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REFLECTIONS ON CANVAS: CARAVAGGIO AND THE DEVELOPMENT OF OPTICAL STYLE

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At the height of his career, Baroque painter Michaelangelo de Mersi Caravaggio was revered for his ability to foster a heightened sense of realism never before seen upon the canvas. However as recent scholarship and a renewed interest in the history of artistic methodology reveal, the artist may have utilized optical devices such as a single lens to project reflections of his subjects upon the canvas. Due to the limitations of such devices, spatial discontinuity and unnatural proportion are just two of the discrepancies which have affected the realism and overall unity of his artwork. Caravaggio worked with naturalism in mind and therefore would have used the optical device as an aid in heightening the realism of his work. While certain aspects of his paintings such as facial expression and light remained raw and naturalistic, the overall unity of the works were compromised, consequentially creating fragmented spaces with subjects who were emotionally and physically disengaged from each other. These aspects can be attributed to the use of the lens, which was only capable of reflecting one figure at a time. Permeating Caravaggio's canvases these discrepancies also influenced his followers, the Caravaggisti. With noticeable visual elements recalling the effects of Caravaggio's optical device, his followers have adopted these discrepancies as stylistic traits within their paintings. This paper will examine Caravaggio's alleged use of optical devices and the subsequent effects which have impacted his followers.

Author's Biography:

Eleanor Harper is a recent graduate of Minnesota State University-Mankato, having received her Bachelors Degree in the History of Art in May 2007. A Minnesota native, Eleanor spent her childhood on a small hobby farm, where she was home schooled by her parents until the age of 16. She spent the next two years at Normandale Community College, where a study-abroad excursion to Athens Greece inspired her to declare Art History as her primary course of study. At Minnesota State University-Mankato, Eleanor has had the privilege of studying Art History with her mentors Alisa Eimen and Curt Germundson. Aside from her interest in the history of art, Eleanor developed a strong passion for the German language, comparative religion, and experimenting with her own artwork. She was one of the founding members of the Minnesota State University Art History Round Table, and served as the President for the 2007 Spring Semester. Eleanor will be an intern in the Minneapolis Institute of Arts Education Department for the summer of 2007 and plans to continue her study of Art History in graduate school. In the future, Eleanor hopes to utilize her interest and dedication to Art History by teaching others.

Eleanor's research project began taking shape after she was introduced to the work of artist/scholar David Hockney. His research on the practice of utilizing optical devices in painting prompted her to look closely at how specific visual elements have been affected by such instruments. Her project was made possible by an MSU Foundation Grant which enabled her to conduct primary research at the Metropolitan Museum of Art and the Frick Gallery in New York City.

Faculty Mentor's Biography:

Curt Germundson is associate professor in the Art Department at Minnesota State University, Mankato, where he has taught Art History courses since 2001. He received his BA in 1988 from the University of California at Berkeley in 1988 and his Ph.D. from the University of Iowa in 2001. Dr. Germundson has published articles on the German collage artist Kurt Schwitters and is particularly interested in the way Schwitters transforms the early 20th century discourse on the Gothic Cathedral into a synthesis of "private" and "public."

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"In our times, Michelangelo de Caravaggio arose in Rome with a new dish, prepared with such a rich succulent sauce that it has made gluttons of some painters, who I fear will suffer apoplexy in the true doctrine."
-Vincencio Carducho

At the height of his career, Baroque painter Michaelangelo de Mersi Caravaggio was revered for his ability to foster a heightened sense of realism never before seen upon the canvas. However as recent scholarship and an emerging interest in the history of artistic execution reveal, the artist likely utilized optical devices such as a single lens to project reflections of his subjects upon the canvas.[1] In addition to the multitude of advantages associated with optical devices, spatial discontinuity and unnatural proportion are just two of the varying discrepancies, which have affected the realism and overall unity of his artwork. Caravaggio worked with naturalism in mind and therefore would have used the optical device as an aid in heightening the realism of his work. While certain aspects of his paintings such as facial expression and light remain raw and naturalistic, the overall unity of the works were compromised, ultimately creating fragmented spaces with subjects that were emotionally and physically disengaged from each other. These aspects can be attributed to the use of the lens, which was only capable of reflecting one figure at a time. Permeating Caravaggio's canvases these discrepancies also influenced his followers, known as the Caravaggisti. With noticeable visual elements recalling the effects of Caravaggio's optical device, his followers unknowingly adopted these discrepancies as stylistic traits within their paintings.

There are few aspects of Michaelangelo de Mersi Caravaggio's life and art which have

1 Scholar David Hockney and physicist Charles Falco spent several years together researching the possible use of optical devices in artworks produced as early as 1430. They have cited Robert Campin and Jan van Eyck as two of the innovators of this technique. Their research stems from primarily visual evaluation, combined with study of historical documents. In 2001 the pair released a film and book titled: Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters. Published only one year later, scholar Philip Steadman relayed his research on Johannes Vermeer and the camera obscura in his book titled: Vermeer's Camera: Uncovering the Truth behind the Masterpieces.

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not been scrupulously examined by scholars. With a life, career, and reputation augmented by such romanticized qualities as rebellious violent behavior, a disregard for traditional artistic techniques[2], and rumored homosexual tendencies, there is much beyond his celebrated work itself that has drawn so many to the artist. While vast studies of Caravaggio's life and work have been, and are being conducted, the emerging scholarship reveals the use of new technology playing a role not only in his work, but also in that of his followers, the Caravaggisti. Therefore, we can look to Caravaggio as the father of a new optical technique, and unknowing creator of a style which emerged from the optical device.

Naturalism is a term that simultaneously characterizes and contradicts the work of Caravaggio.[3] As we will see, Caravaggio was known, criticized, and celebrated for his ability to imitate nature and represent realism upon the canvas. However his use of optical instruments introduces a third element that can in certain terms completely uproot his former identity as a painter. The natural and appealing compositions he produced may have been the product of light and lens rather than solitary artistic genius.

This element of naturalism with which Caravaggio is known and associated was not always favored by his contemporaries or later critics. Time and acceptance of style was necessary before the public and art world would embrace his new radical bravura[4]. Giovan Bellori, a 17th-century biographer of Caravaggio, noted: "It is said that the ancient sculptor Demetrius was so intent upon the likeness that he took more pleasure in the imitation of things than in their beauty; we have seen the same in Michaelangelo de Merisi, who recognized no

2 Harris, Ann S. 17th Century Art & Architecture. Upper Saddle River: Pearson Education, Inc., 2005.

3 "Naturalism" and "realism" are used in many forms. In this context, the terms are used simultaneously to reference forms and light true to nature.

4 According to scholar Alfred Moore, Caravaggio was often compared very unfavorably to his contemporaries, having had one artist, Baglione "condemn him as the ruination of painting." Moir, Alfred. The Italian Followers of Caravaggio. Cambridge: Harvard UP, 1967.293.

other master than the model; and without selecting from the best forms of nature, what is astonishing to say, it seems he sought to surpass art without art."[5] Bellori and his contemporaries favored Mannerism, which embraced the visual pleasures of beautiful forms derived from imagination and creativity rather than direct observation. Therefore, Caravaggio's stark reality would have appeared radical and unappealing.

From Caravaggio's earliest paintings, imitation rather than invention was his focus, bringing him both fame and criticism. *Death of the Virgin*, completed in 1602, was thought to reflect such vulgar humanistic qualities that it was refused by its patrons[6]. Generally, evaluation of Caravaggio is based upon his expert skill at imitation and depicting dramatic reality, or upon his rebellious technique and raw vulgarity. However, based on recent research, we can propose an entirely new Caravaggio who sought out realism through observation and found satisfaction in representation of everyday life. He bypassed traditional methods of painting and took part in a secretive innovation in painting. The optical device would have provided him with the opportunity to explore a heightened realism and the ability to paint in an even more life-like manner. [7]

Caravaggio's interest in realism was not impressed upon him by his master. In 1584, the young Italian was apprenticed to Mannerist Simone Peterzano, a Milanese painter of moderate talent and reputation[8]. Employing extreme *maniera*, typical of Mannerist works, Peterzano's paintings were florid images of warm flesh and vibrant fabrics, never reaching the maturity and

5 Bellori, Giovan P. The Lives of the Modern Painters, Sculptors, and Architects. Trans. Alice Sedgwick. York: Cambridge UP, 2005.

6 Harris, 35

7 Optical devices used during the early Renaissance through Baroque periods ranged from the camera lucida, camera obscura, concave mirror, and lens. Caravaggio is most closely associated with the concave mirror and lens.

8 The term Mannerism stems from the Italian word *maniera* which can be translated in English as "style". Emerging in Italy in the 1520's, Mannerism spread quickly throughout Europe. Perhaps influenced by late Gothic art, Mannerism emphasized graceful forms, attenuated figures, and over-emphasized beauty.

raw realism of his pupil. It must be acknowledged however, that Peterzano's intentions were not to represent the natural upon the canvas, but to visually bolster what he already saw. What stimulated Caravaggio's obvious deviation from Mannerism is not fully understood. However, his exploration of and dedication to realism had a significant impact upon the art movement in Italy, which contributed to the rise in Baroque values and corresponding disregard for Mannerism's stylistic traditions. [9]

While Caravaggio's interest and steadfast imitation of life are certainly visible, there exists a subtle, more complex visual phenomenon within his paintings. As one examines specific works, spatial relationships, fragmentation, and a collage-like quality become increasingly apparent. While one may not notice such illusionistic qualities within individual figures often rendered very naturalistically, in fact the entire composition itself is overpowered by spatial discontinuity and a lack of cohesion. Figures appear layered, as though rendered upon the canvas successively rather than collectively, thus limiting the capacity for three dimensional space. *Salome with the Head of the Baptist* (Fig.1) occupied Caravaggio's brush more than once. Great sensitivity was applied to the representation of Salome's facial features, yet she bears no physical relationship with her surroundings. As previous scholars have suggested, such visual discrepancies are most likely the product of optical instruments, used as an aid in heightening realism[10]. The use of optical devices have been suggested in the works of many artists, from Northern Renaissance painter Roger van der Weyden and Dutch Baroque painter Johannes Vermeer, to Spanish Baroque painter Diego Velázquez.

9 The Baroque emerged as a reaction to Mannerism. The style can be characterized by simple theatrical compositions which focused upon raw emotional drama.

10 Artist/Scholar David Hockney has done considerable research on the use of optical devices. Through visual research, he has established a time and place where optical devices were first introduced to painting. Moreover he has selected specific artists and artworks believed to have been made with the aid of the optical device.

Utilization of the optical device can yield invisible results contributing to realism; however, it also has the capacity to reveal itself negatively upon the canvas. Visual discrepancies are most clearly visible in Caravaggio's early genre scenes; there are specific characteristics such as mismatched eye lines and figural layering, which visibly allude to the use of an optical device. They are less often seen in large-scale multi-figural works, due to the magnitude of space and number of models needed. Since his first public works, critics noted Caravaggio's attention to detail and naturalistic renderings. This notion is apparent in the young artist's painting titled *The Musicians* (Fig.2) also known as *Concert of Youths,* which was completed in 1595[11]. At first glance, we are presented with a voluptuous allegory of music and pleasure, a scene replete with soft folds of white and scarlet drapery, crisp sheets of music notes, and succulent fruits. The foremost musician's gentle touch upon the lute strings nearly creates sound. Beyond the aesthetic pleasure of the painting, we are also confronted by a very modern composition, which draws upon notions of montage through repetition and layering of the same model.

As scholar David Hockney has suggested, Caravaggio most likely employed a concave mirror, which is evidenced by the size, characteristics of light, and related discrepancies visible in his paintings. This instrument, combined with dramatic bright light would have been placed in such a way as to reflect an image of the model upon the painted surface. From this position, Caravaggio would have been allowed to make rough outlines of the figure, or even paint *alla prima*, directly on the canvas. It is widely known that no preparatory drawings of Caravaggio's have ever been found, a notion that aggravated his contemporaries[12]. In addition to the lack of pre-painting preparation, there exists several works that contain remnants of traced images

11 Gash, John. Caravaggio. London: Jupiter Books Limited, 1980. 35.
12 Harris, Ann S. 17th Century Art & Architecture. Upper Saddle River: Pearson Education, Inc., 2005. 35.

directly on the canvas[13]. The meaning and use of these tracings is unclear; however, they could easily have been made during the initial composition of the painting, used as figural markers.

Utilizing the same model repetitively, Caravaggio's musicians occupy only their own physical and psychological space. Logically, these figures should be separated from each other spatially as they are on three receding planes, yet they remain the same in scale and visual precision. Hence we are presented with a work of layering and compression, which evokes notions of the optical device in its repetition, clarity, and stark demarcation of individual form.

Created around the same time as *Concert of Youths*, *The Cardsharps* (Fig.3) visually introduces a negative product of the optical device: discrepancy. Although three figures are rendered within this space, compositionally it is a painting with little cohesiveness and no perceptible depth. As we have seen before, the foremost model is utilized twice, appearing as both the cheat as well as the naive youth on the left hand side. The central figure glances down at his fellow player's cards, and yet his gaze is misdirected. Rather than improving his own chances, he stares unnaturally at the back of the naive youth. These two figures appear to be on the same spatial plane, with the central figure awkwardly and illogically to the left of the naive youth. Scholar Mieke Ball noticed the unique relationship between these figures stating: "All three figures are almost separate emblems: they are not connected as human figures; they are only visually, not psychologically or narratively, engaged with one another[14]." Ball noticed the peculiarity of this work, yet attributes its oddity to an attempt at complex narrative and composition. A much more simple and logical answer lies with the optical device.

Caravaggio's stiff disconnected figures are often attributed to poor training, a lack of

13 Bauer, Linda, and Steve Colton. "Tracing in Some Works by Caravaggio." University of California, Irvine Fall 2006. 434-436.

14 Ball, Mieke. Quoting Caravaggio: Contemporary Art, Preposterous History. Chicago: University of Chicago P, 1999. 77.

preparatory drawings, or more simply, inexperience[15]. However if examined closely, each individual figure, in particular facial features, are rendered naturalistically, with precise detail and attention to realism. Caravaggio's sensitivity to reproducing the glow and softness of flesh as well as the precision of lute strings attest to his skill. In describing Caravaggio's *Cardsharps* scholar Ann Harris states: "Caravaggio's familiarity...informs the precise, almost pedantic, description of the fabric, skin, and facial features[16]." Thus Caravaggio's skills in representing human flesh and fabric are evident, and yet scholars have noticed the peculiar spatial relationship existing between these so called "stiff" figures. While one can attribute mismatched eye lines and disconnected figures to the use of live models with no preparatory drawings to mark physical placement, there are also elements that allude to the optical device. For instance, the attention to detail within the clothing and facial expressions is great, and each figure appears to be "highlighted" individually as though the sole focus of light, thus each occupying his own centrality within the work. His paintings have engaged scholars not only for their ingenuity, but also for their perceived modernity. Caravaggio's interest in representing an observed reality as well as the incorporation of reflective instruments appears a precursor to modern forms of photographic processes. Therefore his works appear more life-like and ahead of their time.

While Caravaggio's contemporaries were most likely unaware of his use of optical devices, it is clear that his style greatly influenced and inspired Baroque painting. It is also apparent that a particular compositional layout was established by Caravaggio not long after his own success, which was frequently adopted and appropriated by his followers. This format consists of a stark, dark background illuminated by intense dramatic light. There are typically several figures present, taking part in the daily pleasures of music or games or representing a

15 Harris, Ann S. 17th Century Art & Architecture. Upper Saddle River: Pearson Education, Inc., 2005.
16 Harris, 36

scene or theme of the Bible. Viewers will immediately notice a collage-like quality of layering and compression of figures reflecting the influence of Caravaggio. The paintings discussed earlier represent the nucleus of his early work and share many of the same characteristics, which together represent this template of visual elements that were by-products of the optical device.

We can account for this structural composition through the capabilities of the optical device. According to artist and scholar David Hockney: "With a mirror-lens projection, the usable image is never much more than a foot (thirty centimeters) across--this is an optical characteristic of all concave mirrors, no matter how big they are. Outside this 'sweet spot' it is impossible to the get image into sharp focus. Paintings made with the help of a mirror-lens must therefore be very small, or must be a collage of small glimpses..."[17] While Caravaggio's paintings generally feature life-size models, we know that he could not have used the lens to reflect his entire image, rather he would have focused upon one figure at a time, which ultimately would have led to the fragmentation and layering of his figures upon canvas.

As Mannerism faded from popularity, Caravaggio burst upon the art scene with such vibrancy, monumentality, and "command of naturalism" that he attracted patrons and followers from a wide locality, some of whom had never seen his work[18] . His style was adopted, propagated, and encouraged, as can be seen in this encomium by Van Mander in 1603: "This is a certain Michel Angelo of Caravaggio, who is doing remarkable things in Rome...as regards his way of painting, it is such that it is very pleasing in an exceedingly handsome manner, an example for our young artists to follow."[19] To be considered a Caravaggisti, one was not simply expected to paint in the manner of Caravaggio, but to scrupulously adopt his style and subject

17 Hockney, David. Secret Knowledge, Rediscovering the Lost Techniques of the Old Masters. 2nd ed. New York: Penguin Group, 2006. 103.
18 Spear, Richard E. Caravaggio and His Followers. Cleveland: The Cleveland Museum of Art, 1971.16.
19 Spear, 19

matter. However, artists were fortunate to simply meet Caravaggio, much less achieve an instructional relationship. The artist would naturally have been secretive of any use of the optical device, as it may have discredited him as an artist. He took no apprentices, and disliked appropriation of his style. Scholars Linda Bauer and Steve Colton have stated: "The artist's desire to discourage imitators of his style is documented and well known, but it may not have extended to a profitable replication of his own paintings."[20] Therefore, his followers were left to blindly reproduce his style and manner, with no artistic direction or encouragement from him.

Caravaggisti Dirck van Baburen was born near Utrecht and flourished as a painter not long after Caravaggio himself. In 1612 he traveled to Rome, and by the 1620s his works were replete with Carravagesque qualities[21]. Perhaps the most distinct example is the *Backgammon Players* completed in 1622. Fundamentally reminiscent of Caravaggio's *Cardsharps*, this group of merry gamers could easily have been playing at a nearby table. Adopting the simple stark background, Baburen has also borrowed a similar arrangement of figures. Richly dressed, these gentlemen interact with each other and appear to share a common space. While one may notice a layering affect akin to Caravaggio's card players, here we have a much more cohesive work, with models linked in space through soft modeling and overall a less imitative and more painterly aesthetic. As Bellori would have argued, there is art in Baburen's work rather than imitation. The stark clarity and delineation of figures in Caravaggio's work has been replaced by the coalescence of Barburen's brush stroke. Therefore, we appear to have Baburen embracing the brush stroke, as a mechanism enabling visual cohesion, which is not visible in Caravaggio's early works.

As Caravaggio's style made its way around Italy, one of Caravaggio's most faithful

20 Bauer, Linda, and Steve Colton. "Tracing in Some Works by Caravaggio." University of California, Irvine Fall 2006. 434-436.

21 Spear, 40

followers was Naples native Giovanni Battista Caracciolo. He most likely encountered Caravaggio's work there and then later in Rome where he was inspired to produce his most Caravaggesque paintings[22]. *Salome receiving the Head of the Baptist,* a popular subject of the time, was painted by both Caravaggio and Caracciolo (Figs. 1 and 5). Both works are extremely similar in composition and style, yet there are subtle differences in light and spatial relationship between the two paintings, which imply different methods of painting, specifically the optical device. Caravaggio's version relates the somber atmosphere through muted colors and gruesome imagery. The three figures present are unrelated to each other in space and emotion. This is visible compositionally through Caravaggio's ever-present stark delineation of figures, which is emphasized by a spot light effect that further isolates the figure. The light is unnatural and falls awkwardly upon the two leftmost figures. There exists little differentiation in depth between these two figures forcing them onto the same spatial plane.

In contrast, Caracciolo creates drama through vibrant color and subtle expression. While borrowing from Caravaggio's visual vocabulary, he unifies his painting with naturalistic light and illusionistic depth. Bright light is cast upon the figures as though emanating from a single source, indicating that the figures posed for this painting collectively.

As scholar Richard Spear states, empirical observation was the basis upon which Caravaggio painted. The artist's skill in assuming the role as intermediary between the subject and the canvas was profound. Yet such naturalism is compromised by the optical device, creating a contradiction between intent and execution. Nevertheless, his fame and renown as an artist had an impact on the art world to such an extent that young aspiring artists followed him blindly into a world of image, realism, drama, and hidden reflections. As such a historically attractive figure, new research on Caravaggio appears limited, however, through the recent theses focused on

22 Spear, 61

Caravaggio's use of optical devices, a new identity for the artist can be formed. Art Historians can approach the artist with a new frame of mind, and have the ability to open fresh doors to his life and artistic production. Perhaps such study will uncover the allure of Caravaggio and his paintings which appear so humanistic and moving.

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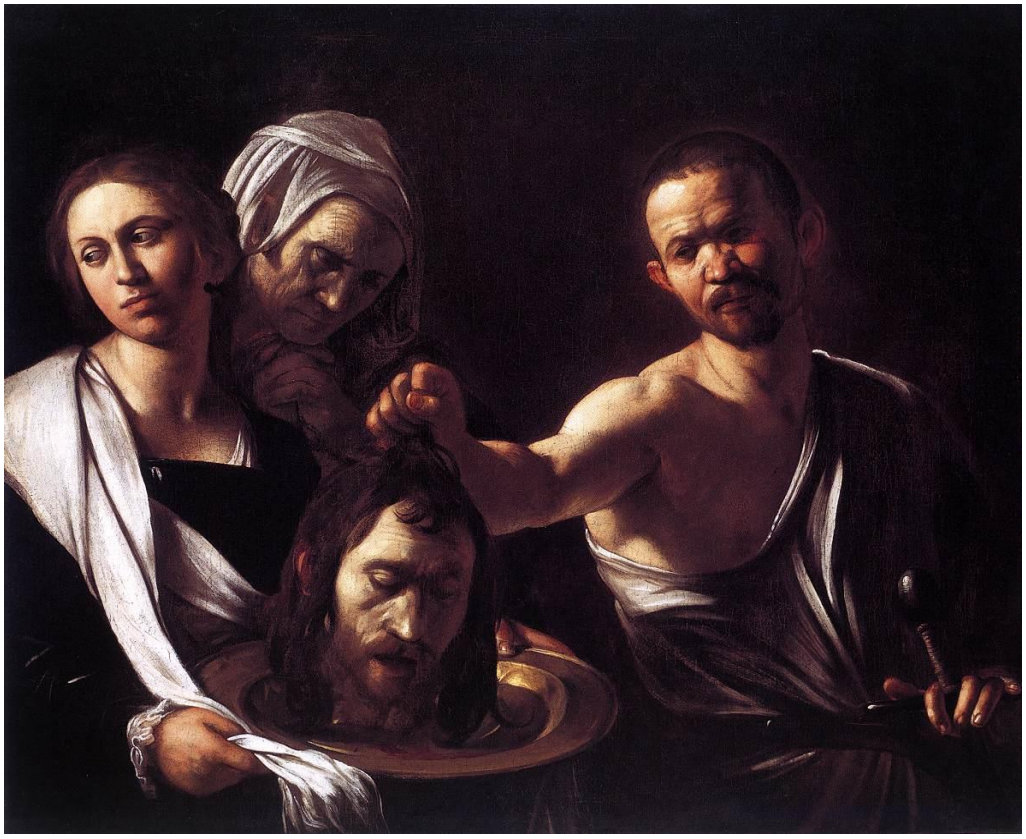

Fig 1. Caravaggio *Salome with the Head of St. John the Baptist* 1607

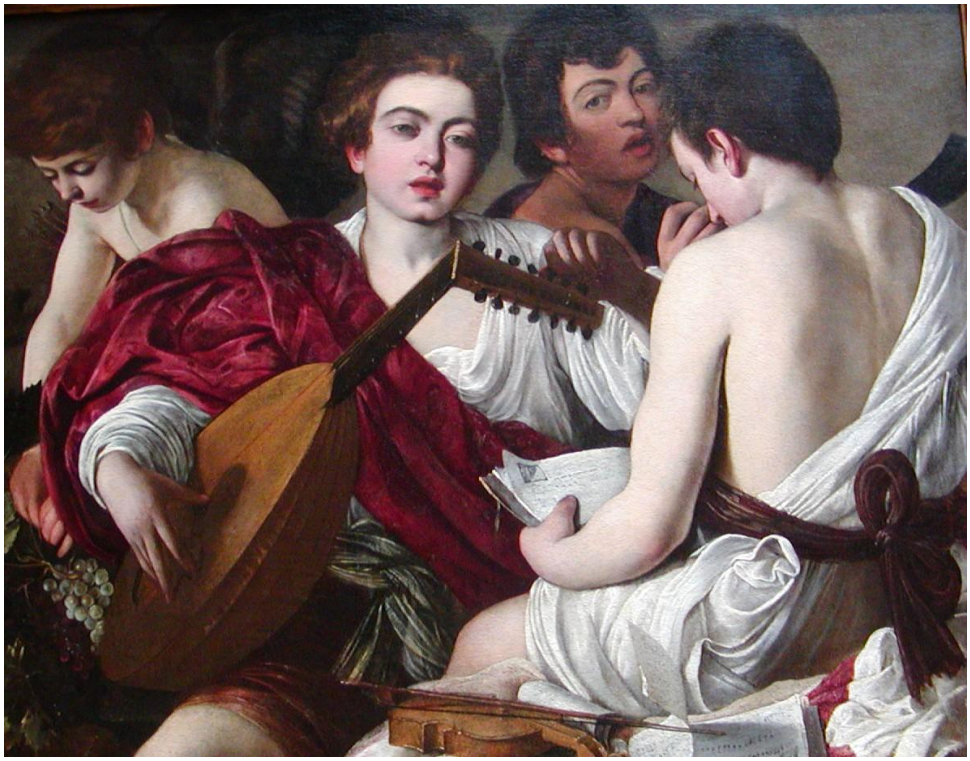

Fig. 2 Caravaggio *The Musicians* c. 1595 Oil on Canvas

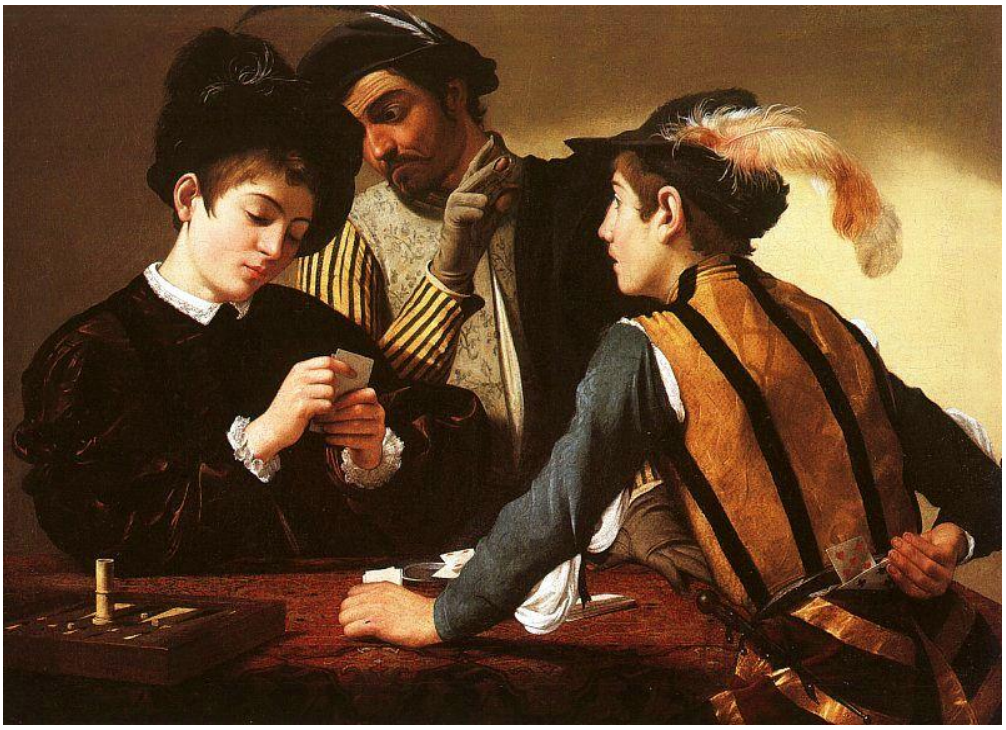

Fig. 3 Caravaggio *The Cardsharps* 1595

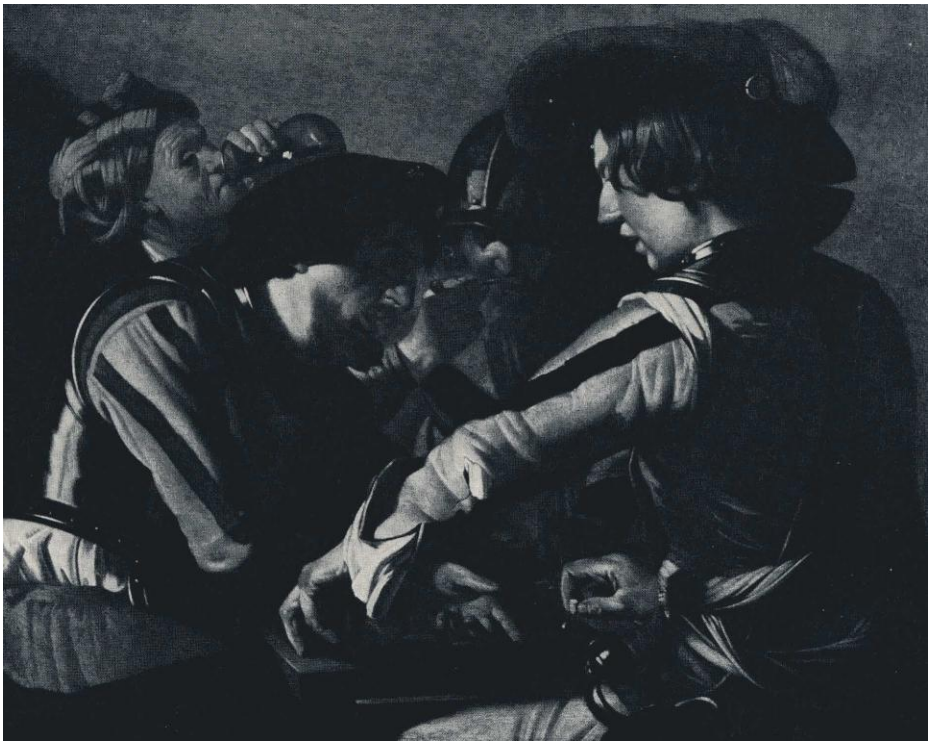

Fig.4 Dirck van Baburen *Backgammon Players* c.1622-23

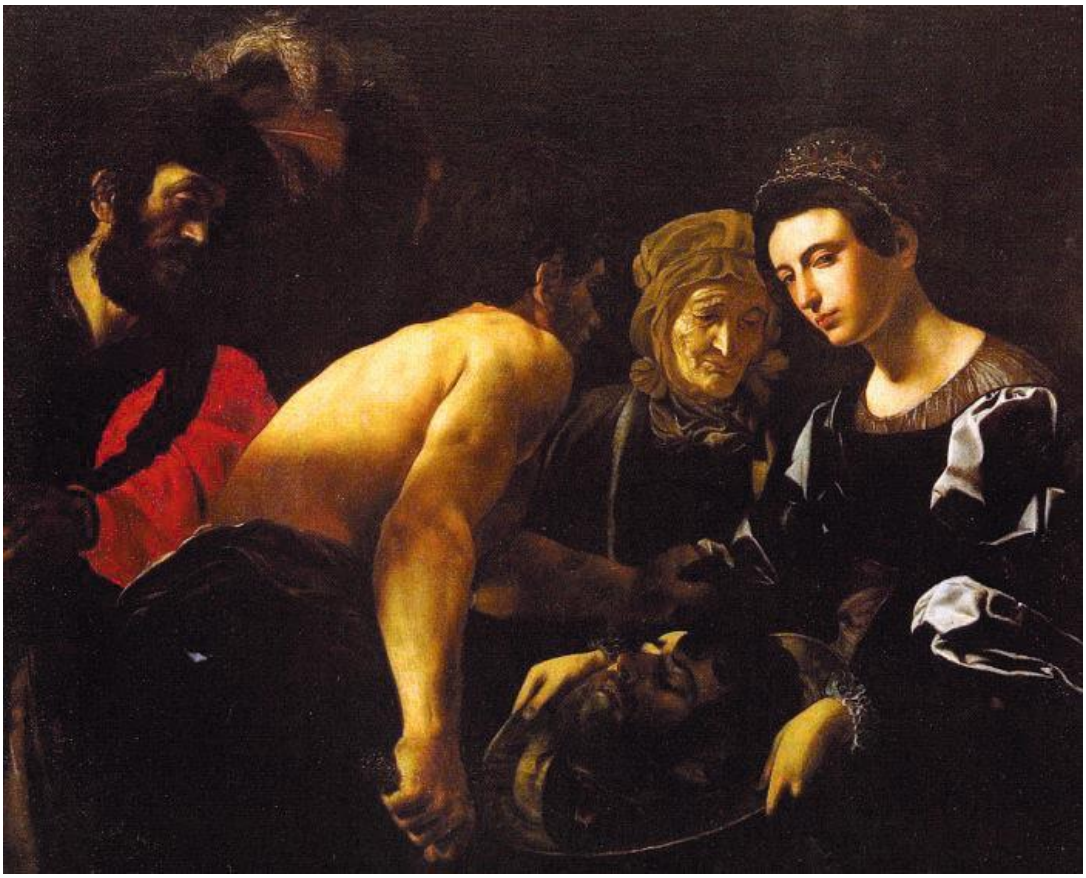

Fig. 5 Giovanni Battista Caracciolo *Salome* 1615-20

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