Architectural Encounters between Idea and Material
The 1547 Frontispiece of Walther Hermann Ryff

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The renaissance frontispiece is simultaneously an encounter between reader and author and inhabitant and building. The idea of the book is personified into an architectural image. Reader and author are face-to-face even though the later is absent and the book stands as a physical incarnation of the ideas of the author. This paper will examine one notable renaissance architectural frontispiece in Walther Hermann Ryff's *Architectur* (1547) to reconsider the relation between idea and material in architectural theory and practice today.

The illustrated architectural frontispiece developed with the early printed book.[1] At this time, printers only produced the pages and sold them tied in a bundle which was then taken to a separate leather worker for the book's cover. The cover represented the owner while the first page, the frontispiece, represented the interior of the book. "Frontispiece" derives from the Latin *frontispicium* which means literally 'looking at the forehead.' *Specere* is early Latin for 'to look' and was in this case corrupted into English as '-piece.' The word frontispiece or fronton was used in Renaissance England to triply describe: the illustrated first page of a book, the pedimented entry to a building and the human forehead. Metoposcopy, a divination practice advanced by Girolamo Cardano (1501-1576), interpreted the lines of someone's forehead through astrology to read that person's character and foretell their destiny.[2] Frontispieces often show the author looking out at the reader and Vignola's frontispiece, which puts his self-portrait at the center, shows him drawing in a melancholic pose, with the pronounced lines in his forehead of a contemplative scholar.[3]

The architectural frontispiece was both a literal and a metaphorical portal or gateway into a book that presented through a combination of word and image the idea of its contents.[4] Frontispieces thus are excellent visual sources to study the significance of a text. Architects often drew frontispieces, not only for their own books, but also for many other subjects. The visual threshold of frontispiece for renaissance architectural treatises was variously shown as an altar (Palladio), triumphal arch (Barbaro), curtain or veil (Bartoli), window (Vignola), or pedimented entry (Scamozzi).

Frontispieces employed allegorical illustrations like emblems. Emblems originated with the renaissance humanist attempt to create a modern equivalent to Egyptian hieroglyphs. With the rediscovery of Horapollo's *Hieyroglyphica* in the fifteenth century, it was thought that the esoteric picture language of the Egyptians could be deciphered and numerous editions of the book followed, including one with illustrations by Albrecht Dürer (1514).[5] Hieroglyphs were compared to the language of Angels. Leon Battista Alberti discusses the emblematic importance of hieroglyphs in the fourth chapter of his eighth book on architecture and hieroglyphic illustrations appear in the *Hypnerotomachia Poliphili* (1499), both of which were important sources for Ryff. Today, we tend to value signs that present their meanings immediately and transparently. Emblems, however, attempted to expand the space between image and meaning so that encountering them slowed down time through extensive interpretation or initiation into hidden meanings. With emblems, meaning is not given, it is discovered. Mario Praz describes the emblematic mode of thought as a process of the materialization of the imagination through its personifications.[6]

Walther Hermann Ryff (c. 1500-1548) was a Ger-

man mathematician and physician who published on many subjects, including anatomy, surgery, pharmacology, mathematics, mineralogy, cooking, botany and architecture.[7] Ryff, trained in medicine at the University in Padua, brought much of the knowledge that he gained in Italy north into the German language. In architecture, he published a Latin edition of Vitruvius in 1543. Ryff then made the first German translation of Vitruvius (*Vitruvius Teutsch*, Nuremberg, 1548). Ryff used Vitruvian doctrine to introduce architecture to the north as a liberal art along with other mathematical arts. The preceding year, Ryff produced his own architectural treatise (*Der furnembsten notwendigsten der gantzen Architectur*, Nuremberg, 1547). The philological/humanistic emphasis in the Italian Vitruvian literature contrasts with the more mathematical/operational orientation of Ryff's own texts which were addressed primarily to builders and were more practically oriented.[8] Ryff's own architectural treatise in the first book dealt with perspective and geometry, largely drawn from Sebastiano Serlio's work published in 1545. Ryff's second book considers ballistics and artillery as well as battle formations, based upon the work of Tartaglia. Book three addresses geometric methods of measurement.[9]

Ryff used prior treatises for his own work to such an extent that he earned the charge of being an unabashed plagiarist who pirated many books between 1541 and 1545. Andreas Vesalius, famous for his anatomical treatise from his teaching in Padua, called Ryff a "notorious plagiarist."[10] More recently, some historians have defended Ryff as fairly typical of his time with a lax standard of citation. Furthermore, Ryff did not entirely copy his sources; he adapted Italian texts and images to his German audience. For example, in describing Vitruvius's three "ideas" to depict buildings, Ryff referred to *Germanici Architecti*. Like the texts, Ryff's wood cut illustrations were mostly taken from other treatises. A primary source for many of the architectural illustrations was Milanese architect Cesare Cesariano's 1521 translation and commentary on Vitruvius. Of the 190 woodcuts in *Vitruvius Teutsch*, 115 are based on 102 illustrations from Cesariano's Vitruvius, 14 were taken from Serlio's first two books and 8 from *Hypnerotomachia Poliphili.*[11] The images were directly derived from prior publications, but adapted to the German framework. For example, Ryff's version of Cesariano's image of the ideal vitruvian city adds a northern windmill that makes the key city-forming wind visible.

The frontispiece of Ryff's *Architectur* was also reproduced in Book I and in *Vitruvius Teutsch*. This emblem shows a putto in billowing dress with his raised right hand holding wings and his lowered left hand bound and weighted down with a stone. He stands upon a cube which in turn sits upon an intricate eight-pointed base. Surrounding the human figure and filling the rest of the page are many tools and instruments shown with shadows. Two mottos are included in the frontispiece. The motto at the head reads: *Viuitur ingenio, caetera mortis erunt* (Genius lives on; all else is mortal) and the other at the foot: *Aurum probatur igni, ingenium uero Mathematicis*. The version in *Vitruvius Teutsch* has a different motto above and none below (fol. XI recto). The frontispiece is repeated without any captions in the first book of *Architectur*. The first motto was also used by Vesalius in his anatomical illustration of a skeletal figure in a melancholic meditation on a skull. It has been suggested that the illustrator of the frontispiece was the draftsman who derived it from emblem books.[12] Yet, since separate images were collected together and all redrawn with the addition of some seemingly new elements such as the pedestal, it seems likely that the frontispiece would have been created with input from Ryff. It was often the case that authors, even if they did not design their own frontispiece, provided an iconographic program to the artist that was sometimes published in the book. In any case, the question of authorship is secondary, since what is important here is its conscious inclusion in an architectural treatise.[13]

The immediate source of the main figure in Ryff's frontispiece is an emblem in Andrea Alciato's *Emblematum liber* or *Book of Emblems* where it first appeared in the unauthorized edition of 1531, then in the authorized edition of 1534 and in the French edition in 1536. This enormously popular book devoted one page to each emblem with both an image and a motto. This emblem's motto is "poverty hinders the greatest talents from advancing."[14]

The emblem, particularly popular throughout the renaissance, appears in many guises. It is used by Harianus Junius, a Dutch doctor who studied in Bologna, as emblem 32 in his *Emblemata* (1565). The earliest source of the image is in *Hypnerotomachia Poliphili* (1499).[15] Ryff was certainly familiar with this early illustrated book since his *Architectur*

Frontispiece, Gualtherus Hermenius Rivius, Der furnembsten notwendigsten der gantzen Architectur, 1547.

Genius constrained by Poverty
Alciato, emblem *no.121.*

copied a number of images directly from it. The relevant emblematic image in this book is of a maiden partly seated and partly standing with a turtle in the left hand and wings in the right all set within an architectural frontispiece. Through the text it is connected to the motto *festina lente*, or 'hurry slowly.' In the ancient world, this saying 'make haste slowly' was attributed to Augustus (to whom Vitruvius dedicated his ten books).[16] The meaning is explained as to prudently combine speed with restraint. Aulus Gellius cites the phrase in defining the word "mature" as temperate or neither too soon nor too late, like fruit ripened in its proper time. To be premature is to be untimely or done too quickly.[17] Erasmus discusses the phrase from these classical sources in his 1508 edition of *Adagia* and expands it in each edition thereafter. From Erasmus and the *Hypnerotomachia*, it finds its way into Alciato's *Emblemmata.*

As an emblem, the significance of the image of Constrained Genius varies. Sambucus includes a similar figure in his emblem book to distinguish between *Physicae et Metaphysicae.*[18] In this case, the figure is Diana who has her right winged arm raised and her left kept low by a hanging heraldic rose, an alchemical symbol of organic matter. Two temples further distinguish the two realms defined by her arms, the metaphysical with an armillary sphere of the heavens and the physical with a terrestrial globe of the earth. Another version of the emblem appears as the printer's colophon in Books I and II of Sebastiano Serlio's architectural treatise of 1545.[19] This publication was also a major source of text and images for Ryff's *Architectur.* In Serlio, the figure, an adult male, stands amidst a clutter of classical ruins and his upraised right hand holds a laurel wreath while the left hand reaching downward has a snake entwined around it. In each case, the figure mediates between opposites.

The tools which surround the figure of constrained genius in Ryff's frontispiece are predominately surveying equipment. The visual source of the tools in the foreground is from another image in Cesariano's Vitruvius found in the eighth book on water.[20] Cesariano's caption for the drawing is "picture of instruments which people use for conducting water and which surveyors [*agrimensor*] use for leveling and for finding boundaries."[21] The tools include water levels for finding the horizontal, plumb lines for the vertical and a theodolite for sighting precise angles. It was quite common to display the tools of the trade in a frontispiece, but it is important to note that they are not drawing instruments, but instruments for translating drawings into buildings. Similarly, the only book which openly presents its pages to the viewer is a book of practical or applied not theoretical, geometry. One other curious element is the bellows appearing from behind the putto's base fanning a fire in a double boiler like an alchemical experiment which may be a reference to the motto about testing gold by fire.

Hieroglyphe »Velocitatem sedendo« . . . aus der Hypnerotomachia Poliphili.

The other major element of the frontispiece is the base upon which the figure stands. Showing the novelty of this cut, the base is unique for Constrained Genius in the emblem literature. The square typically stands for the fixity of the earth. In Alciato, the emblem, "Art is safe against the power of Fortune" is illustrated with *Fortuna* standing on a sphere while Hermes, presiding over the arts, sits upon a cube. This has import for interpreting Ryff's frontispiece. The precisely finished base also contrasts with the rough stone in the putto's hand as between art (*poesis* or knowledgeable making) and nature. The lower eight-sided base suggests the ideal city plan of Vitruvius and the complex manipulation of geometries with strereotomy like the rotation of the triangle shown in the geometry book in the frontispiece. Drawn in axonometric, it is a demonstration by sign of the effectiveness of the architect's tools. Another aspect of note in the frontispiece is that it is shown with shadows, suggesting the reality of the scene over its ideality. Finally, the observer's point of view is set below the winged hand and above the base, about at the putto's navel marked with a knotted belt.

Modern interpretations of the frontispiece are that its meaning is of the sense of *festina lente* or that it is an allegory of geometry.[22] The interpretation I propose here is that as a frontispiece to an architectural treatise, the figure of Constrained Genius describes an Aristotelian rather than Platonic approach to the creative relation between idea and material in design. Rather than starting with an idea or form and later imposing it on material, the idea emerges within the working of material. Thus, the architect's art is intermediate, an applied geometry. Geometrical lines exist only in the mind but architectural lines have the thickness of walls. All of the elements identified above suggest the mixed and mediating nature of architecture. Usually personified as two individuals in emblems where theory holds a pair of compasses open upwards while practice has them open upon the ground, here the two natures are joined in a single figure.[23] Emphasis on Florentine Platonist influence on renaissance architectural thought overshadows the foundational importance of Aristotelianism. It has been established that it was the reevaluation of Aristotle that led to the early modern science of Galileo. The most daring departures from Aristotelian science were carried on within the Aristotelian framework, through a critical reflection on his texts. Ryff's treatise includes drawings from Cesariano and Tartaglia that show geometric diagrams imposed on perspectival scenes to explain physical movement. It was this achievement that is typically credited to Galileo a century later. It appears here because of the Aristotelian viewpoint of the authors, including Ryff.

The School of Padua, where Ryff was a student of medicine, during the early renaissance was the leading university known for its progressive Aristotelianism.[24] The school advocated an analysis of experience through "demonstration by sign" (*a signo*) to discover principles that are "unknown *secundum naturam*;" inotherwords, inferring nonsensible causes through their sensible effects. New translations of Aristotle's texts were undertaken by humanists such as the anti-scholastic Venetian Ermolao Barbaro; great uncle and inspiration to Daniele Barbaro who wrote a commentary on Vitruvius illustrated by Palladio and edited his great uncle's works on Aristotle.[25] Although the *physica* was the most important text of Aristotle in scholastic times, *de anima* overtook it and provoked naturalist conclusions. The scholastic Averroistic view of Aristotle is a platonizing version where the human soul is divorced from material form and the soul uses the body as a workman uses a tool. Pietro Pomponazzi of Mantua, who was teaching at Padua shortly before Ryff arrived, wrote a commentary on *de Anima* (the soul) that humans are a mean between material and intellect. Neither materialist nor idealist, Pomponazzi believed that the intellect is the mean between eternal and non-eternal as the first of material forms because "it is in this flesh that we can behold truth." The intellect can only act within the body and its corporeal sense images. He refutes the Platonic view by arguing from his own experience through Aristotle that "if soul and body have no more unity than oxen and a cart, there would be two men joined together in me." From Aristotle he developed the heretical view that the soul does not live beyond the body, and that the intellect can access the eternal through the body as object, not as subject. Ryff's medical studies in Padua put him in contact with a strong Aristotelian pedagogy and the major sources for his book are equally Aristotelian, including Tartaglia, whose mechanics were inspired by Aristotle and, as Werner Oechlin has shown, Alberti.[26] There were also strong intellectual ties between the Paduan school and Milan, the home of Cesariano. Corbett even ties the origins of the architectural frontispiece

with the humanists and artists under the influence of the Padua School in the mid fifteenth-century.[27]

The most profound encounter between spirit and matter reflected in these theories occurs in Christian Theogaphy – the sacrament of Holy Communion.[28] It was during Ryff's adulthood that enormous debates were occurring on this topic, especially in the regions where he lived in Italy and Germany. Martin Luther (1483-1546) composed his treatise on the real presence of the divine in consecrated bread in 1527.[29] Scholastic theologians in the eleventh century developed the theory of transubstantiation, that the very substance of the bread is transformed into the body of Christ with only the accidental qualities of bread, such as form and color, remaining. During Ryff's lifetime, alternative theories were put forth. The extreme position, that bread was merely a symbol, was rejected by most Protestants including Luther. Instead, consubstantiation was proposed which holds that the substance bread and the substance the body of Christ co-exist together. Finally, impanation also retains the real presence of Christ by holding that Christ becomes bread through a hypostatic union, like incarnation where god becomes man. This debate framed ideas in many fields such as how an architectural idea becomes manifest in material. Ryff's frontispiece here is interpreted to be similar to impanation, where idea is not prior to material but occurs within it.

The emblem of Constrained Genius is thus here understood to present architecture as a *scientia media*, or in-between science, in which Alberti specifically included architecture. In using geometry as a realm of the mind, but exercising it practically with physical materials upon the earth, architecture is mediate between the metaphysical and the physical. This describes the Aristotelian understanding of the relationship of soul and body.

Normative architectural practices even today perpetuate a platonic approach by beginning with schematic drawings as outlines of shapes in a formal description to which material is later added through design development drawings and specifications.[30] The architectural language of ideas and forms betrays its platonic sensibilities. Because of the dominance of the formal imagination in architecture, the materic nature of building is not available to the architect's imagination. Ryff's frontispiece continues to inspire critical and creative thought about practices and the architectural encounter between idea and material.

NOTES

[1] Margery Corbett and Ronald Lightbrown, *The Comely Frontispiece: The Emblematic Title-Page in England 1550-1660* (London: Routlage, 1979). Desley Luscombe, *Inscribing the Architect: The Depiction of the Attributes of the Architect in Frontispieces to Sixteenth Century Italian Architectural Treatises* (Sydney: University of New South Wales, Ph.D. Dissertation, 2004). Margaret Smith, *The Title-Page: Its Early Development 1400-1510* (New Castle: Oak Knoll Press, 2000). Hendrik Vervliet, "Les Origines du Frontispice Architectural" *Gutenberg Jahrbuch* 1958 (Mainz: Gutenberg-Gesellschaft, 1958) 222-31.

[2] Girolamo Cardano, *Metoposcopia libris tredecim* (Milano: Mimesis, 2003).

[3] Giacomo Barozzi da Vignola, *Canon of the Five Orders of Architecture*, translated by Branko Mitrovic (New York: Acanthus, 1999).

[4] Desley Luscombe and Jeffrey Mueller, "Architecture and the narrative dimension of two Alberti frontispieces of the sixteenth and eighteenth centuries" in *The Built Surface, Volume 1, Architecture and the pictorial arts from Antiquity to the Enlightenment* (Burlington, VT: Ashgate, 2002) 180-202.

[5] Rudolf Wittkower, "Hieroglyphics in the Early Renaissance" in *Allegory and the Migration of Symbols* (London: Thames and Hudson, 1977) 113-128.

[6] Mario Praz, *Studies in Seventeenth-Century Imagery*, Vol. 1 (London: Warburg, 1939) 12.

[7] Ryff's identity is not entirely clear and is often confused with other authors such as Jacob Rueff (1500-1558), a physician who wrote and illustrated a book on midwifery.

[8] Werner Oechlin, "Vitruvianismus in Deutschland" in *Architekt und Ingenieur: Baumeister in Krieg und Frieden* (Wolfenbüttel: Herzog August) 55. Harry Francis Mallgrave "Introductory Essay" *Mark J. Millard Architectural Collection, Volume III, Northern European Books, Sixteenth to Early Nineteenth Centuries* (Washington D.C.: National Gallery of Art, 2002) 8.

[9] Gualtherus Hermenius Rivius, *Der furnembsten notwendigsten der gantzen Architectur angehorigen mathematischen und mechanischen Kunst eygentlicher*

Bericht und verstendliche Unterrichtung [1547] (Hildesheim: George Olms, 1981). See also: Hanno-Walter Kruft, *A History of Architectural Theory from Vitruvius to the Present*, translated by Ronald Taylor et. al. (Princeton: Princeton Architectural Press, 1994) 166.

[10] Andreas Vesalius, *De humani corporis fabrica libri septem* (Basel, 1543) preface, book III.

[11] Jurgen Zimmer, "Walther Rivius or Ryff, *Vitruvius Teutsch,*" in *Architectural Theory from the Renaissance to the Present* (Cologne: Taschen, 2003) 482-493, 484.

[12] Heinrich Rottinger, *Die Holzschnitte zur Architektur und zum Vitruvius Teutsch des Walther Rivius* (Strassburg: Heitz, 1914) 33. Other cuts in the book were designed by Virgil Solis.

[13] Rottinger notes that the tools show that the cut is executed for architecture. Rottinger, 39.

[14] Paupertatem summis ingeniis obesse, ne provehantur. The complete translated text is: "My right hand holds a stone, my other hand bears wings. As the feathers lift me, so the heavy weight drags me down. With my intellect I could be soaring among the highest peaks, if envious poverty did not pull me down."

[15] Francesco Colonna, *Hypnerotomachia Poliphili, The Strife of Love in a Dream*, translated by Joscelyn Godwin (London: Thames & Hudson, 1999) 133.

[16] Suetonius, *Lives of Caesar*, II. xxv. 4.

[17] Aulus Gellius, *Attic Nights*, X. xi.

[18] Johannes Sambucus, *Emblemata et aliquot Nummi antiqui operis* (Antwerp: Plantin, 1564).

[19] Myra Nan Rosenfeld, "From Bologna to Venice and Paris: The Evolution and Publication of Sebastiano Serlio's Books I and II, On Geometry and On Perspective, for Architects" in *The Treatise on Perspective: Published and Unpublished*, Lyle Massey, editor, (Washington D.C.: National Gallery of Art, 2003) 281-322, 305.

[20] Cesare Cesariano, *Vitruvius on Architecture* (1521) CXXXVIIIr.

[21] Carol Krinsky, *Cesare Cesariano and the Como Vitruvius Edition of 1521* (New York University: Ph.D. Dissertation, 1965) 333.

[22] Rottinger, 33. Mallgrave, 329.

[23] Marco Frascari, "Maidens 'Theory' and 'Practice' at the Sides of Lady Architecture" *Assemblage* 7 (Oct. 1988) 15-27.

[24] John Herman Randall, Jr., *The School of Padua and the Emergence of Modern Science* (Padua: Editrice Antenore, 1961).

[25] Peter Laven, *Daniele Barbaro, patriarch elect of Aquileia; with special reference to his circle of scholars and to his literary achievement* (University of London: Ph.D. Dissertation, 1957).

[26] Paul Rose and Stillman Drake, "The Pseudo-Aristotelian Questions of Mechanics in Renaissance Culture" *Studies in the Renaissance* 18 (1971) 65-104, 99.

[27] Margery Corbett, "The Architectural Title-Page; an attempt to trace its development from its humanist origins up to the sixteenth and seventeenth centuries, the heyday of the complex engraved title-page" *Motif* 12 (1964) 48-62.

[28] Preserved Smith, *A Short History of Christian Theophagy* (Chicago: Open Court, 1922).

[29] Martin Luther, *Dass diese Worte Christi Das ist mein Leib noch fest stehen wider die Schwärmgeister* ("That these words of Christ 'This is my Body' still stand firm against the Fanatics," 1527).

[30] Modern interpretations of the Constrained Genius emblem can be identified in the work of Paul Klee "The Hero with the Wing" (1905) and Le Corbusier's Modulor.