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

Princeton University Library
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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. title pages, 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. 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.

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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
   Ex 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.

2. John Eliagrave
   The Mathematical Jewel
   London, Walter Venge, [1585?]
   Ex 81075.164

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

3. Bartholomaeus Anglicus
   De proprietatibus rerum
   Westminster, ca. 1485
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 Octavus, 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.

4. Agostino Caesaro (?)  
Arte del navigare  
Italian, ca. 1560. Preface dated 1567.  
Kane MS 54 Manuscripts Division  
Italian manuscript on the art of navigation, ca. 1580. This opening page shows the geocentric universe.


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.

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. Alessandro 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 Sieneese, 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 magni-
   tude. The system was keyed to the Roman alphabet, but was eventually aban-
   doned for another system. Here opened to the first two full page woodcut dia-
   grams 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 Bunl
   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 been 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 sum-
   marizes 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
   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 \( \Pi \) 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.


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 1568 (Add. Ms. 5025), the Princeton exemplar is the work of some late sixteenth-century copyist, perhaps the same Thomas Mundy whose name occurred on a scroll mentioned by Elias Ash-

In addition to the British Museum example, several others of this alchemical scroll by Ripley are known: one at Yale (Hellen 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 Emblematical or Hieroglyphical Scroll 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 Arabia 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. 

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.

   Amphitheatrum sapientiae aeternae
   Hanau, 1609
   Edgar Fahs Smith Memorial Collection,
   Special Collections, Van Pelt Library,
   University of Pennsylvania.


The Astloger of the Nineteenth Century or the Master Key of Futurity being a complete System of Astrology, Geomancy & Occult Science.
London, 1825
Ex BF1691.x56
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. Lechard Thurneisser.
Quintae essentiae
Leipzig, 1574
Ex 8013.905
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
Chromanian
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."

GEENEALOGY

17. Hartmann Schedel
Nuremberg Chronicle
Nuremberg, 1493
Ex 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 portrayed in the chain of lineage starting with Adam.

18. Rudimentum Novitiorum.
Lübeck, 1475.
Leaned 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 things, 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.

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  
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; to the right the first three roundels are the death of Ovid, the conversion of St. Paul, and the bishopric of St. James.

CHRONOLOGY

21. Jean Boulaese  
Tabula chronographica ex collatione temporum Hebraeorum,  
Italorum, Chaldaeorum, et Aegyptiorum  
Paris, 1573  
(Ex)Dill.868e.  
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 priesthood in 1566 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.
Boulaeae 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 1598; Princeton has both versions of the story issued during the 1570s. In addition to this, Boulaeae published a commentary on Daniel, books on Hebrew, and another Biblical work. Unrecorded and published during Boulaeae's turbulent years of the 1570s is his Tabula chronographica.

Boulaeae'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, Berossus, Metasthenes, Nanetho, Eusebius, and Jerome. According to Boulaeae's chartings, all systems demonstrate clearly that 3960 years had passed from the creation of the earth to the birth of Christ. As Boulaeae points out at the end of the dedication to René de Biraque, 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 Boulaeae was concerned with the Second Coming of Christ. In his Ad mysticos sacrae scripturae sensum 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, Boulaeae 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 Boulaeae'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.

Boulaeae, 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 Boulaeae'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 Beilot. sub D. Barbarae
signo, in via Iacobaea." Belot held a 10-year royal privilege granting exclusive rights to the works of Boulasee. Apparently Belot wished to disassociate himself from Boulasee; 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 Boulasee work again) is not known. Certainly Boulasee'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 Boulasee's sources, A erosus, was debated by a number of scholars; perhaps Belot decided to distance himself from Boulasee because of such doubts regarding his sources.

22. Werner Rolewinck
   Fasciculus Temporum
   Strasbourg, 1457
   Ex 3126.363.1489

   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 Isaacson
   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 1016.492f

   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.

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 Jeru-
usalem, where 'none unclean' are admitted. Way-stations include the Fountain
of Silo with its stream muddied by churchmen, abbots and cathedrals being jugh-
dle by simoniacs around the Pope, Rome, and its 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 Blackfr-
iers and chronicler of the 1623 'Fatal Vespers'."

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 sev-
eral 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]

[Arthur Freeman] in Four Centuries of English Books with a Few Manuscripts
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 repentence;
the fourth is blank (i.e. outline of hand only)
Leaf 404: Table connecting 10 plagues of Egypt:
10 commandments; 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)EX1754.132.1495s

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.¹

²

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.

Knowing through Seeing

London, 1635.
Ex 5709.707q

At the right, is:

   Sacrorvm Novi Testamenti librorvm 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 sub-
divisions 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 Sacrorvm Novi Testamenti librorvm omnium analysis catholica, et
oeconomia generalis of 1670, Jacobus à Sancto Michael used schematic trees
turned on 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 con-
tents of one or more New Testament books beneath a short prose synopsis in
large italic type.9

*  

   [London, c. 1650].
   Purchased on the Reed Fund during 1964-65.
   (Ex 7710.664.1650f)

   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 emble-
   matic 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.10

9 Stephen Ferguson, "System and Schema: Tabulae of the Fifteenth to Eight-
   eenth Centuries" in the Princeton University Library Chronicle, Xlix, 1

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 Jerusalem
[London, 1697?]

Print acquired by the Library in Spring, 1987.

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 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 breadth ...
"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.
Strasburg, 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 authorities and was forbidden to continue publishing. Nevertheless, as a result of further internal growth, he 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


"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."

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 theosoper
London, 1764-61. 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.

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. Athanasias Kircher.
   Oedipus Aegyptiacus
   Rome, 1652-4
   Volume II.
   Ex 2181.523q
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. i). Some-
times this leads to compromise, as in Italian IDIO (no. 15) and English GOOD
(no. 22). The other circles contain God's various attributes: Creator, Per-
fection, 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 Zodi-
ac 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

   Ars Magna Scienti.
   Amsterdam, 1669.
   Goertz 11012
   "Ars Magna Scienti is one of his most difficult, books being an elabora-
tion of the Art of Ramon Lull, the thirteenth-century Majorcan philosopher,
into a kind of symbolic logic. Its object is nothing less than the categor-
ization of all qualities and relationships, and the application of the symbol-

14 Joscelyn Godwin, Athanasias 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.'\footnote{Joscelyn Godwin, Athanasias Kircher: A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 9.}

"The Jesuits' Universal Horoscope" in

40. Athanasias Kircher.
Ars Magna Lucis
Amsterdam, 1671
Ex 6013.523q
"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.'\footnote{Joscelyn Godwin, Athanasias Kircher: A Renaissance Man and the Quest for Lost Knowledge (London: Thames and Hudson, 1979) p. 78.}

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 (Polyhymnia) 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."\footnote{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.
Purchased on the Zabriskie Fund in 1953.
(Ex)B1889.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.18

43. Gregor Reisch
Margarita Philosophica
Basel, 1503
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


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; Ptolemy for astronomy; Peter Lombard for Theology and Metaphysics; Aristotle for logic; Euclid for geometry and so on.

LOGIC

45. Martin Nerusse

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 Nerusse (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, Nerusse is shown teaching the novices how the three chief operations or processes of the intellect -- according to Duns Scotus and Aristotle, as interpreted by Nerusse -- 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 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 Judgement.
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 operations 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 caretia, 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. 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, Aristotelian logic has been studied since earliest times and his works on logic were commonly used as school texts. Over time, visual aids for understanding Aristotelian logic developed -- such as the square of contradiction or the tree of Porphyry. (Porphyry was an 3rd century commentator on Aristotle.)

Tree of Porphyry

46. Paulus Pergulensis
   Logica
   Venice, 1495
   Ex 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."

   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 49r 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, Aristotelian logic has been studied since earliest times and his works on logic were commonly used as school texts. Over time, visual aids for understanding Aristotelian logic developed -- such as the square of contradicton. 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.

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ALLEGORY

49. Robert Burton
   Anatomy of Melancholy
   London, 1621
   Ex 3656.86.312.122 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 "Argument 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 dis-
   cusses cures; the Third is devoted to Love-Melancholy and Religious Melan-
   choly. Shown across the gallery is his five page diagram of the divisions for
   the understanding of diseases.

50. Thomas Greenhill
   Necrokededia or the Art of Embalming
   London, 1705
   Ex Ra623.681
   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 Thecormor. 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 the Princeton copy.
53. **William Blake**  
    *Songs of Innocence* and *of Experience*  
    1794  
    Ex 3631.3.338.1794  
    "Song of the Rose"  
    Blake was influenced by among others Jacob Boehme whose works in English translation published in the 16th century are displayed in a case across the gallery.

54. **George Herbert**  
    *The Temple*  
    London, 1634  
    Ex 3760.5.338.19 (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 3612.627.1687  
    On page 162 is his "The Trophy" (monument)

56. **Edward Benlowes**  
    *Theophilia, or Love's Sacrifice*  
    London, 1652  
    Ex 3825.6193.389  
    On page 14 is an altar poem. Also shown is an allegorical engraving of "Theophilia" 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 3996.333  
    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 (imagini 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 praecipuæ leges, quæ in quinquaginta Digestorum seu Pandectarum libris sunt, emblematibus imaginibus ita effecta exhibuntur, ut una cum titulorum materiæ eorum etiam numeri memoriae inprimi, contineri ac reddi quin etiam leges illæ praecipuæ ad suos referri titulos facili negotio queant ... edit. Johannes Buno.
Hamburg, 1673-74.
Ex KDB 866 1673 P.

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 Eighth-
59. Johannes Buno

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

Hamburg, 1673-74.
Ex KDB.686 1673 a.

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." 21

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 Artificiosae Memorie

Venice, 1533


"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 of on her are derived from Romberch's visual alphabets, both the 'objects' one and the 'bird' 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 'predicatio', '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)."

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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
Ultrasque 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 forefront 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

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

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 Métiers
Paris, 1751
Ex 0984.325q and shelved in the Dulles Reading Room

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

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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. [Système Figure des Connoisseances Humaines. Entendement: Memoire, 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 Happemonde littérale.
Erfurt, 1785.
Purchased on the Sanxay Fund during 1986.

Christian Frederic Wilhelm Roth's Versuch einer Happemonde littérale (Erfurt, 1785) offers an interesting contrast. Roth covers the whole range of knowledge. He charts a Mappe-monde Littérale -- "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, universal in the systems and schema of "artificial memory" and the often esoteric meanings of emblems.


69. Robert Burton

Anatomy of Melancholy
London, 1621
Ex 3658.86.312.122 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 Preface: 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)
Ulterior Cosmi, Maioris scilicet et Minoris, metaphysica,
physica, atque technica Historia
("Metaphysics, physics and
technical history of two cosmodes, 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 is 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, 6 semibreves, 16 minims, 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 minims, depending on the time-signature. The possibilities for longer notes were correspondingly greater. Fludd. 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,
Matchelors 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, an
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 Tragicall 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
Nephistopheles, 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 Joselyn Godwin, Robert Fludd. Hermetic Philosopher and Surveyor of Two
Worlds (Boulder: Shambala Publications, 1979). p. 76
BIBLIOGRAPHY


XEROXES OF EXHIBITS
therefore if you have a large circle of two foot diameter always reddish divided into 360, equal parts, and another 365 1/4 equal parts, the same shall stand you in great stead to divide any circle of the Earth or any other astronomical instrument, as they never so small.

Heere follow the principles and rudiments of Astronomy and Cosmographic with the understanding of the circi of the Sphere and their vocables.

What Cosmographic Geographic and Topographic are.

Chapter 1.

Cosmographic is as much to say, as the description of the world: as well his Aetherall part, as Earth, and in this differeth from Geographic, because it distinguiseth the earth by the celestial circles, and not by Hillts, Rivets, and such like.

Geographic is a certaine forme and imitation of the picture of the earth, and of his chief full knowne part, and differeth from Cosmography, because it distinguiseth the earth by hillts, peaks, and other notables, not respecting the circles of the sphere.

Topographic called also Corographic, is the describing of any particular place without relating the whole, not leaving out the smalllest contents thereof, as ports, towers, small rivers, houses, towers, valleys, &c.

Of the placing of the sphaer and the division of the world.

Chapter 2.

The world is divided into two parts: viz. Elementall and Aethereal. The Elementall is subject to daily alteration containing the 4 elements, the earth, water, ayre, and fire. The Aetherall part, called of the Philosophers.
Figure 2.1
The frontispiece from the first edition of Thomas Burnet's Telluris Theoria Sacra, or Sacred Theory of the Earth.
I am
the alpha
and the
omega

a star
without form and void

Sacred Theory
of Earth
The Figure of the World

According to the System of Ptolomeo who holds that the Earth is unmoverable in North the Centre of the World.
Systema Mundi, Nicolaus Copernicus.

The System of Copernicus.

The System of Des Cartes.

The System of Des Cartes is the same that

and the Center of the World that all of Newton's Laws of

and Center of the World that all of Newton's Laws of

...
PARS TERTIA.

Descartes

Opera

Ex 6128. 1685 vol. 1
The work of Hermes is my main aim, the alchemists' aim to make the stone.

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

Such were the mystic rites, ceremonies, and incantations, used by the ancient Greeks toquist, under the bonds of natural rules, and to obtain an awful intercourse with the World of Spirits.

LONDON.

Published by William Charlon, Wright, 43 Berners Row.

THE ASTROLOGER.

of the Nineteenth Century.

of the

Master Key of Intimacy,

being a Complete System of

ASTROLOGY, GEOMANCY, AND OCCULT SCIENCE.

LONDON,

KNIGHT AND LACKY,

Fater Master Row.

WHITBY, DURR, & W. P. B. PRR, GLASGOW.
Das Sehende Buch
Das Erste Capitel.

Som quicksilver.

So dice nun sind alle s'ir:
Fevr, wasser; visand, erst darfftu glicks;
Das jedes hab sein farb und gewicht;
Alsdein der Kunst wirdt mangeln nicht.

Ich bin ein unzeitig Metall/
Blace schlupfrig; in diesem fall
Sol man nicht ich mag behalten werden
Der mich mochte zwingen mit geben.
Astrologia Naturalis

Die signa der constelationes und plantering na die naturliche harmonie stets harmonis in eiren en zijn heer jupiter.

Cartimacie der voor gheestede figuren worden betaet van der eerste taers in riemen toe der kryinge taers toe.

1 A O 13 X 23 X 17 O 49 X 61 O 71 X
2 X O 14 X 16 X 18 O 30 O 61 X 73 X
3 X O 15 X 17 X 19 X 51 O 61 X 75 X
4 X O 16 X 18 X 19 X 40 O 64 O 65 X 76 X
5 X O 17 X 19 X 20 X 41 O 51 X 65 O 77 X
6 X O 18 X 20 X 21 X 42 O 66 O 48 X
7 X O 19 X 21 X 22 X 43 O 67 X 79 X
8 X O 20 X 22 X 23 X 44 O 56 O 68 O 80 X
9 X O 21 X 23 X 24 X 45 O 57 O 69 O 81 X
10 X O 22 X 24 X 25 X 46 O 58 O 70 O 82 X
11 X O 23 X 25 X 26 X 47 O 59 O 71 O 83 X
12 X O 24 X 26 X 27 X 48 O 60 X 72 O 84 X

Celeste op een hoogte de rekenings uit gheef te ontwikkelen toe. Dat is een begin ystemen bove.
THE GENEALOGIES OF
HOLY SCRIPTURES.

To the Christian Reader.

The Spirit of God in the sacred History, hath laid down such helps, as are the light and life of all Nations originals. In them the circumstances of Person, Time, and Place, are the chiefest: else we were wander without a guide: and of these, the Person is principal. Genealogies then drawn from them, from whom all are descended, and by God's own warrant recorded unto us, must move a special reverence that are holy, and farre from those other against which S. Paul writeth. Amongst whose manifold rites, this is the chiefest, that by them is proved how Christ was made very man. And therefore in general, Tables they be here exhibited out of their first roots, and so continued through those spreading branches, so farre as the Scripture giveth them sap. In the reading whereof, let these few directions be thy guides.

1. Such descent as hold on from the Parents to their Children, without intermission, are very plain by their double lines, which run from rundle to rundle.

2. Those whose Parents are not certainly knowne, but are named of their Country, Citie, or Tribe, are signed each under other, with this figure here in this margin.

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 Person of another descent, where they are so inferred.

4. The names of Nations and People, (as likewise sometime of Citie, and other places of note) wee have not compassede in rundles as the rest, but in Compartments, and different letters in vertue of direct lines, that so they might bee knowne from particular persons, and the Names next under them not inferred as certainly there descendent, but as incident Persons among them.

5. And where of necessity we are to break off the succession, to be continued in some other place, that doe we at some principal Persons, as at the flood with Noah's sonses, at the Promis, with Terah and Abraham, &c. So that over the Man at which we brake off, is againe fit in the first place of the next sentence, where his issue is continu'd, though many times whole leaves fall between them, which are supplied with other collateralles: such is from Abraham pag. 3, unto his wives and seed, pag. 6, and 7. &c.

6. The lineage of our blessed Saviour (which is our principal sep.): Isc in it, a Chaste-like trade, continued from Adam to Sem, pag. 1, and thence to Terah and Abraham, pag. 2. &c. So likewise from David pag. 22. to his sonses Solomon and Nathan, pag. 3. And lastly, to our Saviour's parents, pag. 34, back together (as other marriage here are) by the scripture of hand in hand. Both descended from Zoroabel, the holy Evangelists have recorded: from David, Iudah, and Abraham, as Moses and the Prophets have spoken: and Jews themselves thus farre gone, that the Messias should be the Sonne of a Virgin, her name Marie, and she of Beth-lehem, the daughter of Eli, of the house of Zoroabel, and Tribe of Judah. In all which, our Christ is manifestly designed, and by these Jews both acknowledged to have beene of the blood-royal, and also recorded in the number of the Priests, in their publick Register at Jerusalem, by this title, IESVS THE SONNE OF THE LIVING GOD, AND OF THE VIRGIN MARIE. Thus is he Davids Sonne, and Abraham's Heire, in whom all the kinds of the earth are blessed, being the very image of the invisible God, the brightness of his glory, and the express image of his Person, in whom dwelleth the fullness of the God-head bodily, and unto whom be ascribed all glory, praise, wisdom, thanks, power and might for evermore, Amen.
Prima etas. Adam.

Studi etates filiudinariae accipiunt, si erat bostra diuerzas diu simode assigna.

...Esi sec undicetem musCA noblilitet vel remitteret. Quum nihil ad phisphis.

Nunc fugit et aduerunt. Quum situlltis, si erat musCAD munda. Nonahic incepta et munda creatione. 

...Vis ad villumur, sit lexxxarici visurus munda. Oderit. 

...Sit omne interpretae secundus, nisi aliis episcopis diu sequumur. Hoc anoq. 

Sit ratio cene vilissatis inuenit no possida. 

...Secunda eras incipit a villumur et durant vis ad naturata abscrit. 

...Sit secundum incipit a vilissatis inuenunt no possida. 

...Secunda eras incipit a vilissatis inuenunt no possida. 

...Sacara incipit a vilissatis inuenunt no possida.

Gubernaculi sunt: Angelicus an. 15. 12. et Liberius an. 15. 12.

3 Anno mlxii

464

5 Anno mlxii

15. 12. 15. 12.
Cesari fuisse uita famosa fuit et apud chartaginem 5

tochis nullus honos sui regis: cui? scripta habet: f 5

talis est catholicis securis impetus arrias: benedic 10

cosi visque pervestum: 5 no ipse, nam octau 15

no regno sui populi a duo fuit verae veritas m 20

ubi est perpetua.

Cesari est antiquissimus in hericem cec 25

vitam dixit: f famosus hereticus fuit.

Cesarius est carthaginensis. Et dixit: 20

cu alius, cu dixit: 7 ecclesiae medius m 25

percusso facta est: f hic erat tracatum in chartam martyrum ab 30

trope rege Dandaloge. Et tumus divinissima 35

huius: p episcoporum scriptum adv. 12

Cesarius fuit: f uilem, hic perennia eruditi 40

cuius fuit nella sua regina cuius: fuit illius et 45

nullius recte legitur.

Cesarius fuit: f ero doctus in ecclesiis sanctis et 50

est victoriam: hic quae erat crucifixa est 55


Cesarius est: f uilem, hic erat tracatum in 60

cartam martyrum ab imprimis: hic fuit illius et 65

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 70

cartam martyrum ab imprimis: hic fuit illius et 75

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 80

cartam martyrum ab imprimis: hic fuit illius et 85

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 90

cartam martyrum ab imprimis: hic fuit illius et 95

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 100

cartam martyrum ab imprimis: hic fuit illius et 105

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 110

cartam martyrum ab imprimis: hic fuit illius et 115

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 120

cartam martyrum ab imprimis: hic fuit illius et 125

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 130

cartam martyrum ab imprimis: hic fuit illius et 135

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 140

cartam martyrum ab imprimis: hic fuit illius et 145

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 150

cartam martyrum ab imprimis: hic fuit illius et 155

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 160

cartam martyrum ab imprimis: hic fuit illius et 165

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 170

cartam martyrum ab imprimis: hic fuit illius et 175

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 180

cartam martyrum ab imprimis: hic fuit illius et 185

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 190

cartam martyrum ab imprimis: hic fuit illius et 195

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 200

cartam martyrum ab imprimis: hic fuit illius et 205

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 210

cartam martyrum ab imprimis: hic fuit illius et 215

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 220

cartam martyrum ab imprimis: hic fuit illius et 225

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 230

cartam martyrum ab imprimis: hic fuit illius et 235

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 240

cartam martyrum ab imprimis: hic fuit illius et 245

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 250

cartam martyrum ab imprimis: hic fuit illius et 255

nullius recte legitur.

Cesarius est: f uilem, hic erat tracatum in 260

cartam martyrum ab imprimis: hic fuit illius et 265

nullius recte legitur.
Richard Dev, *The tree of mans life*, engraved broadside by John Goddard not later than 1653
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

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

Sequentur sermones viginti quinque
oratorum historiarum de Vita Christi a Scriptoribus ecclesiastici
memoriam litterarum Alphabeti; quas litteras in aedem regum
Doctoris rumos munus. In quibus hominibus illis
suis sancta secundum eorum litterarum doctrinam
generale declarare potest in eternum gloria.
Die Philosophische Kügel oder das Munde: Auge der Ewigkeit.

The Origin of Things, and the Process of Christ:

God considered as in himself only, without all Nature and Creature.

"The Reason and Heaven of Heaven are not comprehended. John, 1st Kings, 3:7"
The Seventy-Two Names of God

The Cabbals says that there are seventy-two names of God, which Kitzinger interprets by giving God's name in the seventy-two languages: each is spelled with four letters, to reflect the Hebrew Tetragrammaton IHVH (no. 1).

Sometimes this leads to compromise, as in Italian (DIOL no. 151) and English (COOD 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 IHVH. 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, p. 267)
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...
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.

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 theoreticians 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. And a
Concerning the Predicables

Substance
- Corporal
- Incorporal

Body
- Animate
- Inanimate

Living Things
- Sensible
- Insensible

Animal
- Rational
- Irrational

Man
- Donkey
- Lion
Peter of Spain (PC1 m.e. = Joanne XXI, pope)

Ex 6275.501
De triplo propositionum materia naturali, secundaria, contingenti, ac remota.

Propositionum tripex est materia, secundus naturales, contingens, ac remota.

Natura est illa, in qua propositionem est.

Secundus locutio, secundum propositionem, ac hominum animalium riperis.

Postquam Auctor determinavit de qua propositionibus oppositionum, contente propositionem propositionem, & qua ilia legis, vel legum materia in vacuo locum mutationem materiam in tertiam propositionem, deaeque in ipsa determinata principium de materia propositionem, & hic propositionem habere materia proprie dictum, quam nullam sequens vel locum habet materia proprie dictum, & propositionem propter secundum in materia quod est uxor, est occidens, & utrum ad formam, quod est illa in cunctis materia in quibus materia proprie dictum est quod illa materia trahit.

Primo tertium, quod propositionem habet materia ex qua similitudine & materia in qua, et cica, quam vnde materia in qua sunt subiectum, & praedicatum, & subiectum uocis est materia in qua vel ipsa uxor ipso propositione captur. materia propositionis solu pro conditum materie fug ex qua id est pro habitu uine predicati ad subiectum, ideo materia propositionis, uthic eumur, est habitum, predicati ad subiectum, in qua sit compositio predicati cum subiecto, & in qua subiectum, & predicatum concurrent.

Secundo tertium, quod tripex est materia propositionum, habitum materieis, contingens, ac remota, quod propris perilitionam quod materia propositionis est habitu uade predicati ad subiectum, ut est illa habitu uade dicir re quod tantum predicati cum subiecto, est illa materia remota, vel dicti contingenti, & nee suppositis, vel dicti concurren-

Ex 6275. 501. 2

Peter Q Spain

48
Square of Contradiction

<table>
<thead>
<tr>
<th>Universal Affirmative</th>
<th>contrary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every man runs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Universal Negative</th>
<th>No man runs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Particular Affirmative</th>
<th>contradictory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some man runs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Particular Negative</th>
<th>subcontrary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some man does not run</td>
<td></td>
</tr>
</tbody>
</table>
The Argument of the Frontispiece.

Ten 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 star of black choler to see.
Over his head appears the Sun,
And Saturn Lord of melancholy.

2. To his left a landscape of Jealousy,
Present'd itself unto this eye:
A King's Thron, a Swan, ad Herd,
Two fighting Cocks you may discern,
Two roaring Bulls each other bite,
To assault concerning Pencry,
Symbols are the least say no more,
Conceive the rest by that's before.

3. Next of Solitarynes,
A Portrature doth well express,
By sleeping dog, cat, Buck and Doe,
Hicts. Canies in the desert go.
At Soul, the shady bowers over,
In melancholy a knels bowers,
With soul to be not as it should be,
And the best ratio, and not me.

4. Th' under Columne there doth stand
Inamorato with folded hand,
Down hang his head, terse and polite,
Some discours he doth indite,
His last and books about him lie,
Symptoms of his vanity.
But do not essay to diagnose,
Thus doth he take it off with ease.

5. Hypochondriac leaneth on his arm,
Round up his side doth him much harm,
So weep, he's well, as God knows
Such pain he hath, and many more;
About him gates and glades lie,
Gates new brought from Apothecary
Saturn's affecteth Symphoe,
To see them portray'd in the skies.

6. Beneath them kneeling on his knees,
A Superstitious man you see
He falls, prays, on his Idol fixt,
Tornente hope and fear betwixt;
For hell perhaps he takes more pain,
Then thou dost, Heaven is self to gain.
Alas poor Soul, kiss thee,
What fit mischance how to be?

7. But see the Man in rage, down right
With furious looks a fiery sight
Should he or what you show be lie.
Of Jealousy what may not why?
Observe him as in a glass.
This was the Portraiture it was.
His picture keep still in thy presence.
Twixt him and thee, there's no difference.

8. Borage and Holleborr fill two scenes,
Sovereign planns to purge the veins
Of melancholy and clear the heart
Of those black fumes which make is smart.
To clear the Brain of milky yoke,
Which dull our senses, and Soul close.
The best medicine that ever God made
For our malady, if well afford.

9. Now last of all to fill a place
Present'd is the Author's face
And in that habit which he wears,
His painting to the world appears.
His mind is so well express'd,
That by his writing you can guess.
It was not pride, nor yet vain glory,
Though others do it commonly.

Made him do this, all you must know
The Printer would needs have it so.
Then do not frown or scowe at it,
Deride not, or detest it a whit.
For surely you doth by him.
He will do the same again.
Then look upon it, read it, and see
As thou liest in's so it likes thee.

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

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-
semphychots, the Cause of their Embalming.

AS ALSO

A Geographical Description of Egypt, the Rise and
Course of the Nile, the Temper, Constitution and Phyfic of the
Inhabitants, their Inventions, Arts, Sciences, Stupendous Works
and Sepulchres, and other curious Observations any ways relating
to the Phyffology 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 mayst see
How mortal Man seeks Immortalise;
His beauteous Frame he sees with speed decline,
And soon dissolv'd by Death, tho' form'd by Hands Divine.
Sadness in Widows Robes depletes his State,
While the Young Brood inspect the Book of Fate.
Penive they view the Rise and Fall of Man,
With Tears survey his Transitory Span.

But his great Soul, full of Celestial Flame,
Difdaining 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 Bras,
Aspiring Pyramids, that lift on high.
Their spiral Heads to reach his kindred Skies,
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 baff'd thus by wise Chyrurgie Art,
Wounds Mortals there but with a blunted Dart;
And half the Terror of the Grieved Mind.
Is loft, 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: Medal 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 Fans they to the Godhead raise,
To tribute the only Power, that can destroy, with Praise.

'Twixt pleas'd, in Pity of the pious Race,
Two Messengers sends down the Airy Space;
To raise Man's After from the silent Urn,
Which touch'd by Hermes wand - resume their pristine Form.
Joseph's Royal Bird attends to bear on high
Th'Immortel Soul up to its Native Skies.
While Fame abroad her Silver Trumpet sounds,
And with the Laurel Wreath the Victor Crowns.
And thus Eternal lives the deathless Mind,
Which, here on Earth, no settled State could find.
Emblematic title page, "Truth Brought to Light and Discovered by Time," from Michael Sparke. The Narrative History of King James, 1651.

Ex 4431
609

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 ELEVEN

1. Interrogations before the Magistrate and Interrogatory Actions
2. What Matters May Be Taken to the Same Judge
3. The Action for Making a Slave Worse
4. Runaway Slaves
5. Gamblers
6. If a Surveyor Gives a False Report about Measurements
7. Religious Things, Funeral Expenses, and the Right To

BOOK EIGHTEEN

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. The Forfeiture Clause
4. Sale of an Inheritance or of a Right of Action
5. Rescission of a Sale and the Circumstances in Which a Purchase May Be Departed From
6. Risk and Benefit of the Thing Sold
Book I. Institutes Adolescens (young boy)

Titles (subsections)

1 to 26 depicted

Book II. Bulga (Rucksack)

Titles 1 to 25 depicted

Book III. Cremmna (purse)

Titles 1 to 28 depicted

Book IV. Dalium (Barrel)

Titles 1 to 18 depicted

BOOK I

1. Concerning Justice and Law

2. Concerning the Constitutional Order

BOOK III

1. Concerning Estates Which Pass by Intestacy

2. Concerning the Legal Succession of Children
7a ABOVE  Hell as Artificial Memory
7b BELOW Paradise as Artificial Memory
From Cosmas Rossellius, *Thesaurus Artificiosae Memoriae*, Venice 1579 (p. 122)
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: Johan-Theodor de Bry, typis Hieronymi Gelleni, 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-
Here have you (according to my promise) the Grundplaat of my MATHEMATICAUL Practice: annexed to Euclid. (now first) published in our English tongue. 1709. Feb. 9.

Principal, which are:
- Arithmetike
- Geometric
- Mixt.

The names of the Principals:

Arithmetike:
- Numbers: Whole Numbers, Mixed Numbers, and Decimals.
- Operations: Addition, Subtraction, Multiplication, Division.
- Properties: Prime Numbers, Factors, Multiples.

Geometric:
- Lines: Straight, Curved.
- Angles: Acute, Right, Obtuse.
- Areas: Square, Circle.

Mixt.
- Operations: Algebraic expressions, equations.
- Properties: Functions, Graphs.

EVOCED ELEMENTE.

Arithmetike
- Numbers: Whole Numbers, Fractions, Radicals.
- Operations: Addition, Subtraction, Multiplication, Division.
- Properties: Prime Numbers, Greatest Common Divisor.

Geometric
- Lines, Angles, Triangles, Rectangles, Circles.
- Properties: Area, Perimeter, Circumference.

Mixt.
- Operations: Algebraic expressions, equations.
- Properties: Functions, Graphs.

The value where it is:

For the best judgment, and for the best practice.

The first 10 numbers, from 1 to 10, are:
- 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

The second 10 numbers, from 11 to 20, are:
- 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.

The third 10 numbers, from 21 to 30, are:
- 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.

The fourth 10 numbers, from 31 to 40, are:
- 31, 32, 33, 34, 35, 36, 37, 38, 39, 40.

The fifth 10 numbers, from 41 to 50, are:
- 41, 42, 43, 44, 45, 46, 47, 48, 49, 50.

The sixth 10 numbers, from 51 to 60, are:
- 51, 52, 53, 54, 55, 56, 57, 58, 59, 60.

The seventh 10 numbers, from 61 to 70, are:
- 61, 62, 63, 64, 65, 66, 67, 68, 69, 70.

The eighth 10 numbers, from 71 to 80, are:
- 71, 72, 73, 74, 75, 76, 77, 78, 79, 80.

The ninth 10 numbers, from 81 to 90, are:
- 81, 82, 83, 84, 85, 86, 87, 88, 89, 90.

The tenth 10 numbers, from 91 to 100, are:
- 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
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 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 conventional aids (right).

 Elias 160-1

(Transcribed by Todd Barton)
THE

Dutch Fortune-Teller:

DISCOVERING

XXXVI several Questions.

Which Old Married Men Batchelors
Young and Women and Maids,

Delight to be resolved of,

Brought into England by JOHN HOOKER.

LONDON

Printed and sold at the Printing-Office in Bow Church-Yard.

[Price One Shilling and Six-pence.]
The Tragicall History of the Life and Death of Doctor Faustus.

With new Additions.

Written by Mr. Mar.


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.
AMERICAN INSTRUCTION

YOUNG MAN'S BEST COMPANY
CONTAINING

SPELLING, READING, WRITING, AND ARITHMETIC, WITH A
Way than any yet published; and how to qualify any Person
for Business, without the Help of a Master.
Instructions to write Variety of Hands, with Copper and
Prose and Verse. How to write Letters on Commerce, as
due, Port of Indents, Bonds, Bills of Sale, etc.
Wills, Leases, Receipts, &c.
All Merchant's Accounts, and a Short and
Shop and Book-keeping; with a Description of
American Colonies.

Together with the Carpenter's plain and easy
rules, how to measure Carpenters, Joiners, etc.
Plasters, Plumbers, Masons, Glaziers, and
How to understate each Work, and at an Accu-
rate cost of each Commodity, and the common
measures of men, with Gunter's Line, and Carpenter's
the Ruling Rule.
Likewise the Practical Gage, made easy; the
rules of the marking of any Dial, with
Dying and Colouring, and making Colours.

TO WHICH IS ADDED

The Poor Plumber's PHYSIC
With Instructions for Marking an Lines,
Preserve, to make divers Sorts of Wine, and
best Philters and Medicines, necessary in all

AND ALSO

Prudent Advice to young Tradesmen,

The sequel better adapted to these American
other Book of the Life Kindle.

By GEORGE FISHER

The Twelfth Edition, Revised and Corrected

NEW-YORK

Printed and sold by H. Gaine, Bookseller,
and Crown in Wall-street.
THE PRINCETON UNIVERSITY LIBRARY CHRONICLE

EXTRACTED FROM

VOLUME XLIX · NUMBER 1

Autumn 1987
FRIENDS OF THE PRINCETON UNIVERSITY LIBRARY

The Friends of the Princeton University Library, founded in 1936, is an association of individuals interested in book collecting and the graphic arts and in increasing and making better known the resources of the Princeton University Library. It has secured gifts and bequests and has provided funds for the purchase of rare books, manuscripts, and other material which could not otherwise have been acquired by the Library.

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CONTRIBUTORS TO THIS ISSUE

Carol Barash has just completed her Princeton Ph.D. dissertation, Augustan Women's Mythmaking: Gender, Language and Authority, 1660-1770. She has published articles on women writers and feminist theory, including the introduction to An Olive Schreiner Reader: Writings on Women and South Africa (Methuen, 1987). She is Assistant Professor of English at the University of Michigan.

Lawrence Danson is Professor of English at Princeton University. He is the author of Max Beerbohm and "The Mirror of the Past" (1982), published by the Friends of the Princeton University Library. He is now writing a book on Beerbohm to be published by the Oxford University Press.

William F. Deverell is a doctoral candidate in the Department of History, Princeton University. He graduated from Stanford University in 1983 with a B.A. in American Studies, and is currently completing a dissertation on 19th-century California.

Aileen Douglas is a graduate of the University of Dublin, Trinity College, and a doctoral candidate in the Department of English at Princeton University. She is writing her dissertation on the fiction of Tobias Smollett.

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.

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-Tide 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 1683 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 de-

It was followed in 1615 by the Claris 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.*

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 gown 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*.


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. 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-

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

A related sense of the word in the singular was “an expanse of land,” and this sense probably led to the use of tabula to mean “landmap”; 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 studiici 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.

This use appeared in several ancient authors and is discussed in William S. Heckscher’s forthcoming Latin glossary for Alciati, Vol. 21 in the Princeton Emblem Project Series, published by the Princeton University Library.

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

Walter Ong, Orality and Literacy. The Technologizing of the Word (London and New York: Methuen, 1982).
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." 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." 

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.

———. York: Methuen, 1988), p. 119. As Ong points out, "Ambrose of Milan [states] in his Commentary on Luke (IV, 6): '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 or 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."


*** The Library's call-number for the suite of plates is (Ex) KBD.886:1675. The plates are extracted from Buno's Memoriae juris civilis Romani, quo tituli annes et praecipue leges, quae in quinquaginta Digestorum seu Pandectarum libris sunt, emblematis et imaginibus tia effusa exhibitur, ut una cum titulum materiis eorum etiam numeri memoriae imprimi, contineri
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

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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.\textsuperscript{12}

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

\textsuperscript{12} The story is told in Cicero, \textit{De oratore}, ii.lxxxvi, 351-354.
rhetoric in his *De nuptiis Philologiae et Mercurii*, 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), 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.

*¹⁴ 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.


¹³ 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.E64,1654f.
naturalistic, as in Louis de Lescleche's *La philosophie expliquée en table* (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.

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, Jacobus à Sancto Michael 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*. 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.

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17 Published at Lyon by Antoine Jullieron, and purchased in 1987 on the Sansay Fund. Its Library call-number is (Ex) BS2355.829.

18 It was purchased on the Reed Fund in 1986. The Library call-number is (Ex) BX175.4.T32.14955.
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 Lesclehe, 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

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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 coliatione temporum Hebraorum, Italorum, Chaldavorum, et Aegyptiorum is a peculiar chart, and probably unique.20

Boulaese was born about 1540 in the parish of Arrou near Courtrai. 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...
form in 1578 and in 1598; Princeton has both versions of the story issued during the 1570s. In addition to this, Boulaeus published a commentary on Daniel, books on Hebrew, and another Biblical work. Unrecorded and published during Boulaeus’s turbulent years of the 1570s is his *Tabula chronographica*.

Boulaeus’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 Phlio, Berosus, Metasthenes, Manethos, Eusebius, and Jerome. According to Boulaeus’s chartings, all systems demonstrate clearly that 3,960 years had passed from the creation of the earth to the birth of Christ. As Boulaeus points out at the end of the table’s 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 Boulaeus was concerned with the Second Coming of Christ. In his *Ad mystros sacrae scripturae sensus varia dictionum significatio in compendium collecta . . . cum vera demonstratione Septuaginta, Hebdomadum Dani 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.”

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* The name Metasthenes is said to be a corrupt spelling of Megasthenes, a Greek who wrote ca. 300 B.C. about India.
* 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.
* The passage quoted appears on page 70: “Ab undecimo aut 12 die novembri 1572 ad hanc diem qua haec scrupimus vigesimam secundam mensis nov. 1574 sunt duo anni integri et undecim dies ex quibus stella nova . . . apparuit . . . nec tamen quid significet adhuc vulgo certo 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 *Progymnasmata*. 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. 409. 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
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, 1984), 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. 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 Iacobae.” 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 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.

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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 Boulase’s sources, Berosus, was debated by a number of scholars; perhaps Belot decided to distance himself from Boulase because of such doubts regarding his sources.

Whereas Boulase 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* 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 Mappe-monde 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, kappellmeisters, 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

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78 Published at Nancy in 1771, it was purchased on the Sanxay Fund in 1985. Its Library call-number is (Ex) D11.L36e.
79 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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Diagrams and Tableaux in Early Printed Books at the Firestone; and young emerging artists at Sheila Nussbaum Gallery

BY ESTELLE SINCLAIRE

A

ON VIEW

This detail from the divisional title page for the Am memoriae in Robert Fludd's Unusquorum Cosmi... Historiae, Tomus Secundus, Opheimen, 1619, is part of the Rare Book Collection, and is included in the current exhibit at Firestone Library.

The book elucidates and exhibits an exhibition of the same subject still traveling to Europe after a Chicago opening. The Fogg Museum is retiring its planning an exhibition on a similar subject.

Briefly put, the Spiritual in Art shows abstract painting's retrospectives, which search for superliteral truths to decorative self-expression. Mr. Ferguson has arranged Drawing As Seeing clockwise by categories: Cosmology, Geology, Astronomy, Astrology, Chemistry, 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 Unfolds," to which the alchemist represents the universal mysteries for higher truths. Indeed, in a panel that faces the Gallery's entrance, laboratory instruments appear within the spectator's body.

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

The "Serpent of Asylus" panel is perhaps the most accessible to literal thinking: his heart's blood sports downward into spheres that break from another panel. In the mirror, forms and black and white cause the reality way of life. The last word is translated: "Elusive". By biting his own tail, the Serpent becomes a figure for the Worm.

Oroboos, who can himself be read as a figure for blood circulation. New logos.

From Abhainnus 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 Map of the Skin," signed W.G. and dated to 1622-23, may have been familiar to John Banany; certainly it's a sort of pilgrim's progress that illustrates teaching's ascent from occult to didactic. If W.G. was in fact William Gorge, as the map's label suggests, the writer and translator was a Puritan. The engraving follows a staff man's strivings — from a for Antichrist, symbolized by a bishop blinded by the allegorical sun, to the New Jerusalem, "where none unclean are admitted."

Shoemakers of Jacob Behmen's diagram of First and Second Principles, from his Fiery Questions of the Soul, requires more-studious study and presumably received from a Behmen book. Castaneus was concerned with the 20th-century crisis of mysticism. The Spiritual in Art shows the same diagram and explains it by paraphrasing Behmen as follows: The divine eye, a circle, must be split into two and the result three placed back to back arranged in opposite directions. One eye be one eye, which propel each other through their mutual opposition. One are losses from the common eye of the Holy Spirit: the heart at the center of the Sun. Banned by his Lutheran church during his lifetime, Behmen 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. 1250 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 David's vives and calls to repentance. The label tells us that the work also illustrates correspondences between, for example, the 12 apostles, 12 articles of faith and 12 apostles. These days we're surprised to learn that the intervals between the main planets match the twelve sectors of our scale.

Sheila Nussbaum Gallery

MANAGER Tj Goins says of Sheila Nussbaum Exhibit 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 Auen's ceramics."

The New Princeton Gallery is a child of the Millburn artist of the same name.

In fact Maria Hobbs 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 construction.

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

Prices for hand-crafted jewelry that fills floor cases, Ms. Goins says, begin at $35. Most prices are pleasantly chunky; all nip short of the bizarre. England's Wendy Randamar creates silver rings, some set anamorphically with stones, into small sculptural units that each has its own acrylic display column. Sue Sachs combines fro-fro silver hearts with freshwater pearls. A multi-strand pearl necklace three hearts as a pendant; a fourth becomes a clip above them.

Nalda Sheld unscheduled and deep-colored weaving to cocoon a group of three women on the wall. Their brass faces and feet shine out above and below. It's a good use glass by Viers and in Frances Boucher's Vases and Thomas Stuber Studios, long overdue for introduction at Central New Jersey. Their skillful blowing transcends into classically pure curves in ruby-colored supplies above and within crystal.

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