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Lavinia Fontana's *Cleopatra the Alchemist*

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The purpose of this essay is to identify and analyze one of Lavinia Fontana's mysterious paintings, traditionally entitled *Cleopatra* but here considered to be an inventive portrayal of an ancient scientist, Cleopatra the Alchemist (ca. third century BCE). There are four parts to this study. The first is an iconographical analysis of the painting by Lavinia Fontana's *Cleopatra the Alchemist* (1605) at the Galleria Spada in Rome. The second section deals with the origin of the Egyptian Cleopatra the Alchemist as an Egyptian scientist and of her inventions, which include the alembic and the *ouroboros* motif. The third section consists of an emblematic comparison between the imagery in the painting and alchemical references. The last brief section considers problematic copies of the painting.

Keywords: alchemy, art, symbolism, serpent, *ouroboros*, famous women, alembic, Lavinia Fontana, Egyptian mythology, Plato's *Timaeus*, artistic forgery

Introduction

The representation of famous personages in the history of art is further expanded in the Italian sixteenth century. Artists and humanists continued with the classical and Renaissance traditions of immortalizing *uomini famosi* and *donne famose* (famous men and famous women).[1] The Italian painter from Bologna, Lavinia Fontana (1552-1614), during the sixteenth century followed this convention of representing *donne famose* in her depiction of *Cleopatra the Alchemist* of 1605-1614 at the Galleria Spada in Rome (Figure 1).[2]

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[1] See *Seutonius, Lives of the Caesars*, trans. Catharine Edwards (Oxford: Oxford University Press, 2009); *The Vespasiano Memoirs: Lives of Illustrious Men of the XVth Century*, trans. and eds. William George and Emily Waters (New York: Harper and Row, 1963); Robert G. Shearer, *Famous Men of the Renaissance and Reformation* (Austin: TX: Greenleaf Press, 1996); *Giovanni Boccaccio, On Famous Women*, trans. Virginia Brown (Cambridge, MA: Harvard University Press, 2003); Margaret Franklin, *Boccaccio's Heroines: Power and Virtue in Renaissance Society* (Burlington, VT: Ashgate, 2006), 16, n. 45, for a list of early Renaissance visual representation of famous men and women; Christiane Joost-Gaugier, "Giotto's Hero Cycle in Naples: A Prototype of *Donne illustri* and a Possible Literary Connection," *Zeitschrift für Kunstgeschichte*, 43 (1980): 311-318; Christiane Joost-Gaugier, "The Early Beginnings of the Notion of *Uomini famosi* and the *De viris illustribus* in Greco-Roman Literary Tradition," *Artibus et Historiae*, no. 6 (1982): 97-115; and Christiane Joost-Gaugier, "Poggio and the Visual Tradition: *Uomini famosi* in Classical Literary Description," *Artibus et Historiae*, no. 12 (1985): 57-74.

[2] See Maria Teresa Cantaro, *Lavinia Fontana, bolognese, "pittora singolare"*: 1552-1614 (Milan: Jandi Sapi, 1989), 210-221, for dating the painting between 1605-1614, while the artist resided in Rome. Other scholars date the painting to 1585 while Fontana was still residing in Bologna, see Federico Zeri, *Galleria Spada in Roma, Catalogo dei Dipinti* (Florence: Sansoni, 1954), 80; Vera Fortunati Pietrantonio, *Pittura Bolognese del Cinquecento*, 2 vols. (Bologna: Grafis, 1986), II:1731; 758; Angela Ghirardi, "Una pittrice Bolognese nella Roma del primo Seicento: Lavinia Fontana," *Carrobbio*, X (1984): 148-161, in particular, 159; and Silvia Urbini, "Entry on Lavinia Fontana's *Cleopatra*," in Vera Fortunati, *Lavinia Fontana of Bologna: 1552-1614* (Milan: Electa, 1998), 202-203.

The Galleria Spada acquired the painting through Bernardino Spada between 1627 and 1631 (Inv. n. 245) where it is still presently on view. According to the reference of the above scholars, the painting is in good condition and has suffered minor retouches in the corner of the right side due to a loss of pigment. I am grateful to Dr. Adriana Capriotti, Curator of the Galleria Spada, for confirming that no restorations have been done to the painting, even though it was exhibited in Cleopatra's shows at Bonn, Geneva and Madrid in previous years.

Figure 1. Lavinia Fontana, *Cleopatra the Alchemist*, 1605. Galleria Spada, Rome.
Photo credit: http://templeofapelles.tumblr.com/post/79067921699 and http://mzteeeyed.tumblr.com/image/79500528716.

Fontana painted this image during her residence in Rome, while working for the Pontificate of Paul V (Camillo Borghese, 1550-1605). The pontiff was a lover of art, as indicated by the decorative fresco cycle of 1615 in the Quirinale Palace. The cycle narrative contains events about the papacy engaging with foreign dignitaries from the Orient, Middle East and Africa:[3] Paul V was an astute diplomat involved in Middle Eastern cultural exchanges and envoys. In 1595, the pontiff engaged Pietro Paolo Guadagnoli, known as Filippo, who had joined the Order of the Caracciolini, to "initiate the study of oriental languages in Rome at the Church of Santa Agone."[4] In 1609, under the petition of the English military diplomat Robert Shirley (1581-1628), the pontiff sent a group of Carmelite missionaries to Safavid Persia to continue their apostolic and

[3] Mayu Fujikawa, "Pope Paul V's Global Design: The Fresco Cycle in the Quirinale Palace," *Renaissance Studies*, (November 2014): 192-217.
[4] See David Thomas and John Chesworth, eds., *Christian and Western Relations. A Bibliographical History: Western and Southern Europe (1600-1700),* 9 vols. (Leiden: Brill, 2017), 9: 749; and Christina H. Lee, ed., *Western Visions of the Far East in a Transpacific Age, 1522-1657* (London: Routledge, 2012), 197, for the depiction of members of the Persian Embassy in Rome (1616) in the decorative cycle of the Salone dei Corazzieri at the Quirinale Palace in Rome.

conversion activities.[5] These cultural events were probably noted by Fontana, especially when Pope Paul V requested that she painta two portraits: one of the Persian Ambassador residing in Rome, and the other of himself to be donated to the Ambassador. Unfortunately, both portraits are now lost.[6] However, Fontana's esoteric painting of *Cleopatra*, which I shall refer to as *Cleopatra the Alchemist*, visualizes the cultural aura of the Roman curia in promoting diplomatic relation with Persia and the Middle East.

Cleopatra the Alchemist: The Painting

The iconography of Fontana's *Cleopatra the Alchemist* is still unresolved. Several scholars such as Cantaro, Gherardi and Urbini have discussed aspects of the painting.[7] In *Cleopatra the Alchemist*, Fontana depicted the scene in an elegant interior setting with sparse furniture (Figure 1). From a dark background emerges a tall, standing, intarsia-panel or armoire on the right side of the painting, while hardly visible in the background of the left side of the painting there is a curtain. In the foreground on the left side of the painting, there is a small rectangular table covered with a red cloth composed of floral designs. On the table rests a large brass vase whose cover is being opened by a standing figure. In the center of the brass vase's decoration there is a representation of a wing-headed man with a long beard. Above it, on the neck of the vase, there is a continuous frieze depicting a vine formed by interlocking and reversed "C" letters. This formation of the letter "C" is repeated in the fingers of the female figure who is carefully opening the lid of the vase.[8] Surprisingly a snake emerges from the open vase. As if hypnotized by the figure, the snake rises to form an "S" curve shape and confronts the female figure.

The standing figure is depicted in profile and in a three-quarter view, and is elegantly attired with a silk laminated chemise covered by a bright red coat with short sleeves and velvet trims at the collar and sleeves. The figure is crowned with a conical tiara made of red Damascus cloth studded with precious jewels. Behind her, from the head down to her waistline, hangs a long white silk-veil with gold trim and alternating horizontal black and gold stripes. Gently the female catches the end of the veil with her left hand. Fontana's treatment of the veil is most inventive. This veils wraps around the figure's swan-neck, framing her beautiful Egyptian or Persian-type face. In addition, a shorter silk-veil, with the same designs as the long veil, enfolds around the tiara forming two arrangements: one is a large knot behind her head and the other is an extended veil that floats in front of her face and projects as a visor, which ends with a pointed fringe. Looking at the overall design of the veil, one sees the abstract formation of a reversed letter "C". This design is a repetition of the letter "C" composed of the female's fingers and also seen in the vase's neck motif. Ingeniously, Fontana has tacitly but visually entitled her work with multiple designs with the letter "C" referring to the name of the painted protagonist Cleopatra. But who is this ancient protagonist?

Examination of the elements in this room provides the *clavis interpretandi* of the identification of the female figure. On top of the armoire there are three sculptures, from left to right: an ibis, a female bust portrait and an ancient tripod vase. The bust portrait has been identified as Diana, the Moon Goddess.[9] The wooden

[5] See Richard Raiswell, "Sir Robert Shirley in the papal nobility (c. 1581-1628)," Entry in the *Oxford Dictionary of National Biography* (Oxford: Oxford University Press, 2004), online doi.10.1093/ref:odnb/25433 (accessed December 2017).
[6] See Cantaro, *Lavinia Fontana*, 210.
[7] See Cantaro, *Lavinia Fontana*, 210; Ghirardi, "Una pittrice Bolognese," 148-161; and Urbini, "Entry on Lavinia Fontana's *Cleopatra*," 202-203; and Anna Maria Fioravanti Baraldi, "Entry on Lavinia Fontana's *Cleopatra*," in Vera Fortunati, *Lavinia Fontana of Bologna: 1552-1614* (Milan: Electa, 1998), 78.
[8] Urbini, "Entry on Lavinia Fontana's *Cleopatra*," 203.
[9] See Cantaro, *Lavinia Fontana*, 210.

intarsia of the armoire or screen panel is filled with golden decorative motifs of circles, wheels, stars and abstract arabesque designs.

From the visual description of this exotic personage and her motifs included in the painting, the attribution of this female image as Cleopatra, the Queen of Egypt, is problematic. The traditional depiction of Cleopatra, from antiquity until the Renaissance, has focused on the moment of her committing suicide in a landscape or interior setting, where the figure is sitting or standing partially nude. The protagonist reveals her breasts, and an asp or serpent is biting them or her arms. Her depiction is of a "seductive beauty and tragic heroine,"[10] as seen in the early Christian fresco of *Death of Cleopatra* in the Catacomb in Via Latina in Rome; in Giovanni Boccaccio's *Cleopatra* of 1480 from *De casibus illustrium virorum et feminarum*, Chapter 13 (Book, 614 E V f. 330) at the British Library in London; in Piero di Cosimo's *Cleopatra* of 1480-1490 at the Musée Condé in Chantilly, France (Figure 2); in Giovanni Pietro Rizzoli (Giampietrino)'s *Death of Cleopatra* of 1525 in the Samek Art Gallery at Bucknell University, Pennsylvania (Figure 3); and in Michelangelo's drawing of *Cleopatra* of 1533 in Casa Buonarroti in Florence. But in Fontana's depiction, this type of drama is not found. On the contrary, the standing female figure is fully covered and veiled, while a serpent emerging from a brass vase engages in a dance, enticing the female. The female's garment is similar to an ancient sibyl (Babylonian, Hebrew or Egyptian) or a Persian noble woman.[11] All her surroundings are decorated with esoteric Middle Eastern or Persian designs.

Figure 2. Piero di Cosimo, *Simonetta Vespucci as Cleopatra*, 1490. Musée Condé in Chantilly, France. Photo credit: Public domain: en.wikipedia.org.

[10] See Dennis Geronimus, *Piero di Cosimo: Visions Beautiful and Strang*e (London: Yale University Press, 2006), 59-64, especially 59, for representations of Cleopatra in drawings, engravings and paintings, including Nicoletto da Modena, Marcantonio Raimondi, Agostino Veneziano, Domenico Beccafumi, Michele di Ridolfo Tosini, and Giorgio Vasari.

[11] Cantaro, *Lavinia Fontana*, 210.

Figure 3. Giovanni Pietro Rizzoli (Giampietrino), *Death of Cleopatra*, 1525. Samek Art Gallery, Bucknell University, PA. Photo credit: Public domain: Tviumi Art History.

In decoding the symbolism of this image, addressing historical and philosophical notions expounded in the Renaissance provides a possible source of identification. During the Florentine Renaissance, physicians and philosophers such as Marsilio Ficino (1433-1499) and Giovanni Pico della Mirandola (1463-1494) "revived pagan prophetic knowledge as part of the cultural syncretism in Neoplatonic philosophy;"[12] that is, the reconciliation of paganism with Christianity. The revival of Platonic ideals by Ficino's translations, in particular Plato's *Timaeus*,[13] provided insights into the metaphysical and physical sciences (*Timaeus* 28a); namely, dealing with the properties of the universe (*Timaeus* 31-33), the circular movements in the cosmos (*Timaeus* 34a), and the movement associated with the planets (*Timaeus* 36a-d). These philosophical quests were spread and voiced through the intellectual centers and universities of the sixteenth century in Italy, such as Bologna, Padua, Rome, and Venice.[14] The city of Bologna was one of the oldest, if not the oldest, centers of practical and theoretical studies in medicine and the sciences, where an anatomical library, science classes and

[12] Matilde Battistini, *Astrology, Magic, and Alchemy in Art* (Los Angeles, CA: J. Paul Getty Museum, 2004), 178.
[13] James Hankins, "The Study of the *Timaeus* in Early Renaissance Italy," in *Natural Particulars: Nature and the Disciplines in Renaissance Europe*, eds. Anthony Grafton and Nancy G. Siraisi (Cambridge, MA: MIT Press, 1999), 86; and James Hankins and Ada Palmer, *The Recovery of Ancient Philosophy in the Renaissance.* Quaderni di Rinascimento, 44 (Florence: Leo S. Olschki, 2008), 17.
[14] Kocku von Stuckrad, *Western Esotericism: A Brief History of Secret Knowledge* (London: Equinox, 2005), 44-61, on how the Renaissance reinvented the ancient world.

medical studies had been established since medieval times.[15] Famous female and male scientists taught medicine and related subjects, mathematics, and astronomy at the University of Bologna, such as the professors of sciences Dorotea Bocchi (1360-1436) and Laura Ceretta (1469-1499).[16] In the sixteenth century, Andreas Vesalius (1514-1564), for example, taught anatomy, wrote an anatomical treatise, *De Humani Corporis Fabrica Libri Septem* [*On the Fabric of the Human Body in Seven Books*], and lectured in 1543 in the first anatomical medical theater (the Archiginnasio Palace) in Bologna.[17] Ulisse Aldrovandi (1522-1605) was a professor of geology and natural history who taught about the formation of rocks and fossils in the earth. In addition to creating a botanical garden, he also composed an illustrated encyclopedia of plants from around the world.[18] Furthermore, the Bolognese community visually was reminded of the scientific discoveries by walking down the Via Zamboni, a historical street with arcades whose walls depicted the scientific discoveries in the sixteenth century. In the city of Bologna, for example, the Palazzo Poggi (1550) became a museum of science, whose ceilings were decorated by Niccolò dell'Abate and Prospero Fontana, Lavinia's father.

Studies by William Eamon assisted in understanding the connection between science, medicine and alchemy in Bologna during the sixteenth century.[19] His study on Leonardo Fioravanti (1517-1588), a well traveled Bolognese surgeon, alchemist and writer, demonstrates the associations between science, alchemy and art.[20] Hence, in the Italian Renaissance, alchemy was considered a science and was part of chemical investigations. Fontana, through her teaching at the University of Bologna, artistic patronage and her family cultural connections in Bologna, was undoubtedly familiar with these scientific investigations as well with the cultural diplomatic involvement of the Roman curia.[21]

Cleopatra the Alchemist*:* The Scientist

In analyzing Fontana's imagery of the female figure called Cleopatra, whose name means "Glory of the Father," it is probable that she is the ancient scientist and philosopher known as "Cleopatra the Egyptian Alchemist," "Cleopatra the Alchemist" or "Chrysopoeia (Transmitter of Gold) Cleopatra," who lived in

[15] Paul F. Grendler, "The Universities of the Renaissance and Reformation." *Renaissance Quarterly*, 57.1 (Spring 2004): 1-42; Brian P. Copenhaver and Charles B. Schmitt, *Renaissance Philosophy* (New York: Oxford University Press, 1992), 11-12; JSTOR. http://www.jstor.org/stable/1262373 (accessed November 2017). The University of Bologna's unique studies were the arts (philosophy) and sciences (geometry, mathematics, anatomy, astronomy and medicine).

[16] Sue Vilhauer Rosser, *Women, Science, and Myth: Gender Beliefs from Antiquity to the Present* (Oxford: ABC-CLIO, 2008), 27, and significant bibliography on the subject.

[17] Andreas Vesalius, *On the Fabric of the Human Body in Seven Books* [in Latin] (Basileæ: ex officina Joannis Oporini, 1543); and G. Roversi, "Il Teatro Anatomico," in G. Roversi, *The Archiginnasio. The Palace, the University, the Library* (Bologna: Grafis, 1988), 201-218.

[18] Barbara Di Gennaro Splendore, "Crafts, money and mercy: an apothecary's self-portrait in sixteenth-century Bologna," *Annals of Science*, Vol. 74, Issue 2 (2017): 91-107, published online 21 March 2017.

[19] See William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton, NJ: Princeton University Press, 1994), a text nominated for the Pulitzer Prize at that time; and William Eamon, *Professors of Secrets: Mystery, Medicine, and Alchemy in Renaissance, Italy* (Washington, DC: The National Geographic Society, 2010).

[20] Fioravanti's writings extend from treatises on surgery (*La cirurgia* [Venice: Heredi di Melchoir Sessa, 1570/158]) to alchemical and medical secrets (*Secreti medicinali* [Venice: Lodovico Avanzo, 1561]) and universal sciences (*Dello specchio di scientia universale* [Venice, Andrea Ravenoldo, 1567]), and *Il tesoro della vita humana* [Venice: Trallianus, 1582]).

[21] See Antonio di Paolo Masini, *Bologna perlustrate* (Bologna: V. Bernacci, 1668), 666; Margaret King, "Virgo et Virago: Women and High Culture," *Women of the Renaissance* (Chicago: The University of Chicago Press 1991), 157-239; and Caroline Murphy, "Lavinia Fontana, the making of a woman artist," in *Women of the Golden Age: an International Debate on Women in the Seventeenth Century,* eds. Els Kloek, Nicole Teeuwen, Marijke Huisman (Hilversum: Uitgeverij Verloren, 1994), 171-181.

Alexandria during the third century BCE.[22] There are three texts attributed to the philosopher and scientist Cleopatra the Alchemist: *One Weights and Measures*, *Chrysopoeia of Cleopatra* and *A Dialogue of Cleopatra and the Philosophers*,[23] this last referring to her intellectual accomplishments and discoveries. Probably, she trained in the sciences and divinity under Mary the Jewess at the School of Alexandria in Egypt. She was not only a scientist but also a devotee of Isis, the Egyptian Goddess of Wisdom, Power and Divine Mystery and, specifically, a Goddess of *Sacred* Magic.[24] Mary the Jewess was one of the founders of studies on alchemy in Alexandria.[25] During this ancient time, there were no intellectual or academic boundaries between the study of philosophy, religion and the sciences, "chemical knowledge meant deeper knowledge of the cosmos as a whole… a secret helping to understand the Order of Creation and maybe to master Nature."[26]

Figure 4. Roman statue of Isis, second century, CE.
Greek and Roman Antiquities, Kunsthistorisches Museum, Vienna, Austria. Photo credit: Public domain: commons.wikimedia.org.

[22] R. J. Forbes, "On the Origin of Alchemy," *Chymia*, Vol. 4 (1953): 1-11, especially, 10; and R. J. Forbes, *Metallurgy in Antiquity* (Leiden: Brill, 1950), 85-86; and Gareth Roberts, *The Mirror of Alchemy: Alchemical Ideas and Images in Manuscripts and Books From Antiquity to the Seventeenth Century* (London: British Library, 1994), 22-24.
[23] Margaret Alic, *Hypatia's Heritage: A History of Women in Science from Antiquity through the Nineteenth Century* (Boston: Beacon Press, 1999), 36-41 and 194. The attribution of Cleopatra the Alchemist's third book has been questioned.
[24] See M. Isidora Forrest, *Isis Magic* (Portland, OR: Abiegnus House, 2013), 31-54; and Anne Baring and Jules Cashford, *The Myth of the Goddess* (Baltimore, MD: Arkana, Penguin Books, 1993), 225-272, on Isis.
[25] Sherwood F. Taylor, "A Survey of Greek Alchemy," *The Journal of Hellenic Studies*, 50 (1930): 109-139.
[26] Forbes, "On the Origin of Alchemy," 4.

The studies of philosophy and religion, like those of the sciences, were investigations into the understanding of the spiritual formation of the cosmos. In Egyptian mythology, Isis was considered a Goddess of Sacred Magic.[27] In the Farnese Collection of ancient art in the National Archeological Museum in Naples, e.g., a Roman statue of Isis dating to the 2nd century CE, wearing a veil with a palmette motif and sun crown, holds in one hand a vessel of water, symbol of life and purification, and a lotus in her other hand, alluding to the land of Egypt (Figure 4). Her purple attire refers to her royal divinity and its folds reveal the knot of Isis. This type knot is known as a *tyet* or amulet. Knot magic was well known in Egypt from an early period; for example, an inscription in one of the pyramids states: "Isis and Nephthys work magic on Thee [Osiris] with knotted cords."[28] This notation explains how the religious myth is associated with the color purple, a chemical component, and a knot, a geometrical format. The association of color and shape were linked with the configuration of the planets and the universe in ancient astronomy and cosmology.[29]

Alexandria of Egypt was well known as a cultural melting pot of the Mediterranean region, whose cultures included Greek, Egyptian, Chaldean, Hebrew and Persian. Major libraries were built with immense collections of manuscripts (that of Alexander the Great and Serapio) and academies (the School of Alexandria and Temple of Serapis) were founded to host scholars who wanted to acquire or impart knowledge of literary, philosophical, religion and scientific studies. Socio-political and religious controversies caused the destruction of these libraries and the collapse of the academies. Most of the manuscripts and documents of the Alexandrian libraries were first destroyed by fire when Julius Caesar, in conquering Egypt, burned the ships in the harbor of Alexandria, causing the fire to spread into the city. Some of the documents that survived were further destroyed during the massacre on "the month of March during Lent"[30] and in the second burning of the Library of Alexander the Great and the Temple of Serapis or Serapium (Serapio) in 391.[31]

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[27] Forrest, *Isis Magic*, 31-54; and Baring and Cashford, *The Myth of the Goddess*, 225-272, on Isis.
[28] Forrest, *Isis Magic*, 31-54.
[29] Eva Heller, *Psychologie de la couleur* (New York: PYRAMID, 2009), 179-184, for the color purple being associated in ancient cultures with divinity, magic, mystery and piety; and Joshua J. Mark, https://www.ancient.eu/article/999/color-in-ancient-egypt/ (accessed January 2017).
[30] See Socrates Scholasticus (380 BCE-439 CE) in *Historia Ecclesiastica* (VII. 15). For an English translation of *Historia Ecclesiastica* (*Ecclesiastical History*), see A. C. Zenos publication as *Nicene and post Nicene Fathers*, eds., Philip Schaff and Henry Wace, 2 vols. (Buffalo, NY: Christian Literature Publishing Company, 1890); and Theresa Urbainczyk, *Socrates of Constantinople: Historian of Church and State* (Ann Arbor, MI: University of Michigan Press, 1997).
[31] Matthew Hanrahan, "Paganism and Christianity at Alexandria," *University Review*, Vol. 2, No. 9 (Spring 1962): 38-66.

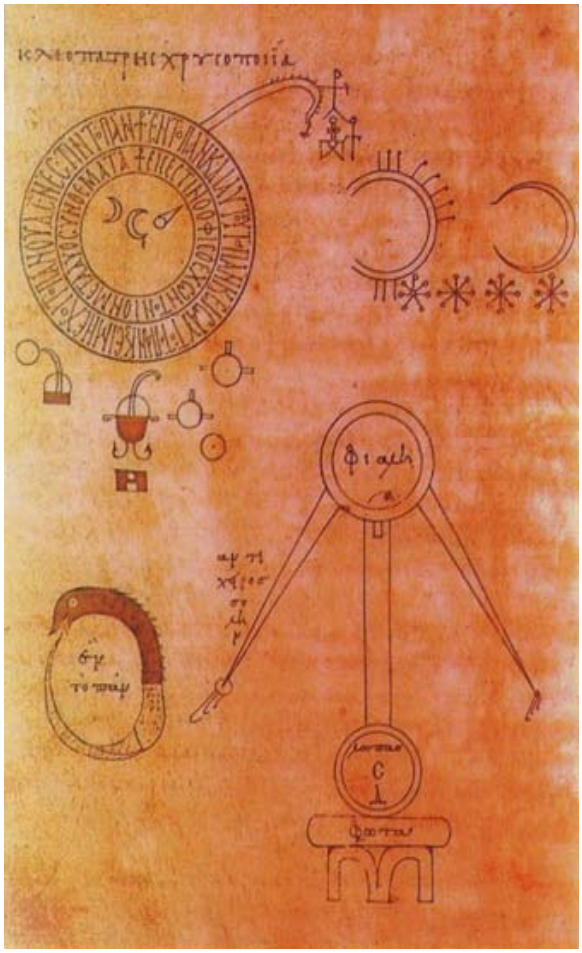

Figure 5. Folio of *Cleopatra Chrysopoeia* from *Codex Marcianus graecus* (MS 299 X-XII).
Photo credit: Julia Millesima and Hermolaous Parus, Labyrinth Designers and the Art of Fire.
https://www.labyrinthdesigners.org/alchemic-pictures/codex-marcianus-ouroboros/.

One of the surviving documents from Alexandria is the *Codex Marcianus graecus* or MS 299 X-XII, now located the Biblioteca Marciana in Venice, which is an original Egyptian manuscript written during the Hellenistic period (Figure 5). The *Codex* was found in the tenth or eleventh century. This *Codex* was part of Marcellin Berthelot's *Collection of Ancient Greek Alchemist* in the nineteen century.[32] This manuscript contains a folio or single scroll in vellum, which is attributed to Cleopatra the Alchemist or Cleopatra Chrysopoeia because of the writing on the top left hand of the folio that reads "Cleopatra Chrysopoeia." This folio, referred to as *Chrysopoeia*, the Greek word for transmutation into gold, also contains numerous geometrical diagrams with short notations dealing with the scientific composition for making gold as well as alluding to mystical significations.

To analyze with this folio with clarity, and also in relation to Fontana's painting, I have abstractly divided

[32] Marcellin Berthelot, *Collection of Ancient Greek Alchemist*, 3 vols. (Paris: G. Teinheil, 1887); Alic, *Hypatia's Heritage*, 36-41 and 194; and https://www.labyrinthdesigners.org/alchemic-pictures/codex-marcianus-ouroboros/. Two other copies of the folio in *Codex Marcianus graecus* are found at Leiden University as *Codex Leiden X* and in Stockholm as *Papyrus Graecus Holmiensis*. See E. R. Caley, "The Stockholm Papyrus: An English Translation with brief notes," *Journal of Chemical Education*, IV: 8 (1927): 979-1002; and Marianne Offereins, Renate Strohmeier, Jan Apotheker, and Livia Simon Sarkadi, eds., *European Women in Chemistry* (Wiley-VCH GmbH & Co. KGaA, 2011), 5 and 6.

the imagery in the folio into two parts, left and right, describing the content and symbolism from top to bottom. On the left, at the top, a diagram contains three concentric circles with inscriptions of specific proportions. In the first circle the writing states: "One is All and through it is All, and by it is All, and if you have not All, All is Nothing." The second circle reads: "One is the serpent, which has within the poison with two components." In the center of these two circles, there is a third circle with the symbols of gold, silver and mercury. A snake-like or tube-like form emerges from the top of these circles to connect with a *synthemata*, a Greek term for divine signs; that is, the energetic force created by the union of two opposites. This image is seen as a cluster of signs whose design and symbolism are unidentifiable.[33]

Still on the left side of the folio, below these three circles, is a small red cauldron-like object; that is, warmed by a candle; the heat seems to produce a vapor, indicated by a connected tube, which appears to form floating circles (bubbles) with extended lines. There is another smaller cauldron on the left also indicating the formation of bubbles by vapor.

Perpendicular to and below this group of designs is an *ouroboros*, composed of two opposite colors: the top is red-like or black and below it is of lighter color or white.[34] The colors are symbolic of the dualism of the natural forces of light and dark. The Egyptian symbolism of the *ouroboros* is associated with Hermetic wisdom.[35] Through the centuries, this concept—well known in the intellectual circles for its particular design and inscription, in this folio *en to pan* (One is All)—was associated with the *ouroboros* (a snake eating itself) the snake that, while encircling, bites its own tale (Figure 6).[36]

Figure 6. Ouroboros from Codex *Marcianus graecus* (MS 299 X-XII).
Photo credit: Julia Millesima and Hermolaous Parus, *Labyrinth Designers and the Art of Fir*e.
https://www.labyrinthdesigners.org/alchemic-pictures/codex-marcianus-ouroboros/.

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[33] Leonard George, "Between Eros and Anteros: The Reaching of Iamblicus," http://apamea.weebly.com/–between-eros-and-anteros-the-teachings-of-iamblichus.html (accessed December 15, 2017), for the ancient philosopher Iamblicus's *synthemata*, a term used for sacred signs, which provided testimony of the gods' presence.

[34] See Offereins et al., eds., *European Women in Chemistry*, 5 and 6.

[35] Erik Hornung, *Conceptions of God in Egypt: The One and the Many* (Ithaca, NY: Cornell University Press, 1982), 163-164.

[36] The name originates from the Greek language: *oura* meaning tail, and *boros* meaning eating, hence "he [serpent] who eats the [its own] tail." See Dana Michael Reems, *The Egyptian Ouroboros: An Iconological and Theological Study* (Los Angeles, CA: University of California Press, 2015), 324-350; Alexander Roob, *Alchemy & Mysticism* (London: Taschen, 1997), 421-427; and 846.

On the right of the folio, below the *synthemata* cluster, there are two crescents and four stars. These are incomplete circles: one double-ring circle has eight lines projecting like tubes, alluding to the physical transformations of turning lead into silver.[37] Below these designs there is a drawing of a *dibikos*, an alchemical tool for distillation or alembic, which is composed of two circles connected by a long tube. From the top circle two tubes hang diagonally. Above the furnace of the still there is the word *phota* (flames or lights). Cleopatra the Alchemist is credited to be the first inventor of alembic, the early tool for distillery and technical process of furnaces, as well as the design and concept of the *ouroboro*s (One is All).[38]

There are intellectual analogies between the earliest alchemist writers, such as Mary the Jewess and Cleopatra The Alchemist, with Plato's metaphysical and physical sciences, in particular with his ideas about substance and its transformation found in the *Timaeus*.[39] "Cleopatra the Alchemist employed the image of the *ouroboro*s to reflect notions about conception and birth, the renewal and transformation of life."[40] Similar metaphors are also found in Plato's *Timaeus* (28a) for understanding about life's transformations. This treatise influenced later alchemists in their approach to metaphysical and physical sciences as well as the early Neoplatonists, in particular in the metaphysical sciences in relation to concepts of imagination and revelation.[41]

The Painting and Alchemy

Not accidentally, the objects sitting atop the armoire in the painting—an ibis, a bust of Diana, and a tripod vase—are associated with complex religious iconography. The ibis is a sacred bird in Egyptian theology and is associated with Thoth, the God of Wisdom, Learning and Writing.[42] Probably following the cult of Isis, the devotee Cleopatra the Alchemist abided by the ritualistic and spiritual conventions in making offerings to Isis and Diana or Artemis, the Goddess of Nature. In Egyptian mythology, Thoth, the God of the Gods, invented the arts, the alphabet, astrology, and the sciences (astronomy, medicine, botany), while in classical mythology Thoth was identified with the Greek divinity as Hermes (Mercury) a messenger of the gods and then as Hermes Trismegistus (Thrice Great Hermes).[43] For the Egyptian, the ibis was sacred; its stride of one cubit was employed as a measuring device in religious temples,[44] its curved beak was associated with a crescent moon and its *pschent* (double crown) was tinted red.[45] The crescent moon shapes are seen in the *Codex*'s folio as

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[37] Marianne Offereins, et al., eds. *European Women in Chemistry*, 5 and 6.

[38] Taylor, "A Survey of Greek Alchemy," 109-139.

[39] See Forbes, "The Origin of Alchemy," 1-11; and Hamed Abdel-reheem Ead, Professor of Chemistry at Faculty of Science-University of Cairo Giza-Egypt and director of Science Heritage Center, http://www.frcu.eun.eg/www/universities/html/shc/index.htm (accessed December 21, 2017).

[40] Roberts, *The Mirror of Alchemy*, 22.

[41] See http://www.frcu.eun.eg/www/universities/html/shc/index.htm (accessed December 21, 2017).

[42] J. E. Cirlot, *A Dictionary of Symbols* (New York: Philosophical Library, 1962), 148; and Donald B. Redford, *Ancient Gods Speak* (Oxford: Oxford University Press, 2002).

[43] See Lucia Gahlin, *Egypt: Gods, Myths and Religion: A Guide to Egyptian Religion* (London: Lorenz Books, 2002), 46-47; Walter Scott, ed. and trans., *Hermetica: The Writings Attributed to Hermes Trismegistus* (Brighton Clifford, UK: Solo Press, 1993), 39-45. In the Italian Renaissance, the physician and philosopher Marsilio Ficino was commissioned in 1463 by Cosimo the Elder de' Medici to translate into Latin a recently acquired Hermes Trismegistus's *Corpus Hermeticum* (*Hermetic Body of Writings*) of the third century CE (printed in 1471). See Copenhaver and Schmitt, *Renaissance Philosophy*, 127-143, on Ficino, especially, 146-147 and 160 on Ficino and *Hermeticum*. This mythical treatise encompassed ancient astrology, philosophy and theology as well as esoteric discourse and was probably written in Egypt. See Clement Salaman, Dorine Van Oyen, William D. Wharton and Jean-Pierre Mahé, *The Way of Hermes: New Translations of the Corpus Hermeticum and the Definitions of Hermes Trismegistus to Asclepius* (Rochester, VT: Inner Traditions, 2000).

[44] Cirlot, *A Dictionary of Symbols*, 148.

[45] Barry John Kemp, *Ancient Egypt: Anatomy of a Civilization* (London/New York: Routledge 2006), 92; but in *Natural History* (8: 27), Pliny the Elder provided a different allusion for the beak of ibis that its shape of a clyster (enema) was a symbol of health.

well as in the numerous "C" reverse designs in Fontana's painting, e.g., the finger's gesture, the veil's composition and the vase's decoration.

The background of the painting provides an explanation for the figure in the foreground (Figure 1). The first acroteria object is an ibis, a sacred bird of Isis, perpendicularly located above the veil knot of the figure; in Egyptian mythology, the knot (*tyet*) is referred to as the "Girdle of Isis" meaning "being an emblem of life and symbol of immortality."[46]

Figure 7. The Furnace of the Great Mother, engraving.
Frontispiece from Urban Hjärne, Actorum Chemicorum Holmensium, 1712.
Photo credit: Johannes Fabricius, *Alchemy* (London: Diamond Books, 1994), 54.

The second acroteria object is the bust of Diana (Artemis), Goddess of Nature, who represents the Great Mother in alchemy, herself a symbol of a vessel and receiver in the process of distillation (Figure 7),[47] as seen in the *Codex*'s folio with Cleopatra's invention of alembic; hence the connection with other alchemical allusions in the painting such as the brass vase, the veil, and the crescent or "C" designs. Traditionally, the shape of the crescent recalls the phases of the moon, and in particular, in classical antiquity, Diana—sister of Apollo the Sun God—is identified as his planetary counterpart the Moon; thus Diana, the Moon Goddess, is a

[46] Jean Chevalier and Alain Gheerbrant, *A Dictionary of Symbols*, trans. John Buchanan-Brown (Oxford: Blackwell, 1994), 576.
[47] Johannes Fabricius, *Alchemy: The Medieval Alchemists and Their Royal Art* (London: Diamond Books, 1994), 54.

symbol of female mutability and natural phenomenon.[48]

The third acroteria object is the tripod vase; according to Pliny the Elder, the tripod or tree-footed vase was used in religious offerings in classical times and was associated with Pythian oracles, in particular with the Delphic oracle and Apollo, God of Sun and Light.[49] The tripod vase represented also a symbol of achievement and gratitude and was used for sacrificial offerings, as seen in the Roman relief of first century CE in the Glyptothek in Munich, Germany. In the painting, the depiction of the ibis, veil knot, crescent, and the tripod vase represents Cleopatra the Alchemist's great success as a female in the field of scientific discoveries, esotericism, and prophecy, granting her immortal status.

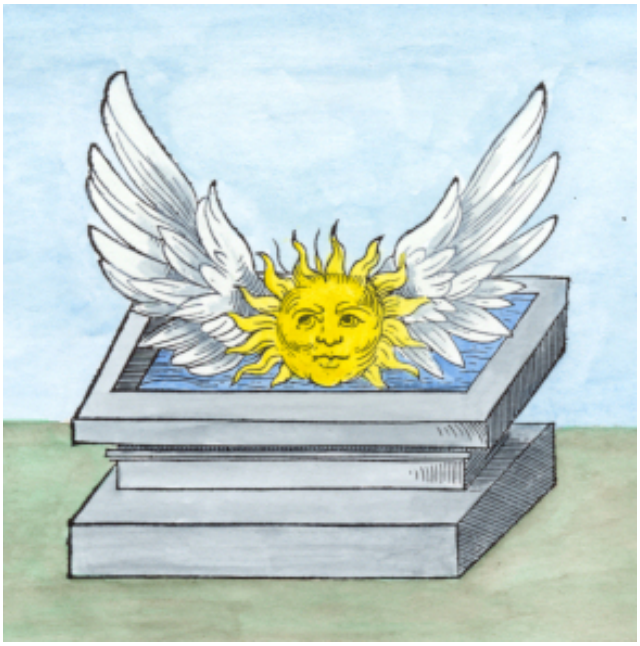

Figure 8. Illuminatio, woodcut from *Rosarium philosophorum sive pretiosissimum donum Dei* (*Rosary of the Philosophers*), 1550. Photo credit: Public domain. en.wikipedia.org.

All the armoire objects are Egyptian mythical connections in the painting in the background, which assists in identifying the foreground protagonist. The armoire's intaglio decorations with circles, wheels and stars allude to the cosmic world and the eternal realm.[50] These alchemical allusions, found in the designs on fontal panel of the armoire, are also repeated in the acroteria sculptures on the armoire as well as on the table. The large brass vase illustrates on its protruding area a winged head of an old man. This image resembles the alchemical conception of *Illuminatio*, visualized in a woodcut from *Rosariumphilosophorumsivepretiosissimumdonum* (*Rosary of the Philosophers*), an illustrated manuscript of 1550, where the winged sun arises from a container of water (compare Figures 1 and 8).[51] The caption has several interpretations, the most common is "Here Sol plainly dies again, and is drowned with the Mercury of

[48] Chevalier and Gheerbrant, *A Dictionary of Symbols*, 243; Adele Nozedar, *The Illustrated Signs & Symbols Sourcebook* (New York: Metro, 2008), 63, for the association of the crescent moon with Diana as Moon Goddess.
[49] See K. Jex-Blake, trans., and E. Sellers, ed., *The Elder Pliny's Chapters on the History of Art* (London: MacMillan and Co., 1896), 13.
[50] Fabricius, *Alchemy*, 191, 194, and 197.
[51] This sixteenth-century alchemical treatise was published as part II of *De Alchimia Opuscula complura veterum philosophorum* (Frankfurt: Cyriacus Jacobus, 1550), see Fabricius, *Alchemy*, 144-145. The Latin edition of *Rosarium philosophorumsive pretiosissimum donum Dei* is in the Biblioteca Vaticana, MS RegLat 1278.

the Philosophers." Even though the caption is misleading, attesting to a dying sun, the image demonstrates the resuscitation of the sun from fire (the heat of the sun) through water. Similarly in Fontana's painting, the snake rises from the interior of a vase once the lid is raised. The depiction of the snake in a vase and surfacing from a vase is commonly seen in alchemical texts where the reptile goes through transformations—a reference to the nature of the snake, which sheds its skin in order to develop and grow, becoming a symbol of change, death and rebirth and a cyclical recurrence of life (compare Figures 1 and 9).[52] While in Hermetic terms a golden vase, in Fontana's painting a brass vase, is a symbol of secret powers, "the place where miracles occur," hence "the secret of transmutation,"[53] as indicated by the appellation of Cleopatra the Alchemist as Chrysopoeia Cleopatra, her alchemical transformation of gold, her invention of alembic, and her invention of the *ouroboros* motif as symbol of wholeness.

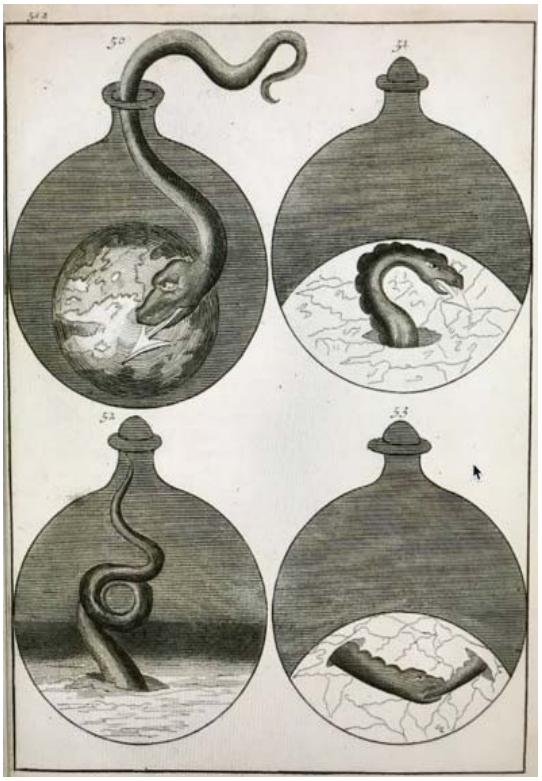

Figure 9. Mercurial Snake, woodcut from Joseph Conrad Barchusen, Elementa Chemiae (Elements of Chemistry). (Leiden: Theodorum Haak, 1718), 513.

In Fontana's painting, these several renditions with alchemical allusions support the identification of the person in the painting as Cleopatra the Alchemist. The formation of crescents is similar to the reverse letter "C" seen in the figure's finger gesture, the veil design encompassing the figure in profile, and the vase's frieze decoration. There are other motifs that further allude to the esotericism of this figure; namely, the dancing

[52] Fabricius, *Alchemy*, 144, 152, and 154; and Joseph Conrad Barchusen, *Elementa Chemiae* [*Elements of Chemistry*], Third Part: *De Alchimia vel Chrysophoeia* [*Of Alchemy and Transmutations*] (Leiden: Theodorum Haak, 1718), 481-59, especially 513. The round shape of the lid vase resembles an ancient container, an alchemical receptacle, and not a pitcher as illustrated in the engravings of Enea Vico (1523-1567). He was a numismatic and an engraver who illustrated vases from antiquity with grotesques and fantasy in *Le imagine delle donne auguste* of 1557 and the *Serie di vasi antichi* of 1560. See Urnini, "Fontana's *Cleopatra*," 203.

[53] Chevalier and Gheerbrant, *A Dictionary of Symbols*, 1061.

movement of the snake in an "S" shape suggests a figure "8", a symbol of infinity;[54] and the knot of the veil in the figure's headdress, being diagonally positioned in relation to the statue of ibis on the armoire, relates to both the shape of the mathematical number or figure "8", like the dancing snake, and to the Isis's knot (*tyet*), symbols associated with cult of Isis.[55] The design and natural accuracy in the depiction of the serpent shows Fontana's familiarity with Aldovrandi's collection on serpents (compare Figures 1 and 10).[56] Both the knot, horizontally placed, and the "S" shape of the serpent—as well as the reference to the Italian word "serpente" ("serpent" or "snake")—allude to the formation of the figure "8", an alchemical symbol of infinity or "the manifestations of the infinite… and a symbol of regeneration,"[57] like the snake's natural mutation and the *ouroboro*s's full circle (compare Figures 1 and 11).

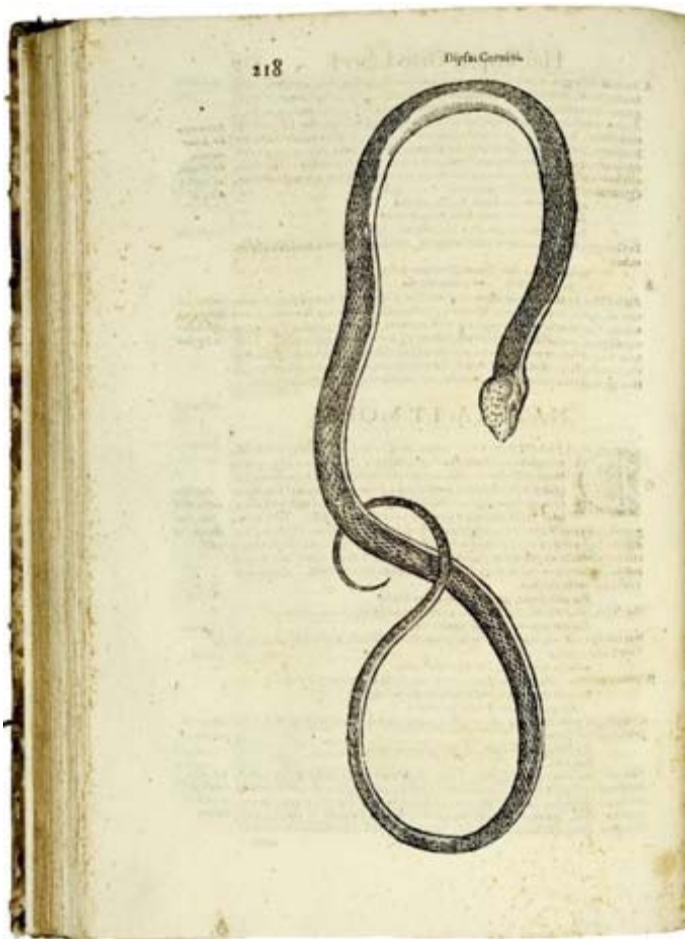

Figure 10. Serpent, engraving from Ulisse Aldrovandi, *Serpentum et Draconum Historiae libriduo.* (Bologna: Bononiae, apud Clementem Frerronium, 1640), 218.

[54] Chevalier and Gheerbrant, *A Dictionary of Symbols*, 343, for "8" as a mathematical symbol of infinity.

[55] Knot magic was well known in Egypt from an early period, for example, an inscription in one of the pyramids states: "Isis and Nephthys work magic on Thee [Osiris] with knotted cords." See Forrest, *Isis Magic*, 31-54; Baring and Cashford, *The Myth of the Goddess*, 225-272; Richard H. Wilkinson, *Symbolism and Magic in Egyptian Art* (London: Thames and Hudson, 1999), on Isis; and Nozedar, *The Illustrated Signs & Symbols Sourcebook*, 103 and 162, *tyet* as a symbol of binding magic; and 95 and 398, for the figure eight as a symbol of infinity and renewal.

[56] Paula Findlen, *Possessing Nature: Museums, Collecting and Scientific Culture in Early Modern Italy* (Berkeley, CA: University of California Press, 1994), 18.

[57] Cirlot, *A Dictionary of Symbols*, 164 and 223; and Chevalier and Gheerbrant, *A Dictionary of Symbols*, 343, for "8" as a mathematical symbol of infinity, and 846, for the serpent as a cosmic symbol.

Figure 11. Infinity symbol or figure "8", fourth century CE, Roman mosaic pavement. Regional Museum of History, Stara Zagora, Bulgaria.

Furthermore, the attire and pose of Fontana's *Cleopatra the Alchemist* recalls an ancient Persian prophetess or sibyl from Babylon or Egypt, as noted in *Antiquitates rerum divinarum*, by the Roman historian, Marco Terenzio Varro (116-27 CE),[58] who composed a list of the ten sibyls, the oldest being the Persian by Pausanias in *Descriptions of Greece*, X12.9, as seen in the *Persian Sibyl* of the fifteenth century, an engraving after Baccio Baldini (1436-1487) and Michelangelo's *Persian Sibyl* of 1511, fresco ceiling, Sixteen Chapel in the Vatican, depicting a veiled and pious scholar (compare Figures 1 and 12).[59] Hence, Fontana depicted a union between the scientific and alchemist scholar and the ancient wise Sybil. A congenial association, since the protagonist Cleopatra the Alchemist was a visionary scientist who invented distillation and distillery apparatus as well as the alchemical image of the *ouroboros*, a symbol of eternity. Ingeniously too, Fontana, the painter, invented a portrait that both immortalizes a historical famous woman (*donna famosa*) and herself as an accomplished Bolognese female artist of the sixteenth century. Therefore, Fontana's painting, traditionally and generally referred as *Cleopatra*, should specifically be identified and entitled *Cleopatra the Alchemist* (Figure 1).

[58] Varro's original document has perished but the list of the ten sibyls is cited in Lactantius's *Divinae Institutiones*, I: 6, in particular 7.18.8, comments on the Persian sibyl and on the snake as her attribute.

[59] See John J. Collins, *Seers, Sibyls and Sages in Hellenistic-Rome Judaism* (Boston, MA: Brill, 2001), 185; and Herbert William Parke, *Sibyls and Sibylline Prophecy in Classical Antiquity* (London: Routledge, 1988).

Figure 12. Baccio Baldini, after, *Persian Sibyl*, 1480s, engraving. Rosenwald Collection (1943.3.1322). National Gallery of Art, Washington, DC. Photo credit: NGA/Image.

Coda

During her artistic career, Fontana was influenced by her father's Mannerist style and the Bolognese school of the Carracci Brothers as well as by Francesco Mazzola, il Parmigianino (1503-1540) in terms of the color and softness in renditions. There are similar copies composed in the nineteen and twentieth centuries of Fontana's composition of *Cleopatra the Alchemist*, but representing the imagery of another historical female heroine, Matilda da Canossa of the Middle Ages.[60] In the sixteenth-century, the Cremonese painter, Giuseppe Rivelli, composed portraits of Cleopatra as well as of Matilda da Canossa, now in the Museo Diocesano of

[60] Paolo Golinelli, *I mille volti di Matilde: immagini di un mito nei secoli* (Milan: Federico Motta, 2004), for a historical interpretation of Matilda of Canossa (1046-1115) also called Matilda of Tuscany. She was an extraordinary noble woman, warrior and empress, who owned castles and conquered lands in the Northern parts of Italy, including Bologna. After two disastrous marriages to Godfrey the Hunchback of Lorraine (1040-1076) and the Holy Roman Emperor Henry IV of Germany (1050-1106), she took refuge in her castle at Canossa (Province of Reggio Emilia) and sought the friendship of Pope Gregory VII (1025-1085). This Pope was a reformer of the Roman Liturgical rite, the elimination of simony and clerical marriages. H. E. J. Cowdrey, *Pope Gregory VII, 1073-1085* (Oxford: Clarendon Press, 1998).

Mantua or Museo of Francesco Gonzaga in Mantua (compare Figures 1 and 13).[61] The suggested attribution of Giuseppe Rivelli is problematic in terms of the dating and artistic quality as well as his questionable career.[62] Rivelli's *Portrait of Matilde of Canossa*, for example, raises stylistic questions that it was a copy after Parmigianino.[63] Specifically, a secular portraiture with an unusual rigid profile and a peculiar decoration, e.g., the lack of ornaments in the conical crown and the stiffness of the visor and the veil wrapped around the neck, are questionable attributes. As are a lack of sensualism and over elaboration seen in the female attire: the trimmed and embroidered collar of the chemise, the velvet green cape whose brown large collar is decorated at the edges with large pearls, and the large coral clasp with pearls fastens the cape or jacket.

A second portrait of *Matilde of Canossa* or *Matilda of Tuscany*, also attributed to Rivelli, depicts a half-length figure, facing left instead of right, elegantly dressed with a conical crown, and with the same treatment of a veil framing the long neck and protruding as a visor in front of the forehead.[64] The gold trim decorates the chemise's collar, which is covered by an elaborate coat or jacket. The gold-brown collar of jacket, whose edge is embellished with grey pearls, is similar to those seen in previous Rivelli portraits. Golden buttons and pearls of the same design as the collar fasten the jacket. Curiously, the velveteen jacket is covered with astral designs of circles and stars similar to the decoration found in the wooden panel of Fontana's armoire in the painting of *Cleopatra the Alchemist*. In both of these portraits attributed to Rivelli, the facial features in the treatment of the aquiline nose, nostrils and sensual lips are pronounced when compared with Fontana's painting.

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[61] I am grateful for the electronic communication from Director and Monsignor Roberto Brunellli and Dr. Marco Rebuzzi of June 7, 2018, confirming that the painting was originally displayed in the Cathedral of Mantua, and attributed to Giuseppe Rivelli of the XVI century but being a copy of the XIX century. Without documentation Rivelli's painting has been traditionally considered a copy after a Parmigianino painting. See article posed on July 22, 2013 by J. P. Kirsch (Catholic Encyclopedia) http://www.nobility.org–/2013/07/22/matilda-of-canossa/ (accessed May 26, 2018). In addition, Giuseppe Rivelli painted a Cleopatra as a half-length figure in profile, holding an asp toward her breast in 1544. See Vincenzo Lazari, *Notizie delle opere d'arte e d'antichita della raccolta Correr di Venezia* (Venice: Tipografia del Commercio, 1850), entry 83: 2 (Inv. 82), painting signed 1544; and for the image see, http://catalogo.fondazionezeri.unibo.it/scheda.v2.jsp?tipo_scheda=OA&id=36067&titolo=–Rivelli%20Giuseppe,%20Allegoria%20della%20Prudenza&locale=en&decorator=layout_resp&apply=true#lg=1&slide=0.

[62] A. G. de Marchi, "Lo strano caso del pittore, poeta (e falsario?) Giuseppe Rivelli," in *Bollettino d'arte*, s. 6, LXXXV (2000), 114: 73-78.

[63] Mary Vaccaro, *Parmigianino: The Painting*s (Milan: Umberto Allemand, 2006).

[64] For images see, https://commons.wikimedia.org/wiki/–File:Mathilde_von_Tuszien_(Rom_16Jh).jpg.

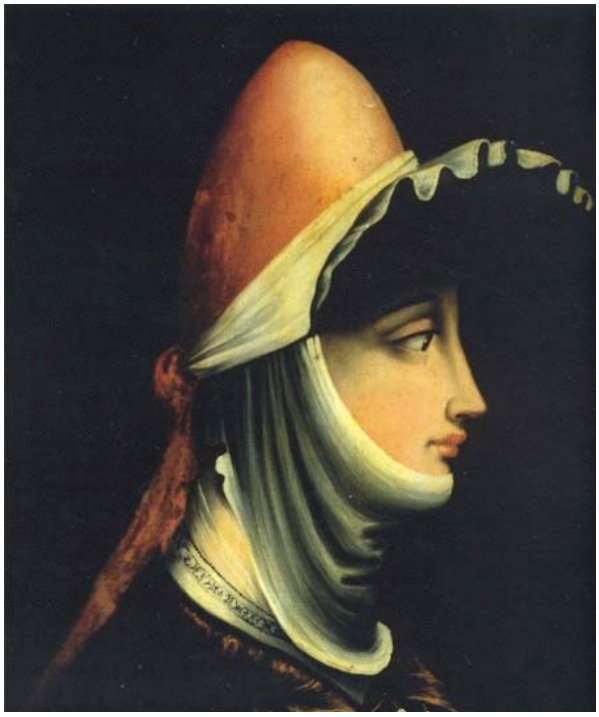

Figure 13. Giuseppe Rivelli, after, *Matilda da Canosssa*, c. 1540. Museo di Francesco Gonzaga, Mantua.
Photo credit: Public domain: commons.wikimedia.org.

Figure 14. Giuseppe Rivelli, after, *Matilde of Tuscany*, c. 1540. Location: Unknown.
Photo credit: Public domain: commons.wikimedia.org.

The overall compositional design, facial resemblance and treatment decorations among these three portraits are similar: Rivelli's after Parmigianino's *Matilda of Canossa* of 1540, Rivelli's *Matilda of Canossa* of 1544, both nineteenth century copies, and Fontana's *Cleopatra the Alchemist* of 1605, which may suggest several assimilations on the part of these painters. Perhaps there was a prototype for Rivelli and Fontana, or perhaps Fontana's *Cleopatra the Alchemist* was the prototype for these sixteenth-century and modern copies. A more speculative possibility is that these two questionable modern copies after Rivelli portraits are copies of Fontana's paintings executed at different periods in her career. Hence Fontana's prototype is of her own creativity, depicting famous historical figures like Matilda of Canossa and Cleopatra the Alchemist, indicated by the astral-alchemical decorations on the jacket. Hence, an intriguing art historical puzzle.

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