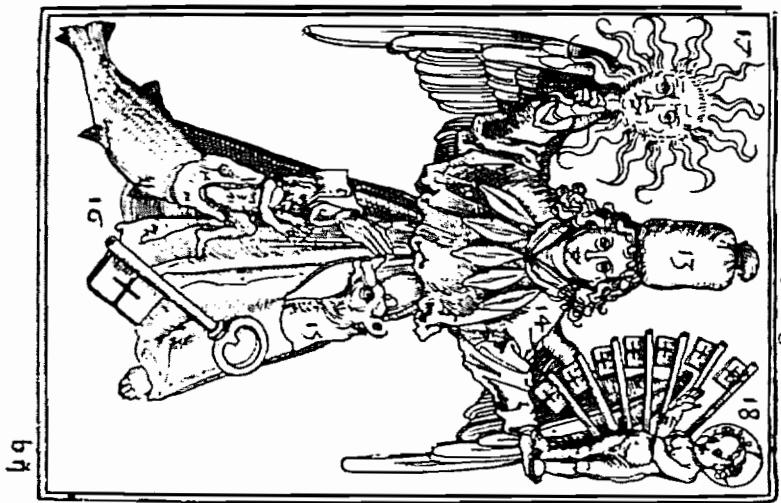
but received a “strange new lease on life.” They provided the content for magnificent emblem books and for elaborate baroque illustrations to Rosicrucian and occult works in the seventeenth century. They also helped to inspire an entirely new genre of printed literature—the didactic picture book for children. Leipzig boys in Leibniz’s day “were brought up on Comenius’ picture book and Luther’s Catechism.” In this form, the ancient memory images reentered the imagination of Protestant children, ultimately supplying Jung and his followers with evidence that suggested the hypothesis of a collective Un-

(Ex) NE 1235. A7 p4 & ditto. 1502

Georgius Rehnstius Anipinius Lectoris Excidat



Tertia Mathei Imago



Vas esse memorias apud C.
Herenniū M. Cicero de precepit
ceptribus Rhetoribus abude
diferunt: Vnā qua perfice
(qui ea predius est) si appre
natura quis doctus eundem
esse autē ingenij vim quādā
inīā demonstrat: & a unis
homībus inolecentē, hancq; ut egregia compiciat:
arē effere ipsam: que naturę cōmoda confirmatq;
auget: Altera eß quā artificio cōstare vult: ex īndō dō
prēceptō iſp; ratiōe ad literas certe cīndas plentabat
Oleum r̄ remediu, illis p̄scrīm: qui minūs fngēt hīc
equīsum inuenit, ligēt per imagines varijs in signis
r̄obas: & quidē placitura simulachia (quēadmodum
spēramus) ubi congellimus: quo memoriam hūuſc,
modiformis euibrates quā cornis venuſte, p̄fīo effi-
gias vii meliores posse fieri censere neq; Rogamus
ob id casi facere acq; forderet nō finas: In hoc mihi animis
nostrū accēdimus vñ neutrū q; disperceret facies illa hīc
mens: op̄ra: acq; labore noſtro illustres: Appensi-
onūdā Peri Roſenheim numeris (monacheti melli.
cenſis quondam moachi) Alphabetica ſerie per capita
coherētibus dimiſiā neglecia q; littera cōluto: cuua
ſpacium I confona ſuplet neglecius quoq; tribus no-
ſſimis x y z que ad rem noſ ſūnebant Valc.

a. 7

num. 11.

63

Y S T È M E F I G U R É C O N N O I S S A N C E S H U M A I N E S .

E N T E N D E M E N T .

E.
HISTOIRE
VIEILLE.
ANTIQUITÉS.
HISTOIRE COMPLÈTE.

VILLE.
MÉTROPOLE.
VILLE ET CESAIRE.
MINÉRAUX.
VEGETAUX.
ANIMAUX.
LEMÈRE.

VILLE.
MÉTROPOLE.
LA TERRE ET LA MER.
HISTOIRE.
NATURELLE.
TRAVAIL.
ÉLÉMENT.

HISTOIRE.
VIEILLE.
ANTIQUITÉ.
HISTOIRE COMPLÈTE.
VILLE.
MÉTROPOLE.
VILLE ET CESAIRE.
MINÉRAUX.
VEGETAUX.
ANIMAUX.
LEMÈRE.

HISTOIRE.
VIEILLE.
ANTIQUITÉ.
HISTOIRE COMPLÈTE.
VILLE.
MÉTROPOLE.
VILLE ET CESAIRE.
MINÉRAUX.
VEGETAUX.
ANIMAUX.
LEMÈRE.

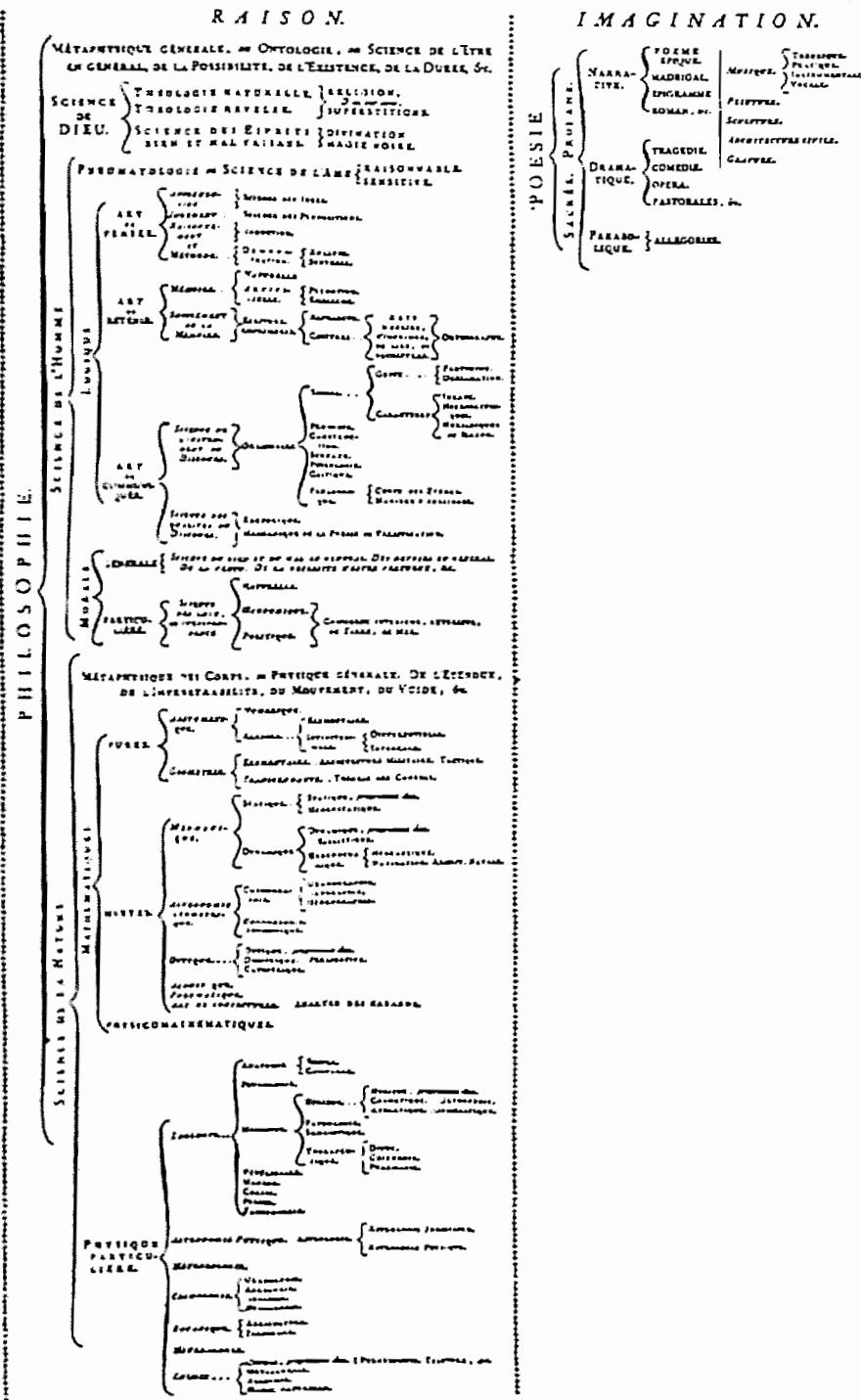
HISTOIRE.
VIEILLE.
ANTIQUITÉ.
HISTOIRE COMPLÈTE.
VILLE.
MÉTROPOLE.
VILLE ET CESAIRE.
MINÉRAUX.
VEGETAUX.
ANIMAUX.
LEMÈRE.

HISTOIRE.
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HISTOIRE COMPLÈTE.
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VEGETAUX.
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HISTOIRE COMPLÈTE.
VILLE.
MÉTROPOLE.
VILLE ET CESAIRE.
MINÉRAUX.
VEGETAUX.
ANIMAUX.
LEMÈRE.



Brown
Anat. & Med.
EX 3658
86
312
122

THE SYNOPSIS OF THE FIRST PARTITION.

Imme, concupiscence, &c.
In temperance, all second causes, &c.
Epidemicall; as Plague, Plica, &c.
Or Particular; as Gout, Dropsic, &c.
In disposition; as all perturbations, evil affection, &c.

Cognitio
A
Curiae of
Metropolitana
Acta Diptera

Dortage
Phrenic.
Madness,
Exstase.
Habits
Lyceanthropia,
Chorus sancti Viti.
Hydrophobia.
possession or obsession of Devils.
Melancholy. See

Improper, &c. Subsect. 5.
Humours, Blood, Phlegme, &c.

Instrall, animall
Infernal, or flesh, bones,
Inflammation, braine, heart, liver, &c.

IO, II.

with their severall causes, Lymph, &c.
the whole comes to prognostication
of Chicks, cures, &c.
Imme, the subject of the third

Ovaria, Uterus
body, &c.

Second Partition.

Here haue you (according to my promiss) the Groundplat of
my MATHEMATICALL Prece: annexed to Euclide (now first)
published in our Englishishtounge. An. 1570. Febr. 3.

sciences,
and Artes
Mathe-
maticall,

utical Preface.

I am farr to all open his moneys
or hant Chancery and his brether
to what knoledge I or that book haue
of this science Neither say that
age and Stayed i do shooke of the
for a verious aile doun, and for
English men in the English tongue
Created all thinges, in Number
and Mery, he hath recreated. Me
day knowledge of the forsyd by
me, I have shoudly proued vni-
uersall.

rightnes of tyme that no way I could
I determined, hopyng of conuenient
to intent persone, and bring you to the
newt brefe, I do not doubt, but as the
will be redound vnto you. So the
wonderfull frute shewed hys godes
merit, and brefe remember, the pre-
mch, I will gye you the Groundplat
a. from the left to the last, wherthat may
where, to thumble - You well, I am
a. bring good will to you.

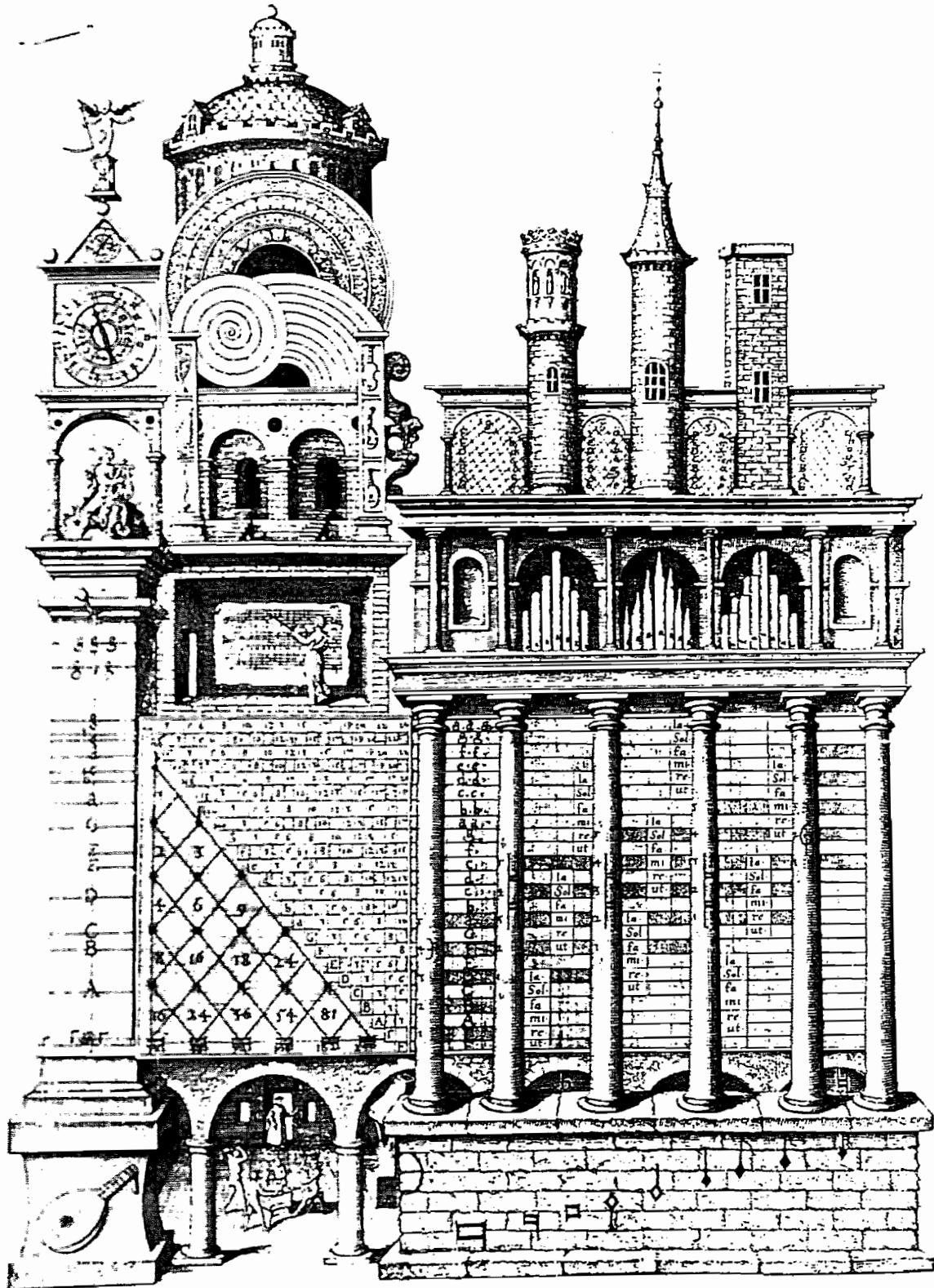
Derivative
fit the Prin-
ciples, of which
some bee

Proper names

Principall, which art, one only,	Arithmetike. Simple, which dealeth with Number only, and demonstrateth all their properties and apper- ances, whiche are, in Number, in Indivisibiles.	In divers Figures, & conserveth in Divers by application Alge- bra.	This is the one, or the first, or the first part, in a de- pendency in the Artes Mathemati- cal Den- tation.
	Mixt, which worketh of Geometrie, and demonstrateth some Arithmetical Con- sideracions, or Proportions.	The use whereof, is either, In divers Mathe- maticall, or in their further Applications.	
Geometricke.	Simple, which dealeth with Figures, only, and demonstrateth all their properties, pro- perties, and apperances, whiche are, in Figures.	In divers Mathe- maticall, or in their further Applications.	
	Mixt, which worketh of both the former, and demonstrateth from Geometrical properties EVCLIDES ELEMENTES.	In divers Mathe- maticall, or in their further Applications.	
The names of the Principles:	Arithmetike, Arithmetike of most vsuall whole Numbers: And of Fractions to them appertaining. Proportion: which considereth Arithmetike of Proportions. Antimeteke Circular.	Arithmetike of Radicall Nubers: Simple, Compound, Mixt: And of their Fractions. Arithmetike of Coslike Nubers: with their Fractions: And the great Arte of Algebra.	
	At hand — All Lengthes.	All Plaines: As, Land, Borde, Glasse, &c. — Mecometric.	
	Geometricke, vulgar, which teacheth Measuring.	All Solids: As, Timber, Stone, Vessels, &c. — Embadometric.	
	With distaunce from the thing considered,	How farre, from the Mefurere, any thing is, of howe farre, on Land or Water: called Apomeometric.	Stereometric.
		How high or deepe, from the leuell of the Mefureres standynge, any thing is: Serie of him, on Land or Water: called Hypometric.	
		How broad, a thing is, which is in the Mefureres view: fasse broad on Land or Water: called Platometric.	
Perspectuie,	Which demonstrateth the maners and properties of all Radiacions: Directe, Broken, and Reflected.	Geodesie: more conninge to Mefures and Survey Landes, Woods, Waters, &c.	
Astronomicie,	Which demonstrateth the Distances, Magnitudes, and all Diuine motions, Apparacions and Phaens, proper to the Planets and fixed Starres, for any time, past, present, and to come: as respects of a certaine Hemisphere, or without respect of any Hemisphere.	Geographicie.	
Musike,	Which demonstrateth by reason, and rule, to judge and order the diuines of Sonades, but at least.	Chorographicie.	
Cosmographicie,	Which demonstrateth the body of the Planety, and al Elementall part of the World: and of least partes, making hunciall application, and natural relation thereto.	Hydrographicie.	
Astrologicie,	Which reasonably demonstrateth the operations and effectes of the naturall braunes of light, and ferre influence of the Planets, and fixed Starres, in every Element and Elementall body: as at times, in any Hemisphere assigned.	Stratarithmetrie.	
Stanike,	Which demonstrateth the causes of beaunes and ligthes of all thinges: and of the causes and properties to beaunes and ligthes belonging.		
Anthropographicie,	Which defineth the Naturall, Medicinal, Weight, Figure, Situation, and colour of every divers thinge contained in the perfect body of Man, and giveth certaine knowledge of the Figure, Symmetrie, Weight, Change, Alteracion, to the least partie of any partie of the sayd body assigned, and of numbers to the said partes apperteyning.		
Trochilike,	Which demonstrateth the properties of all Circular motions: Simple and Compound.		
Helicosophie,	Which demonstrateth the defining of all Spaciall partes in Plane, or Cylinder, Cone, Sphere, Croid, and Sphered, and like, &c.		
Pneumaticie,	Which demonstrateth by staffe, hollow, Convex, and concave, and divers shapes, howe they may be made, and so directe, to life, to passe, and to pass, or cast, from underland, or from divers partes, Water, Windes, or Fire: naturally, artifically, or accidentally.		
Menadrie,	Which demonstrateth howe divers, and divers simple: Virtues, and Secretes may be multiplied: and so directe, to life, to passe, and to pass, or cast, from underland, or from divers partes, Water, Windes, or Fire: naturally, artifically, or accidentally.		
Hypogeodie,	Which demonstrateth howe, under the Sphered, Superficies of the Earth, at any depth, to any perpendicular line assigned (whole distance from the superficie of the entence: and the Aymount height, whereof of the sayd entence, so ferre, as ferre may be preferred, and gone.)		
Hydrogologie,	Which demonstrateth the perculiar hooling of water by diversesse, and by artifical helpes, from any head, being Spring, fountaine, or running water, for any place assigned.		
Horometricie,	Which demonstrateth howe, at all times apperteyning, the precise, exact, demonstration of time, may be knowne for any place assigned.		
Zographicie,	Which demonstrateth and teacheth, howe, the Incription of all rectified Polygona, made by any place assigned, to the Contrarynes, and ligthes being determined, to may be, by hours, and proper cubites represented.		
Architecture,	Which demonstrateth howe many duffles, and divers Inscriptioines: by which indifferently, or by other workmen, shal be indifferently, or by other workmen, shal be indifferently.		
Nauigation,	Which demonstrateth howe, by the Shewell good way, by the opene direction, and in the shewell same, a certeyn Shewell, betweene any two places, so suffiglye, or sayd, may be comuled, and in aduaunce, and natuall duffles, hooling, howe to wif the best pathes, and so ferre as ferre, the place falle assigned.		
Thaumaturgye,	Which greate curiositie, or desire to make strange warkes of the stafes to be performed, and of more greatly to be wondered at.		
Archimeticie,	Which treateth, to bring to actual experiance, divers, and wonderfull constellations, in all the Artes Mathematicall purposed: and by these divers, and wonderfull, considered, And both adiust to have a ferre Shape, in the corners of the same Artes: and alse, by these Archimedies, to comune, procede, with helpe of the sayd Artes, to the performance of complex Experiments: which are particular Artes, and of divers, and wonderfull.		

Approved by John Day
An. 1570. Febr.

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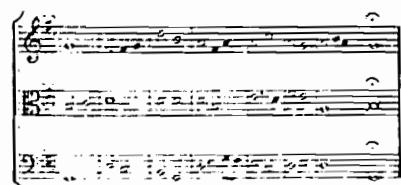
99

a low A and wants to write a middle C against it. The chart shows that all is well, the interval is a tenth. Try a B, however, and one meets a blank—the interval is a discord.

The clerestory on the level of the three towers is a similar device, enabling one to check at a glance the notes respectively an octave, sixth, third and fifth from any given note. The windows

for the sixths and thirds are smaller, these being only imperfect consonances as opposed to the perfect octave and fifth.

Finally, in the alcove beneath the twin portals representing ears, a Muse stands pointing at a phrase in three parts—the triumphant result of these computational aids (right). UC 60-160-1



(Transcribed by Todd Barton)

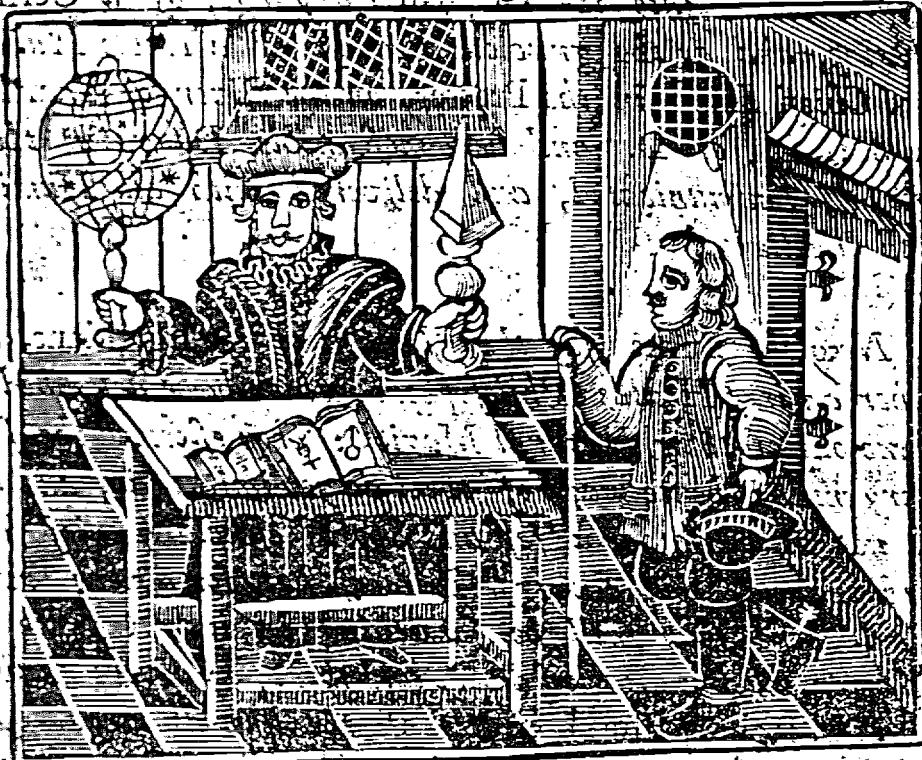
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SIXTY

XXXVI several Questions.

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YOUNG WOMEN MAIDS,
Howe theire did this qualitie were
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VVritten by Ch. Mar.



L O N D O N ,
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 Newgate, at the signe of the Bible. 1604.

~~1620~~

Christopher Marlowe, *The Tragical History of the Life and Death of Doctor Faustus*, London, 1619. Gift of Johnson Garrett, Class of 1935.

The Library's holdings are rich in works of the Jacobean and Caroline theater. One of the rarest and most interesting volumes in this area is the only known copy of the 1619 edition of Marlowe's *Doctor Faustus*. Its title page exhibits a woodcut of the famed actor Edward Alleyn in the role of Mephistopheles.

731



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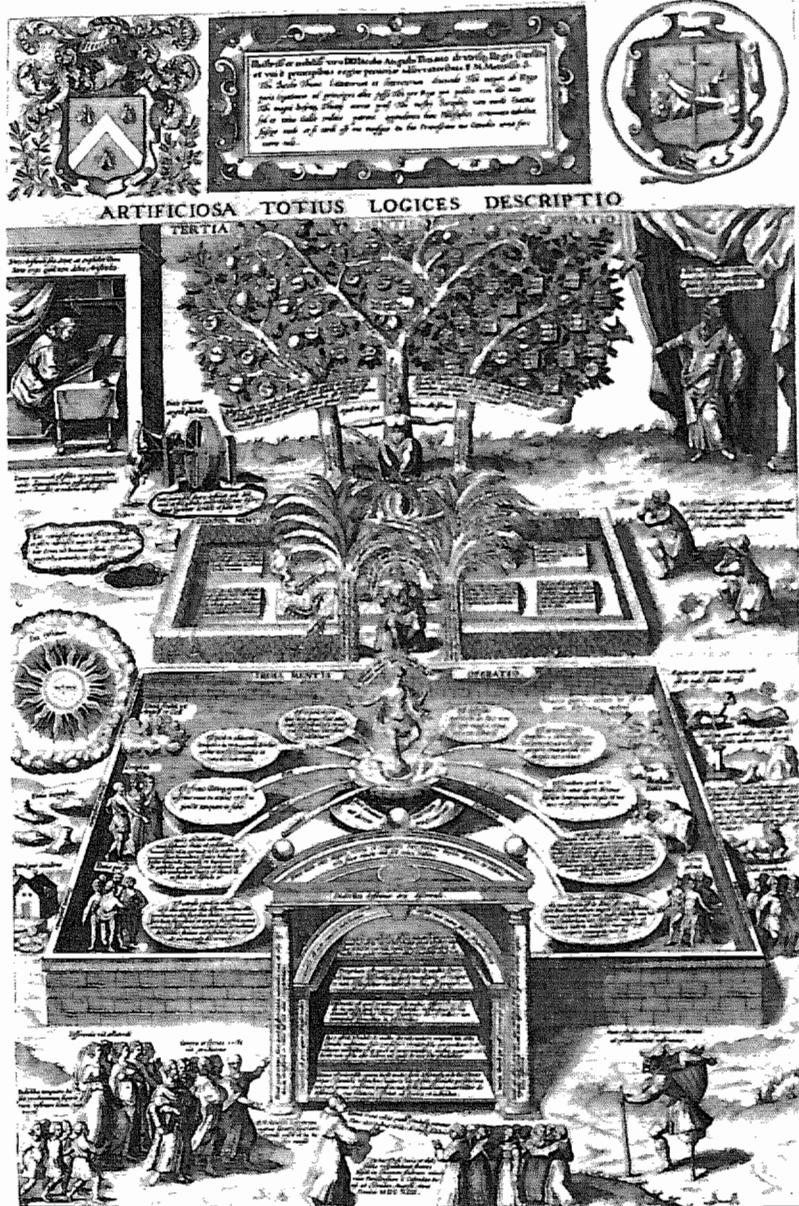
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STEPHEN FERGUSON was appointed Assistant University Librarian for Rare Books and Special Collections on 1 July 1987. He will continue to serve as Curator of Rare Books, a post he has held since 1975.

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Martin Meurisse, *Artificiosa totius logices descriptio*. [Paris], 1614. Graphic Arts Collection,
Princeton University Library.

System and Schema

Tabulae of the Fifteenth to Eighteenth Centuries

BY STEPHEN FERGUSON

Since 1977, Professor W. S. Heckscher, Agnes Sherman, and Curator of Rare Books Stephen Ferguson have been examining the Library's distinguished collection of emblem books. Their work led to the 1984 publication, *Emblem Books in the Princeton University Library: A Short-Title Catalogue*, and to Mr. Ferguson's interest in the relationship between emblem books and other printed materials of the Renaissance and Baroque which use text, image, and allegory. Among the examples of such forms are tabulae, several of which have been acquired recently by the Library. They were included in the Autumn exhibition, "Knowing Through Seeing: Diagrams, Schemata, and Tableaux in Early Printed Books, Medieval Manuscripts, and Prints," in the Library's Gould Gallery.

In the following article, Mr. Ferguson discusses a few of these new acquisitions.

At the bottom edge of the illustration on the facing page, a Franciscan monk gestures towards several novices. Behind him is a walled courtyard surmounted by a formal garden above which stands a grove of trees. Exactly what is the monk doing? Why such an exotic scene of trees, fountain, half-clad women, and numerous small objects?

The monk is Martin Meurisse (1584–1644), a Cordelier Franciscan who eventually became Bishop of Madaure. His duties included training novices, and toward that end he prepared three instructional charts. In 1983 Princeton University Library acquired the first in the series, "A technical and artfully-done depiction of logic in its entirety" (*Artificiosa totius logices descriptio*), published in 1614.¹ In the *Logices de-*

¹ It was followed in 1615 by the *Clara totius Physiologiae Synopsis* ("A clear synopsis of

scriptio, Meurisse is shown teaching the novices how the three chief operations or processes of the intellect—according to Duns Scotus and Aristotle, as interpreted by Meurisse—can be apprehended by studying the details of the chart.

The chart is divided into two principal parts: the three-tiered central feature depicting the *operationes mentis*, and a surrounding border of emblems. The three tiers of *operationes* are the traditional Scholastic processes of the intellect arranged in a hierarchy, with the lowest, Categories, at the bottom, followed by Judgment, and Syllogism at the top.²

Categories are represented by a walled-in courtyard entered by ascending five steps and going through a portal. The steps are the five predicables of Aristotelian logic as interpreted by Porphyry, among others: genus, species, difference, property, and accident. Within the courtyard are Aristotle's ten categories (substance, quantity, quality, relation, action, passion, place, time, position, and state) flowing from the central source, the *fons* of being. The *fons* is a pool adorned with a statue of a half-clad man standing with one foot on a sphere. A banner over his head reads: "The first process of intellect refers to differentiating thinking, which explains the nature of an object."

The second process of intellect, Judgment, is depicted as a formal, hedged-in garden at the gate of which sits a half-clad woman, perhaps Judgment personified. Like the man below, she has a banner over her head. Hers reads: "This is the dividing process in which the whole is distributed into its parts, or the manifold is separated according to the multiplicity of the whole." In the garden behind the woman are inscriptions giving particulars concerning the process of judgment.

Syllogism is a grove of three trees that sit above the second realm. The central tree is the "Tree of Knowledge," flanked on the left by the "Tree of Sophisms," and on the right by the "Tree of Beliefs." Each tree is ripe with its corresponding fruit; the Sophists' tree bears the fruit "error" and "ambiguity." In front of the central tree sits a gowned woman with outstretched arms. An inscription above her arms reads:

physiology in its entirety"), and the *Artificiosa totius Moralis Philosophiae tabella* ("A technical and artfully-done tableau of moral philosophy in its entirety"). probably dated 1630. The 1614 *Logices descriptio* acquired by Princeton is kept with other oversize prints of 17th-century France in the Graphic Arts Collection, Firestone Library.

² C.R.S. Harris, *Duns Scotus*, 2 Vols. (Oxford: Clarendon Press, 1927), Vol. 2, p. 7.

"This is argumentative process (syllogism) in which the one is concluded from the other."³

Embedded in the border surrounding the three realms of *operationes mentis* are many emblems. Outside the first and lowest realm lie bits and pieces of reality (*ens incompletus*) separated from their completed form by the wall of *carentia*, or deprivation. Outside the second realm the Sophists pipe on their harmonicas, perhaps a reference to fools and their pipes. In the upper corners are miniature portraits of Aristotle (right) and Duns Scotus (left), whose doctrines Meurisse is explicating in his chart. In the uppermost compartment, the *Logices descrip-tio* is dedicated to Jacques Auguste de Thou, the great French bibliophile, a nobleman and member of the Third Order of St. Francis.

These are only a few of the most obvious readings of the chart. A full explanation would take many pages, just as Meurisse intended, and just as is entailed by the instructional form which he used, a *tabula*.



Looking back over the history of printed books, one can see shifts in the forms and means by which mankind has sought to communicate large and complex bodies of knowledge. One of those changes occurred with the use of *tabulae*, which are charts, plans, maps, or tables summarizing an extensive body of information usually within the space of just one page. The intent of such a summary is quick reference, or to aid the memory, or to provide a ready means for seeing complex relationships.

The tabular form has ancient roots and it is even speculated that Aristotle's works could have been "illustrated" by diagrams or tables.⁴ In the Middle Ages not only philosophy, but also theology, alchemy, astrology, astronomy, geography and several other divisions of human knowledge used *tabulae*. In early modern Europe, some of these uses withered away, as in the case of theology, while others proliferated, as in the case of astronomy and other natural sciences. Today, the tabular form seems mainly reserved for scientific, statistical, and technical in-

³ I wish to thank Professor William S. Heckscher for assistance with the translations.

⁴ Michael Evans, "The Geometry of the Mind," in *Architectural Association Quarterly*, Vol. 12, No. 4 (1980), p. 35.

formation. But this was not always so; *tabulae* had much more varied forms and functions, especially during the centuries when they were used as devices designed to aid the memory and cultivate the mind.

Over the years, the Latin term *tabula* acquired a number of meanings, many of which were figurative or nonliteral. The most fundamental meaning of *tabula* was “wooden plank.” This sense survives in our everyday term “table,” which has replaced the less socially-prestigious Saxon term, “board.” *Tabula* also took on the meaning of “a picture painted on a wooden panel.”⁵

A related sense of the word in the singular was “an expanse of land,”⁶ and this sense probably led to the use of *tabula* to mean “land-map”; Ptolemy’s *Tabulae Geographicae*, published during the Renaissance, come immediately to mind.

The *Tabula Cebetis* was an ancient “map” of a different kind. It represented the journey of mankind on a moral “Pilgrim’s Progress,” ascending the mountain of purification and perfection. In the Renaissance, the *Tabula Cebetis* was a popular text for teaching the Greek language to *studiosi adolescentes*. Thus, an abstraction, a schema of morality, is made concrete and memorable through a series of images.

For the learned of medieval and early modern Europe, *tabula* was a powerful descriptor. Like the *tabula* before the schoolboy, other kinds of *tabulae* were meant to provide a key to further and deeper knowledge. It provided a kind of “ante-knowledge.” This meaning of *tabula* rests on the premise that knowledge is thematic and is arranged by connectives. Thus, in order to get more and other knowledge, we must have some knowledge already. This sense of the term survives today in our “table of contents,” usually printed at the front of books.

Tabulae allowed immediate apperception; the mind was reached through the eye with ideas that normally would have been spoken or read. The means of transfer is vision; the structure of knowledge is intended to be seen. Moreover, the process of knowing through seeing stands in direct contrast to another analogue for knowing, namely, hearing.⁷

⁵ This use appeared in several ancient authors and is discussed in William S. Heckscher’s forthcoming Latin glossary for Alciati, Vol. III in the *Princeton Emblem Project Series*, published by the Princeton University Library.

⁶ For example, in the Scheide Library Collection of Documents, document 20-382 dated Fabriano, 20 October 1212, the Consul of the town, Todius, promises that the next day he will give a *tabula* of land to the Abbot Moricus and his brethren of St. Victor.

⁷ Walter Ong, *Orality and Literacy. The Technologizing of the Word* (London and New

Tabulae, the tangible products of such thinking, can be divided into two types: non-figural and figural. The non-figural consists principally of words, numbers, and typographic symbols such as brackets arranged in a pattern. Images are normally excluded. Examples include tables of contents, multiplication tables, tax tables, tide tables, and schemes of dichotomies.

The figural type is part of a tradition “the intent of which was to give . . . instruction by means of schemas organized in a memorable figural form—a tower, a tree, a cherub—and containing elements related through numerical correspondence—the 12 articles of faith, the 12 prophets, the 12 apostles.”⁸ The figural *tabula* is intended to provoke a quiet, contemplative process, in which one wanders through a kind of gallery of images or “memory palace.”⁹

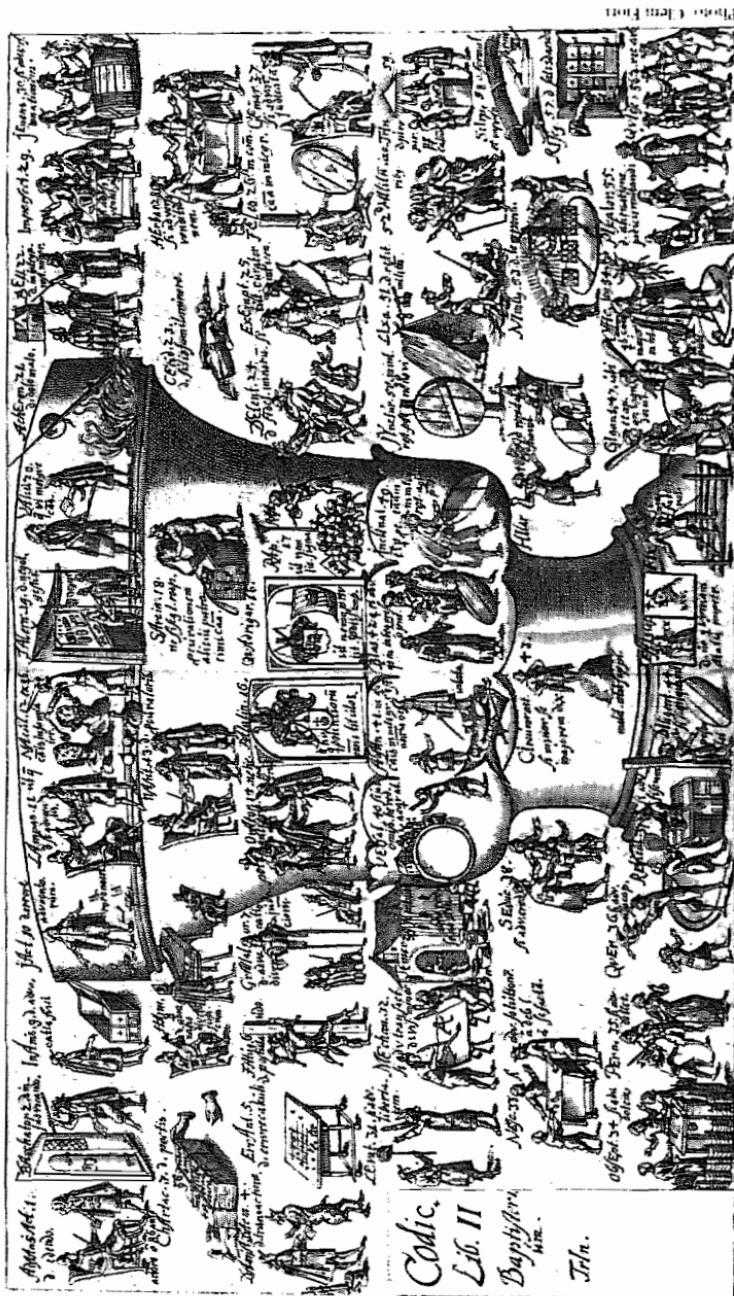
Meurisse’s logic chart, described at the beginning of this article, is a clear example of the figural *tabula*. It is a complex array of images arranged in fixed and memorable locations. Recently, the Philadelphia rare-book dealer Bruce McKittrick gave the Library another, bolder example of a figural *tabula*. It is from a Latin text discussing the Justinian Code, and was published in Hamburg in 1673–1674. Distinguishing this text from many other schoolbooks on the Code are a series of 22 engravings designed to assist students with memorizing important points. The text and plates are the ingenious work of Johannes Buno, a schoolmaster who also prepared a Bible similarly adorned with exotic aids to memory.¹⁰

York: Methuen, 1983), p. 119. As Ong points out, “Ambrose of Milan [states] in his *Commentary on Luke* (iv. 5): ‘Sight is often deceived, hearing serves as guarantee.’ In the west through the Renaissance, the oration was the most taught of all verbal productions and remained implicitly the basic paradigm for all discourse, written as well as oral. . . . Writing served largely to recycle knowledge back into the oral world, as in medieval university disputations, in the reading of literary and other texts to groups . . . and in reading aloud even when reading to oneself. At least as late as the twelfth century in England, checking even written financial accounts was still done aurally, by having them read aloud. [One scholar] describes this practice and draws attention to the fact that it still registers in our vocabulary: even today, we speak of ‘auditing,’ that is ‘hearing’ account books, though what an accountant actually does today is examine them by sight.”

⁸ Lucy Freeman Sandler, *Gothic Manuscripts 1285–1385*, 2 vols. (Oxford: Oxford University Press, 1986), Vol. II, p. 59.

⁹ See Jonathan Spence, *The Memory Palace of Matteo Ricci* (New York: Viking Penguin, 1984) for discussion of instructive pictures.

¹⁰ The Library’s call-number for the suite of plates is (Ex) KBD.B86 1673. The plates are extracted from Buno’s *Memoriale juris civilis Romani, quo tituli omnes et praecipuae leges, quae in quinquaginta Digestorum seu Pandectarum libris sunt, emblematis & imaginibus ita efficta exhibentur, ut una cum titularum materiis eorum etiam numeri memoriae imprimi, contineri*



Engraving showing mnemonic images for the 59 Titles in Book II of the Justinian Code in Johannes Buno's *Memoriale iuris civilis Romani*, . . . (Hamburg, 1673-1674). Gift of Bruce McKittrick. Rare Books Collection, Princeton University Library.

Buno's engravings were to be used in accord with a specific program. First, the student had to discover the underlying image on a single *tabula*. In the engraving for Book II of the Code of Justinian, the principal image is the baptismal font of a church. The student was expected to know that the principal image of the preceding plate (Book I) was an altar, and that the following plate (Book III) carried the image of a *cancelli* ("lattice," or "grid-work"), and so on in exact alphabetical and numerical order.

Next, the student examined and memorized the series of small images fixed on the baptismal font itself. These images are arranged according to the numerical order in which the major subdivisions of a Book in the Code, called Titles, appear, all with mnemonic tags in alphabetical order. Each small, tagged scene depicts the gist of a Title. Thus Title I, "Concerning the bringing of an action," is tagged *Adstans Act[or]*, "The plaintiff appearing in court"; Title II, "Concerning the summons to court," is labelled *Bacchator*, "Rantor," and so on throughout all 59 Titles of Book II. Clearly, the intent of Buno's engraving was to provide a table of contents which the student could recall by seeing it in his mind's eye.

The figural *tabulae* of Meurisse and Buno point to a technique of memorization called "artificial memory," memory developed purposefully by an individual.¹¹ The technique is actually quite ancient and was once considered to have been developed by Cicero. It rests on the common judgment that sight is the most powerful of the six senses and thus should be used for remembering. Just as the distinction between object and background is necessary for seeing to occur, so is this distinction central to the classical theory of memory.

In essence, the theory tells us that, to establish background, we must first memorize places. Go to a building, view the doorway, fix it in mind, move along, view a window, fix it and so forth. At this first stage, we build a storage system, an aggregation of niches into which something can be put. Secondly, we proceed to fill these places (*topoi* or *loci*) with images. The images (*imagines agentes*) represent specifics that are

ac reddi quin etiam leges illae praecipuae ad suos referri titulos facili negotio queant . . . edidit Johannes Buno, 2 vols. (Hamburg, 1673–1674). Title of Vol. 2 varies. A complete copy, text and plates, is in the Library of the Harvard Law School.

¹¹ The best introduction to this subject is Frances A. Yates, "Architecture and the Art of Memory," in *Architectural Association Quarterly*, Vol. 12, No. 4 (1980), pp. 4–13, and in her book, *The Art of Memory* (Chicago: University of Chicago Press, 1966).



Detail from Book II of the Justinian Code in Johannes Buno's *Memoriale juris civilis Romani*.

intended to be remembered. The images are to be striking (e.g. a bloodied face) so that their power to provoke emotion helps the mind to remember. To recall the memorized data, we then visualize a gallery of images in place, and by scrutinizing them carefully we decode the abstractions represented by the images. The classic example of this process is told in the story of Simonides, who, in addition to Cicero, was credited with inventing the system of artificial memory. Simonides escaped death at a banquet because he was called away from the feast just before the roof collapsed, killing all below. The bodies were so mangled that relatives could not recognize their kin, but Simonides could identify the bodies by remembering where particular guests had been lying. It was by recalling a series of relationships, charted as images arranged on fixed locations, that Simonides was able to perform this mental feat.¹²

The 5th-century A.D. author, Martianus Capella, when discussing

¹² The story is told in Cicero, *De oratore*, 11.lxxxvi, 351-354.

rhetoric in his *De nuptiis Philologiae et Mercurii*,¹³ recommended that his readers follow

the Quintilian method of memorising through visualising the tablet, or the page of manuscript, on which the material is written—divided into clearly defined parts with some marks or *notae* on it at special points—which is to be committed to memory in a low murmur.¹⁴

From the Middle Ages to the end of the Baroque period, tabular thinking, both figural and non-figural, focused on complex philosophical and religious matters. In *tabulae* like the *Epitome of Gospel Mystery emblematically illustrated* (London, ca. 1650),¹⁵ the major visual elements and their arrangement in space serve as an exposition of theological dogma. The central scene is flanked by two tall columns covered with text, and surmounted by open sky and clouds. A cherub floats over each capital and trumpets a banner on which a rhymed triplet is inscribed. Below the banner and filling the central space is a scene emblematic of the “Gospel Mystery.” Flowing from a fiery sun, a river runs through two hearts (one “of love,” the other “of stone”) and thence through wounds to irrigate the Tree of Life, beneath which is a portal to a holy place. In front of the door is a porch, which only a few figures have reached. In front of the porch is “The Broad Way to Destruction” on which figures in wigs and waistcoats walk toward a burning pit. To the left of the porch stand Adam and Eve exiting Paradise. All of the figures and scenes are labeled, usually in rhymed couplets and triplets.



Towards the end of the Baroque period, non-figural *tabulae* appear which seem to presuppose a figural image like a tree. The trees, however, are horizontal rather than vertical, and schematic rather than

¹³ This work “. . . preserved for the Middle Ages the outline of the ancient educational system based on the seven liberal arts (grammar, rhetoric, dialectic, arithmetic, geometry, music, astronomy).” See Yates, *Art of Memory*, p. 50.

¹⁴ Yates, *Art of Memory*, p. 52.

¹⁵ The *Epitome* is a large-folio figural *tabula* engraved on a single sheet. It was purchased on the Reed Fund during 1984–1985 and its Library call-number is (Ex) N7710.E64.1650f.

AN EPITOME OF GOSPEL MYSTERIES EMBLEMATICALLY ILLUSTRATED

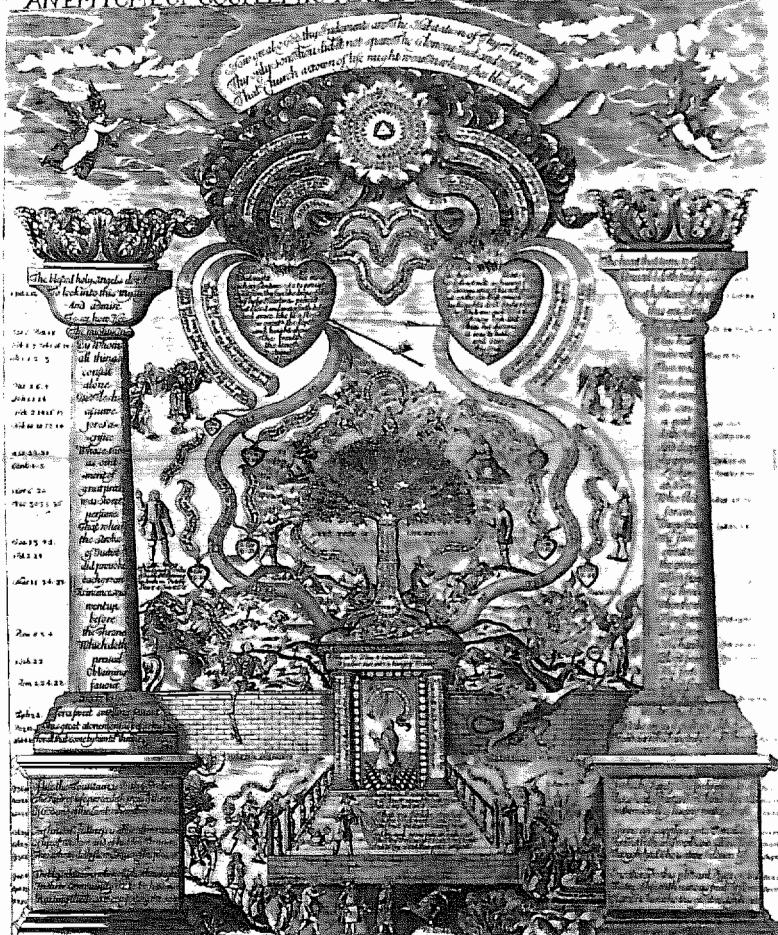


Photo: Clem Fiori

Epitome of Gospel Mystery Emblematically Illustrated [London, ca. 1650]. Rare Books Collection, Princeton University Library.

naturalistic, as in Louis de Lesclerc's *La philosophie expliquée en tables* (Paris, 1652–1653).¹⁶ His three-volume set of bound engraved plates shows the points of philosophy in schematic, tree-like diagrams turned on their side so that we read them left to right, rather than bottom to

¹⁶ Purchased on the Zabriskie Fund in 1983, its Library call-number is (Ex) B1889.L4 P5.1651.

top, as with standard tree diagrams. The utility of the tables, the author declares, is that many things can be compressed into a few words. Moreover, they show an orderliness that aids memory and reason, and they display the correspondence that one thing has with another. Here, *philosophie* is construed in a wide sense to include moral teaching, logic, and metaphysics.

In his *Sacrorum Novi Testamenti librorum omnium analysis catholica, et oeconomia generalis* of 1670,¹⁷ Jacobus à Sancto Michaelē also used schematic trees turned on their sides to make systems of divisions and parallelisms. At the left, we read the single summarizing statement; as we progress from left to right, the divisions of the unity are explicated. In the *tabula* illustrated, an analysis of the Revelation of St. John, Jacobus says at far left that the book contains three parts: preface, tractate, and conclusion. In turn, each of these parts is subdivided yet again. Two of the other *tabulae* analyze the New Testament as a whole, and one sets out Roman Catholic doctrines in a hierarchy. All the remaining sheets tabularly explicate the contents of one or more New Testament books beneath a short prose synopsis in large italic type.

In the system of artificial memory, the images were the substance to be recalled and their place was important, but secondary. Over time, subject matter embodied in images became known by place in series—in other words, by topic, a word which comes from the Greek *topos*, meaning place. Similarly, arrays of topics were considered to be *tabulae* which in their entirety provided a key to further knowledge.

One example of such a *tabula* is a late 15th-century book of only 18 pages headed *Tabula Christianae religionis*.¹⁸ The closely printed text covers all the essential points of faith: the Apostles' Creed (complete with an Apostle's name next to a point to serve as a mnemonic), the Ten Commandments, the Lord's Prayer, the Seven Sacraments, the Seven Cardinal Virtues, the Seven Deadly Sins, the Seven Ages of Man, the Six Eras of the World, important feast days, and the like. No images are included. At least nine editions of the *Tabula Christianae religionis* are known, all undated and with no indication of printer. Most of them are thought to have been printed in Italy between ca. 1485 and ca. 1520.

¹⁷ Published at Lyon by Antoine Jullieron, and purchased in 1987 on the Sanxay Fund. Its Library call-number is (Ex) BS2355.S23.

¹⁸ It was purchased on the Reed Fund in 1986. The Library call-number is (Ex) BX1754.T32.1495s.

Given the simplicity of both content and language, this was just the sort of book appropriate for a wide and general audience. It could have been used by clergy for training new clergy or instructing the laity. Similarly, it could have been used by laity to help them learn the basics of the faith, or when teaching other laity, as a household master would have taught servants. Such a book was the companion to missal and breviary, both of which are essential for the outward demonstration of inward faith; it would also supplement Italian vernacular literature such as saints' lives, which played a major role in the religious life of ordinary clergy and laity alike. Because *tabulae* like the *Tabula Christianae religionis* were undoubtedly heavily-used, their casualty rate

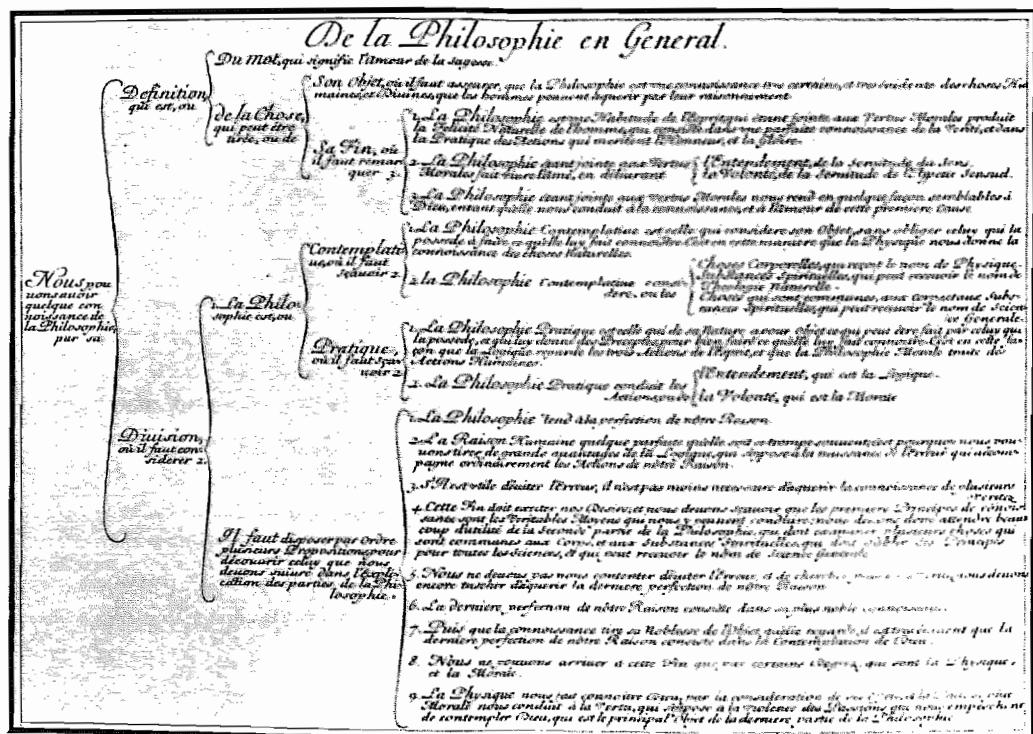


Plate from Louis de Lesclerc, *La philosophie expliquée en tables* (Paris, 1652–1653). Rare Books Collection, Princeton University Library.

might have been high, much higher, perhaps, than the 10 to 25 percent estimated loss of all books produced during the 15th century.¹⁹



Both figural and non-figural *tabulae* as understood in the Middle Ages and the Renaissance have all but vanished from the modern world, in part, perhaps, because the sheer quantity of knowledge has increased to the point where no tabular synopsis can pretend to present even one of its divisions. Nonetheless, earlier *tabulae* attempted ambitious synopses of large segments of sacred or profane knowledge. Jean Boulaese's scope was nothing less than the entire span of time. His 16th-century *Tabula chronographica ex collatione temporum Hebraeorum, Italorum, Chaldaeorum, et Aegyptiorum* is a peculiar chart, and probably unique.²⁰

Boulaese was born about 1540 in the parish of Arrou near Courtaillain. In 1611 one writer described him as the "fiery Boulaese." His life seems to have been filled with strife. He entered the priesthood in 1556 and took vows of poverty in 1568. A professor of Hebrew, he became principal of the Collège de Montaigu, but the position proved difficult to hold. Between 1568 and 1571 Boulaese seems to have been in Rome in order to present to Church officials details of the 1566 exorcism of a demon from a young girl in the Cathedral of Laon. Upon his return, Boulaese learned that his position as principal had been challenged by one Jean Margot; the dispute was not settled until 1578 in Boulaese's favor. Boulaese then proceeded to impose a change on the Collège, ordering that it be a school for the religious who had taken vows of poverty, and calling himself "father of the religious poor." This action did not please the wealthy regents of the Collège. In the end Boulaese lost, was condemned for obstinacy, and was excommunicated in 1579.

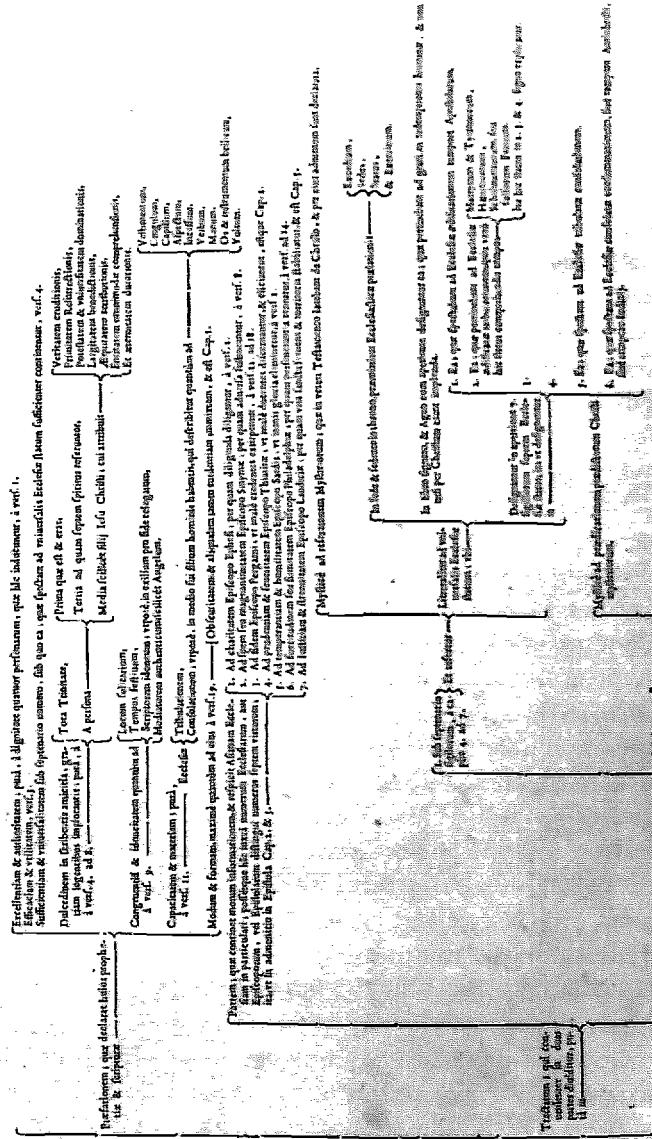
Boulaese published a number of books which were highly esteemed in their day. His mainstay was an account of the exorcism performed at Laon. This account first appeared in 1573 and again in an expanded

¹⁹ Rudolf Hirsch, *Printing, Selling, and Reading, 1450–1550* (Wiesbaden: Otto Harrasowitz, 1967), p. 11.

²⁰ Boulaese's chart was purchased on the Reed Fund during 1981–1982. Its Library call-number is (Ex) D11.B68e.

Apocalypse Beati Iohannis Apostoli Analysis & Oeconomia Generalis.

Qualis sit in hoc proposito libro Apolloti scopus, scitis patet; aperte nemp̄ ratione Ecclesie auctorum & factum futurum; sive quantum ad proffera, sive quantum ad altera notitia. p̄t̄, & fundatione Ecclesie usque ad confirmationem facili: & convenienter in tres partes liber dividitur; ut videlicet in prefatione; in narratione; que continet praembulum; in narrationem, que declarat librum esse firmum & authentum; & hinc,



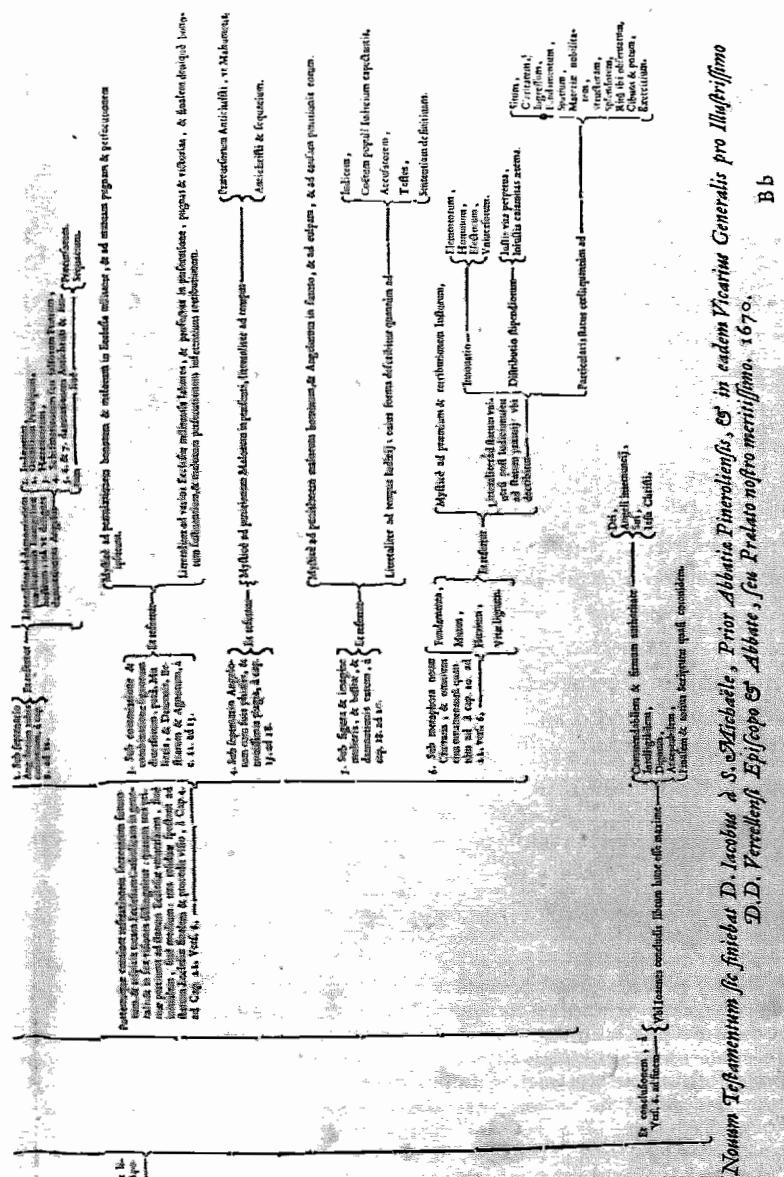


Plate from Jacobus à Sancto Michaeli, *Sacrorum Novi Testamenti librorum omnium analysis catholica, et oeconomia generalis* (Lyons, 1670). Rare Books Collection. Princeton University Library.

form in 1578 and in 1598; Princeton has both versions of the story issued during the 1570s. In addition to this, Boulaese published a commentary on Daniel, books on Hebrew, and another Biblical work. Unrecorded and published during Boulaese's turbulent years of the 1570s is his *Tabula chronographica*.

Boulaese's *Tabula* lays out in non-figural detail four time systems: the Biblical (based on the genealogy of Christ as given in Luke), the Roman, the Babylonian, and the Egyptian. He names his sources, including among them Philo, Berossus, Metasthenes,²¹ Manethos, Eusebius, and Jerome. According to Boulaese's chartings, all systems demonstrate clearly that 3,960 years had passed from the creation of the earth to the birth of Christ. As Boulaese points out at the end of the table's dedication to René de Birague,²² his chart is intended to aid Christians engaged in acquiring the "sacred things." In the dedication he also expresses his interest in eschatological matters (*anagogicus*).²³

The eschatological import of the *Tabula chronographica* is of particular interest. It is known that Boulaese was concerned with the Second Coming of Christ. In his *Ad mysticos sacrae scripturae sensus varia dictio-* *nium significatio in compendium collecta . . . cum vera demonstracione Septuaginta, Hebdomadum Dan.9*, published in Paris in 1575, he mentions the star of 1572: "From the 11th or 12th of November 1572 up to this day on which I write, the 22nd of November 1574, two entire years and 11 days have occurred since the day the new star appeared. It is not certain what this signifies, but it is possible, as the Scriptures say, that it indicates the Second Coming."²⁴

²¹ The name Metasthenes is said to be a corrupt spelling of Megasthenes, a Greek who wrote ca. 300 B.C. about India.

²² Birague was Keeper of the Seals for the French Court, Bishop of Lavaur, cardinal, and one of the prominent Catholic leaders who agreed to the Massacre of St. Bartholomew's Day in 1572.

²³ For a brief discussion of *anagogicus* see Anna C. Esmeijer, *Divina Quaternitas: A Preliminary Study of the Method and Application of Visual Exegesis* (Amsterdam, 1978), p. 9.

²⁴ The passage quoted appears on page 70: "Ab undecimo aut 12 die novembri 1572 ad hanc diem qua haec scripsimus vigesimam secundam mensis nov. 1574 sunt duo anni integri et undecim dies ex quibus stella nova . . . apparuit . . . nec tamen quid significet adhuc vulgo certum est, licet quidam scriptis editis dicant significare secundum Christi adventum." Moreover, the 70-weeks material of Daniel 9 has long been considered to relate to the "End-Time." The "new star" was the supernova of 1572 described by Tycho Brahe in his *Prognosticata*. Tycho observed the star from November 1572 until March 1574. "His records of its variations in color and magnitude identify it as a supernova"; see C. Doris Hallman, "Tycho Brahe" in *Dictionary of Scientific Biography* (New York: Charles Scribner's Sons, 1970) Vol. 2, p. 403. Moreover, ". . . consideration of the absence of both parallax and retrograde motion, which [Tycho] established by careful observation, led him to conclude that the new star was neither sublunar nor attached to the

TABVLA CHRONOGRAPHICA EX COLLATIONE TEMPORVM HEBRAEORVM, ITALORVM, CHALDAEORVM, ET AEGYPTIORVM, SECUNDVM PUBLICE FIDELIUS, ANTIQUIS, ANTIQVORVM, AD ALIAS, AD CIVITATIBVS, AD URBES, SAVIORES, INTELLIGENTIAS, ET REBUS HISTORICIS RELATIS, HABENDAM, COLLECTA PER JACOBUM BOULAEUM, PROSTERNIT, PLATEAM, COLLEGAT, MATERIALE, LIBRARIIS LONGIS, PROFESSORVM.

Photo: Clem Fiori

Jean Boulaese, *Tabula chronographica ex collatione temporum Hebraeorum, Italorum, Chaldaeorum, et Aegyptiorum* (Paris, 1574). Rare Books Collection, Princeton University Library.

planetary spheres. It lacked the proper motion of a comet (which, according to Aristotle, would have been sublunar), quite apart from its totally different appearance. Despite attempts he made in his book to ascertain the astrological significance of the nova, his account is, on the whole, greatly superior to contemporary accounts;" John David North, "Tycho Brahe" in *Biographical Dictionary of Scientists* (New York: John Wiley, 1982), p. 78.

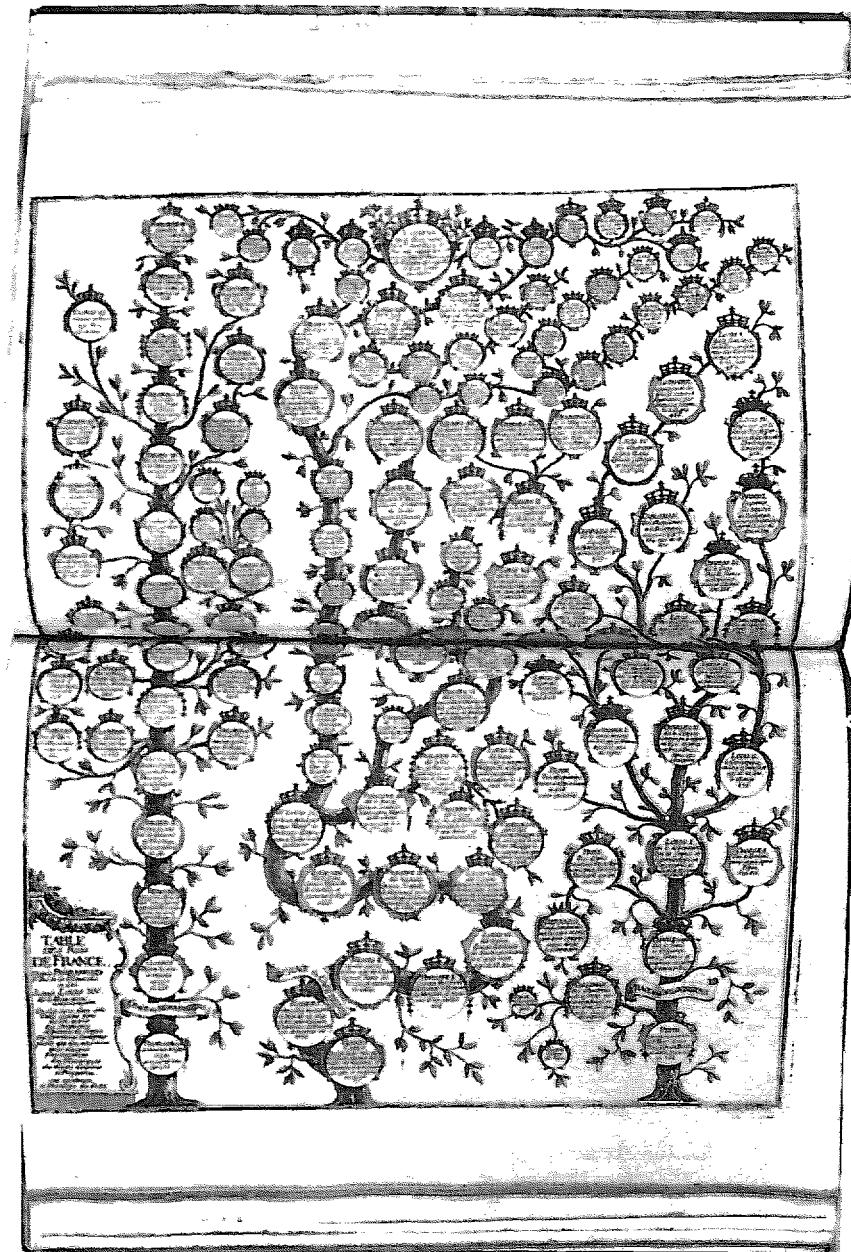
In his *Tabula chronographica*, Boulaese is at pains to demonstrate that his estimate of the time that had passed from the creation of the world to the birth of Christ was correct. Why such anxiety over fixing the precise number of years? And why 3,960? As C. A. Patrides points out, during the Renaissance there was a distinct received tradition that the world would last no longer than 6,000 years.²⁵ But determining where one was in that sequence of 6,000 years was not a simple matter. The learned of the age knew that the Second Coming was near, but how close? Over 100 writers of Boulaese's period agonized over this question, presenting more than 40 separate solutions to the problem. Luther, for example, chose exactly 4,000 years. The learned Joseph Scaliger settled on 3,948. The variations depended in part on the source of one's information. If one selected the Septuagint, then at the time of the Renaissance the world was at least 6,500 years old. This was some 500 years past the "due date" and the world had not yet ended. So, for some, the chronology of the Septuagint contained an error, and the answer to the question must lie elsewhere.

Boulaese, like others, chose Luke's recounting of the forebears of Christ as his primary authority; the 42 generations listed there worked out nicely to 3,960 years. Moreover, given the authority of Luke, the chronologies of the Romans and others could all be shown to agree with the Bible. In Boulaese's *Tabula chronographica*, columns two, three, and four to the right of the listing of Luke's 42 generations show in detail the parallels as well as the sometimes arbitrary adjustments required to make the chronology work out.

The *Tabula chronographica* has its original imprint canceled by a pasted-over square of paper. Underneath it reads "Apud Thomam Belot, sub D. Barbarae signo, in via Iacobaea." Belot held a 10-year royal privilege granting exclusive rights to the works of Boulaese.²⁶ Apparently Belot wished to disassociate himself from Boulaese; he sold the publication to Denis Duval, whose name as printer/publisher appears in the lower left corner. Exactly why Belot ended the relationship (he never published a Boulaese work again) is not known. Certainly Boulaese's life was in turmoil in 1573, and he had his detractors.

²⁵ C. A. Patrides, "Renaissance Estimates of the Year of Creation," in *Huntington Library Quarterly*, Vol. xxvi, (1962-1963), pp. 315-322.

²⁶ *Imprimeurs & libraires Parisiens du xv^e siècle. Ouvrage publié d'après les manuscrits de Philippe Renouard par le Service des Travaux historiques de la Ville de Paris avec le concours de la Bibliothèque nationale*. Tome Troisième (Paris, 1979), p. 252.



Jean Joseph Lionnois, *Tables généalogiques, et géographiques* (Nancy, 1771). Rare Books Collection, Princeton University Library.

Photo: Glen Fiori

And in the 16th century, as Anthony Grafton points out,²⁷ chronology could make tempers flare. It was a subject fiercely argued. Moreover, the authenticity of one of Boulaese's sources, Berosus, was debated by a number of scholars; perhaps Belot decided to distance himself from Boulaese because of such doubts regarding his sources.

Whereas Boulaese took the entire span of time as understood in theological terms, others sought to expand the tabular form to encompass all of human history, or the entire world of letters. Two 18th-century books recently acquired by Princeton provide examples of such an effort as well as a glimpse of the moment of transition, when an old intellectual age was dying and a new one was being born. Jean Joseph Lionnois' *Tables généalogiques et géographiques*²⁸ cover established knowledge, such as Biblical history. Each plate is dedicated to Louis Philippe Joseph Orléans, Duke of Chartres. The entire book has all the marks of one produced in the age of patronage, and it is officially approved and licensed. Its contents are laid out in the well-known tree form, as shown in the genealogy of the Kings of France.

Christian Frederic Wilhelm Roth's *Versuch einer Mappemonde litteraire* (Erfurt, 1785)²⁹ offers an interesting contrast. Roth covers the whole range of knowledge. He charts a *Mappe-monde Litteraire*—“Map of the World of Letters.” He does so using a columnar arrangement, with each column filled with text and disposed left to right across the page. There are no images on the *tabula*, only text. In Roth’s thinking, “Letters” is the total intellectual culture of humankind, not just philosophy, theology, and the genealogies of kings. Significantly, financial backing for the book did not come from a single patron, but from a group of subscribers. True, the list is headed by eight members of the German nobility, but they are far out-numbered by the more than 150 others on the list. These others are lesser men: merchants, booksellers, kapellmeisters, and so forth. From both the list of subscribers and Roth’s ambitious attempt to represent all the new knowledge of his time, we get a glimpse of the democratic age arriving, an age when knowledge

²⁷ Anthony Grafton, “From *De Die Natali* to *De Emendatione Temporum*: The Origins and Setting of Scaliger’s Chronology” in *Journal of the Warburg and Courtauld Institutes*, Vol. 48 (1985), pp. 100–143.

²⁸ Published at Nancy in 1771, it was purchased on the Sanxay Fund in 1985. Its Library call-number is (Ex) D11.L76e.

²⁹ The Library’s call-number for Roth is (Ex) Z2000. R67 1785f. It was purchased in 1986 on the Theodore F. Sanxay Fund.

would be transmitted by means more accessible to the common man, unversed in the systems and schema of “artificial memory” and the often esoteric meanings of emblems.

Princeton’s recent acquisitions of complex visual arrays known as *tabulae* provide a glimpse into a vanished world—a world that depended on images and memory to teach, to remind, and to edify.



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Detail from the divisional title page for the *Ars memoriae* in
Robert Fludd's *Utriusque Cosmi . . . Historia, Tomus Secundus,*
Oppenheim, 1619.

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'Knowing Through Seeing'; 'Premiere Showcase'

Diagrams and Tableaux in Early Printed Books at the Firestone; and young emerging artists at Sheila Nussbaum Gallery

BY ESTELLE SINCLAIRE

AS Curator of Rare Books," says Stephen Ferguson of Princeton University's Firestone Library, "I study the history of the printed book. (We've) been printing in the West for over 400 years, and a lot can and did happen in four centuries.

"In my studies I happened to notice that many old books had interesting diagrams and illustrations. What prompted me when asked to do an exhibition was my own interest, plus what I thought the public would like."

Mr. Ferguson's second hat is Assistant University Librarian for Rare Books and Special Collections. He titles the show in Firestone's main-floor gallery *Knowing Through Seeing: Diagrams, Schemata and Tableaux in Early Printed Books, Medieval Manuscripts, and Prints*. These are of more than antiquarian interest.

Invitations to the show's formal opening profile head and shoulders of a 17th-century gentleman from whose frontal *Oculus Imaginationis* (Eye of the Imagination) rays flow forth to the space around him. He illustrates Robert Fludd's 1619 *Utriusque Cosmi ... Historia* one of several exhibition authors and works represented also in *The Spiritual in Art: Abstract Painting 1890-1985* (TIME OFF review, July 9).

The book elucidates and catalogs an exhibition of the same subject still traveling in Europe after a Chicago opening. The Fogg Museum is rumored to be planning an exhibition on a similar subject.

Briefly put, the *Spiritual in Art* shows abstract painting's retrogression from search for super-literal truths to decorative self-expression.

Mr. Ferguson has arranged *Knowing As Seeing* clockwise by categories: Cosmology, Geology, Astronomy, Astrology, Genealogy, Theology, Philosophy, Logic, Allegory, Poetry, Artificial Memory and Systems of Knowledge. The 80 works on view, however, could be subsumed under the single heading "The Universe Unified," in which the alchemist represents the universal seekers for higher truths. Indeed, in a panel that faces the Gallery's entrance, laboratory instruments appear within the alchemist's body.

The engraving is one of a series ascribed to Canon George Ripley, who died in the late 15th century. He was studied until the so-called Age of Reason swept away levels of knowledge higher than its own and set the bare stage for truth as consensus.

The "Serpent of Araby" panel is perhaps the most accessible to literal thinking: his heart's blood spurts downward into spheres that (we learn from another panel) represent corpus, anima, (glossed aqua) and piritus. Red and black riddling verses around his include the observation, "I shall here be geyne/ For to teche the a redy weye/ Or ellys." The last word is translated elsewhere as "elixir." By biting his own tail, the Serpent becomes a figure for the Worm

Ouroboros, who can himself be read as a figure for blood-relationships' continuity.

From Athanasius Kircher's 1652 *Oedipus Aegyptiaci* comes a diagram of man as microcosm of the macrocosm. It appears also in *The Spiritual in Art* and shows the Doctrine of Correspondences still thriving 24 years after the death of Shakespeare. Kircher shows five-pointed man within borders that relate his organs to planets, signs of the zodiac and the healing plants they control.

"Map of the Man of Sinn," signed W.G. and dated to 1622-23, may have been familiar to John Bunyan; certainly it's a sort of pilgrim's progress that illustrates teaching's descent from occult to didactic. If W.G. was in fact William Gouge, as the map's label suggests, the writer and translator was a Puritan. The engraving follows a sinful man's striving — from A for Antichrist, symbolized by a bishop blinded by the (allegorical) sun, to the New Jerusalem, "where none unclean are admitted."

Shoemaker-seer Jakob Boehme's diagram of First and Second Principles, from his *Forty Questions of the Soul*, requires more-rigorous study and presumably received it from Jean Arp, a Boehme student concerned with the 20th-century crisis of mysticism.

The Spiritual in Art shows the same diagram and explains it by paraphrasing Boehme as follows:

The divine eye, a circle, must be split into two and the two resulting arcs placed back to back and rotated in opposite directions. One eye becomes two eyes, which propel each other through their mutual opposition ... One arc issues from the corrosive eye of the Father, the other from the loving eye ... of the Holy Spirit. The heart at the center ... is the Son.

Banned by his Lutheran church during his lifetime, Boehme became known through clandestine circulation of his works. Once they were published in the 17th century, they became (to again quote the book) "the basis of a Western tradition of mysticism"

A ca. 1230 manuscript *Biblia Sacra Latina* belongs to Scheide Library, headquartered at Firestone. It's open to a double page showing a pair of hands whose fingers illustrate the Devil's wiles and calls to repentance. The label tells us that the work also illustrates correspondences between, for example, the 12 prophets, 12 articles of faith and 12 apostles. These days we're surprised to learn that the intervals between the seven major planets match those between the seven tones of our scale.

Sheila Nussbaum Gallery

MANAGER Liz Gonis says of Sheila Nussbaum Gallery in Princeton: "The Gallery is a showcase for young emerging artists from all over the country and for some from Europe. In this opening exhibition, *Premiere Showcase*, we're featuring work by all 200 of the artists we represent."

The Gallery, she adds, "plans five shows a year. Our *Holiday Showcase* will feature Karen Aumann's ceramics." The new Princeton Gallery is a child of the Millburn gallery of the same name.

Architect Marin Holub of New York has done a splendid job with interior design; the Gallery's feeling of space belies the breadth and depth of its stock of paintings, prints, sculpture, textiles, glass, ceramics and constructions.

Michael Eastman is the sole photographer among Nussbaum artists. He lives and works in St. Louis. His work, Ms. Gonis says, has been purchased by the Metropolitan Museum. Mr. Eastman's broad print of a cropped marble-tiled facade reflects amber light in its windows. Foreground plantings of evergreen and just-budding saplings add geometric interest to satisfying but unobtrusive color.

Prices for hand-crafted jewelry that fills floor cases, Ms. Gonis says, begin at \$15. Most pieces are pleasantly chunky; all stop short of the bizarre. England's Wendy Ramshaw turns gold and silver rings, some set asymmetrically with stones, into small sculptures: Each has its own acrylic display column. Sue Sachs combines free-form silver hearts with freshwater pearls. A multi-strand pearl necklace uses three hearts as a pendant; a fourth becomes a clip above them.

Naida Seibel uses chunky natural and deep-toned weaving to cocoon a group of three women wearing babuskas. Their brass faces and feet shine out above and below.

It's good to see glass by Tom and Matthew Buechner's Vitrex and Thames Street Studios, long overdue for introduction to Central New Jersey. Their skilled blowing translates into classically pure curves in ruby and sapphire above and within crystal.