

CHARLES BOULEAU'S SECRET GEOMETRY (Book Review)

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"The Painter's Secret Geometry - A Study of Composition in Art" by Charles Bouleau. Translated from the French by Jonathan Griffin. *Charpentres, La Geometirce Secret de Pientres, 1963.*

Charpentres, meaning framework refers to "geometrical tracings", the intelligent organization of form and line, a harmonious ordering of principal lines, the armature of the rectangle analogous to musical keys, symmetry; measured, a proper accord of the members with one another, each part related to the whole in the Vitruvian sense. While neither primarily historical, philosophical, mathematical, nor a treatise on painting, Charles Bouleau's "*Secret Geometry*" is a study of the inner structure of artworks and schemata of their plastic elements. These organizing principles, not limited to the discipline of painting alone, are discussed as extending from and related to the other expressive disciplines of music, architecture and sculpture.

Rather than adhering to a strictly chronological account, Mr. Bouleau attests to the impact and duration of harmonics and geometrics as an organizing component of composition throughout the development of Western Art, whether it be as a conscious and compelling impetus of art making, as a matter of practical convention, as an old idea given new currency forged in the fire of imagination, or as an intuitive but persistent visual memory.

While exhibiting a manifestly modern proclivity for analysis, Bouleau's study intends to project the intellectual and cultural milieu contemporary to the works cited. He begins his narrative with a general discussion of scale, proportion, and monumentality in relation to art and architecture contrasting the Gothic of Chartres Cathedral and modernism of Picasso and Dufy; he compares the cannon of human proportion of Polykleitos (the seven headed Doryphoros) with that of Lysippus (eight 'heads'), and that of Vitruvius as modified by Renaissance artists.

In a discussion of the frame, Bouleau considers its a priori relation to easel painting in two ways: in an architectural context such as a frieze, mosaic, tapestry, or polyptych, and as a ratio of proportional sides and their inherent properties.

Citing Plato's *Timaues*, Leon Battista Alberti's trilogy, *De re aedificatpria - De statua - De pictura*, Piero della Francesca's *Prospectiva pingendi*, G.P. Lomazzo's *Trattato dell'arte della pittura*, Leonardo Da Vinci's *Treatise on Painting*, Sebastiano Serlio's *Architecture*, Fra Luca Pacioli's *Divina Proportione*, Albrecht Durer's *Modo di formare un pentagono*, and Eugene Delacroix's *Journal*, Charles Bouleau refutes Rudolph Wittkower's assertion in *Architectural Principles in the Age of Humanism*, that no documented and systematic proof has been made demonstrating the application of proportional systems to painting, sculpture and architecture. He explains that ratios of numeric consonance are discrete to architecture until the 15th Century; though codified in Plato's *Timeaus*, the doctrine was not applied to painting until the advent of Alberti as, for example, his codification of proportions of the picture plane: the diapason 1/2, diapente 2/3, diatessaron 3/4 — analogous respectively to the musical divisions of the octave, the fifth, and the fourth. Hybrids of these intervals manifest: double sesquialtera 4/6/9, the double diatessaron 9/12/16, the diapason-diatessaron 3/6/9, and the diapason diatessaron 3/6/8.

These quadrilaterals are divided into halves by connecting the diagonals of opposite corners and into quarters by connecting opposite corners of the halves. The division of thirds is found at the intersection of the diagonals of the quadrilateral with the diagonals of its halves. From these, further divisions into eighths, ninths, twelfths, and sixteenths may be similarly made inferring an increasing complexity of vertices and diagonal relations. Other divisions and projections are made by means of a compass, such as, the rabattement in which the length of the shortest side is located onto the longer or the root ratios in which the lengths of the diagonals are extended upon the long side of the quadrilateral or retracted as a fractional subdivision. The compass may be used to trace various circles and arcs, as well. From Bouleau's diagrams we can see that just as every age culminates in a characteristic style so every style has a governing underlying structure.

The Middle Ages had a proclivity for regular Euclidean polygons. Though there is no extant literature of the period, Bouleau asserts that such knowledge was conveyed orally in the craft guilds until 1485 when Alberti's books were first published and made generally available. Thus, "*Secret Geometry*" refers not only to a compositional structure not readily apparent to the casual observer, but to the mystique associated with the transmission of trade secrets.

In contrast to the compacted polygonal compositions of the Middle Ages, Bouleau describes the Renaissance proclivity for large open areas of light and color based upon arithmetic equivalents of the harmonic ratios. He shows that while early Florentine composition retains a kind of reflective symmetry, the later Renaissance Florentine artists adopted less staid schemata with vertices and diagonals drawn upon the intervals 4, 6, 9, 12, 16. In the High Renaissance Bouleau ascribes a poetic and metaphysical significance to the charpentres of the best works, such as, Leonardo Da Vinci's Last Supper, a double square containing a central square flanked by two half squares.

The one point perspective of the interior walls converges at the head of the figure of Jesus. The small square of the window that frames his head suggests an aura in a completely naturalistic way. With a similar kind of focus, Masaccio's seated Pisa Madonna determines the vanishing infinitive at the womb of the blessed mother.

In his discussion of the Mannerist period, Charles Bouleau considers the influence of Michelangelo Buonarroti upon successive generations of artists, precipitating an adaptability of form to abstract intention. Form and symbol are fused as an expression of the ineffable human spirit in a flame-like contrapposto of serpentinata that suggests the life-force itself and the mystery of grace. In the paintings of Jacopino del Conte, Tintoretto, Peter Paul Reubens, and later El Greco, we learn from Bouleau's analysis that there emerges an array of serpentine and axial configurations and inventions on the rabattement of the grid. We learn further that painterly contrapposto takes on a three dimensional significance in which opposing movements reveal something of the totality occluded from a relative station point. Michelangelo's Sistine Esther and Haman as well as his late Duomo and Palestrina Pieta are the apogee of this invention of contrapposto.

Bouleau sees the Roman Baroque as having been transported from Florentine Mannerism, subsumed in an organic unity of sculpture, painting and architecture; a triumph of tromp l'oeil illusionism in which a perfected monumental perspective of artists like Gian-Battista Tiepolo seems to function as architecture.

In Bouleau's analysis of Nicolas Poussin, Jacques-Louis David, and Jean-Auguste-Dominique Ingres, we see a reaction to the Baroque: the taste for simple compositions that take their basic lines from the armature of the rectangle, a quest for calm stability looking back to the academy of Carracci and Dominichino, but remediating the tendency to too readily please, and looking back as well to the Titian's landscapes and Bacchanais. In the work of Romantic painters such as Eugene Delacroix,

Bouleau demonstrates an influence of the dynamic compositions of the Mannerists such as Reubens sometimes in combination with neoclassical elements as is the case with Theodore Gericault.

The remaining portion of *The Painter's Secret Geometry* apply the framework analysis to various modernist schools including Impressionism, Cubism, Futurism, Fauvism, Surrealism, and Expressionism. Some painters such as Paul Cezanne, George Seurat, Juan Gris, Jaques Villon, and Piet Mondrian share a more apparent concern with Mr. Bouleau than do others.

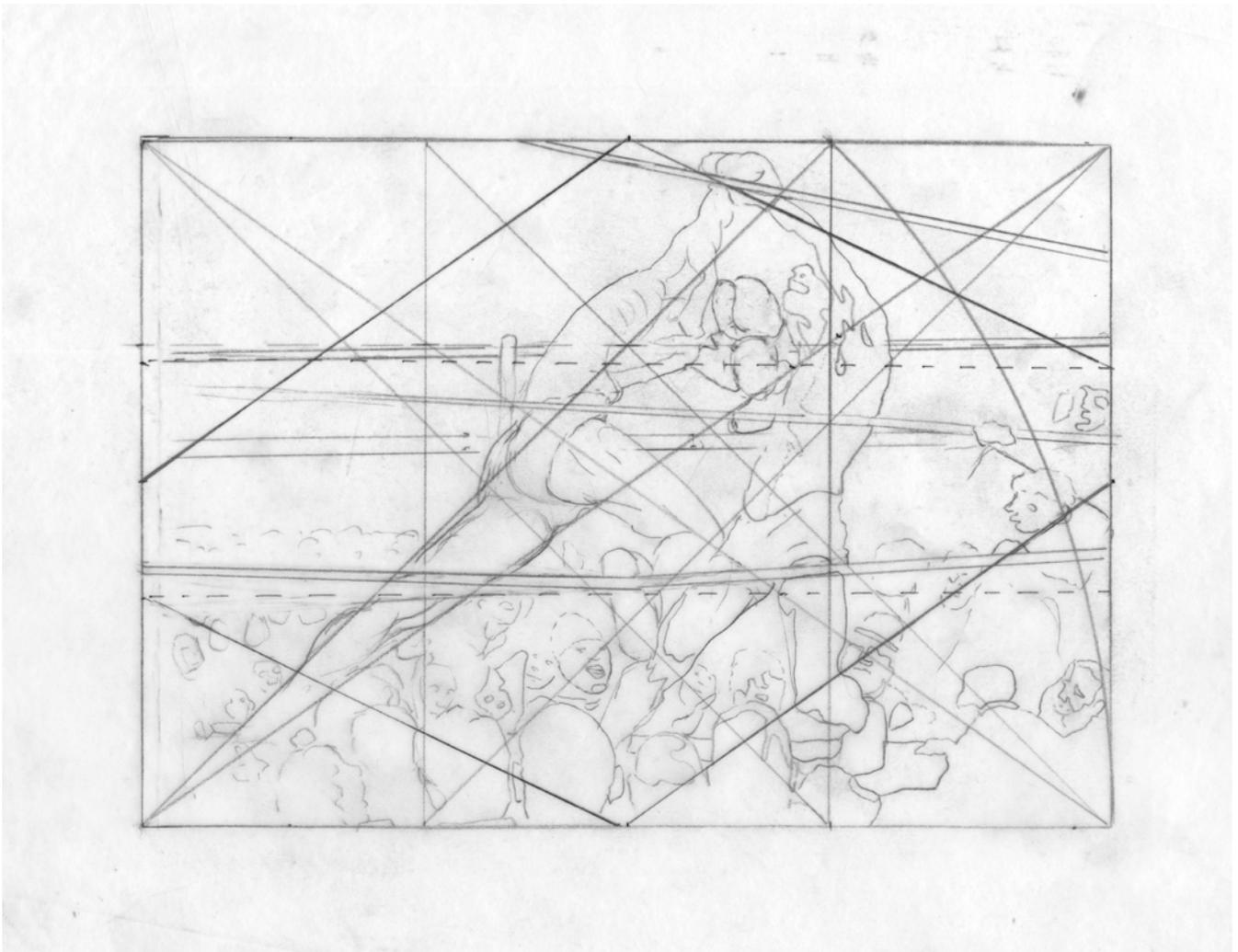
In his survey of art history, Bouleau's narrative is not simply a chronological account but one in which the swirl of events and their human expression is permeated by an architectonic vortex. The city of Florence is most central to this account through the imaginative force of its artistic and cultural genius, in dialogue across time and space with the immortals of ancient Greece and Rome still audible to us today. To Bouleau it is in the city of Florence that composition transcends mere workshop practices and acquires a metaphysical dimension. To Bouleau the spirit of the Renaissance is disseminated throughout Europe from Florence directly by those who came there to study as did Albrecht Durer, Reubens, El Greco, and indirectly as with Caravaggio, who studied in Rome; he in turn influenced Rembrandt. Others such as Pieter Bruegel or Hubert and Jan Van Eyck are regarded because a common concern for compositional structure can be found in their work.

In this way Charles Bouleau is admittedly indebted to the modernist view of Mondrian, confining his aims to the constants of the human spirit, the *raison d'être* of his study of geometric composition. As with Mondrian, he maintains that "art must seek spiritual repose that becomes plastically visible through the harmony of relations — these being of three kinds: relations of position, relations of proportion, and relations of color." Of those three, Bouleau's study is concerned chiefly with relations of position and proportion. He seems to regard lightly those painters whose work is primarily narrative in nature or who use routinely conventional schemata without regard to its inherent significance.

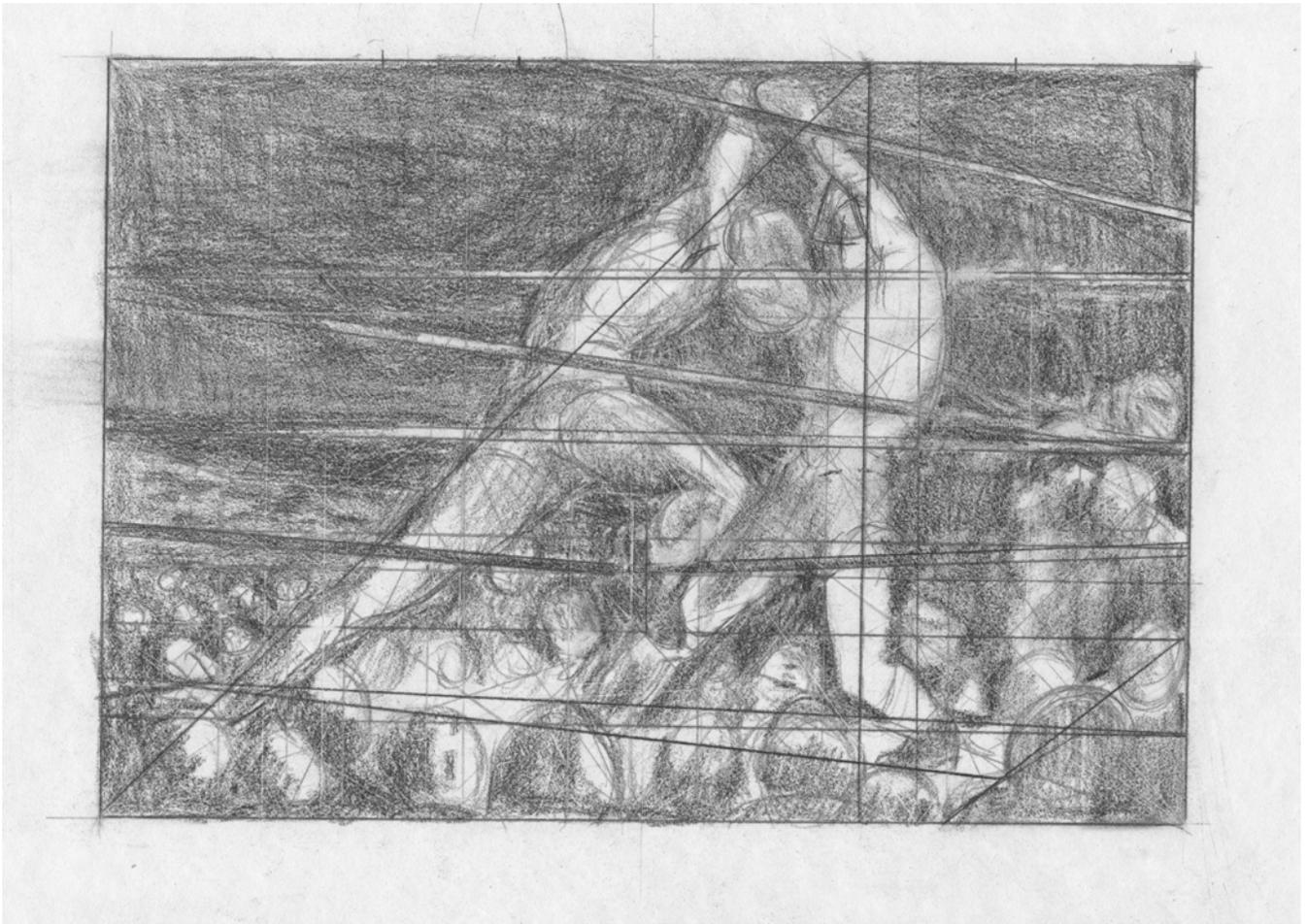
One is at first inclined to think Bouleau's study a bit overdone; that despite his claim to validate his thesis through documentary evidence, he is overstating his case or implying a schemata to a composition that was arrived at more intuitively. However, upon a closer reading of his ideas, the logic of the approach becomes certain and provides at the very least a key to approaching works that otherwise seem overly complex or deceptively simple. More importantly it ascribes some fundamental tools by which one may consider the nature of composition in their own work. As with Mondrian, he amasses evidence that the schema already contains in itself the elements of beauty. Far from a disassociation with the architectural context, Bouleau along with Mondrian, would assert the primacy of the motif as an imaginative resource for architectural design.

In the following illustrations, I have applied some of Bouleau's stated principals to a variety of historic styles and to a composition of my own.

George Bellows, *The Private Club*, rabattement



George Bellows, *The Private Club*, redrawn on grid



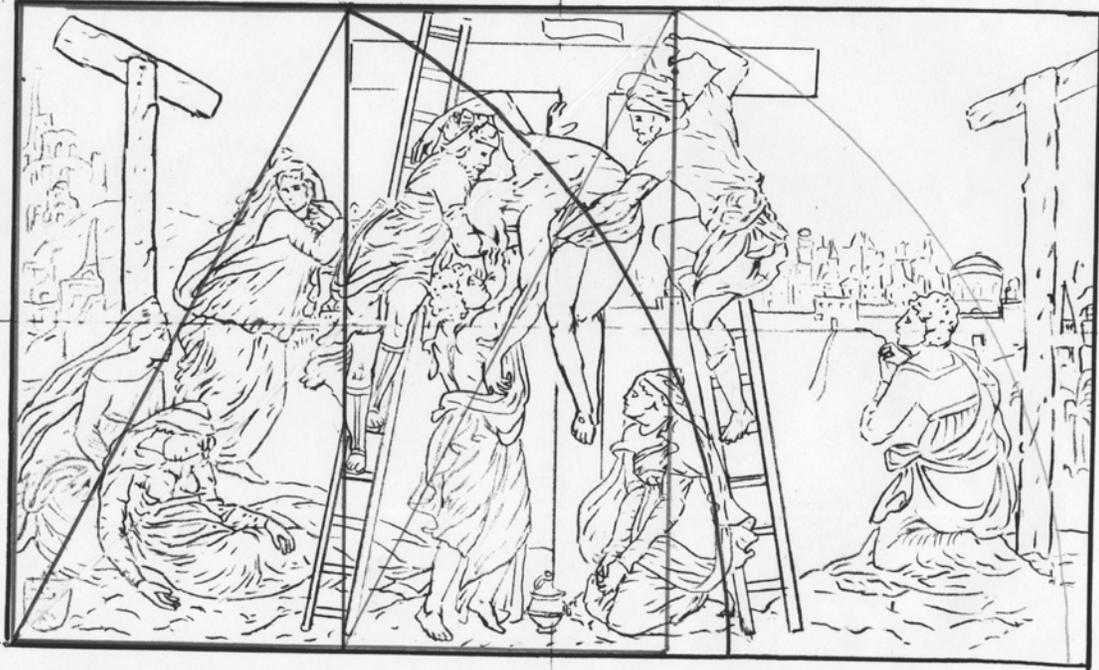
Jean Goujon, 1st Logarithmic Projection



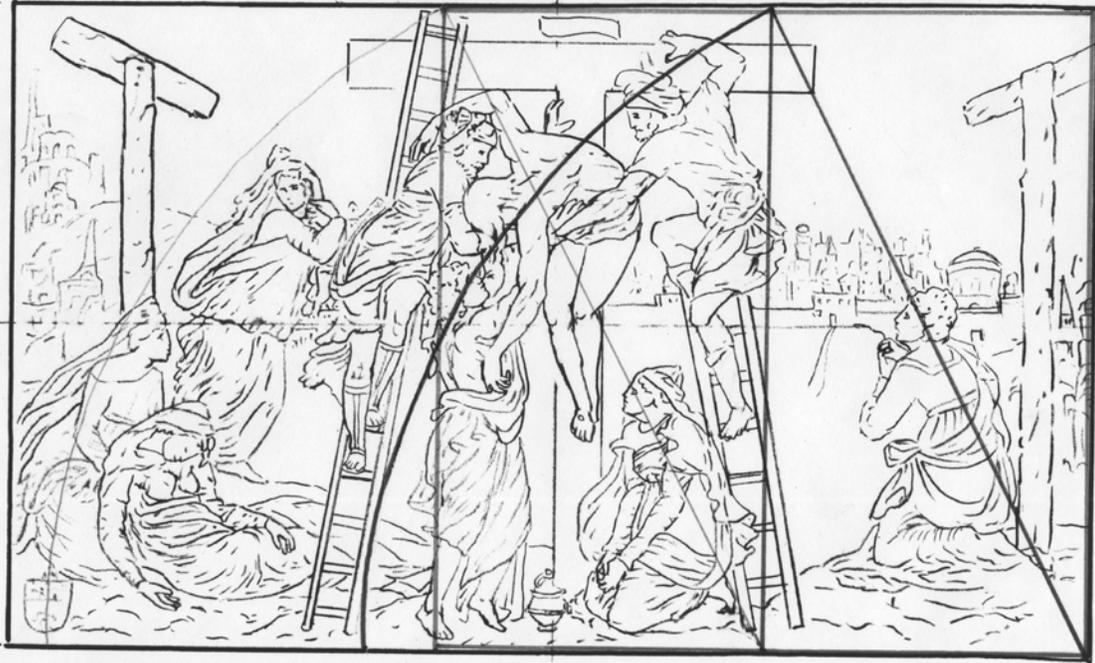
Jean Goujon, 2nd Logarithmic Projection



Jean Goujon, 3rd Logarithmic Projection



Jean Goujon, 4th Logarithmic Projection



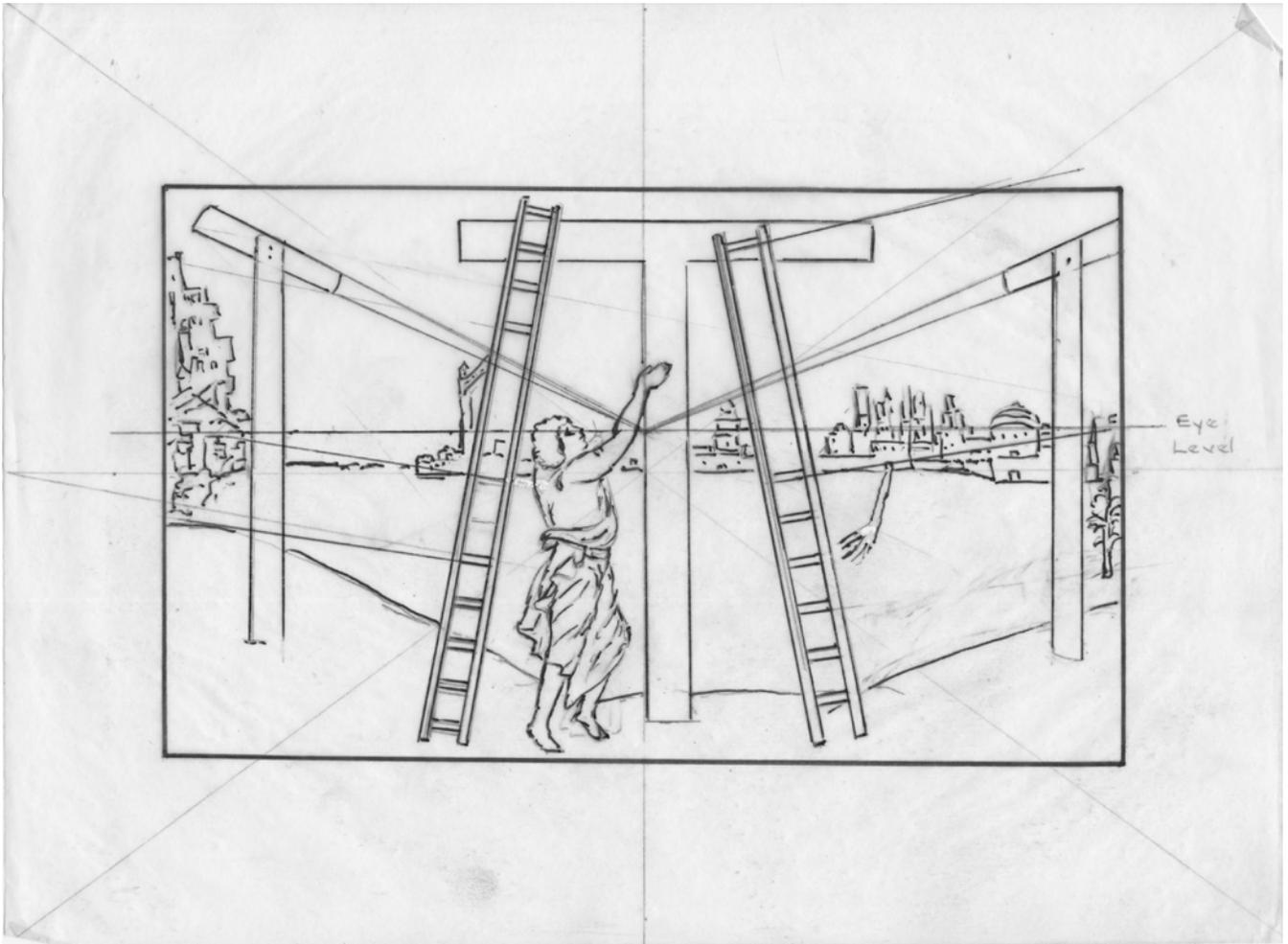
Jean Goujon, Dyadic Hypotenuse



Jean Goujon, Hypotenuse



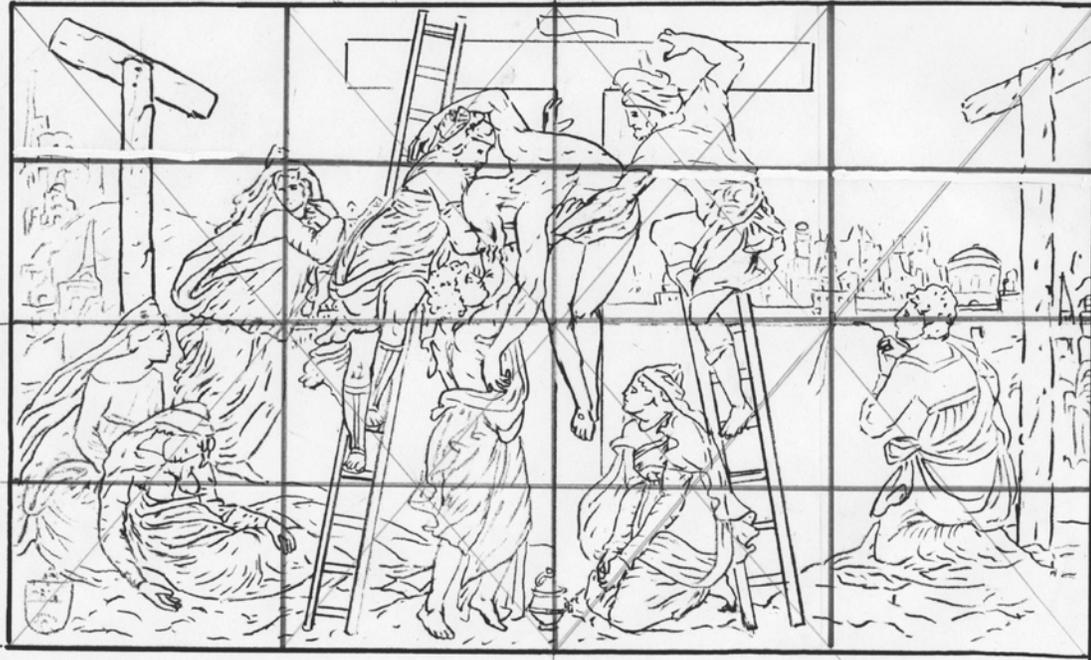
Jean Goujon, Perspective Analysis



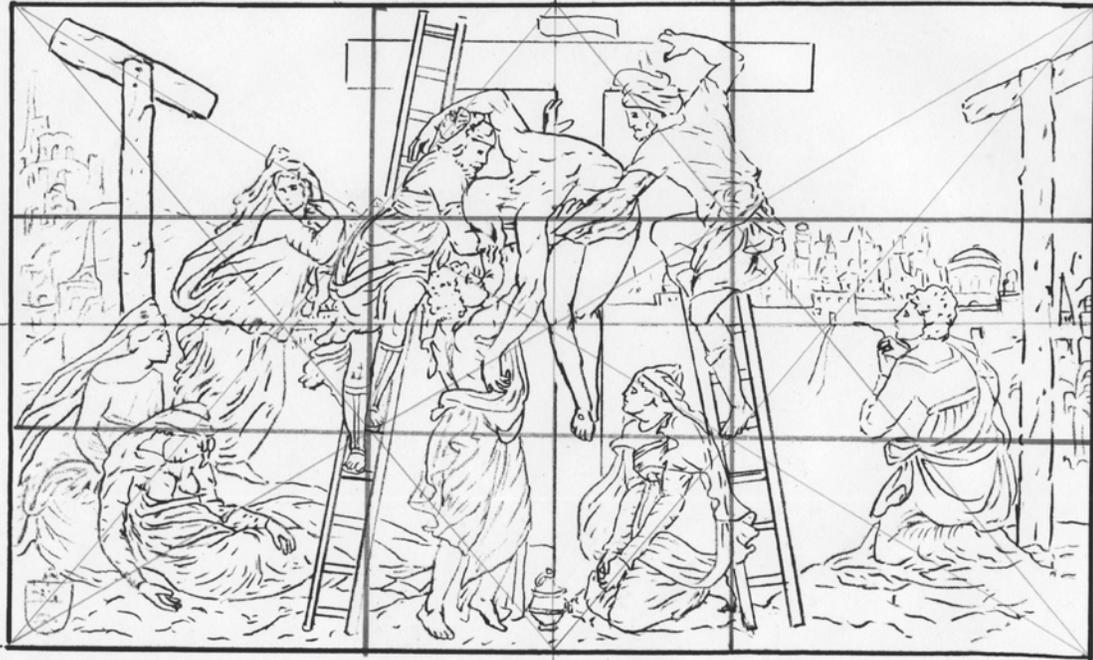
Jean Goujon, Quadrants



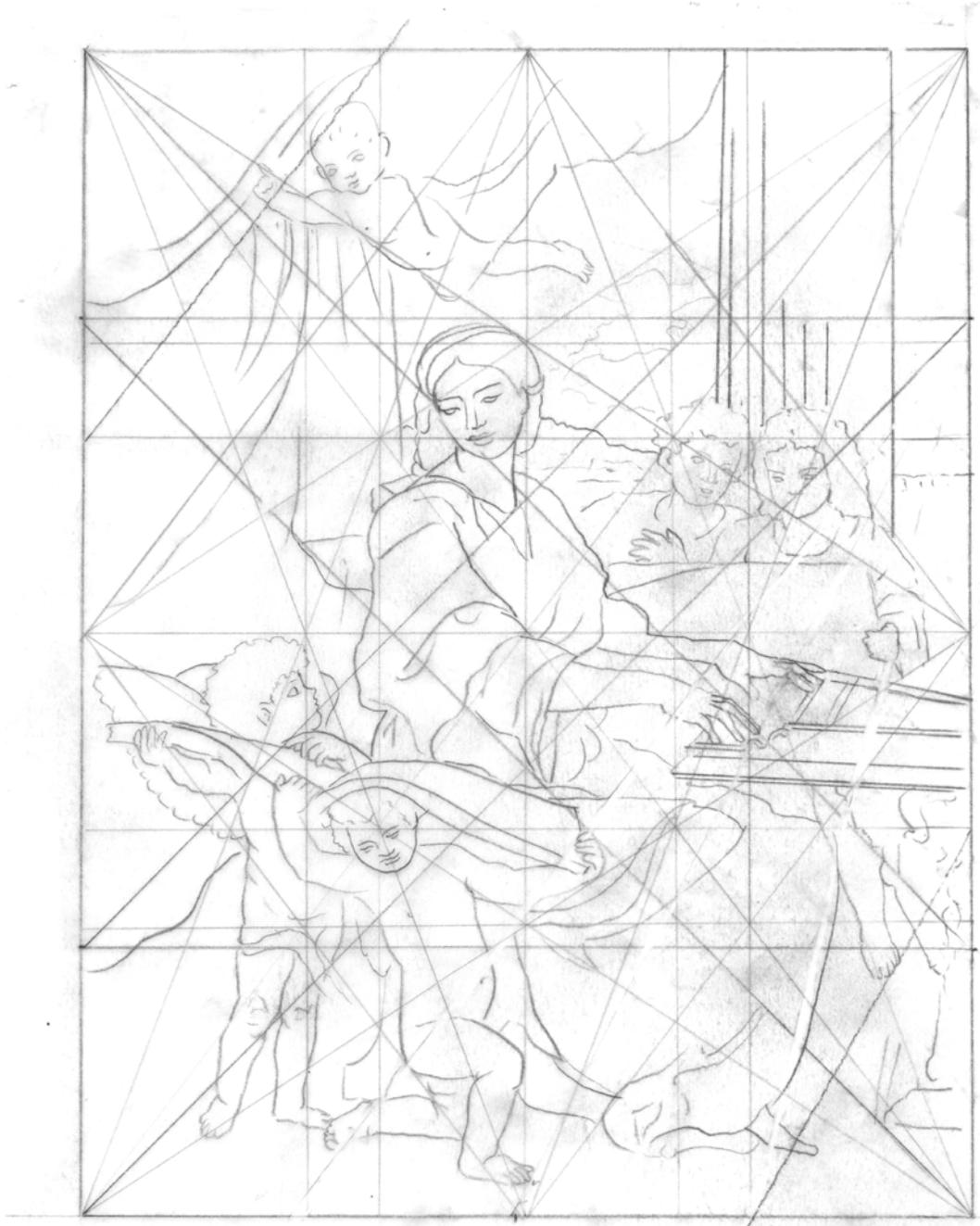
Jean Goujon, Tetradic Divisions



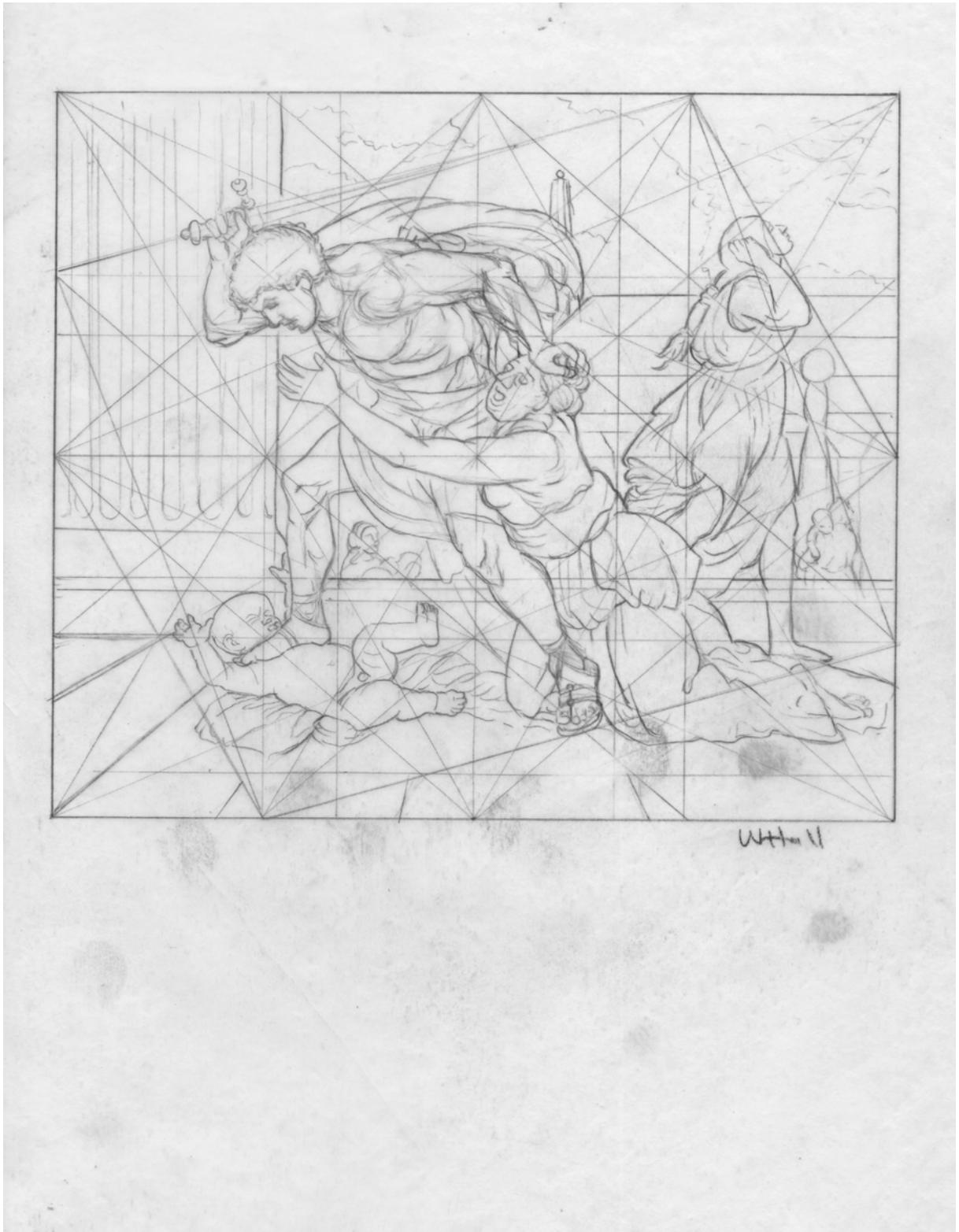
Jean Goujon, Triadic Divisions



Nicholas Poussin, *Harpichord Player*, rabattement



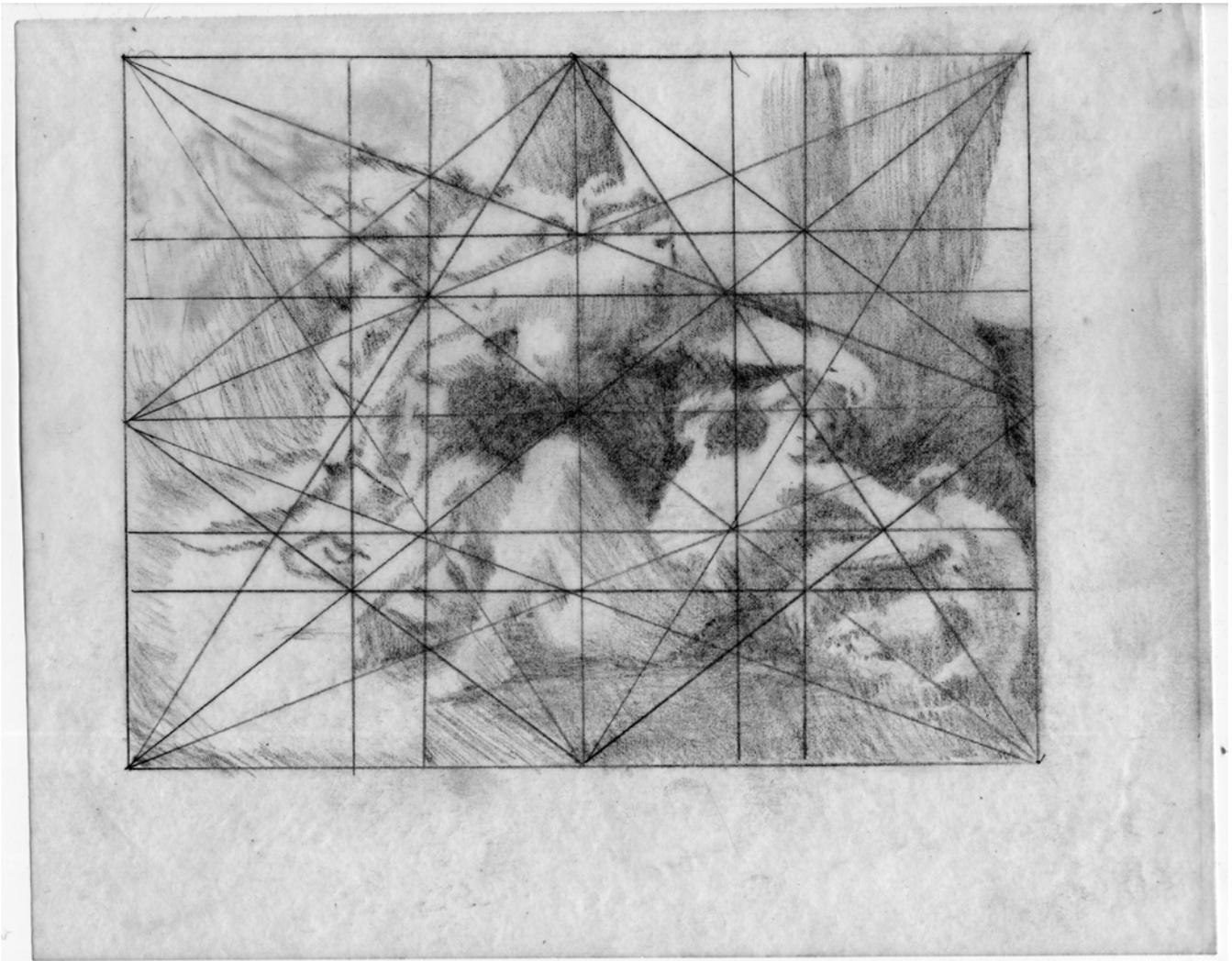
Nicholas Poussin, *Massacre of the Innocents*, rabattement



Nicholas Poussin, *Massacre of the Innocents*, redrawn on grid



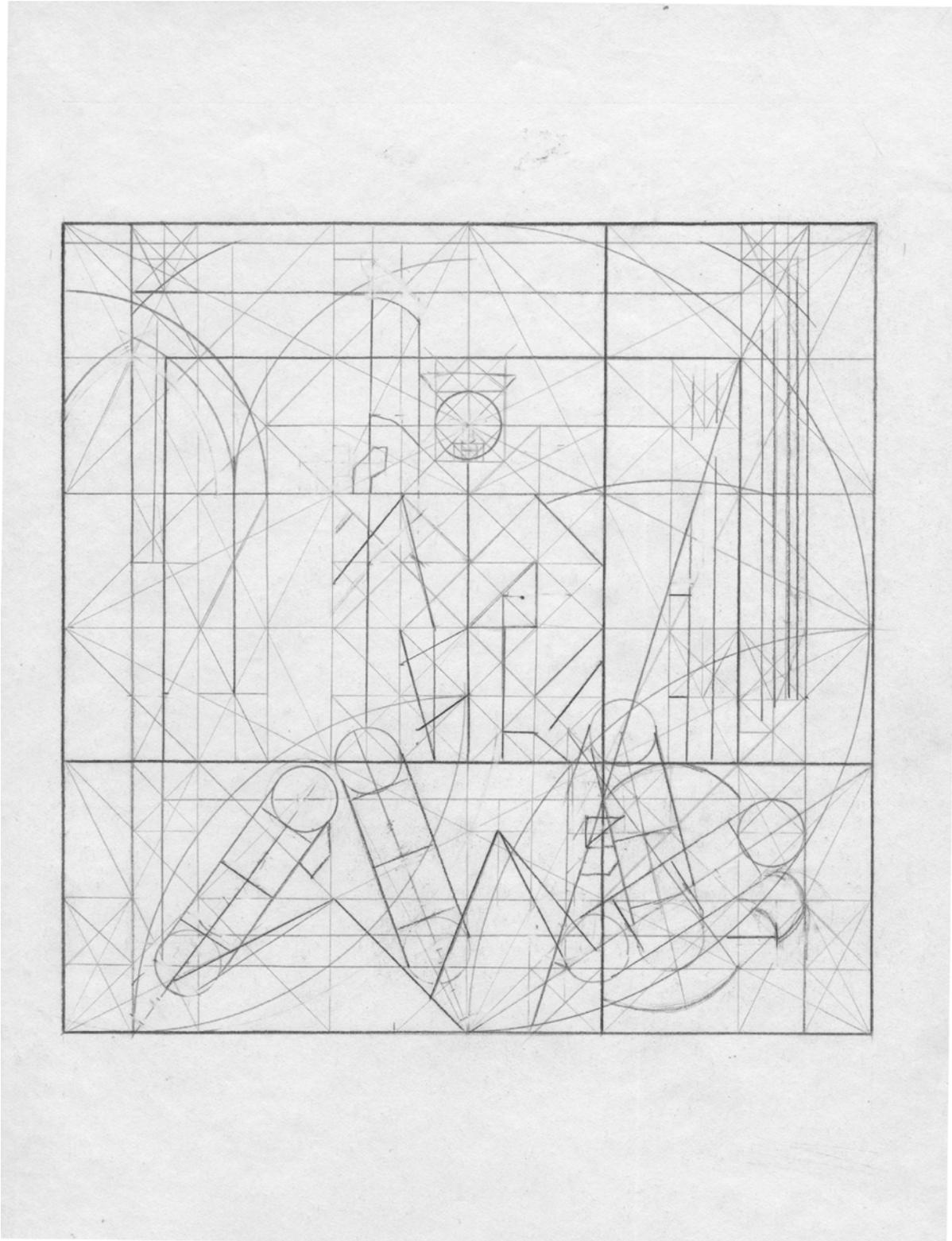
Nicholas Poussin, *Rinaldo and Armida*, rabattement



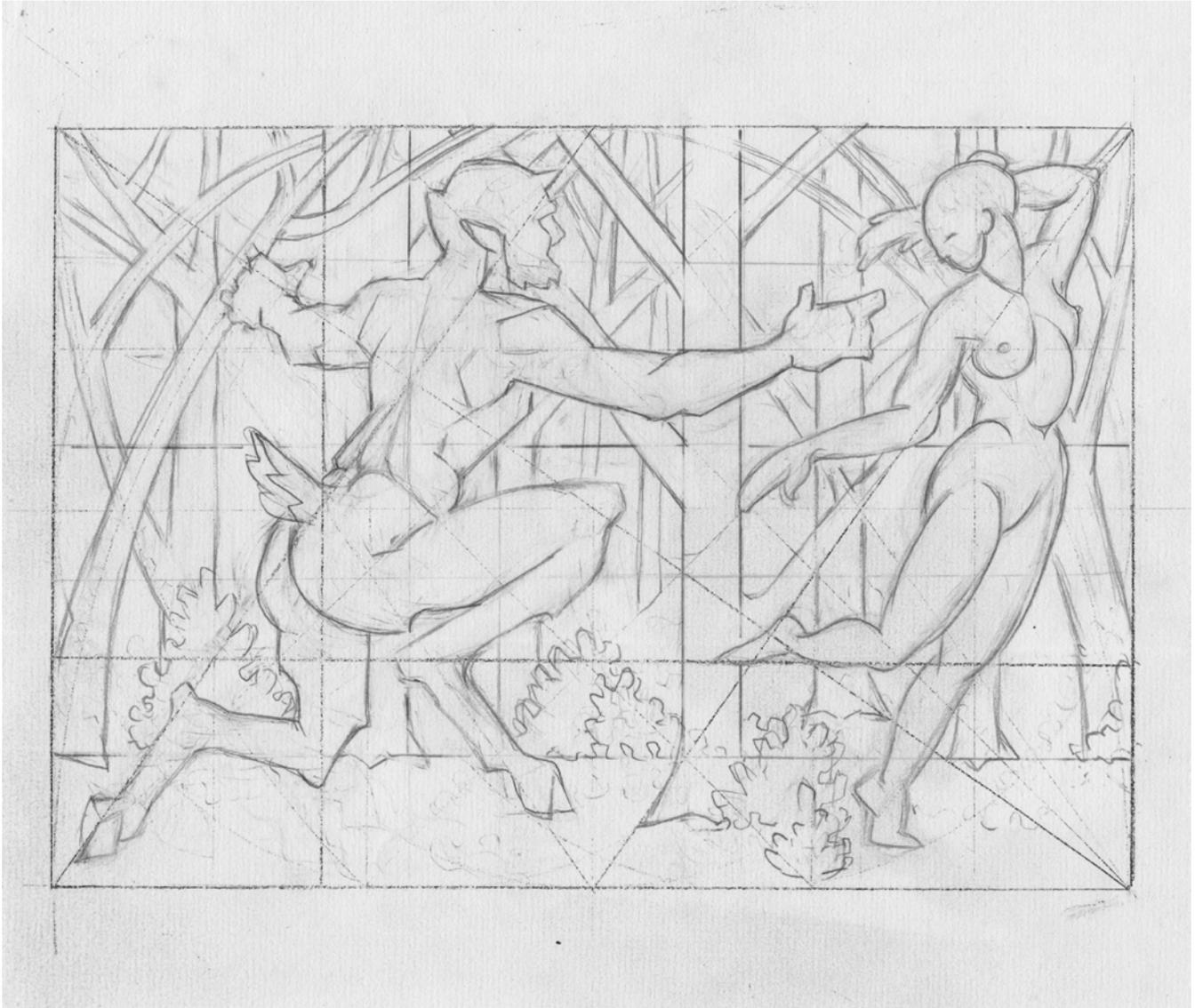
Nicholas Poussin, *Rinaldo and Armida*, redrawn on grid



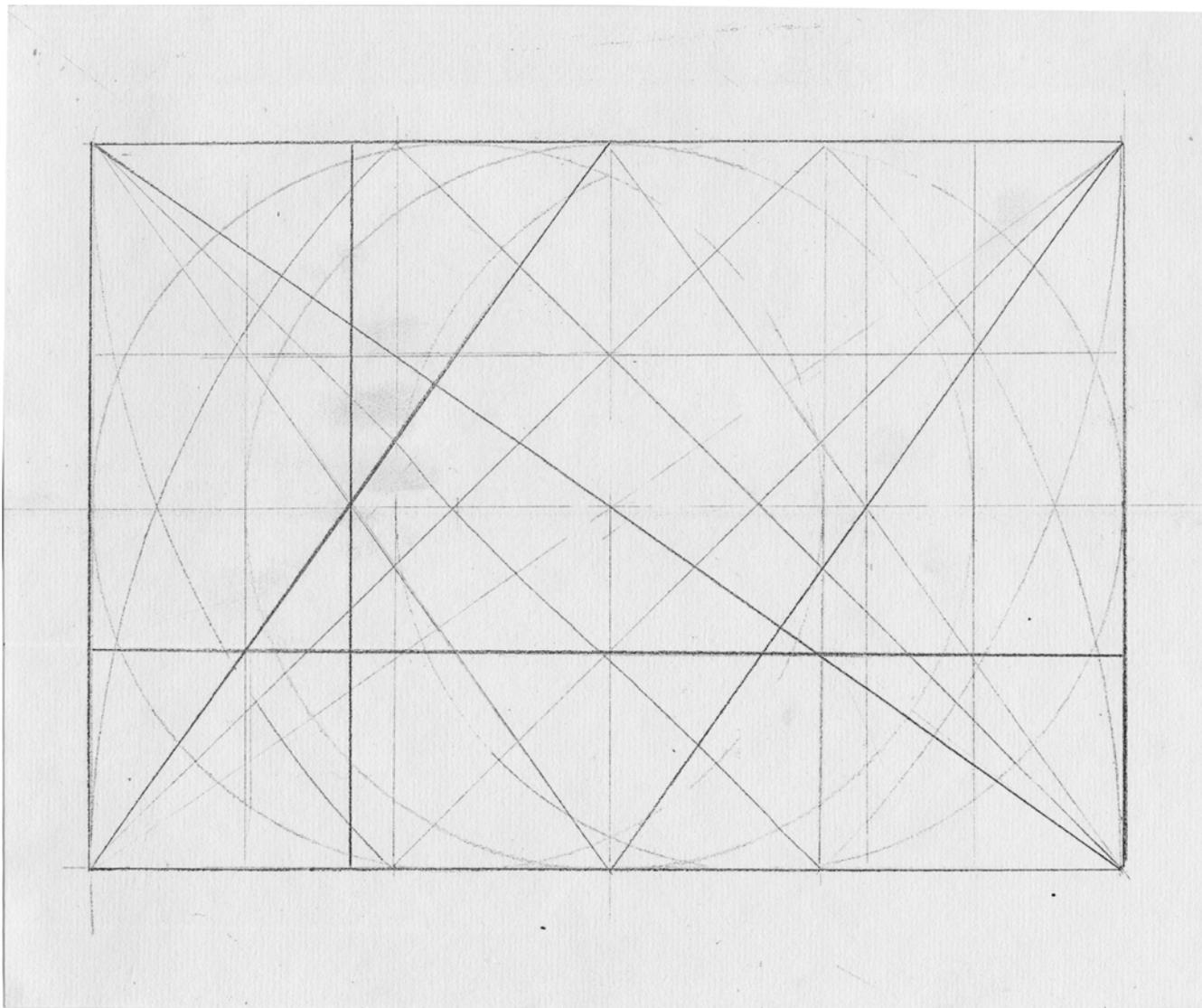
Piero Della Francesca, *The Resurrection of Christ*, composit



Willard Hall, *Classical Theme upon a Rabattement*



Willard Hall, *Rabattement*



* **WILLARD LEONARD HALL** is on the faculties of Rivier College and New Hampshire Institute of Art. His work is in private and university collections and has been shown in college and independent galleries. Willard works as an assistant to Robert Shure of Skylight Studios in Woburn, Massachusetts where he has been affiliated with numerous monumental and memorial sculptures of regional, national and international significance. Willard was apprentice stone cutter at Rock of Ages Corporation and carver at the studio of F.C. Gaylord. He earned his MFA, cum laude, from New York Academy of Art in New York City and BFA from Boston University.