

ARTEMISIA GENTILESCHI
and
CARAVAGGIO'S LOOKING GLASS

by

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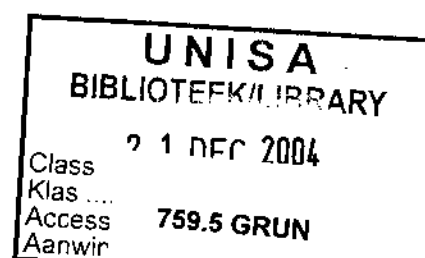
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SUMMARY

Artemisia Gentileschi and Caravaggio's Looking Glass is an ironic allusion to both the concave mirror and the biconvex lens. It was these simple objects, in colloquial terms a shaving mirror and a magnifying glass, which Artemisia Gentileschi and her father Orazio, learned from Caravaggio how to use to enhance the natural phenomenon of the camera obscura effect. Painting from a projection meant that Artemisia could achieve an extreme form of realism and detail in her work. This knowledge, which was of necessity kept hidden, spooked the Inquisition and also gave artists, who knew how to manipulate the technology, an extreme competitive edge over their rivals. This dissertation challenges the naïve assumptions that have been made about Artemisia's working practices, effectively ignoring the strong causal links between art and science in Seicento Italian painting. Introducing the use of optical aids by Artemisia opens up her story to a whole new generation of scholarship.

KEY PHRASES

Gentileschi, Artemisia; Gentileschi, Orazio; Caravaggio (Michelangelo Merisi); Seicento, sixteenth-century, Baroque, Italian painting; Painting techniques and practice; Painting and optics; Camera obscura technology; David Hockney; Inquisition; Women's painting and feminist art history.



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PREFACE

Early in 2003 I found David Hockney's *Secret Knowledge* (2001) on the new-book shelf in the university library. I had previously read about his claims in a newspaper article, and was intrigued. Much of his theory refers to the use of optical devices by the Italian Seicento artist Caravaggio (Michelangelo Merisi, 1571-1610). It dawned on me that if Caravaggio was doing it then so too was his follower, Artemisia Gentileschi (1593-c.1652). As my research grew I came to realize that one of Hockney's fundamental errors was to dive straight in, with no reference to what is considered known about Caravaggio's methods. In fact, the huge scope and generally poor presentation of *Secret Knowledge* has contributed enormously to the derision that has been heaped on Hockney's theories both by the scientific and the art historical communities. Nevertheless, I continued to believe in the essential thrust of Hockney's arguments, and was rewarded with continuing insights into how Caravaggio manipulated optics, how Orazio Gentileschi must have learned from him, and how he, in turn, passed this knowledge on to his daughter, Artemisia.

Working from an overall investigative approach, in other words would the historical record reveal Caravaggio's looking glass or would it not, I considered it essential to first deconstruct the technical performance of the young (precocious) Artemisia, and to measure this against the achievements of her father and close contemporaries. Numerous questions arose out of an empirical study of Artemisia's Pommersfelden *Susanna and the Elders* (1610, fig 1). Could a girl of seventeen have created this remarkable painting? Who else could have done it? Were other artists (generally) producing such work at that time? What has current literature to say about how Artemisia painted this canvas? And what are modern attitudes about how artists (now) can draw and paint to achieve such stunning "realism"? It will be seen that even the most up-to-date scholastic writing about Artemisia's method is riddled with

inconsistencies and full of contradictions. The conclusion I came to is that art historians simply do not know how Artemisia did what she did. To suggest that father Orazio did most of the Pommersfelden *Susanna* is also problematic, as will be seen. So, in the light of no solution, art historians defer to “genius” – a term impossible to substantiate or measure, but also difficult to challenge. The above discussions form the basis of chapter 1.

In chapter 2 I turn the spotlight on David Hockney. There is a clear link between the types of proportional mistakes Caravaggio was making, and the lapses Artemisia appeared also to have suffered. They are strange mishaps for artists of their supposed (divine) gifts to have been experiencing. Hockney suggests that Caravaggio may have been using the camera obscura, causing him to make a certain amount of (previously inexplicable) proportional and anatomical error. To indulge in a cliché, Hockney really set the cat amongst the pigeons. The damage that Vermeer’s reputation has suffered because of aspersions made about his use of this particular optical aid now threatened the great Caravaggio. But why was the art historical community so upset by Hockney’s ideas? And why are artists, who may have used camera obscura technology, considered “second-rate”? And what is camera obscura technology anyway? In this chapter I introduce Hockney’s theories as they apply to Caravaggio, and by default (as a Caravaggista) also to Artemisia. Through a survey of the historical record I try to sort out why Hockney’s theories have caused so much confusion. At this point I also start to deal, point by point, with the objections, criticisms and rebuttals raised by Hockney detractors, of which there are numerous, mainly scientists. Part of my method is empirical, that is, pure, close observation of the pictorial record. It is impossible to shy from the evidence in the paintings, and I have presented many details in support of the use of camera technology as found in them. Opposing scientists have also used pictorial evidence, specific paintings, to rebut the theory, but it will be shown that in some instances they have simply

gotten their facts wrong (either because they have been misled by Hockney himself, or because they have a poor understanding of Art History).

In chapter 3 I continue to deal with the Hockney criticisms through a close reading of the historical record and also specific attention to the translation of that record, bearing in mind that Caravaggio and Artemisia were Italian. All the early references to what Caravaggio said about what he was doing, and what others said about what he was doing, were originally in Italian. Mistranslation has contributed to the English records being somewhat fantastical. I will show that even a preposition has changed the meaning of a phrase so as to render it useless, and that Caravaggio's own irony has been lost in translation. Further, in the middle two chapters it will become clear why the title refers to Artemisia *and* Caravaggio. It is impossible to understand her working practice without understanding his. So, as the mist clears on his method and chronology, so the mist clears on hers.

In the last chapter I begin to address some of the areas of research that could be opened up, specifically for the work of Artemisia Gentileschi. In other words, I begin to use the (new) tool of optical research as it applies to the methods of this artist (as well as her father with whom she was closely involved). I am not assuming that I have definitively proven Hockney's theory for Caravaggio, nor my own for Artemisia. Even so I am secure enough to believe that my findings will be difficult to challenge, and I begin to show just how confused the art historical record actually is because these artists' working practices have been so poorly theorized. In conclusion I summarize the heat of the Hockney debate, and postulate the usefulness of uncovering details of Artemisia's possible use of the camera obscura in broadening our understanding of her *oeuvre*.

Finally, two areas of this debate fall so chronologically outside of my main argument that I will not be expanding on them.¹ These are what could be termed the "van Eyck debate" and the "Ingres/camera lucida debate." Whether or not Jan van Eyck did indeed use the camera obscura does not affect

Caravaggio's use of it, nor Artemisia's, as they came along almost two hundred years after he did. Even Hockney detractor scientist David Stork (2003) fully admits that by around 1600 the optical devices needed for camera obscura projections were available and widely known about in the early scientific community. Then with regard to the Ingres debate, it must be noted that the camera lucida is nothing like the camera obscura. In fact the camera lucida's technical similarity with the camera obscura resides only in its *use* as a possible drawing aid. William Wollaston's camera lucida, which was introduced in 1807, is nothing like a modern camera. It is a small optical instrument that incorporates a prism, and is used to facilitate drawing in broad daylight. The reflection does not actually fall onto the drafting paper, being an optical illusion seen only by the user (Hockney 2001: 28). In discussing the use of optical aids in the work of Caravaggio and Artemisia this piece of drafting technology is obviously irrelevant because of its late dating. Debate about Hockney and Jan van Eyck, and Hockney, Ingres and the camera lucida, have no bearing therefore, on this presentation.

Despite the somewhat muddled nature of *Secret Knowledge* (2000), I acknowledge an unreserved debt to its author David Hockney, and to Dr Charles Falco who contributed so much to the theories contained therein. I would also like to thank my supervisor, Dr Bernadette van Haute, for her unstinting support, encouragement and enthusiasm, and the Department of Art History, Visual Arts and Musicology of the University of South Africa for awarding me the Robin Aldwinckle Memorial Scholarship.

LIST OF ILLUSTRATIONS

The figures are presented together at the back of the text. As far as possible I have tried to place illustrations in the same chronological order as they appear in the text. Thus, text and illustrations run sequentially. Where there are detailed enlargements of particular artworks, these are grouped with those that they are being compared to, for effect, so that sometimes the full work will appear quite far away from a detail of the same work. All instances of more than one example of an artwork are cross-referenced. Paintings have current attributions as found in the most authoritative literature, although I do not always agree with these.

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DATES OF KEY PERSONS

Artemisia Gentileschi	Rome, 1593 – Naples, c.1652
Michelangelo Merisi	Milan, 1571 – (probably) Porto Ercole, 1610
Orazio Gentileschi	Pisa, 1563 – London, 1639
Simon Vouet	Paris, 1590 – 1649
Domenico Zampieri (Domenichino)	Bologna, 1581 – Naples, 1641
Giovan Francesco Barbieri (Guercino)	Cento, 1591 – Bologna, 1666
Daniele Barbaro	Venice, 1513 – 1570
Girolamo Cardano	Milan, 1501 – 1576
Giovanni Battista Della Porta	Naples, 1535 – 1615
Galileo Galilei	Pisa, 1564 – Florence, 1642
David Hockney	England, b.1937

INTRODUCTION

Imagine Rome, some four hundred years ago, run by the Vatican and controlling a fair chunk of Italy divided up into Papal States. Although today the city spreads out for miles, engulfing previously isolated towns and villages in its urban sprawl, the historical centre has changed little in the interceding centuries. Artemisia Gentileschi, famed Italian painter in her own time, would have found the same twisting alleys and paved avenues, and the same open piazzas with the same palaces and churches watching over them. Across the Tiber, running low and green beneath huge embankment walls, the Castel Sant'Angelo, or Hadrian's Tomb, still guards the mighty edifice of St Peter's and its magnificent dome, just as it did in her day. Of course the traffic, especially the endless tour buses, is new, but the hustle and bustle would not have been that different. Bernini's angels, flying from the bridge across the Tiber below Sant'Angelo castle, were not there when Artemisia was growing up in Rome, and neither was the larger-than-life bronze archangel Michael who now strides from on top of the parapet. At that time the plaza Venezia was not overlooked by the huge, white, limestone Vittoriano, built as a monument to Italian unity in the late nineteenth century. Yet despite these new additions, outside and inside Rome has always been dominated by her history, like the Colosseum, crumbling and stripped of its marble cladding, the ruins of the Roman forum, and the pagan temples of which the now-naked Pantheon is the biggest.

Artemisia Gentileschi was born in Rome, around July 9th 1593 (Christiansen & Mann 2001: XIII). It must be remembered therefore, that she was Roman before she was Italian, and being a seventeenth-century Roman meant having your life controlled by the Roman Catholic Church, ultimately the Pope. As a woman this left her two paths to enlightenment, either marriage and motherhood, or the convent. Independent women were, by definition, prostitutes. There was no place in the Roman art market for (great) women

painters, hardly any space for women at all, but Artemisia managed to jostle for herself a strong position.¹ How did she do this? The received notion of her achievements is that she had unprecedented and unparalleled talent; and that a rape experience of 1611 gave her a sharp, proto-feminist focus.² But how close is this received notion to the real truth? How did Artemisia really climb to the pinnacle? And how much of this struggle had to do with her accused perpetrator Agostino Tassi? How much did her talent owe to her father's training? And how great was her debt to Caravaggio, the Lombardian Michelangelo Merisi, who started a fashion for painting of uncanny photo-quality realism, with dramatically posed figures placed on a theatrically-lit dark and narrow stage?

Michelangelo Merisi was born in the village of Caravaggio not far from Milan, most likely on the feast day of the archangel Michael, 29 September 1571 (Robb 2000: 18), and only came to Rome as a young man in his twenties, around the time Artemisia was still suckling at her mother's breasts. He was seeking his fortune there, as many artists did in those days. "They all came to Rome. ... Painters from all over Italy, and all over Europe – especially the north – were gathering there among the city's busy huddles of immigrant artisans" (Robb 2000: 30). And in the end Caravaggio did find posthumous fame and respect as contemporary Rome celebrates his position as one of her great artistic sons. In the Bonechi guide to *Rome: 2000 years of history and masterpieces* (1999) for example, about a fifth of the colour plates illustrating Rome's painted treasures is devoted to Caravaggio. Only that other Michelangelo (Buonarroti) commands as much attention. But Caravaggio's work photographs so well, as the half-page full-colour print of his dramatic *Judith Slaying Holofernes* (1595-6, fig 51) attests (Bonechi 1999: 54). Artemisia, on the other hand, is a somewhat neglected artistic daughter of Rome. Of the thirty canvases now attributed to her and collected together in the winter of 2001/2 for an exhibition she was obliged to share with her father, only two are seemingly on permanent display in Rome itself (see Christiansen

& Mann 2001). And only about one third of her overall known *oeuvre* remains in Italy. However it should not be imagined that Caravaggio, unlike Artemisia, was always considered to be so distinguished, or that his work has always been so prominently displayed. “A hundred years ago M’s paintings were mostly still rotting in attics and cellars and decaying churches, hidden under crusts of filth, while M’s name labeled scores of clumsy copies and crass derivations by later painters who aped his work” (Robb 2000: 4).³

It was in fact Italian art historian Roberto Longhi who began the actual work, in the first half of the last century, of recovering Caravaggio, and to a certain extent also Artemisia, from the margins of art history⁴ – Roberto Longhi *and* modern colour printing techniques, because full-colour reproduction of a high quality thrust Caravaggio, and Artemisia, into the public eye in a way line drawing engravings never could have. Photographs or paintings? Here is the essence of the confusion with what we now call “realism.” Can a Caravaggio, or an Artemisia, be mistaken for real(ity)? Are we afraid that the figures might actually get up and move off the canvas? Is it not more true to say that they are “photographic” rather than that they are “real”? In other words, can a Caravaggio, or an Artemisia, be mistaken for a photograph? Can the work of Artemisia’s contemporaries be mistaken for photographs, say Domenichino’s? It is this uncertainty that has, I believe, stirred things up just as art historians were settling the dust on Caravaggio’s life and work, when contemporary artist David Hockney (2001) dared to suggest that Caravaggio had used optical aids – simply put, a camera obscura – to get that “photographic” look. And following on from this, I am about to stir things up for Artemisia, by making the same claim for her.

But was Caravaggio at it (using the camera obscura, that is)? Apart from Spike (*Caravaggio*, 2001), who has given some support to Hockney, it would be fair to say that for the most part art historians are outraged by his theories. David Stork (2003) claims to “have met and corresponded with many leading curators and scholars ... [who] say that the Hockney theory is manifestly

wrong and will die of its own accord.” Stork, an academic at Stanford University and chief scientist at Ricoh Innovations, is himself leading “the anti-Hockney charge” (Smee 2003). It appears that currently art historians have gone quiet on Hockney’s theories, at best attempting to ignore him. Hockney himself is much to blame for the situation. He appears to have rushed out *Secret Knowledge* (2001), a book compiled on the fly, under pressure, and with important and essential ideas jammed into letters reprinted at the back of the book, in appendices.⁵ The scramble to assemble this book must have been frenetic, with its approximately three hundred mostly full-colour illustrations, attendant picture-research and permission granting, and with text covering over five centuries of art history and some one hundred and fifty artists. Further, Hockney makes sweeping claims without properly investigating or substantiating anything. A “lack of persuasive corroboratory documentary evidence over centuries for Hockney’s theories means a great deal to [art historians] and few if any seem to subscribe to Hockney’s statements about fears of the Inquisition and trade secrets” (Stork 2003). Art historians are looking for *written* evidence, of course, much of which *is* already in Hockney’s book, although it has been confusingly presented. What is not, but will be revealed here, is that one artist is recorded as having stated his involvement with “the camera,” and that artist is Caravaggio. Why don’t we already know this when so much has been written about him? Why? Maybe it is a matter of interpretation and translation, as will be shown.

It seems to me that *if* art historians *are* generally dismissive of Hockney’s claims, then it is irresponsible of them to simply remain silent on the issue, leaving the battle to others as seems to be the case. “In feisty exchanges on the web and in formal presentations at more than a dozen conferences, including one at Stanford last spring, ... [scientist David Stork] became the leading critic of the claim that Early Renaissance artists had a secret method for making their paintings look real” (Rigoglioso 2003).⁶ Not that there is anything wrong with the leading critic being a scientist, but where are the other voices,

especially as Hockney and his partner Charles Falco (a scientist) do have many pertinent observations, especially as they have bothered themselves to actually construct many relevant real-life experiments, and especially as their “expert” voices were not the first, certainly not with regard to Caravaggio? It will become evident that Roberto Longhi hinted most pointedly at his suspicions about Caravaggio and the camera obscura, and Italian scholar Roberta Lapucci stated a connection quite blatantly in her article *Caravaggio e i quadretti nello specchio ritratti* of 1994. In this seminal article, predating Hockney by quite a stretch, she came to the conclusion about Caravaggio that “the scientific innovation of the camera obscura produced an image that facilitated the creation of a work of art close to nature whereby colour could be placed on the canvas from a projected outline” (my translation, Lapucci 1994: 165).⁷ Actually, by putting “scientific innovation” (*l’innovazione scientifica*) and “work of art” (*un’opera d’arte*) in the same sentence, Lapucci unwittingly opened Pandora’s optical box long before it is claimed David Hockney “got a headache and went back to painting” (Rigoglioso 2003).

It may then appear that to successfully examine the use of optical aids by Artemisia Gentileschi, and by Caravaggio, a logical place to start would be with Hockney or Lapucci. However they are not the “scene of the crime,” as it were. In fact, the revolving and seemingly deadlocked nature of the so-called Hockney debate may well be because those writing in the field are ignoring this very fact. The body, the corpus, is the pictorial record, a point Hockney himself repeatedly makes (2000), and not what Hockney is so much as saying about it. Peculiar to the needs of this debate therefore, it was necessary to develop an overall methodology that would do justice to that record. Although my own discussion will essentially be approached from the perspective of Art History, the cross-pollination between research into the history of the camera and the more traditional approaches of Art History is rapidly evolving into an almost independent discipline of Art and Optics. Further, with regard to Caravaggio one of the singular problems is the secrecy that undoubtedly

surrounded the use of camera obscura technology in painting, a fact I will later expound on. This very definitely impinges on what a researcher can and cannot achieve. It will be shown that Caravaggio was indeed behaving in a covert way. Despite this Caravaggio could be arrogant, in a sense almost wanting to be discovered. He mocked his contemporaries, and taunted them with his superior knowledge he had no interest in sharing. To arrive at a point of discovery however, a modern scholar cannot rush things, nor can Hockney or Lapucci be the springboard.

Essentially my approach is investigative. I worried at the clues in the pictorial record until the most minute details began to yield to my pressures and I interrogated the witnesses past and present (the documentary record) with an almost shameless badgering, in search of a basic answer to my basic question: was Michelangelo Merisi using a looking glass, a lens, or was he not, and did Artemisia Gentileschi inherit it? In looking at the pictorial evidence I have studied the paintings in the best reproductions I could find, in the most detail. I have subjected scans of many of these reproductions to analysis using the various tools available in CorelDraw, in order to manipulate aspects of the canvases as was required. I have also carefully scrutinized reproductions of available X-rays where I considered them relevant. For the documentary record I have surveyed a large cross-section of current literature on Michelangelo Merisi and Artemisia Gentileschi, and have gone back to the Italian original where possible. I have also studied the seventeenth-century writings on Caravaggio, written by his contemporary biographers.

My argument therefore begins not with Hockney, but with a full-size canvas, over one metre across and nearly two metres down, signed by Artemisia Gentileschi and depicting the story of *Susanna and the Elders* (1610, fig 1). A naked Susanna, interrupted at her private toilet, turns away from the approach of the lecherous, clothed elders clambering over the wall behind her. Their intentions are obvious, her plight seemingly hopeless, her arms flung in her defence, a futile weapon against their lusts. It is an amazing

achievement for a seventeen year old, and centuries later we are still astounded. It is said that Artemisia Gentileschi may have been the greatest of all female painters, "The Magnificent Exception" (Greer quoted in Garrard 1989: 5). She handles form and figure as if it is nothing to her, a simple act of seeing and doing. Faces, hands, feet, bodies are artlessly positioned, limbs entwined. How did she do it? How did she achieve so much, apparently with such ease? It is said that like Caravaggio she looked, and that was enough. The rest was a higher talent, a gift we can only marvel at. But what if the story is not as it seems? What if something else was happening, something known, understood, and accepted in the tight circle of artists in which she and Caravaggio moved? These questions and more must be asked and answered if we are to discover the truth about Artemisia Gentileschi and Caravaggio's looking glass.

CHAPTER 1

A precocious painter

1.1 JUGGLING FOR BEGINNERS

An inscription – ARTIMITIA/GENTILESCHI F/1610 – on a grey stone wall partially obscured by a young woman's leg, launches the precocious Artemisia Gentileschi onto the Roman Seicento art scene. The painting is her *Susanna and the Elders* (fig 1). A century later and the canvas is being attributed to Artemisia's father, Orazio Gentileschi, as this inscription has likely been darkened and obscured by age. Already the idea of a forward young *girl* painting such a masterpiece has become inconceivable. Surely it is her father's hand? Sometime early in the eighteenth century the painting is acquired by Dr Karl Graf von Schönborn, and finds its way into the Pommersfelden Museum in Bayern. A switch back to an Artemisia attribution comes with the publication of a Pommersfelden guidebook written by Joseph Heller in 1845, possibly because the signature had been made visible again by a cleaning and restoration carried out in 1839 (Mann 2001a: 298). Then while on loan in 1977 for the touring exhibition *Women Artists: 1550-1950*, the painting is analyzed in the laboratory of the Brooklyn Museum of Art, New York, using ultraviolet-light photography. The then Chief Conservator Susanne Sack authenticates the signature and date as original to the painting, neither having been altered nor overpainted (Mann 2001a: 298; Garrard 1989: 184). But the batting back and forward continues as some scholars (mainly female) want attribution to stay with Artemisia, while others (mainly male) want Orazio to have the honour. In the end it is a feminist victory and an uncomfortable truce, with full attribution given to Artemisia as is indicated by the inscription, and the likelihood of some help from Orazio acknowledged. But the question still niggles: how much help?

Artemisia's Pommersfelden *Susanna and the Elders* is described by modern scholars in glowing, almost incredulous terms as "a declaration of Artemisia's artistic prowess" (Hayum 2002: 112); a "superb invention" (Spike 1991: 733); "an unusually accomplished technical performance by a young artist" (Garrard 1989: 184); a "remarkable ... extraordinary accomplishment" (Mann 2001a: 272); a work which shows "incredible artistic precocity" (Rowland 2002: 40); and so on. The list reads like a night at the Oscars. Her praxis, the how, can only be (breathtakingly) guessed at. "Susanna's body is persuasively composed ... [attesting] that this figure was closely studied from life" (Garrard 1989: 200). The "very young Artemisia ... must have devoted considerable effort to the representation of the human figure and the description of anatomical details" wherein the "seated figure of Susanna suggests prolonged study and reworking ... perhaps under the tutelage of her father" (Mann 2001: 253). *Susanna and the Elders* shows "... a disciplined mastery of anatomical drawing, and a sophisticated control of light, shade and color" (also Garrard 1989: 17). Indeed, anyone who has ever tried to render anything in a "realistic" drawing, never mind paint with such precise "naturalism," can only marvel at Artemisia Gentileschi's precocious achievement in this work. But has it been done freehand?

In 1610 Artemisia must be considered to have still been a learner and it must be remembered that "learning to draw and compose a picture is like learning to juggle a large number of diverse objects simultaneously and seemingly effortlessly" (Hirschl 1988: 103). So, how many artistic balls was she actually juggling? The answer is a lot, almost as many as are needed by even a mature artist to be considered at the top of his or her game. The three obvious balls are the figures: one fully nude young female, two clothed males, partially shown behind the stone wall, one mature, one youthful. No simple still life or direct-on small portrait for Artemisia to cut her teeth on here. Taking the figures in turn, the nude female is made up of a number of further smaller balls for Artemisia to have juggled: a three-quarter portrait, head

cocked and slightly foreshortened, expressive, fearful; a few teeth just visible (any artist's nightmare); a partially-seen ear; a full head of wavy, wispy, long, auburn curly hair; hands both fully depicted, one palm in, one palm out, fingers spread, both thumbs, dimples, fingernails, lifelines; the whole figure thrown contra-posture, four twists, head one way, then shoulders, upper torso, arms flowing back, hips and thighs contorting in the other direction, lower legs and feet drawing back; perfect centre of gravity; arms bent, foreshortened, bony, fleshy, creased folds; a pendulous breast escaping under the right arm, dark pink nipple spread and slightly erect; a stomach, plump and feminine, with belly button; a hint of hidden pudenda under folds of fleshy creases; legs bent, muscular, solid, bones depicted with highlight and shadow, carefully molded; one and half feet, toes, toenails, ankles, foot dipping into water. And then behind her, two males clothed, more balls to juggle: two portraits, both three-quarter and foreshortened; a mouth hidden in shadow; another mouth covered by a finger; faces expressive and suggestive, conveying whisperings, conspiracy; wrinkles, crows feet, frownlines, crease around a mustache-covered mouth; grey thin hair and balding, beard; another beard, matched by a head of full, dark wavy black hair; another ear, partially hidden; and four hands, large, masculine, solid, three foreshortened, knuckles, fingernails, expressive, clutching, gesturing. The three figures are depicted with a variety of cloth: something heavy, warm, woollen, folded, enclosing the male figures, muted brown and red, a hint of sky-blue; underneath escaping white, chiffon shirt material, suggestive, tempting; and for the Susanna figure, the hard drape of unyielding white linen, to dry herself, barely covering. The plain blue sky, a few wispy clouds and a hard, carved-stone, architectural bench, chipped and worn, offer a few background balls to juggle, setting for the composition.

The composition and design, the overall look of a painting, also requires the handling of a multitude of less obvious skills, like the treatment of light and dark, chiaroscuro modelling and shading, shape, line, form, and the depiction of volume and space. All of these elements have to be applied

consistently, and it is here, and not with the actual rendering of the individual figures, that Artemisia appears to have started dropping balls, or sacrificing some in favour of keeping the anatomy balls flying. To start with, the basic composition is a disaster. There are two stories: first, the elders whispering and conspiring and second, Susanna turning away. The link is felt by an understanding of the narrative, but pictorially, it makes little sense. The elders crowd over Susanna, although they are supposed to be sneaking up over the wall behind her. As they are on the upper half of the picture plane they continually threaten to fall on top of her, to squash her. Schematically, the composition forms an inverted, top-heavy L. Further, even without taking into account the perspective, that being that the elders should have been depicted smaller, as climbing over the wall behind the Susanna figure they would have appeared more distant, simple measuring reveals that were Susanna to stand up next to the older of the two male figures, she would be well short of five feet tall (145cm approximately) if he were six foot (180cm). This may have been intentional on Artemisia's part, in other words, to serve the narrative of the elders' threat. Regardless, it fails to serve the composition and the distortion is an illogical step, especially for an artist skilled in anatomical study and measuring. Susanna has been literally dwarfed. Once you realize that Susanna is a midget, you cannot escape the compositional discomfort. It seems a bit careless, most especially if you count the artistic balls cited in the rendering of the figures. Diagram 1 is my own, computer-assisted reconstruction of how the (cropped) version of the painting would have worked had Susanna been a mere one hundred and ten per cent larger, that is, life-size approximately five foot four inches (160cm). The composition appears more successful, both schematically and narratively, yet the enlarged Susanna doesn't detract from the menace of the figures clambering over the wall.

Diagram 1



Artemisia Gentileschi Susanna and the Elders (1610, fig 1). Computer enhanced image; Susanna proportionately enlarged 110%.

Sacrifices in the juggling act have also been made in the rendering of the awkward stone bench. Nothing is straight, but neither does it reflect any logical awareness of perspective. The vertical lines, representing the cracks where the stones are supposed to have been cemented, do not lead to any logical, single vanishing point. The join close to Susanna's left foot indicates a vanishing point somewhere to the right centre of the picture plane, while the one on top leads to a vanishing point somewhere way above the picture plane, to the far right. Neither of these points line up with the vanishing point indicated by the contra-posture of the central figure. On the horizontal plane the lines are also crooked and arbitrary, meaningless. Further, the pattern on the bench represented behind Susanna's back, supposedly indicative of a relief feature carved into the stone, is random and asymmetrical. It is hard to believe a stonemason would have been so fanciful in the carving, and the conclusion can only be that Artemisia was fanciful in her rendering. The shadowing on the stone bench, overall, is merely suggestive. Perhaps none of this matters to

a modern audience, used to the painterly techniques of late-nineteenth-century impressionism, and so on, which is why we maybe don't make so much of it, at first. But once you start looking at the shadows, you will notice that the figures are also not consistent. The light source on the Susanna figure is strongly suggestive of somewhere high, and to the right, while the elders are lit by a source, although also to the right, much lower down, light which would have thrown Susanna's shadow on the stone bench much deeper and longer.

The use of space in the painting is also clumsy. Although the negative shape formed in the centre by the interacting group of three figures is skillfully handled, the large, blank, negative shapes around the figures are just that, large and blank, and therefore uninteresting. The painting, on reflection, is riddled with inconsistencies, despite the hundreds of balls that the artist employs in the rendering of the three figures. It is as if a careful young artist has meticulously (although disproportionately) modeled the three figures, while an inattentive teenager has painted the background. Hirschl (1986: 105), modern instructor in figure drawing, perhaps has an explanation for this, pointing out that "beginners have a tendency to depict the subject without conscious regard for the space that helps define it." It could be a common mistake. Yet in Artemisia's case the discrepancy, in skill between the depiction of the subject and the rendering of space around that subject, is huge. Nevertheless, if the focus of Artemisia's juggling act is the figures, then overall this *Susanna and the Elders* must be considered a masterpiece.

Just how easy is it to attain such a skill? What could reasonably be expected of a learner in such circumstances, young or old? Are such figures really that difficult to do? What can be said for certain is that some of the most daunting challenges for any draftsman have been forcefully attacked by Artemisia with seeming ease – foreshortening (hands, feet, heads, limbs); texture (hair, cloth, flesh); complicated proportions depicted nude and in contra-posture. She appears to have suffered none of the distortions, none of

the difficulties that anyone else beginning to paint suffers. Confidence, assurance, oozes from her brush – hands look like hands, articulated, boned, meaningful, eyes are where they should be, all the wrinkles are in place. So, we have a dilemma – a seventeen-year-old girl who paints like a master, if somewhat inconsistently. Would it be better after all to credit the painting's execution almost entirely to Orazio? Is it, as Spike (1991:733) says, a “fascinating picture ... best seen as a collaboration directed by Orazio, who, in an understandable reversal of workshop tradition, proudly encouraged his daughter-assistant to take the credit”? Should *Susanna and the Elders* be taken from Artemisia and given back to Orazio, as the (mostly male) detractors would have it done? To answer this question, it is first necessary to study Orazio's capabilities. Could he have done it, and could he have done it freehand?

2.2 A FATHER'S HELPING HAND

It is true to say that before about 1600 Orazio Gentileschi could not have painted the Pommersfelden *Susanna and the Elders*. Prior to meeting Caravaggio around this date, Orazio's work was quite literally appalling. He was possibly the worst painter in Rome at the time. Whether he made careful preliminary studies or not (and no definite evidence remains to attest to his drafting skills) the results were pathetic, laughably bad. Christiansen (2001b: 5) finds “a blandness, an anonymity, and a disturbing lack of conviction to [Orazio's] ... work of the 1590s ... [as if everything before 1600 can be considered] irrelevant to a proper appraisal of the artist's achievement.” Hayum (2002: 112) is more kind, saying “Orazio was slow to find himself as a painter.” As he was nearly forty when he met Caravaggio, slow might be better read as untalented, in the wrong profession, badly trained or simply not that interested.

One of his frescos, *Strength* (1597-9, fig 2), and an altarpiece, *The Triumph of St Ursula* (1597-9, fig 3), illustrate two early works, pre-Caravaggio. They were commissioned around the beginning of 1597 for the Abbey of Santa Maria at Farfa. Compared with the juggling act of the Pommersfelden *Susanna and the Elders*, these two works show a shocking lack of skill. The single figure in the *Strength* fresco is disproportionately elongated by a hundred and twenty five per cent, that is, nine and half heads to the body as opposed to the average seven and a half. The large helmet and broad armour that the figure wears somewhat dampens this effect, but the head nevertheless still looks like a pimple on a gigantic body. The face is slightly three quarters, but it is simply a stylized type, and in no way depicts a real person. There has been a half-hearted attempt to show the feet foreshortened. The hand/glove/claw is a disaster. Armour looks like cloth, cloth looks like armour, and no feel for textural difference has been portrayed. This could be put down to the nature of the medium, that is fresco, but the *Triumph of St Ursula*, a huge canvas – two metres by three metres – does not fare any better. This painting is a group of stylized figures set against a suggestion of landscape, and behind an extremely badly rendered flag. Like *Strength*, the figure of St Ursula has been distorted – small head, huge body, elongated arms, oversized hands shaped like pincers, stretched out, figure fully face on, no twists or turns. There has been no significant foreshortening attempted, no perspective and no individualization. The work shows no “disciplined mastery of anatomical drawing” (Garrard 1989: 17), no “prolonged study and reworking” (Mann 2001: 253), and certainly no looking at life as has been so enthusiastically claimed for the young Artemisia. In these early days of Orazio “there is not a single painting that derives from a confrontation with reality” (Ward Bissell 1981: 10).

Then by 1600, and out of nowhere, the dull Orazio was “part of M’s and Longhi’s social push and likely knew well from watching him how M worked from life straight on to canvas” (Robb 2000: 218). Scholars would have this confrontation with Caravaggio, specifically with the unveiling of Caravaggio’s

“canvases ... in the French national church of San Luigi dei Francesi” (Christiansen 2001b: 5), as the beginning of a slow, painful process in Orazio adapting to Caravaggio’s techniques. Robb claims that at this point Orazio “began the slow, sedimentary accumulation of M’s early experience in painting on canvas” (2000: 218). Garrard states that Orazio “was only gradually drawn by Caravaggio’s example to the direct depiction of forms from life” (1989: 6), while Christiansen has him as “a slow, methodical worker, ... [whose] first experiments in a Caravaggesque idiom ... show how painful the process of transformation was” (2001b: 8). However, the real evidence is a dramatic quantum shift in ability and execution. In fact, if you study Orazio’s *oeuvre* chronologically you will see that he did not slowly and painfully progress from St Ursula (c.1597) to God (detail Orazio Gentileschi, *Madonna in Glory with the Trinity*, c.1605, fig 4); he literally jumped there as his canvas of the *Martyrdom of Sts Peter and Paul* (c.1597-99, detail fig 5) attests. Here is evidence that before Caravaggio revealed his brilliance in the matching three metre by three metre canvases for the Church of San Luigi dei Francesi in Rome (*Matthew Killed*, 1599-1600, fig 7, and *Matthew Called*, 1599-1600)¹ Orazio was doing a photographic job on the crucified St Peter. It’s a mammoth step from St Ursula done also on canvas for the same abbey in the space of the same two years. In fact it is so different from his previous inept stylistic approach that you can even see that God and St Peter were undoubtedly one model.

The problem is that Orazio shows inconsistencies, “painting ... as colorfully changeable as a chameleon” (Rowland 2002: 38), and that isn’t just across works, but in the works themselves. Orazio’s *Madonna in Glory with the Trinity* (c.1600-5, fig 6) is an altarpiece now on deposit in the Museo Civico in Turin. The attribution of this work in far-away Turin was first given to Orazio by Pevsner (Ward Bissell 1981: 138) and is generally accepted. Some is Caravaggio, some is Orazio. It’s like a gigantic collage. Orazio is trying hands and feet, foreshortening, palms out, realistic (swan’s) wings for

the angels (the ones he and Caravaggio borrowed between them?), but hair, proportions, faces and clothes, generally, are still mannered, except that portrayal of God (fig 4). Here is a real Caravaggesque figure, the only one in the painting, complete with wrinkles and frownlines, grey beard and balding pate, and a head believably turned, tilted and foreshortened. When you become aware of him, sitting in the corner, you begin to realize just how badly he sticks out, how different he is, how at odds he is with the rest of the painting. Where does this incredible talent for being so inconsistent come from? And this was not an inconsistency that Orazio grew out of (as he got more and more friendly with Caravaggio). It shows up in his *Baptism of Christ* (1607)² in Santa Maria della Pace, Rome, in his *Circumcision* (c.1605-7)³ in the Church of the Gesù, Ancona, and in his more than dreadful fresco cycles done for the Church of San Venanzo in Fabriano in the mid 1610s.⁴

Yet many of Orazio's easel paintings, the smaller ones, don't show these same eccentricities. They are more pure Caravaggio. Maybe it was fear of rejection, rather than fear of technique, that kept Orazio from an absolute embrace. After all, he got involved with Caravaggio – notoriously volatile, unruly, always in trouble with authority – as an already mature man, a wife and four children to support. He likely met Caravaggio as early as 1597, sometime between painting the *St Ursula* and the *St Peter* canvases for the abbey in Farfa. Lapierre (2000: 370) states “the architect Onorio Longhi was an old acquaintance of Orazio's, since in 1595 they had both worked on Cardinal Altemp's catafalque in Santa Maria in Trastevere.” And Onorio Longhi was one of Caravaggio's “social push,” as has been stated. Why Caravaggio allowed Orazio to watch him work, or why he shared his working methods with him, is not clear. Certainly it would not have been socially expedient for Orazio to associate openly with the younger artist, not for a solid family man doing religious and sombre commissions for the Church. Scholars shy from making too much of the volatility of Caravaggio's character, his unpredictable personality, but he must have represented a wildly romantic

figure for the young Artemisia growing up. Could she have been a silent shy figure, a witness to these artistic goings on, even from a young age? Her mother, Prudentia Montoni, died when she was barely twelve years old, and although a widowed aunt lived with them for a spell (Christiansen & Mann 2001: XIV) there is every possibility that Artemisia dragged around Rome with her father after her mother's death. She certainly gained access to his studio at a stage, an unlikely event if her mother had still been alive. And by 1610 she would have seen her father more consistently seeming to produce quite competent easel paintings in oil on canvas.

But could Orazio, by 1610, have had the technical competence to paint the Pommersfelden *Susanna and the Elders* despite his eccentricities? The answer is undoubtedly an unequivocal yes if the *Young Woman Playing a Lute* (attributed to Orazio Gentileschi, c.1615)⁵ is his work, for example. It demonstrates stunning technical capabilities – the beautifully rendered figure, the foreshortened violin, the open sheet music, faithfully reproduced. But the lute player is fully clothed, and “Orazio himself was not experienced in painting the nude” (Mann 2001a: 272). Yet the Pommersfelden *Susanna and the Elders* is basically about the study and representation of the nude female figure. On the other hand, Artemisia could hardly have been any more experienced (at painting nudes), not at seventeen. Still perhaps the more mature Orazio took care, chiefly, of the figures, while Artemisia (the temperamental teenager) filled in the background? Or perhaps father and daughter gained experience together? Nevertheless, it remains that “Orazio's encounter with Caravaggio ... was the central event of his life” (Christiansen 2001b: 36). That was the big change for Orazio, from sideshow artist to serious juggler. So, maybe the Pommersfelden *Susanna and the Elders* could be attributable to Orazio but even so, all the credit should be given to Caravaggio. He appears to have shown Orazio his way of doing things, although the how remains elusive. And could Artemisia also do it Caravaggio's way, then in 1610? Shortly after, in 1613, she went off to

Florence without her father. It might be possible to see if she could manage alone.

2.3 ON HER OWN

It has been difficult for scholars to decide how many of Artemisia's early juggling acts are hers alone, or hers in collaboration with Orazio, or not even hers but Orazio's. This situation has arisen, I believe, because so little is actually known of *how* Artemisia and Orazio worked. How can their differences really be defined? So many of their canvases are not signed or dated, and attributions bat back and forth. Nevertheless, a few paintings from Artemisia's Florentine period (1613-1621) seem so pointedly to have always been in Florence, that their connection with her early single-hand can undoubtedly go unchallenged, as Orazio can only be placed in the city briefly in 1616, and even then not unquestionably (Christiansen & Mann 2001: XVI). Orazio wrote to Florence, in advance of Artemisia's journey there, in the July of 1612, both to petition the Grand Duchess's help in keeping her said-rapist, Agostino Tassi, in jail and to present Artemisia's work and prowess ahead of her marriage to Florentine Pierantonio Stiattesi. Stiattesi and Artemisia were living in Florence by September 1613, where a son was born to them and baptized in the parish of Santa Maria Novella (Christiansen & Mann 2001: XV). In his letter Orazio tells the Grand Duchess that having raised her in the profession of painting, in three years Artemisia has become so practised that he can honestly say she has no equal, even among mature artists (my précis and translation, Garrard 1989: 17).⁶ He also offers to send samples of her work (Christiansen & Mann 2001: XV). A likely candidate could be her *Judith and her Maidservant* (c.1618-19, fig 26) housed in the Palazzo Pitti, which would therefore be from her early Roman period. It could have been "made in Rome,

shortly before Artemisia left for Florence” (Mann 2001a: 332-3). Which of her remaining Florentine paintings can be studied for an “Orazio-free” hand?

Artemisia’s *Penitent Magdalene* (c.1615-16, fig 8) in the Galleria Palatina in Florence’s Palazzo Pitti is unquestionably authentic, although it is sometimes thought of as somewhat inferior in terms of her general *oeuvre*. “The *Magdalen* is for many modern observers a rather disappointing example among the surviving pictures of Artemisia’s early period” (Garrard 1989: 46). Artemisia’s constructional blunders (Spike, 1991: 733, calls them her “anatomical solecisms”) leave scholars feeling a bit uncomfortable. The *Magdalene*’s legs appear to be different lengths and she has, apparently, no proper left shoulder. Her left hand, although extended away and therefore demanding to be smaller in terms of perspective, actually appears larger. Her foot ready for its size ten shoe also causes consternation. It does seem that without Orazio Artemisia cannot keep the anatomy balls flying for this ambitious full-length monumental figure, the way she apparently did with the signed Pommersfelden *Susanna*. Spike makes the valid point that her “Florentine experiences should have surely improved [her] draughtsmanship” (not made it worse?) and he finds in this a way to judge the Pommersfelden *Susanna* a close collaboration with Orazio because Artemisia’s Florentine slips apparently demonstrate that she could not have reached full artistic maturity before leaving Rome (1991: 733). Cavazzini on the other hand, looks rather to failings in Orazio’s teaching skills that have let Artemisia down, practising her craft alone in her new home town of Florence.

Because Orazio had so few students, one wonders whether he even owned the teaching tools essential for a figure painter, such as casts of parts of the body and of antique statues. The absence of such implements would help explain Artemisia’s rather inept rendering of anatomy, which is evident in her canvases at least until the mid-1610s (Cavazzini 2001: 289).

Mann (1997: 175) explains things a bit differently, making the “mistaken proportions ... attributable to a technique that does not include the use of

preliminary drawings and anatomical studies.” In other words, the inevitable mistakes rise out of her Caravaggism.

As has been noted, inconsistencies within Gentileschi paintings, and this will be both father and daughter as time moves on, are not uncommon. Much in the *Penitent Magdalene* does work, despite the lapses. In any case, the problems with anatomy are proportional not representational. The left hand and left foot, although huge, are perfectly rendered: knuckles, bones, dimples, flesh, muscle, fingernails and toenails, a foot poised to elevate the figure. The elongated left leg could be put down to a bunching of the dress fabric, and, like the disappearing left shoulder, doesn't really detract from the picture's enjoyment. The face is beautifully crafted, with amazing attention to detail, including the dimpled chin, slight frownlines which convey a pensive expression, an ear artfully drafted, and the auburn-blond, shiny, tightly-curved hair realistically presented (see fig 23). Further, the composition is mature and confident, the figure a solid triangle, artfully handled in dramatic chiaroscuro, presented on a dark narrow stage, a continuing pledge to her Caravaggian and Roman origins. Even so the real beauty of this painting, a newly found autograph for Artemisia, is in the cloth. “Artemisia's dazzling technique in the treatment of the gold drapery makes the *Magdalene* one of the high points of her Florentine years” (Mann 2001a: 326). The believable gold satin is sumptuously rendered in unashamedly brilliant free brush strokes of highlighted paint. Contini (2002: 315) puts this down to the “colorist pyrotechnics” of Florence's neo-Mannerists exerting their influence on the young Roman artist. It certainly appears to be a first for Artemisia. “Whitfield remarks a synthesis of naturalism inherited from Caravaggio ‘overlaid’ with the Florentine interest in material richness deriving from the tradition of Cristofano Allori and Cigoli” (quoted in Mann 2001a: 326). But “seeing” the luxury of cloth is not the same as being able to “represent” it. How did Artemisia work such things out when it seems that Caravaggio, whose colours are all earthy and Roman, and Orazio who tends to the pastels, had not thought

of such things? Caravaggio does enjoy pattern though. His *Doria-Pamphilli Magdalene* (c.1594-6)⁷ is an example, and both he and Orazio can promote different weights in their cloth, but they seemingly have had to leave it to Artemisia to attain a tactile velvet that you can feel brushing your skin, and chiffon that would fold like soft petals in your hand.

The portrait presentation in the Uffizi *Saint Catherine* (c.1618-19)⁸ and the full-length nude *Allegory of Inclination* (1615-16)⁹ in the Casa Buonarroti, further attest to Artemisia's singular aptitude and skill. The *Allegory of Inclination* is a somewhat boring work, the body proportionately and carefully rendered, but the face a stylized Orazian "type" – Artemisia's only one? Perhaps the young artist was a bit nervous of this, her most-likely first, Florentine commission, daunted a bit by the greatness of her patron, the great-nephew of the Florentine giant, Michelangelo Buonarroti. Originally nude, a later artist "painted not only the drapes ... but also the unattractive shadows on the arm and abdomen" (Spike 1991: 733), a move demanded for "reasons of decorum" (Garrard 1989: 42; 498). Baldinucci's 1681 description of the painting "inexplicably differs from the existing image" (Garrard 1989: 42), so too much shouldn't be made of any lack of technical capabilities exhibited in this particular work. The Uffizi *Saint Catherine* was first cited as "by an unknown follower of Artemisia Gentileschi in an 1890 inventory of the Galleria dell'Accademia in Florence" (Mann 2001a: 328), but is now generally accepted as autograph. The figure wears a jewel-encrusted crown which demonstrates obvious problems with perspective, and looks like it might have been popped on afterwards, sketched in freehand like the fanciful stone wall behind the nude Susanna. The palm frond also looks a bit artful. Aside from these two anomalies, the painting is dazzling in its realistic detail, and the dark narrow stage, as with the *Penitent Magdalene*, attests to Artemisia's continuing love affair with Caravaggio's style, even here in Florence. Red cloth has been carefully decorated with a gold pattern faithfully following folds, its rich warm velvet contrasting with the satin bronze sheen of

a shawl enveloping shoulders, chiffon white escaping, and linen rolled up, draping heavily over a resting arm. Catherine's right hand clutches the palm frond to her chest, shadowed, knuckled, boned, fingernails faithfully rendered, even a finger foreshortened. The portrait is elegant, if somewhat wistful. If the dating is correct (1618-19), then Artemisia is twenty-three or twenty-four, a young artist reaching towards maturity, feeling for her prime.

She is more than ready to overwhelm the de'Medici court with her remarkable Uffizi *Judith Slaying Holofernes* (c. 1620, fig 9). The problem with this painting, with counting artistic balls and comparing it to the achievements of the Pommersfelden *Susanna*, is that the painting is a replica of the Naples *Judith* (fig 54) now fully accepted as having been done by Artemisia while she was still very young and still in Rome (and still under Orazio's tutelage?). Scholars disagree on the success of the composition, which is considered altered from the Naples *Judith*. Spike (1991: 732) states that the "second, Uffizi, version of the *Judith* is not merely a reprise in fancy dress: it is the Naples composition seen through the wrong end of a telescope." Alternatively, Wangstaff (2002: 194) considers it an improvement. "[I]n making adjustments to the previous composition Artemisia was demonstrating the development of her artistic prowess over the previous years ... [in a] work ... larger in scale ... rigorously symmetrical ... [and from] a higher vantage point." Apart from studying the composition, certain newly found Florentine traits pop up in this work not seen in the Naples *Judith*, Artemisian traits that are most definitely post-Orazian. One is the incredible skill in which the artist has represented the different types of cloth. Artemisia is seen working her way towards this in the Pommersfelden *Susanna*, bursting forth with glorious gold in the Pitti *Magdalene*, and here continuing her mastery. She rediscovers the Magdalene's gold satin in Judith's dress, giving it an old-gold duller sheen, and adding a woven pattern to the cloth. She juxtaposes this with wisps of lace from an undergarment, and a red velvet touch to the rolled up sleeves. The red threads through the composition, making a large arc from Holofernes' spurting

blood, to Judith's sleeves, and Abra's clothing, repeating in the palpable velvet coverlet on Holofernes' bed, and finally trickling down among folds of white sheet in a representation of more spilled blood. This attention to cloth is not seen in the Naples *Judith*, where the fabrics are of an altogether more subdued nature, less thoughtfully rendered. Judith's dress in that painting looks suspiciously like one of Artemisia's fanciful, made-up additions, as the braiding doesn't flow convincingly, or look that "real."

Further, the sword in the Naples *Judith* might also be a studio prop. This is not the case in the Uffizi *Judith*. Here Artemisia depicts the real thing, steel blade butcher-sharp, handle metallic, the addition of a hand protector shielding Judith's cutting grip. Artemisia has signed the painting on the blade: EGO ARTEMITIA/ LOMI FEC. Individual bits of anatomy offer some difficulties, a few anomalies, like Holofernes' weirdly-proportioned right arm and Judith's awkward pose, but these have been copied over from the Naples *Judith*, and owe their mistakes to that painting. But Artemisia has added her mature touch; the Uffizi *Judith* is no mere copy. Apart from the cloth, Holofernes is shown to have lost a few years, while Judith has gained some. Artemisia has also added a bracelet ornamenting Judith's left arm, something Artemisian, as "Orazio seems not to have painted such jewelry" (Spike 1991: 733). In fact, he seems not to have painted jewelry at all.

This penchant for jewelry is also evident in the Pitti *Magdalene* (the pearl drop earrings) and in the Pitti *Judith and her Maidservant*, again the pearl drop earrings (they could be Artemisia's own?), and also a large cameo clasp in Judith's hair. There is a tiny image on this ornament that Garrard (1989:316) associates with "a small replica of Donatello's *St. George*, or possibly one of the many sculptural and painted *Davids* who, along with *St. George*, represented the heroic guardian ideal of Quattrocento Florence." Garrard (1989: 326-7) has identified the even tinier figures on the bracelet in the Uffizi *Judith* as two separate images of Artemis, thus linking Artemisia with her patron goddess namesake. Irrespective of the exact iconography, this attention

to the craft of the jewelry adds another dimension to the Artemisian bow, that being the inclusion of painstaking miniature details. Consider too, that such details could not be accounted for just by studying a model at posing distance. Such intricacies would be lost. Artemisia would have had to have had the image close to her, say by holding the loose broach, or bracelet, in her hand. This attention to jewelry, and to cloth, might bring the Oslo *Judith and her Maidservant* (c.1608-9)¹⁰ back into Artemisia's provenance. Judith is depicted wearing a jewelled broach with gold filigree and a drop pearl, a jewelled belt, and jewels dress her hair. Her dress is made of a rich red fabric with woven pattern, painstakingly recorded by the artist.

Although Longhi's attribution of the picture to Orazio has been widely followed [it was sold in Milan in 1895 as by Caravaggio], Nicolson, Spike, and Palmer have all leaned toward an ascription to Artemisia, and Papi ... does not exclude this possibility. By contrast, Garrard rejects the idea of Artemisia's authorship and accepts Orazio's because of what she sees as a "fussy confusion of drapery and detail" (Christiansen 2001a: 85).

Cloth and jewelry however, would surely more likely be a "woman's thing," not just in the rendering of *detail*, but also in the picking out of what the model should wear? Flipping through the Christiansen and Mann catalogue (2001), Orazio does not seem to have this same penchant, neither for jewelry nor for interesting extravagant cloth.

Some of the Orazian exceptions are the patterned shawl in the Houston *Sibyl* (c.1618-19)¹¹ which went on sale in 1951 as by Artemisia, but is now considered to have been by Orazio (Christiansen 2001a: 158-9), and the gold printed shawls in the two extremely similar versions of *Judith and her Maidservant with the Head of Holofernes*, one in the Vatican (c.1610-12)¹² and the other in the Hartford Wadsworth (c.1610-12)¹³ (which have also had attributions batted back and forth between Orazio and Artemisia, and have been successively re-dated). But most particularly it is the golden satin sheets and exposed maroon velvet bedcovers in Orazio's *Danaë* (1621-23, fig 59) now in New York. This painting has caused a celebration of Orazio's

supposed skill in handling cloth and light. Christiansen (2001b: 20) sees “an unmatched description of ... satin fabrics ... [and] a marvelously nuanced response to *luce*.” Specifically in this *Danaë* he finds a “dazzling ... depiction of light playing across the varied surfaces of satin, linen, and gilt metal” (Christiansen 2001a: 178). However, these few examples are, in my opinion, Orazian exceptions. A flip through Artemisia’s section (Christiansen & Mann 2001) will yield evidence of a proliferate and loving attention to the faithful rendering of the tactile and visual beauty of cloth, the real mistress of *luce*. For example, Artemisia’s *Sleeping Venus* (c.1625-30, fig 57) depicts a shimmering blue damask bed cloth, a red velvet cushion trimmed with gold brocade and tassels, and rich red velvet draping curtains. An *Allegory of Painting* (c.1620s)¹⁴ is a newly identified work which shows the artist’s seeming delight in the contrasts of a cloth which is itself reversed, successfully depicting the play of a shiny golden coppery satin finish against a soft muted brushed velvet brown on the underside. Christiansen (2001a: 178) admits that Orazio only ever produced a comparable description of fabric, the one he sees in the New York *Danaë*, in his *Annunciation* (1623).¹⁵ But Artemisia was doing it all the time. If Artemisia’s Pitti *Judith* was the painting sent to the Grand Duchess from Rome as a gift ahead of Artemisia’s own arrival, then this could be an extremely early example of Artemisia’s fascination with cloth and jewelry, a fascination which came into full bloom when she arrived in Florence with all its sumptuous refinements, and first played itself out in about 1615 in the rich gold satin of the Pitti *Magdalene*. This can only make one wonder about the Orazian “exceptions.”¹⁶

In terms of trying to understand the precocious Pommersfelden *Susanna*, Artemisia’s Florentine *oeuvre* shows an artist most definitely capable, both technically and emotionally, of handling such a composition, even single-handedly, and even at a young age. In fact, Artemisia’s confident and mature work from this time makes the Pommersfelden *Susanna* look a little naïve, very much the work of a younger artist. But how good was Artemisia’s work

in general, not just in comparison to Orazio's? How did she compare and compete on the Italian market? Who were her competition, and how did she fare? And in terms of this comparison, what is known of other painter's *methods*? Are explanations of their working practices just as vague as hers?

1.4 HOW DID OTHERS DO IT?

Spike (1991: 734) states that Artemisia "had no gift for drawing hands." The hands that elicit this comment belong to the banner man depicted in her *Portrait of a Gonfaloniere* (1622).¹⁷ It is difficult to imagine what is wrong with the banner man's hands, but one can only assume it is the effeminate gesture, and the marginal discrepancy in size, that is disturbing. Certainly, they appear artfully drawn: fleshy, bony, fingernails beautifully manicured and polished. Further, it is a strange comment coming from a scholar who spends virtually the whole article (Spike 1991) trying to convince his reader to allow for two of Artemisia's most important youthful compositions (the Pommersfelden *Susanna* and the Naples *Judith*) to pass almost entirely to Orazio. Perhaps, like Christiansen (2001: 5), he considers Orazio's own early work as immaterial; certainly he appears to have forgotten about it. Remember Orazio's hand/glove/claw from the *Strength* fresco (fig 2), and the pincers from *St Ursula* (fig 3)? The hand in *Strength* (detail, fig 10) is possibly the worst representation in the history of Italian painting, and *St Ursula* and her companions, with their elongated talons, are not much better. Still Orazio redeems himself in his depiction of God's raised palm-out hand in the Turin *Madonna in Glory* (detail, fig 11). On the other side Artemisia never does anything as nearly terrible as some of Orazio's early gaffes (and even his later ones, for example the fresco cycle, mid-1610s, in San Venanzo, Fabriano). Judith's raised hand, shielding her eyes from the glare of the candlelight and casting an evocative half-moon shadow across her face, in Artemisia's *Judith*

and her Maidservant (c1625-7, fig 12) now in Detroit, offers any competent palm reader the chance to tell Judith's fortune, so faithfully detailed is it in line, wrinkle and fold. And Abra, the maidservant, uses her left hand (fig 13), in a grasping gesture to hurriedly cover Holofernes' severed head, already in the basket. It is precisely rendered: knuckles, fingers, bones, flesh, and again, highly-polished fingernails. The hand is stained with the dead man's drying blood. Artemisia's art is viewed "as the product of caravagessque training ... a natural gift or talent" (Mann 1997: 179). In other words despite, at times, her incredible anatomical accuracy it is believed she did not do any preliminary drawings. Her contemporary Domenichino on the other hand, was a prolific and competent draftsman, and combined "sketches, life drawings and cartoons in the development of his invention" (groveart.com. Sv "Domenichino"). A study of hands for one of his *Susanna's* (1606-8, fig 14) is an example of his drafting skills. Nevertheless, there is a feel of gloves about them, a lack of solid flesh and bone inside the skin, and lifelines are left as suggestions. His hands are generalized, stylized. Intimate details, such as individual fingernails, are more prominent in Artemisia. Domenichino was steeped in the academic Roman style of Annibale Carracci and became an influential exponent of that seventeenth-century classical style (groveart.com. Sv "Domenichino").

Typically, hands are not that easy to depict. "The most common mistake made by beginners is to draw the hands too small in relation to the rest of the body" (Hirschl 1988: 93). Hands should be about three-quarters of the face. Further, hands can be reduced to gloves, fleshless, empty shells, or can be made to look like talons, claws, or pincers, and fingers can look like sausages, all too much the same size. Leonardo could draw hands quite beautifully, but he shied from them in his cartoon for the *Virgin and St Anne* (1507-8),¹⁸ and avoids the foot as well, another "difficult" part of the anatomy to render. (It is almost as if he is saying to himself: I won't trouble myself with those now. I'll do them later, when I must.) Guercino, another contemporary of Artemisia, a principal painter of the Bolognese school, and one of the most consummate

draftsmen of the time (groveart.com. Sv "Guercino), is seen to suffer the same hesitations. In his *Study of an Angel of the Annunciation* (c.1638, fig 15), Guercino has paid great attention to the face, but the hands are suggestively sketched in, too large, the foot too small. Undoubtedly he would "fix" these when drafting the final cartoon, patch in hands and a foot drawn carefully at some other time. Artemisia, who worked from life, could not have had this luxury. She would have had to have the model move closer, so that she could study the details of hands and feet, paying careful attention to keeping them in proportion without the benefits of preliminary sketches.

Generally speaking Guercino and Domenichino seemed to have been more in line with the conservative tastes of their all-important patrons. Guercino was "more in demand than Artemisia, on average [he] made about fifteen hundred scudi a year; Domenichino earned two thousand a year while in Naples during the 1630s" (Spear 2001: 340). Guercino's *Susanna and the Elders* (1617, fig 16) is twice again the size of Artemisia's Pommersfelden *Susanna*, and reflects the austere classicism of Guido Reni whom he tried to emulate (groveart.com. Sv "Guercino). Guercino juggles a multitude of balls, including detailed narrative considerations and a landscape setting. The Elders invite the viewer to participate in their voyeurism, while Susanna remains unaware, self-involved and attentive to her toilet. This coherent composing of the figures is in direct contrast to Artemisia who so often suffers the Caravaggesque frozen-pose anomaly, resulting from having to have the model, or models, stand in an indication of gesture or drama for long periods. However, Artemisia seems to have been able to readjust her approach at times, as for example in the Burghley House *Susanna*.¹⁹ "Its design is Carraccesque while its coloration, lighting, expressive gestures, and background evoke Guercino's work in particular" (Spear 2001: 338).

Other contemporary artists, like the Frenchman Simon Vouet, came more closely to Artemisia's Caravaggism, even surpassed it. Although Artemisia herself never tried pure genre scenes, or none exist, Vouet seems to have

delighted in them. Like Artemisia he worked in the Caravaggio tradition, and shows extreme attention both to detail and to the individualism of his models. Vouet's *Fortune Teller* (1617, fig 17) is at the heart of Caravaggio. "Caravaggio called a gipsy who chanced to pass in the street, and having led her to his inn he portrayed her in the act of predicting the future, as these women of the Egyptian race are wont to do" (Bellori cited in Kitson 1969: 86). Caravaggio painted his original *Fortune Teller* in about 1594.²⁰ A second *Fortune Teller* (1595),²¹ which belonged to a Roman gentleman Alessandro Vittrice and is now in the Louvre, is dated slightly later. Like Caravaggio, Vouet shows a man, palm bared for a gypsy to read his fortune: *buona ventura*. The models stand before the viewer as they stood before the painter, depicted in a lively, realistic fashion, singular elements faithfully rendered, proportions meaningfully and accurately portrayed. That Vouet was close to Artemisia in style is reaffirmed by the fact that attributions have habitually gone from one to the other, such as the *Two Lovers* (no date)²² in the Galleria Pallavicini in Rome, which is now given to Vouet but was once hung under Artemisia's name (Garrard 1989: 505; note 117). That Vouet was acquainted with the Gentileschi is likely. Garrard (1989: 68-71) posits that he and Artemisia could have met him in Rome after her return there in 1621, as they both lived in the same neighbourhood around the via del Corso. Vouet had an Italian wife, who was also a painter. Further Garrard notes similarities in some of their iconography around this time, for example between his *Temptation of St Francis* (1624)²³ and her *Detroit Judith and her Maidservant* (c.1625-27). Artemisia left for Venice in 1627, the same year Vouet also left Rome to return to Paris, via Venice (Spear 2001: 342). Further, a *Diana at Rest*²⁴ by Vouet is in the English Royal collection, probably commissioned and sent to King Charles 1 sometime in 1637 (groveart.com. Sv "Vouet"). Orazio was well established in the English court at this time, and Artemisia arrived in London after that to join her father (Christiansen 2001: XVII). That Vouet and

Artemisia had a close relationship seems likely; the links are too many to ignore.

Attention to detail, “in which the model is captured from life” (groveart.com. “Vouet”), is echoed in the two artists’ faithful, almost passionately “realistic” representation of the way cloth folds and hangs. In the *Fortune Teller* (detail, fig 18) Vouet swathes his gypsies in a tough cotton or linen, while he gives the man a softer fabric for his shirt, and adds a treated waistcoat. In the Pitti *Judith and her Maidservant* (detail, fig 19) Artemisia shows this same ability to distinguish, contrasting the hard and deeply shadowed drape of Abra’s head-wrap with her shirt sleeve in a softer fabric, gently folding. The mustard-colored heavy twill of her dress is caught up in a believable bundle by cloth tied at the waist. The bodice of the dress is laced with a plaited brown cord. This is in direct opposition to the more classically-inclined masters. The drapery in Domenichino’s *St Cecilia* (c.1617-18, fig 20) is rendered in an artful fashion, the folds not related to how a real dress-sleeve might bunch and crease, reduced almost to mere design. Guercino’s drapery (detail, fig 21) is more sculptural, as if he has studied the folds and drift of marble rather than cloth. That the figures’ garments may be patched together from other sources is telling both in execution and in Guercino’s methods, wherein the artist would work from detailed (drawn) studies in the preparation of his final composition.

There is evidence that Artemisia used the same model over and again, even herself. Nevertheless, each rendering is always unique – to mood, atmosphere, topic, expression, age and circumstance. Guercino and Domenichino preferred to depict the classical “type,” surely an easier option. This is evident in Domenichino’s *St Cecilia* portrait (detail, fig 22). Artemisia’s *Magdalene* (detail, fig 23), in similar eyes-cast-upwards pose, is more believably foreshortened. *St Cecilia* appears to be looking up, while keeping her head straight on, an uncomfortable, unnatural gesture, requiring the over-rolling of the eyeballs. Further, the *Magdalene* has a three-

dimensionality that St Cecilia is lacking. The Magdalene's hair glistens in tightly bunched curls. The face is lined, with creases forming a perplexed frown and outlining the curve of the mouth in a hesitant motion to speak. A hint of ivory escapes between parted lips. The Magdalene is a real person, even down to the dark rings that circle her hazel-colored irises, and the enlarged pupils accustoming themselves to the dim light of Artemisia's darkened theatre. Artemisia is a consummate perfectionist, and a competent competitor on the Baroque Italian stage.

Nevertheless, although it has been established that Artemisia could do it, and most certainly she could have done the Pommersfelden *Susanna*, the question of "how" is still elusive. "Caravaggesque training" states Judith Mann (1997: 179). I'm not sure what she really means by this. Does she mean working straight from life onto canvas without any preliminary drawing as Robb (2000: 218) claims for Caravaggio? But how does an artist do that, especially one like Orazio who was really, who must be considered an extremely mediocre painter before he met Caravaggio? Betty Edwards, an authority on right-brain drawing, explains that "the brain's preprogramming is so all-encompassing, so ready to 'jump the gun,' so bent on avoiding the anxiety of 'not-knowing,' that it is almost impossible to turn off the program at will in order to 'really' see when perception of a different kind is appropriate and useful" (Edwards 1986: 167). The perception she is talking about is of course "seeing to make art." There is no evidence that Orazio would not have carried on, paintbrush in hand instead of pencil, making the same bland art he had already been making for nearly two decades. He would have continued to "encounter reality with an enormous number of preconceived notions" (Bloomer cited in Edwards 1986: 166). He could never have jumped from the atrocious claw in his *Strength* fresco to the delicate and believable hand of God in the *Madonna in Glory* simply because he saw Caravaggio do it, and was inspired. One can listen to Mozart, but one cannot necessarily do Mozart. Maybe Orazio was a secretly great draftsman, just lazy

and inconsistent, and maybe he passed this latent skill on to Artemisia – all that “disciplined mastery of anatomical drawing” (Garrard 1989:17) that she needed to compete on the Roman stage with the likes of Guercino and Domenichino. Both these men were incredible draftsmen, and hundreds of drawings survive to attest to this fact. The problem is, Artemisia left nothing, or rather, no drawings can be found. She herself claimed she didn’t show her drawings to anyone because people cheated her by taking her drawings and giving them to other artists to use (Garrard 1989: 398). In any case, scholars question her drafting skills as so many anomalies, so many odd disproportionate slips, crop up in her paintings. Spike (1991: 733) has her drafting skills getting worse in Florence, not better (away from her father’s careful tutelage?), and Cavazzini (2001: 289) has her awkward anatomical drawing abilities resulting from a lack of plaster casts in Orazio’s studio. But was Artemisia depicting straight from life, only paintbrush in hand, or was she making careful anatomical studies beforehand? It is a contradiction to have her doing both. Artemisia drives Contini (cited in Spike 1991: 734) to distraction, as an artist with an elusive stylistic route, neither logical nor linear (my translation).²⁵ How does one explain this? In chapter 2 I will begin to consider if David Hockney’s theories, about Caravaggio and his possible use of the camera obscura, can be supported, and whether they can also be applied to Artemisia as the real explanation of her exceptional abilities.

CHAPTER 2

Testing a theory

2.1 THE MAGDALEN'S HANDS

In Artemisia's Pitti *Magdalene* (fig 8) the left hand is slightly larger than the right, although it should be smaller because it is supposed to be further away (simple perspective). This is a bizarre mistake for the same artist of the virtuoso Pommersfelden *Susanna*, with all that mastery of detailed anatomical drawing and sophisticated foreshortening, to have made. Yet even more confusing the great maestro himself, Caravaggio, suffered a similar *faux pas*. A comparable distortion of disproportionate hands also occurs in his *Supper at Emmaus* (1596-8, fig 28). "Though we accept Caravaggio's representation as natural, if we look closer we see some strange discrepancies. Christ's right hand is the same size as Peter's, although it is supposed to be nearer to us; and Peter's right hand seems larger than his left, which is also nearer," states contemporary artist David Hockney (2001: 120), grabbing this visual lapse in concentration as evidence of Caravaggio's (hitherto unsuspected) working practice (and, by default, also Artemisia's). Hockney goes on to explain that these hand anomalies might have been "deliberate artistic decisions, or ... a consequence of movements of lens and canvas when refocusing because of depth-of-field problems" (2001: 120.) But this is Seicento Baroque Italian painting being discussed not photography, and here is Hockney talking quite glibly about lenses, refocusing and depth-of-field. He is, of course, expanding on his extraordinary idea that Caravaggio not only manipulated the camera obscura (*reflection* onto a canvas) but also a lens (*projection* onto a canvas). The image thus projected, from a bright source of light where the models were posed, to a curtained-off dark area where the artist worked, could then be traced, resulting in a highly-detailed realism, a feature running through Caravaggio's work, Artemisia's work, and Orazio's work (after he met

Caravaggio). And it was a method, Hockney states, artists kept to themselves (2001: 14).

If Caravaggio did use a projection, a lens, then Hockney is saying he would have had to refocus at a point on St Peter's (out-of-focus, beyond-the-depth-of-field) right hand, probably by simply moving the canvas closer to the action. The notion of refocusing should be familiar to anyone interested in photography. In point-and-shoot cameras, focusing is done automatically for the user at a medium distance. Anything more sophisticated and the user can choose where to focus. In Caravaggio's *Supper at Emmaus*, the action of moving the canvas would have negated the previous vanishing-point making St Peter's right hand now *relationally* larger than his left. But why did Caravaggio not correct the hand anomaly? (And not only move the canvas forward, but also move the model back?) If Hockney is right, it might have been because Caravaggio was working upside down with technology that was very new, and he simply did not notice. More intriguingly, the same question applies even *if* Caravaggio was working freehand, using only his extensive training and unprecedented talent. In other words, why did he not (visually) correct St Peter's overlarge hand applying rules of anatomy and perspective? How could he have made such a mistake in the first place? Could Hockney be right? Did Caravaggio have a guarded secret about how to manipulate optics that gave him the realism edge? And did Artemisia know that secret, a secret that made it possible for her to run with the boys? Could the use of the camera obscura explain the unprecedented juggling act of the Pommersfelden *Susanna*? Could this new working practice rationalize Orazio's exaggerated leap in abilities around 1600? And could it clarify Artemisia being able to successfully compete with artists who could draw superbly, when she herself (seemingly) couldn't? Certainly, side-by-side, the figures of Magdalene and St Peter offer an enigma.

There has been a plethora of criticism aimed at Hockney's theories, and David Stork has addressed this particular refocusing theory of the *Supper at*

Emmaus in an essay posted on the Internet. “Caravaggio figures prominently in Hockney’s theory, yet this painting exposes numerous awkward implications of the theory related to refocusing, moving the canvas, and illumination” (Stork 2004a). Before addressing Stork’s rebuttal, let us first try to suppose that Caravaggio and Artemisia had made deliberate creative choices to have these hand discrepancies. (Even Hockney has allowed for this possibility.) But try to imagine what this “choice” could have been about (remembering that Artemisia did it in the portrait of the banner man as well). In Caravaggio’s *Supper at Emmaus* Christ’s hands are relationally smaller than Peter’s, so that it cannot be said that Caravaggio did not want, in some way, to denigrate Peter by giving him a small(er) right hand. Could he have wanted Peter’s extended arms to suggest an all-encompassing, protective gesture towards Christ? But Peter’s look of surprise at Christ’s announcement fits the narrative. The gesture indicates a moment of unbelief. Alternatively, could it be said that Artemisia was using artistic license? Could she have deliberately wanted to draw attention to the mirror and the Magdalene’s reflection with the large left hand? But why not just bend the arm slightly and swing the mirror closer? And does this explain the banner man? No, it seems these *are* examples of her visual lapses, her anatomical (freehand?) blunders. (And Caravaggio?) *Just blunders*, Stork agrees as he concludes that the *Supper at Emmaus* “presents a number of difficulties for the specific explanations of Mr Hockney and for the theory more generally. ... [as the] refocusing he suggested would have led to an extremely awkward and severe disruption to the studio ... [in order to avoid] off-axis aberrations” (Stork 2004a). The problem is though that as elegant as Stork’s math is, in trying to refute Hockney, it is completely irrelevant because Stork uses a concave lens (a shaving mirror) for his calculations, whereas Hockney states quite specifically that by the time Caravaggio painted the *Supper at Emmaus* he had a “new lens” (Hockney 2001: 120), meaning that Caravaggio was now using a biconvex lens (a magnifying glass). But despite the fact that Stork’s rebuttal is

seriously flawed (in this instance), does that make Hockney right (in this instance)?

Most art historians still don't think so. For example, Metropolitan Museum Curator Dr. Keith Christiansen (also editor and contributor of *Orazio and Artemisia Gentileschi* – see Bibliography) questions the use of lenses as described by Hockney. “Why ... would artists such as Michelangelo and Caravaggio, who routinely made freehand sketches before painting, need the aid of blurry, upside-down images?” (quoted in Carrell 2002: 81). Catherine Puglisi, associate art history professor at Rutgers and author of a Caravaggio monograph, states that Hockney's claims are simply ahistorical.

To say [Caravaggio] ... always painted from models is patently untrue—this was a myth he himself promoted and that became the leitmotif of his critics. Like any well-trained painter from that period, and all the more one with his gifts, Caravaggio was perfectly capable of painting without a model when he so chose. ... The idea that he used some optical aid—lenses, certainly mirrors—I think it's probably likely. ... That he used a camera obscura, like Vermeer, is not very likely. Because the types of effects that have been documented in Vermeer's paintings [are not present] at all in Caravaggio's work. So there is certainly no one-to-one. He's not copying from an image reflected by such a camera (quoted in Landi 2000: 137).

Firstly, Hockney has never claimed that Michelangelo (Buonarroti)¹ used optics. He is very clear that he believes some artists used them, and some did not. Those that did not, like Michelangelo (B), he says used “eyeballing.” (I prefer the term “freehand” as working with a camera obscura still requires “eyeballing,” in my opinion.) Secondly, I am not really sure what Puglisi means by Caravaggio doing it without a model. Does she mean he made things up? Or does she mean he assembled figures like Domenichino and Guercino did? But Caravaggio left no drawings, detailed studies of head, hands and feet – the difficult parts. There is no evidence, beneath the oil, that Caravaggio ever drew at all (Robb 2000: 6). Actually, there is also no reason why artists cannot have patched figures together using camera obscura technology,

something Artemisia and her father did a lot, as will be shown. Further, the statement of there being no similarity in painting effects between Vermeer and Caravaggio directly contradicts Keith Christiansen (2001b: 19-20) who states that “[Roberto] Longhi ... saw Orazio’s place in this early history of modernism as a sort of middle term between Caravaggio’s early Giorgionesque genre painting and the sunlit interiors of Johannes Vermeer.” Are there similarities between Caravaggio’s work, (Orazio’s work) and Vermeer’s, or are there not? Third, the making of routine preliminary sketches is hardly telling evidence that Caravaggio *didn’t* use technology. Even today, with all the computer assistance in the world, artists rough out designs and ideas by hand. Caravaggio would have surely thought about how he was going to pose his models, where he was going to position them. Yet, if Hockney *is* right, why is there so much confusion? And why are so few scholars supporting him?

I believe Hockney added to the turmoil through making a number of misleading assumptions in *Secret Knowledge*. One I have already mentioned, and that is that the camera lucida (technically) and the camera obscura have a place side by side other than as possible drawing aids. Another assumption is that everyone would know what a camera obscura is (like saying the word television). But the camera obscura is not a material thing, it is simply a phenomenon. “It has been known for at least two thousand years that when light passes through a small hole into a dark, enclosed interior, an inverted image will appear on the wall opposite the hole” (Crary 2003). The Latin name camera obscura (literally dark room) describing this effect is attributed to the seventeenth-century German astronomer Johannes Kepler (1571-1630) (Hammond 1981: 24). Art historians sometimes synonymously use the Italian, *camera oscura* (no *b*). Charles Falco (2003), David Hockney’s partner and scientist working with optics, explains that the “camera obscura is something to make, not something to buy.” He recommends working in a bathroom with a small window in which the right ambient level of lighting can easily be

achieved. To enhance the camera obscura effect either a shaving mirror (concave) or a magnifying glass (a biconvex lens) can be utilized. If a shaving mirror is being used it should be aimed at the wall *alongside* the small window. An upside-down image will appear on the wall. With a magnifying glass the image must be reflected onto the wall *opposite* the small window. The image will not only be upside-down, but will also be reversed. Falco suggests starting with the magnifying glass about thirty centimetres (or twelve inches) from the wall, and thereafter moving it to get the right focus (Falco 2003). The concave mirror is considered to have been, by Hockney and Falco, the first technical improvement on the natural camera obscura effect, while they consider the refractive biconvex lens to be the next step (Hockney 2001: 113-124).

The camera obscura was first used scientifically to view solar eclipses (preventing inevitable retina damage that results from looking straight at the sun) and by the seventeenth century the technology was being made into a portable “thing” making it the prototype of the modern camera (Naughton 2003), the word transposing into modern English to describe a “machine of the photograph” (literally in Italian *la macchina della fotografica*). The German Kepler developed a tent camera obscura (diagram 1) in around 1620, which English traveller and diplomat Sir Henry Wootton described in excited and glowing terms (Gernsheim 1982:11). In 1658, a Wurzburg monk, Johann Zahn, was one of the first experimenters to put the whole concept into a box (diagram 2). It was a reflex box camera which used a mirror to re-invert the image, and included lenses of both longer and shorter focal lengths, in effect one of the first applications of the telephoto lens to primitive photography. The viewer could look both at landscapes and portraits in full focus through glass positioned at the opposite side to the lens (Naughton 2003).² Of course, people could *view* the camera obscura effect, but it could not be fixed by chemical means onto paper. It was another two hundred years before this happened. But could artists like Caravaggio and Artemisia have been using the

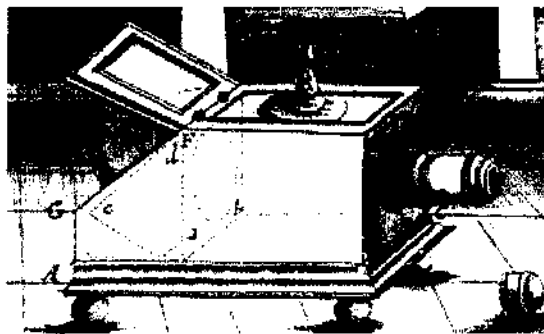
camera obscura effect to fix a projected image? How well known was this phenomenon in their time?

Diagram 2



Portable "Tent" Camera Obscura, 1620. Johannes Kepler (1571-1630). (Naughton 2003.)

Diagram 3



Reflex Camera Obscura, 1685. Johannes Zahn, Originally from Zahn, J., "Oculus Artificialis" (1685-86). (Naughton 2003.)

Aside from Aristotle, Euclid and the Chinese, the first person to not only understand the phenomenon of the camera obscura but also to *influence* modern thinking and research about such optics, was an Arab mathematician Abu Ali Al-Hazen ibn Alhazen (d.1038 Cairo). He wrote about geometry, perspective, optics, and the camera obscura, amongst other things. His work was finally translated into Latin in 1270, and went into print in 1572. It is also suggested that an earlier (Latin) manuscript may have circulated, one that Englishman Roger Bacon (1214-94) could have referred to as he wrote about

optics and the camera obscura before 1266. Bacon most definitely used a type of camera obscura to view solar eclipses. Not only did the Arab Alhazen describe the “magnifying effect of simple lenses,” he also “stressed the significance of the relationship between the size of the aperture [in the camera obscura] and the sharpness of the image” (Naughton 2003). Aperture is a relatively easy concept, and refers to the size of the hole through which light is allowed to pass in order to project or reflect an image. In 1568 a Venetian nobleman, Daniele Barbaro (1513-1570), like Alhazen, was able to describe a camera obscura fitted with both a lens and a diaphragm. This was the forerunner to the automatic aperture in modern photography, the diaphragm being made progressively smaller to sharpen the focus of the image (Naughton 2003). It was Barbaro, together with the Milanese mathematics professor Girolamo Cardano (1501-76) and the Neapolitan scientist Giovanni Battista Della Porta (1538-1615), who led the mid- to late-sixteenth-century Italian charge towards fully grasping and improving on the reflected and refracted images of the camera obscura phenomenon. Cardano was one of the first writers to describe the nature of the biconvex lens in the 1550 edition of his scientific encyclopedia (Naughton 2003). Della Porta recommended the use of a lenticular crystal glass and a concave mirror to bring the image more sharply into focus, and he gave advice, in the 1591 edition of his book *Natural Magic*, on the possible application this could have for the praxis of painting, from making accurate copies to doing lifelike portraits (Gernsheim 1982: 11). Barbaro also had suggestions on how to make the image crisper, by reducing the aperture as well as moving the support (for drawing) backwards and forwards (Hammond 1981: 15). Moving the support backwards and forwards? Isn't that what Hockney claims Caravaggio did with the *Supper at Emmaus*? Here is a fifteenth-century writer suggesting this is exactly what artists, using the camera obscura effect, should do.

But both Cardano and Della Porta ran foul of the Inquisition. Cardano was something of a showman; staging “moving picture shows” with the audience

inside a darkened room, and actors outside in the light. In 1570 he “was accused of heresy, jailed, and lost his right to publish books” (Naughton 2003). Della Porta also terrified viewers with projected images of performing figures, was summoned before the Inquisition and later charged with sorcery. His life was probably saved by the intercession of an acquaintance, one Cardinal Luigi D’Este, but Della Porta’s books were placed on the prohibited index and he was forbidden to write about scientific or philosophic matters or to conduct any scientific experiments. The banning was lifted in 1598.³ It was likely that from this time on, because of the camera obscura’s growing association with the occult, that any artists who used the technology might be less inclined to admit it (Naughton 2003). In 1591, the year of Della Porta’s second edition to his publication, Caravaggio would have been about twenty. Cardano, a Milanese like Caravaggio, was already dead, but his ideas would have been circulating for over forty years. Although this does not prove that Caravaggio either used the camera obscura, or even knew about it, the chronology becomes compelling that he could have.

Further, one early Renaissance Italian who also definitely dabbled in camera obscura technology, in the study of optics in general, and who may have had an influence on Caravaggio, was artist Leonardo da Vinci. Leonardo not only knew about the camera obscura effect, he also postulated that the eye worked very much in the same way as the pinhole camera (Pirenne 1970:33-4). Not only this, Leonardo also puzzled over the tyrannies of one-point perspective, understanding that although the human eye comprehends the illusion of space created by a single vanishing point, binocular vision has a natural perspective which is “more general in scope than linear perspective since each different surface gives a different section of the same pyramid of sight” (Pirenne 1970: 57). Here is where praxis meets philosophy.

Beginning in the late 1500s the figure of the camera obscura begins to assume a pre-eminent importance in delimiting and defining the relations between observer and world. Within several decades the camera obscura is no longer one of many

instruments or visual options but instead the compulsory site from which vision can be conceived or represented. Above all it indicates the appearance of a new model of subjectivity, the hegemony of a new subject-effect (Crary 2003).

What Crary is in effect saying is that, as time went on, the human eye became so accustomed to the camera (obscura effect) that the brain began to interpret the "photograph" as something "natural." And in this way we have come to consider Caravaggio's paintings as "real(istic)." Needless to say, there is (written) evidence of Leonardo's early experimentations with the camera obscura phenomenon. Bacon (in England) and the Arab Abu Ali Al-Hazen had manuscripts circulating in the eleventh century and Cardano, Barbaro and Della Porta were publishing books about the camera obscura and optics in the fifteenth and sixteenth centuries. What Hockney has failed to do is to establish the link with Caravaggio. He says that the knowledge was a closely guarded secret, so how could Caravaggio have known about it, and how could the knowledge have *not been known about* when Della Porta was writing about it, and publishing? This will be explored in due course.

A final assumption that Hockney makes, which has also added to the confusion and I will raise briefly here, is that all artists are equal when it comes to the use of camera obscura technology, and this is clearly not the case, certainly not with the Gentileschi and Caravaggio. Hockney suggests that camera obscura technology could have been used to trace outlines of figures and so on, with much of the work being done afterwards (in a "normal" way). Although it will be shown that this was pretty much the method Orazio Gentileschi fell into after one or two attempts at pure Caravaggism, it was not the case with either Caravaggio or with Artemisia. These two artists most definitely used the projection more continuously, building up the reflected image with paint and achieving an uncanny photo-realism. This method was a way of fixing the image with paint much as chemicals were later used, yielding the first paintings that *really look like photographs*. The success of their technique was such that Poussin complained that Caravaggio had come

into the world “to destroy painting” (Marin 1995: 3). (By this Poussin meant painting as he knew and practiced it.) In this regard Stork also raises objections, that being to the ability of artists to paint beneath a projection. “The red paint the artist wishes to use appears quite different when illuminated by the red projected light – the hue, saturation and lightness change” (Stork 2004b). Indeed, how could Caravaggio and Artemisia have painted in the dark half of the studio and made sense of the colours, especially for faces? Stork suggests that to make the most of a colour projection an artist would have needed white paint. “That way the projected image appears to you in its proper colors” (Stork 2004b). (Actually, black seems to work just as well. When David Hockney was experimenting with the camera obscura he removed the white paper he was drawing with and “the image ... remained there on the black wall” (2001: 74).) Nevertheless, I find the Gentileschi figures quite white, considering the models would have been Italians, and a preliminary survey of available x-rays of their work suggest to me the possibility that they were using white highlights for the base of their work, for the faces anyway. In fact, by the time Orazio is in England around 1630, he is using lily-white English models who are almost luminous. Caravaggio, on the other hand, appears to have had more control of skin tones. St Peter in the *Supper at Emmaus* and Holofernes in his Roman *Judith*, are both quite sallow. Artemisia’s Holofernes in the Uffizi *Judith* is relatively pale. Yet under Artemisia’s brush the depiction of cloth reaches new heights of lustrous reflection. Could she have worked out a way to paint in harmony with the projected colours, which she must have been dazzled and entranced by? Further, there is nothing to say that she could not have “turned off” her projection and opened the curtains during the course of the working day to check her progress. An artist never stands back from the easel? Here is a conjecture (by Stork) that only a projection can deceive, not what the eye sees naturally.

2.2 SEEING IS DECEIVING

One broad objection to artists using camera obscura technology is the difficulties they would have had working upside down, the result of using either a concave mirror or a convex lens before it was worked out how to re-invert the image using other mirrors. In fact, drawing teacher Betty Edwards (1986:23-24) positively recommends (drawing upside down).

It's almost as if L-mode [left-brain logic functioning], when forced to regard something in an upside-down orientation, says, in effect, "Listen, I don't do upside-down things. I like things to be the way they always are, so that I know what I'm looking at. If you're going to look at things upside down, count me out." Perfect! For drawing, just what we want! (Edwards 1986: 24.)

Unlike David Hockney who only used his camera obscura (experimentally) to "make a few key 'measurements' and mark out the corners of the eyes, nose, mouth ... then took the paper down, turned it the right way up and worked from life" (Falco 2003), I think artists could paint or draw upside down all the time, without a care, working simply with shape, form, space, shadow and light, directly from what is reflected. In a sense left-brain (logic) is deceived, frozen out. Perfect, as Edwards states. Yet Stork (2002: 15) claims "all brushstrokes in Renaissance painting are downward, thus contradicting the theory that these works were executed at least in part upside down." However Christiansen (1986: 422) contradicts this, for Caravaggio in any case, stating that Caravaggio's "brushwork has a variety of touch and direction – especially in the drapery areas – such as one would expect in a picture painting from life." (Or upside down using camera obscura technology?)

Not working upside down leads the artist more readily to closure, representation as reason might have it, with vision reduced to stored chunks of comparative information. The eye deceives the hand with the general rather than the specific. Figure 29 shows a detail of Leonardo da Vinci's portrait of

Ginevra de' Benci (c.1474-6). Here the young Leonardo (although at twenty-three not as young as the precocious Artemisia painting her Pommersfelden *Susanna*) has competently depicted the model's eyes. They are rendered in detail, and appear full of gentle expression. Yet there is lack of anatomical accuracy, a sacrifice of depth and form. Missing is an essence of the eye being basically a ball, held in its bony socket by a ring of muscle and flesh. The corneas, or irises, are depicted as flat discs grafted onto a flat white background. There is no particular differentiation between eyeballs and inner eye around the tear ducts. In fact, there are no tear ducts depicted. Further, the flesh of the eyelids, upper and lower, has a thin, papery appearance, rather than the thick folds that one associates with the eye, and the rims of the bottom lids lack that characteristic whiteness. The shadows remain generally unconvincing. As beautifully rendered as this portrait is, it is founded on the general rather than the specific. Then in his *Mona Lisa* (1503, fig 30) Leonardo bursts forth with a mesmerizing three dimensionality. David Hockney (2001: 136) postulates the possibility of Leonardo *using* camera obscura technology to paint, as opposed to just making observations with it. Certainly, in the intervening years, that is, between *Ginevra* and *Lisa*, Leonardo had been feverishly experimenting with optics, especially with the nature of light, and how the human eye actually sees. *Lisa's* eyes have all the "realistic" (read "photographic") qualities that are missing in *Ginevra's*. Shadows fall deeply on the creases above the upper eyelid, below the thick folds of flesh that wrap the eye, and beneath the slight bags that define the bottom of the hidden eyeball. Badly cracked as the painting is, it is still possible to make out the whites of the bottom rims, and the depiction of tear ducts. Further, the irises have a roundness to them, a feeling of depth, which is absent from the *Ginevra*.

It is not sure whether Leonardo could have used either a concave mirror or a lens to project a camera obscura image, although he most definitely knew a

lot about both mirrors and lenses (Hockney 2001: 206). However, he most definitely did see a camera obscura reflection.

From a distance of 20cm and the corresponding optimum-size aperture, 0.5mm in diameter, the luminance of the image only reaches a value about equal to that of the object lit by the full moon. Now Leonardo da Vinci formed the image of sunlit objects, not of the sun itself. As screens for his camera obscura, he used the actual wall opposite to the aperture ... and also a very thin sheet of paper, looked at from behind, which he placed nearer the aperture (Pirenne 1970: 24).

This quote is interesting on a few levels. Firstly, Pirenne makes a point of noting it was *not the sun* Leonardo was looking at, but the reflections of ordinary objects, which counters Stork's objection (2003) that "we have no evidence in the 15th century, say, that anyone saw an image of a non-self-luminous object (e.g., *not the sun*) projected onto a screen." Of course, Stork is looking for *projections*, not *reflections*, but with or without, for the purposes of copying from nature, a mirror or lens is not really the issue, only the improvement. Secondly, *Mona Lisa* has a feel of moonlight about her, a diffuseness, certainly a softness that is lacking in *Ginevra*. Leonardo's *Mona Lisa* is as famous as she is infamous, the object of both exultation and defamation, an unresolved enigma (my précis and translation, Fossi 2000: 145).⁴ Is this because we are, for all intents and purposes, looking at the world's first photograph?

Even if it *was* simply Leonardo's passion for anatomy that gave Lisa her haunting, smiling eyes, it appears by the time Domenichino was busy in Rome the lesson had been forgotten. A detail of St Cecilia's upturned eyes in Domenichino's *St Cecilia* (c.1617-18, fig 31) exhibits many of the same tendencies as those of Leonardo's earlier *Ginevra*. St Cecilia has the same flattened irises, the same flattened eyeballs, the same draft-like attention to how eyes *should be*, rather than how the model's *are*, as do Ginevra's. There is no feeling of a soft ball in a hard socket. On the other hand, Artemisia's Pitti *Magdalene* (detail fig 32) is an altogether different story. Here, without doubt, is "photographic" correctness, a design made from light and shadow, not from

line. These are real looking, yellow-flecked, hazel-colored irises, attached to real-looking eyeballs. The inside of the Magdalene's eyes are drawn with almost scientific attention to accuracy and detail, including the tear ducts. The eyelids dramatically take their shape from the eyeballs, shadowed in a taut sweep around the Magdalene's almost startled expression. Artemisia has been painfully mindful to the reflection of light in the eyeballs, each reflection unique, as it would have been, one eye further from the light source than the other. The eyes also have a hint of moistness about them, as they would have in real life. How did her father Orazio, the author of the terrible *St Ursula* canvas (fig 3), learn to do such things, in order to teach such things to his daughter, before she left for Florence, without him, in 1613? Certainly, as much as Caravaggio was in trouble most of the time, there are no rumours of secret trips to the morgue, no stories about illegal dissections going on. How then did Artemisia, for one, achieve such anatomical accuracy (and yet also make such a gaffe with the Magdalene's hands)? Without Hockney's theory of the use of camera obscura technology (2001) there is not much hope of offering a plausible explanation. The Pitti *Magdalene* is not portrait size (unlike Leonardo's *Mona Lisa*). Not only are the dimensions of the finished canvas at issue here, but also the *distance* Artemisia would have had to be standing from the live model for her to make such an execution "freehand." To apply such dramatic detail to the eyes she would have had to have moved to within portrait distance, even closer, from the four to five metres she would have been standing to "eyeball" the whole figure, as she is supposed to have worked. This scheme conjures the image of a model popping her head around the metre-wide canvas so Artemisia could catch each minute aspect. Open at figures 29 to 32 and turn the page upside down. Ginevra and St Cecilia do not "work" upside down although Mona Lisa and the Magdalene do (unless my eyes deceive me).

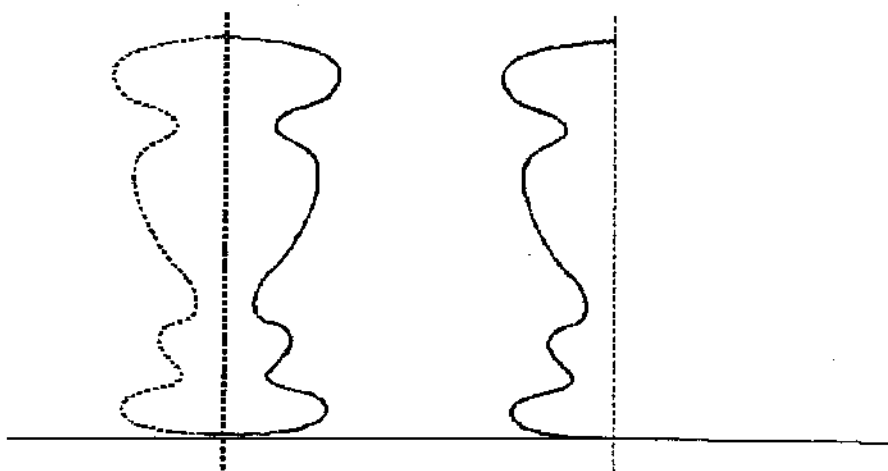
This discussion of visual evidence of the possible use of camera obscura technology is not only in what the artist can do (amazingly) right

(anatomically accurate eyes), but in what the artist can also do (incredibly) wrong. In the *Madonna with Sleeping Christ Child* (c.1615-16, fig 33) attributed to Orazio, the artist has rendered a poignantly beautiful Madonna, gently lifting a gold-filigreed veil away from the sleeping infant's face. However, there is a major distortion in the child's face, only really noticeable if the painting is turned sideways (detail, fig 34). It is a most bizarre distortion for the artist to have made, had he been working either from preliminary sketches, or even just from a live model (freehand). Even if the child model *had moved*, the obvious conclusion to the distortion, such a deformity would never have crept in *without* camera obscura technology behind it. No artist works (freehand) up one side of a face and down the other. The normal procedure is head roughly first, eyes (together), and then nose, mouth, and so on. The other explanation is not even worth contemplating, that is, that the artist used a deformed child. Perhaps he himself did not notice the anomaly, as right way on the distortion appears to (visually) correct itself. It seems Orazio's work is quite liberally sprinkled with studies of children and babies, one subject he could draw freehand from life (Cavazzini 2001: 288), although he doesn't appear to have used a drawing in this case (or he would have corrected the distortion or not made it in the first place?). On the other hand, Artemisia's *oeuvre* is rather thin on small creatures. She seems to have preferred Magdalenes to Madonnas. She tries a dog in *Esther before Ahasuerus* (c.1628-35),⁵ but paints it out. Actually, if you look closely, you can still see its ghost sitting there at the foot of the throne. Animals and children are difficult to do, even in terms of modern photography, because they move so much.

Unlike these unruly creatures, stationary objects should be easy to draw, even freehand, like vases, carafes, wine glasses and jars. Actually, not so. Getting the ellipses right on a manufactured object, matching up the two sides, is one of the most difficult drafting procedures for any artist (freehand). Try the exercise depicted in diagram 4. It is singly difficult for anyone to perfectly

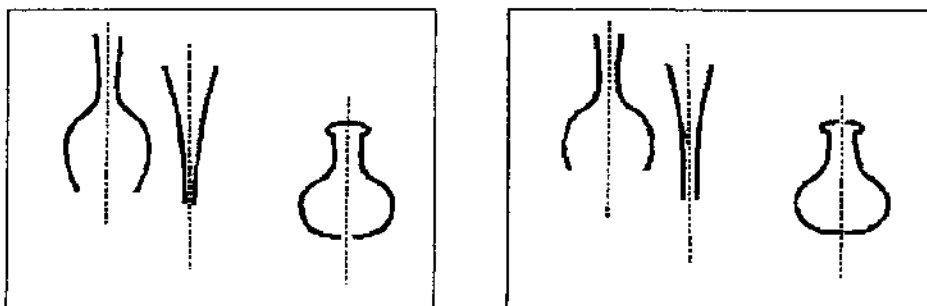
complete, artist or layman, as the shifting back and forth, the moving left and right, confuses the brain. If you think you have done a really accurate job, check yourself with a tracing.

Diagram 4



Complete the right-hand side of the vase. (Redrawn from Edwards 1986: 172.)

Diagram 5



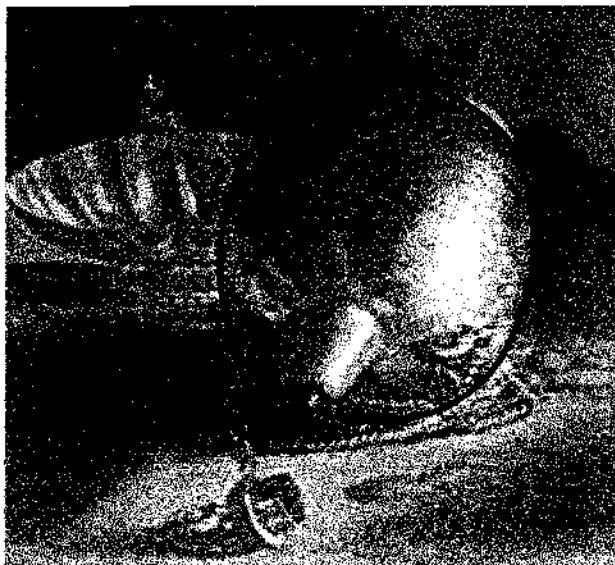
The left- and right-hand vision of Giorgio Morandi, Nature Dead with Brioche (1920). (Computer generated from original artwork, see fig 35.)

Consider the still-life depiction of a group of objects in Giorgio Morandi, *Nature Dead with Brioche* (1920, fig 35). Not one of the four man-made containers is proportionately rendered. Diagram 5 shows the effective left-hand and right-hand visions of this same scene. Morandi, of course, was not

trying to be accurate, but in terms of Caravaggio and Artemisia aiming for realism, the camera (obscura) would have offered the perfect solution.

On occasion Orazio appears to have gotten it completely right. Figure 36 is a detail of a wine carafe from Orazio Gentileschi, *Lot and his Daughters* (c.1621-22). The arc made by the curve of this foreshortened carafe is roughly egg shape, but more than this it is an egg cut in half and swiveled. Diagram 6 shows the squashed lopsided ellipse of the carafe as a solid line. The dotted line is a regular ellipse (of the object as if viewed face on). To estimate the shape of Lot's carafe, and then execute it freehand in perfect symmetry, even with a tracing, would have been almost impossible.

Diagram 6



Ellipse of wine carafe Orazio Gentileschi, Lot and his Daughters (c. 1621-22).
(Computer generated from original artwork, see fig 47.)

The simpler ellipse of a wine carafe in Caravaggio's *Magdalene* (c.1594-6)⁶ is also accurate to both sides. In this example the central axis has shifted to the right, in effect giving two axes (diagram 7).

Diagram 7



Ellipse of wine carafe Michelangelo Merisi da Caravaggio, The Magdalene (c. 1594-6). (Computer generated from original artwork, see Notes Chapter 1, note 7.)

The actual carafe (as it should have been) is represented by a solid line. The dotted line, inside left, is Caravaggio's deviation. This is a strange "mistake" for the artist to have made freehand if he were using a tracing. Can the mistake be explained optically, that is, the camera or the canvas shifted fractionally? Ellen Winner, a psychology professor at Boston College points out that Hockney and Falco "aren't saying lenses are the only way to get the perspective *right*. They're saying lenses are the only way to get the perspective *wrong* in precisely the ways ... artists erred" (quoted in Falco 2003). Caravaggio's *Bacchus* (c.1594, fig 37) is even more telling. At first sight anyone might be forgiven for assuming this wine glass *has been done freehand*, so wonky does it appear. It could even, it seems, be used *against* the optics' theory, for this painting in any case. In fact the stem actually has three axes (diagram 8). The arcs are accurate but have been shifted around. Again, the solid line represents how the glass *should* be; the dotted lines are Caravaggio's aberrations. The only explanation can be that the model kept moving the glass. If Caravaggio was working freehand why did he not just get the model to put it down so that he could draw it? Using camera obscura technology this could have also been a solution, but perhaps Caravaggio was in a hurry and didn't care. Does the stem of this wine glass turn out to be an

example of visual evidence in the use of optics (certainly in Caravaggio)? In other words, is it possible that Caravaggio, or any artist, could have made such “perfect mistakes” freehand? It seems unlikely, as *axis* would be uppermost in the artist’s mind. (Note the *arcs* are perfect as if a tracing could have been used.)

Diagram 8



Ellipse of wine glass Michelangelo Merisi da Caravaggio, Bacchus (c.1594).
(Computer generated from original artwork, see fig 39.)

Suddenly, all that perfectly rendered drapery of Artemisia’s, all those beautifully constructed bits of anatomy, even those tiny slightly-out-of-focus figures on hairpieces and broaches, all this starts to make absolute sense. And how does she get them “out-of-focus” if she was not using camera obscura technology, if she had the broaches and bracelets in her hand to paint freehand? The banner man’s armour in her *Portrait of a Gonfaloniere* (1622) further attests to this possibility of the use of an optical aid.

Artemisia’s gift for describing the quality of disparate surfaces is abundantly evident in this fine portrait. The steely hardness of the armor, the golden lace edging of the green silk sash, the feathery softness of the helmet plumes, the soft

velvet coverlet on the table, and the starched stiffness of the ruff have all been captured with tactile exactitude (Mann 2001a: 359-60).

Quite. Hockney talks about just such rendering of metallic armour, especially in relation to Anthony van Dyck's *Portrait of a Man in Armour* (1625-7).⁶ "By the time of van Dyck, ... armour looks almost like a photograph. The engraving on his breastplate seems accurate, or unawkward, and the difficult drawing of the sword-handle, as it projects out towards the viewer, seems 'perfect'" (Hockney 2001: 42-3). Anthony van Dyck was most definitely acquainted with the Gentileschi as van Dyck made a portrait drawing of Orazio. "The two artists would surely have met in Genoa, where the Flemish painter arrived in November 1621, and again in Rome, where he spent seven months in 1622 and eight months in 1623" (Garrard 1989: 57). Van Dyck was a consummate draftsman; but his man in armour is uncannily photographic next to many of his more obviously free-hand portraits. Did he learn a trick or two from his Italian friends? Surely such dramatic leaps towards realism, as Orazio's overall quantum improvement, cannot be explained away by simply looking at things like Caravaggio is supposed to have done? How did Orazio make the huge leap from the terrible *St Ursula* (c.1597-9) canvas to the intricate details of the *Young Woman Playing a Lute* (c.1615)? Suddenly he can foreshorten a violin and do complicated sheet music perfectly following the curve of a flapped-open page, when in *St Ursula* (fig 3) he couldn't even do a draping flag? Compare this flag to Artemisia's flag in her *Portrait of a Gonfaloniere*. How did Orazio teach her to do that which he couldn't even do himself?

Sheet music and musical instruments were well within Caravaggio's territory, however. It was a subject matter he tackled more than once. And yet, unlike Domenichino, there is no evidence that he cared that much for music. On the other hand "Domenichino was especially interested in the theory of ancient music and both made and commissioned instruments capable of playing ancient harmonies" (groveart.com Sv "Domenichino"). Despite this

Domenichino's *St Cecilia* (c.1617-18, fig 38) shows that he just doesn't get the flapped-open sheet music idea the way Caravaggio does. The music itself is undoubtedly perfectly correct, but the perspective treatment of it is linear and contrived (and faulty), and the line does not curve and give with the page the way Caravaggio gets it to do. Caravaggio's *Lute Player* (c.1595, fig 39) shows how skilfully Caravaggio could do this. The lute even has a broken string. Further, this Caravaggesque genre scene is, to my mind, a clear indication that Professor Puglisi is wrong in her supposition (see p. 37). Here is early Vermeer, as Longhi saw it, an indication of a "one-to-one" between Caravaggio and the Dutch master. Light sprinkles its way across the painting, flicking from lute to violin, to violin-bow, to the young man's teeth and eyeballs, and back again. These optical effects are not seen at all in Domenichino. The wood of the cello shines with a more even reflection. The cello itself would be unlikely to play anything melodic as it is so badly out of shape, undoubtedly the result of trying to use mathematical perspective alone to render it (fig 27). So, Orazio (or Artemisia?) took up from Caravaggio and ran with the optical effect of light, depicting it bouncing off the sheen of satin and velvet, and then, finally, Vermeer simply reveled in it?

Although Vermeer is generally accepted to have used camera obscura technology, something that has unfairly relegated his position to something of a lightweight, the above visual discussion still does not prove that Caravaggio or Artemisia were using the same technology? Art historians are still waiting for documentary evidence (for Caravaggio and Artemisia)? Why weren't artists writing about their use of camera obscura technology, or explaining the intricacies of focusing and depth-of-field problems in relation to lens and/or concave mirrors? Why weren't others reporting the use of camera obscura technology by artists? Maybe they were, but maybe scholars have been simply unaware of how to put what artists and their recorders were saying into context.

2.3 ART BRUSHES WITH SCIENCE

Leonardo did write most distinctly about his experimentation with the camera obscura effect, although not, it would seem, in relation to painting practice. Unlike most artists, Leonardo *wrote* about a lot of things, so it should come as no surprise that artists *in general* did not leave copious notes about camera obscura technology, and how to use it, lying around, most especially if such knowledge gave them a dramatic edge over their competition. Nevertheless Caravaggio did in fact talk about being in front of nature, much in the same way and using the same wording, that Leonardo did. For Caravaggio considered the skilled man, the skilled painter as it were, one who knew how “to imitate natural objects well” (cited in Christiansen 1986: 421).⁷ Leonardo, in a similar spirit to Caravaggio, claimed that “painting declines and deteriorates from age to age when painters have no other standard than painting already done ... the folly of those who blame those who learn from nature, setting aside the authorities who were disciples of nature” (cited in Pirenne 1970: 174). This of course is not writing about the camera obscura, but it is writing about the authority of seeing first hand.

The problem is though, that without the pinhole, even with nature in front of us, the “visual information that falls on the retina of the eye is not necessarily what we ‘see’” (Edwards 1986: 167). It is naïve to think that just because Caravaggio decided to look at nature he would suddenly be able to accurately render it. Everyone comes at design, particularly life drawing, with preconceived notions, closures which make it impossible to shut out the left-brain logic that wants to reduce everything we see to manageable chunks, to signs, metaphors as it were for eyes, hands, mouths, legs, feet and so on. This is the power of “conception over perception” (Edwards 1986: 171). In fact, it seems that Caravaggio did put something between himself and nature to assist him in front of it, as it were. Not only this, but someone wrote about it. His

contemporary Giovanni Baglione (c.1566-1643) stated categorically that Caravaggio “made a few small pictures portrayed from the mirror” (Lapucci quoted in Hockney 2001: 223). This has been variously interpreted, with subtle changes in the preposition from *with* to *using* to *from* to *in*, to mean that he painted *himself* in the mirror, or painted a *mirror-reflection*. What Baglione actually said was that there were “some small paintings by him [Caravaggio] portrayed in the mirror” (my translation: Lapucci 1994: 160).⁸ In reality the models in these early small paintings vary enough in physiognomy (Lapucci 1994 2001: 159), and differ enough from known portraits of Caravaggio for them not to be considered self-portraits. Further, drawing from a mirror reflection (of a third party) is a somewhat odd suggestion as, apart from anything, the artist could not stand in front of the mirror if the model was, and vice versa. This would give a distorted perspective. The real story of Caravaggio’s mirror turns out to be far more intriguing than self-portraiture.

With the emphasis on *small* and *mirror*, David Hockney again provides a possible solution.

With a mirror-lens projection, the usable image is never much more than a foot (thirty centimetres) across – this is an optical characteristic of all concave mirrors, no matter how big they are. Outside this “sweet spot” it is impossible to get the 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; details of hands, clothes, feet; fragments of landscape – and still lifes (Hockney 2001: 103).⁹

Hockney then points to Caravaggio’s *Sick Bacchus* (c.1594, fig 40), where the boy appears squashed up against the picture frame. It is likely, in his opinion, that the painting gets this look because it is actually a pieced-together collage done using a concave mirror, and he isolates portrait, body and arm, hand and grapes, and fruit in the right corner, as the four probable windows (Hockney 2001: 114-15). It is true Caravaggio’s boy-painting series, from the early 1590s, are roughly the same size and small. It is also true that they all look as if the models have been splattered up against a windscreen at high speed.

Caravaggio's *Boy Bitten by a Lizard* (c.1593, fig 41) and *Boy with a Basket of Fruit* (c.1593, fig 42) exhibit the same peculiarities as the *Sick Bacchus*. Other works by Caravaggio that are also "small," are his still lifes, of which *Basket with Fruit* (c.1596)¹⁰ is an example. Caravaggio was somewhat fabled as a still-life painter before he moved on to large histories and religious scenes, and many of his works, like the previously mentioned St Petersburg *Lute Player* (fig 49), include still-life vignettes of vases of flowers, and so on. Hockney's "mirror-lens theory" does offer some tantalizing links with Baglione's comment. Baglione is insistent that the *Bacchus* concerned is small. Caravaggio's other *Bacchus* in the Uffizi, at one metre high, is not (particularly) small. Secondly "some" indicates a group, and there are indeed five with average dimensions between 70cm high and 60cm across. Although the *Boy Bitten by a Crayfish*¹¹ is slightly larger than the rest (about the same size as the Uffizi *Bacchus*) it still has that same peculiar look of the *Sick Bacchus*. Thirdly, the *Sick Bacchus* does look ill – either he really was or Caravaggio got the skin tone wrong. As this is Caravaggio's "first" attempt at portraying a painting "in the mirror" could it be that here is an artist who found getting the colour of the skin right underneath the projection extremely difficult? The *Sick Bacchus* has a greenish undertone not apparent in any other of Caravaggio's work. Why would Caravaggio be obliged to record the model as being "off colour" even if he was? The Uffizi *Bacchus* on the other hand is very white, although I see so many facial similarities with the *Sick Bacchus* that it is my conclusion that it must be the same model. Lastly, if the *Boy Peeling Fruit* (c.1591)¹² is Caravaggio's, and if Kitson (1969: 85) is right about it being Caravaggio's very first figure painting, then here is evidence of one of those "Caravaggian leaps" – in this instance, Caravaggio's own. *Boy Peeling Fruit* is very sweet and relatively competent, but it is far away from the "photographic" quality of Caravaggio's *Sick Bacchus*, done almost around the same time. It has a "freehand" look about it. One done from a projection, and one done without?

It is around the time of the *Lute Player* (c.1595) and the *Uffizi Bacchus* (c.1594) that Caravaggio does suddenly appear to move back from the action a little, as it were. He also starts to include more than one figure, as in his *Cheats* (c.1594).¹³ The stage is still dark and dramatic, still Caravaggio, but the feeling of being squashed up against the model is gone. David Hockney (2001: 114) explains that this is an improvement “you would expect from a conventional lens [he means biconvex], which can project a wider field of view and therefore more of the figure in one go.” He goes on to postulate that someone must have given Caravaggio a new lens, possibly his powerful patron of the time Cardinal Del Monte, introducing him to the idea of using it instead of a concave mirror to project the camera obscura effect. 1595 was in any case a pivotal year for the twenty-four year old Caravaggio. It was the year Cardinal Del Monte bought his first canvas from Caravaggio, and the year that he went to live at the cardinal’s home, the palazzo Madama. Before this Caravaggio “was at rock bottom and living on handouts” (Robb 2000: 52). After this his

... epicentre was this little piazza with the French church of San Luigi, and the great Medici palazzo Madama separated from it by a narrow alley. ... The church was where – five years on – he’d transform European art with his first public work, and where he’d later meet his first humiliating rejection. If you went down that narrow alley, you soon reached the vast and promiscuous meeting space of piazza Navona – place of M’s assignations, ball games, friendly meetings, violent attacks and police arrests. ... Further on the street led to the other great public space of the piazza del Popolo (Robb 2000: 53).

And the piazza del Popolo was where Orazio would have often been found, before he moved across the Tiber in 1611 (Christiansen & Mann 2001: XIV-XV). But the palazzo Madama was not only well placed for Caravaggio to meet Orazio, it also brought him into contact with another key player in Artemisia’s later life dramas, Galileo Galilei. Galileo was often at the palazzo Madama around this time, the Cardinal being one of the first people to later avail himself of Galileo’s new telescope invention to indulge his own passions

for astronomy (Robb 2000: 64-5). It could even have been Galileo who gave Caravaggio advice on lenses, maybe even a lens itself. Caravaggio was, after all, arrested in the spring of 1598 in possession of compasses (and a sword). Galileo perfected his own military compasses the year before, making another tantalizing link between the two men, although the police obviously assumed Caravaggio was going to use his to harm someone (Robb 2000: 71-2). Whether Caravaggio got a new lens, or lenses, and used them or not, it is visually evident that between his boy-paintings and his late 1590s metre-average, single, two- and three-figure canvases, something dramatic happened, as he was getting himself ready to dazzle the world with his huge San Luigi paintings, the same ones that supposedly shocked Orazio Gentileschi into becoming a real painter.

Pointedly, Baglione and Gentileschi appear to have plodded on after Caravaggio, picking up pieces from the trail of his divine brilliance. "Like Gentileschi, Baglione too did a version in 1601 of M's innovative early painting of Francis in the arms of an angel" (Robb 2000: 219). Giovanni Baglione, *St Francis with Two Angels* (1601, fig 43) has a splattered boy in it that Caravaggio had long left behind in the 1590s. Was Baglione using camera obscura technology, but still using a concave mirror to collage his work together? Baglione must have definitely known how Caravaggio did it, if Caravaggio *was doing it* with camera obscura technology, because it was Baglione who later wrote about Caravaggio *using* the mirror. Baglione seems to have been a few technical jumps behind Caravaggio, who had long moved on from the squashed "mirror lens" look in 1600. He and his friends might well have been laughing at Baglione's feeble attempts, already then. Even Baglione's enormous altarpiece depicting the *Resurrection of Christ*, done for the father-general of the Jesuit Church in Rome, appears to have been trailing. It was unveiled on Easter Sunday 1603, but "was so much a failure that late in the century the Jesuits silently removed it" (Robb 2000: 221.) Interesting is the way Robb (2001: 222) goes on to describe the small preliminary version of

this painting, which is all that remains after the original was taken down sometime later in the century, and slipped away into oblivion. Firstly, Robb mentions the bilateral nature of the painting, the top a “conventional late mannerist risen Christ,” and the bottom all Caravaggio. This is an anomaly that Baglione seems to have shared with Orazio and to a certain extent also with Caravaggio, the difficulty in giving Christ a human face. Orazio did not seem to mind doing God using a grey-haired old chap off the street, but his Christs have the look of bland Catholic icons, the gentle Jesus look dictated by style not reality. This anomaly is clearly evident in his *Madonna in Glory with the Trinity* (c.1600-5) and his *Baptism of Christ* (1607) as examples. Secondly, Robb refers quite bizarrely to the fact that one nude (from the bottom M-part of Baglione’s painting) is depicted “on his feet wielding a knife” in his left hand (Robb 2000: 222). Robb states that this nude closely resembles the almost nude assassin from Caravaggio’s *Matthew Killed* (fig 7). Why is Baglione’s nude left-handed? Hockney (2001: 118) claims that left-handedness is actually a pictorial “phenomenon [that] appears with Caravaggio and lasts for about forty years.” The reason he gives is that artists switched from using a concave mirror to a biconvex lens, which technically enlarges the field-of-focus available to the artist, but naturally reverses everything. So, as stated before, the Uffizi *Bacchus* is one of Caravaggio’s first paintings where he has moved back from the model, but it is also one where his model is suddenly left-handed (the result of switching from a mirror lens to a biconvex lens?).

But Caravaggio’s assassin in *Matthew Killed* is not left-handed. Baglione’s is in his *Resurrection*. Caravaggio could have, by 1600, been posing his models left-handed, to get them right-handed in the reversed lens image, or, Hockney could be wrong, and Caravaggio could have had the right mirrors in the right arrangement by the time he composed his great Matthew masterpieces (to get everything the right way round). Lapucci also promoted a lens being responsible for the Uffizi *Bacchus* being left-handed.

Configurations projected by playing around with mirrors and lenses sometimes results in a flipping in the left-right direction, especially when, as Della Porta explains, the observer is not looking through the lens or does not observe the outline by holding up the paper to the light. This could be why the Uffizi *Bacchus* offers the chalice with his left hand. It is not a depiction of someone left-handed, nor is it a self-portrait of the painter forced to hold his paintbrush in his right hand ... but an error caused by the flipping left-right of the image reflected in mirrors (my translation, Lapucci 1994: 154).¹⁴

For this reason Lapucci concludes that the *Bacchus* Baglione was referring to (“portrayed in the mirror”) is in fact the Uffizi *Bacchus* and not the *Sick Bacchus*. However, in this early attempt to explain Caravaggio’s “realism” optically, Lapucci is confused on a few points. One, it is not the mirror-lens that flips the image, but the biconvex-lens, and Baglione states specifically that it was a “mirror” (*uno specchio*). And further, a self-portrait would end up with the chalice in the right hand (if painted freehand), because the artist would be using a mirror to observe himself (and thus the glass in the left hand becomes one in the right, in any case). This confusion will be addressed in more depth in Chapter 3. Suffice to say here that Caravaggio didn’t like was Baglione copying him, shadowing his steps. “M didn’t like plagiarism and he didn’t like opportunism and M and his mates made public mock of Baglione, who sued for libel” (Robb 2000: 13). One of the mates was, coincidentally, Orazio Gentileschi. So, Baglione still has left-handed nudes in his *Resurrection* of 1603, Caravaggio has one, and Artemisia certainly does not have any.

Certainly it can be said that Caravaggio and his followers were not afraid of science, or scientists. Artemisia herself seems to have even reveled in her relationship with Galileo, enjoying his technical and scientific discoveries. In her time, art and science were not on different campuses, as they are now. In this regard, Topper and Gillis proposed an interesting theory in 1996, that the gratuitous spurting blood, in her second Uffizi-version of *Judith Slaying Holofernes* (fig 9), actually takes a carefully-constructed parabolic path. “This

is most suggestive, since one of Galileo's major scientific discoveries was the parabolic law of projectiles— although he more likely was thinking of cannonballs, not blood" (Topper & Gillis 1996: 11). It is thought that Galileo discovered the parabolic law in around 1608, although he only published the theory much later. He did not hide the discovery from his pupils, and seems to have very much shared the idea with Artemisia (Topper & Gillis 1996: 12). Perhaps they even discussed the unconvincing blood-spatterings in her re-drafting of the Naples design for Cosimo II de' Medici. They may even have looked at Caravaggio's own attempts by studying an engraving. That Galileo knew about the Uffizi *Judith* is attested by Artemisia mentioning the fact in a letter she wrote to him, from Naples, in 1635 (reprinted in Garrard 1986: 383-4). Galileo may even have been a family friend, as he and Orazio were both born in Pisa one year apart, Orazio leaving when he was about thirteen, and Galileo at age eight. Topper and Gillis (1996: 11) made tracings of the Uffizi *Judith* blood, and came to the conclusion that "the streams of blood were probably painted freehand (perhaps copied from some more geometrically accurate drawings), their extreme proximity to actual parabolas cannot be accidental." Of course, although none of this is "documentary" evidence that Artemisia used camera obscura technology it is definitely *visual* documentary evidence that she could get her mind around a technical problem, or two.

These links between artist and scientist in the Baroque world of Artemisia and Caravaggio make objections about the unlikely possibility of artists using technology naïve. Clearly, artists like Caravaggio and Artemisia knew a lot about technology, and availed themselves of it, and also entered into rewarding and life-long friendships with the leading scientists of their day. They did not write about it excessively, but their canvases were their scripts, places where they could make marks of their association with the scientific, with the technical, and with the new. Further, others *did* write about what they were doing, men like Baglione. It is becoming more evident that scholars have seemingly misunderstood this reference to Caravaggio and mirrors. Although

the jury may still be out on the “Hockney/van Eyck debate,” there is abundant evidence that Caravaggio and Artemisia were most probably at it. They had the references, Della Porta, Cardano, Barbaro and others, they had the friendships, Galileo, the del Montes, and others, and they had access to the best equipment available, for example, lenses that could bring the moon so close that its topography could be studied.

Galileo began to make a series of telescopes whose optical performance was much better than that of the Dutch instrument. His first telescope was made from available lenses and gave a magnification of about four times. To improve on this Galileo learned how to grind and polish his own lenses and by August 1609 he had an instrument with a magnification of around eight or nine (O'Connor & Robertson 2003).

Of course this was after Caravaggio and before Artemisia, but Caravaggio's aim was to achieve an enhanced naturalism with his lens, which did not need to be as powerful as Galileo's. And there is more evidence that Caravaggio and Orazio were most definitely secretive about what they were doing, that they had reason to fear the authorities, and that it was better to keep their mouths shut about their methods. These secrets traveled with Caravaggio from Lombardy, traveled with him to Rome, confronted the scientific milieu of Caravaggio's Roman patronage, and diffused in the work of one of Caravaggio's artistic heirs, Artemisia Gentileschi.

CHAPTER 3

Caravaggio's natural magic

3.1 THE LOMBARD EYE

The web entwining Caravaggio with contemporary advances in camera obscura technology is compelling. For example, there was an indirect link between Caravaggio's patron of the late Cinquecento, cardinal Del Monte, and the Venetian nobleman Daniele Barbaro. Barbaro was one of those sixteenth-century Italian scholars (also Della Porta and Cardano) who wrote extensively about lenses, projections, the camera obscura effect, drawing, painting and perspective in his 1568 publication *La Prattica della Prospettiva* (Naughton 2003). In 1545 Titian (Tiziano Vecellio, c.1490-1576) painted Daniele Barbaro's portrait (levity.com; arthistoria.com Sv "Daniele Barbaro").¹ The size of the head in this smallish painting is well within the so-called sweet spot (30x30cm) of the concave mirror projection, and shows the realistic attributes Hockney (2001) associates with the use of camera obscura technology as a mechanical aid to painting, especially portraits. Ten odd years after this portrait-sitting Barbaro is promoting the use of the camera obscura to painters, and in "describing the use of the convex lens, he showed that the image is much sharper and can therefore be outlined by a pencil" (Naughton 2003). Barbaro also fitted a diaphragm to his camera obscura experiments, the forerunner of today's aperture, as has already been mentioned. It is hard to imagine Titian lacking interest in Barbaro's drawing theories, or to imagine the intellectually active Barbaro mutely sitting through a portrait session with the great master and not mentioning them. Of course, Titian was a great master draftsman, and if he did use camera obscura technology, he most obviously used it intermittently. In any case, Barbaro sat for a Titian portrait, and Titian appears among the witnesses at the baptism of infant Cardinal Del Monte in Venice in 1549, some four years later on. Titian, it turns out, was a

friend of Del Monte's father. (Robb 2000: 29.) So Barbaro knows Titian who knows Del Monte's father. And Del Monte becomes Caravaggio's patron.

Titian weaves back into Caravaggio's story through his teacher, the Milanese Simone Peterzano. "Peterzano signed himself *titiani alumnus*, pupil of Titian, ... [as he] presumably studied in Titian's Venice" (Robb 2000: 22). After leaving Milan Caravaggio first traveled around Lombardy, and also went to Venice, before finally heading for Rome, his impetus likely coming from Peterzano urging him to see, firsthand, the work of Titian, and "*his great master ... Giorgione*" (Robb 2000:29). Of Giorgione (c.1477-1510) it is said that "Vasari correctly identifies the essence of [his] technical revolution as a method of creating form directly out of colour, dispensing with preparatory drawings on paper" (groveart.com sv "Giorgione"), which sounds a lot like Caravaggio. It must be remembered that Christiansen (2001b: 19) followed Longhi's lead in wanting to give Orazio Gentileschi his place between this very Giorgione, Caravaggio and Vermeer. But why Vermeer? The depiction of light comes into it, but is it also the feeling that somewhere in the story, as early as Giorgione, the manipulation of optics is at play? Painting from life, no hardcore evidence of any drawings left behind, and a lack of any studio assistants, with certainly no pupils, as is ascribed to Giorgione, could also be Caravaggio and Artemisia. But Giorgione, if he *was* using camera obscura technology, was still using it inconsistently. It was Caravaggio who took optics to new heights.

... M undertook a singlehanded and singleminded exploration of what it was to see the reality of things and people. He did it with a rigour that, like the work of Leonardo a hundred years before him, meant as much to the origins of modern science as it did to modern art M rendered the optics of the way we see so truly that four hundred years later his newly cleaned paintings startle like brilliant photos of another age (Robb 2000: 5).

Nevertheless Robb (2000: 280) does not believe that Caravaggio's paintings *are* photographs of another age, despite saying it.

Whether M's use of mirrors ... extended to practical experiments with Della Porta's *camera obscura* of the kind Vermeer and other painters would later be making in the low countries – wasn't clear. ... M and Vermeer were painters fascinated by the way reality impinged on their own direct vision of things. An interest in its working as an analogy of their own sight, and a feeding back of its images into the way they rendered their own canvas, didn't necessarily translate into its use as some kind of mechanical aid (Robb 2000: 280).

Yet it cannot be denied that Caravaggio must have been intrigued by optics. Where does such painting come from? And he was surrounded by people who also knew about optics, or were investigating the phenomenon.

The optical web around Caravaggio actually extended beyond his Lombardian ties. For example, his patron Cardinal Del Monte certainly knew about Della Porta's work. The cardinal's brother Guidobaldo was in correspondence with a Venetian Giacomina Contarini "who personally supervised the final work on Della Porta's new camera obscura in Venice" (Gorman 2002). But what was Neapolitan Della Porta doing in Venice, and what exactly was his "new" camera obscura? Della Porta went to Venice in 1580 it appears, where Conatrini found him a Murano artisan capable of manufacturing the specific mirror he needed to construct a perfected camera obscura that used both a biconvex lens *and* a concave mirror together to re-flip and re-invert the projected image (Clubb quoted in Gorman 2002). Remember, both types of lens-effect turn the projected image upside-down, but the biconvex lens, even with its superior powers, also flips the image horizontally. "The extraordinary result [of Della Porta's research] was a device that projected large upright images" (Gorman 2002). This astonishing information, that the camera obscura effect combined with the right biconvex lens and concave mirror in the right arrangement could project an *upright* image onto a wall not dissimilar to how the cinema works today, was printed in the second edition of Della Porta's book, *Natural Magic*, in 1589 (Gorman 2002)² (but also 1591 in some sources).

Meshing this information with Caravaggio's stylistic development yields a fascinating chronology that fully supports his probable use of optical aids. Caravaggio, it appears, first used a mirror-lens, the famous shaving mirror, to complement his search for realistic depiction, just as Hockney has claimed and is evidenced by the splattered-boy effects of Caravaggio's early small 1590 canvases. But who or what was the source of his information for this, bearing in mind that he had not yet met the Del Montes and Daniele Barbaro wrote about the biconvex lens and the camera obscura, not the concave mirror? Could his teacher, Peterzano, have known about the mirror-lens effect? Was it a Lombard trade secret? Or did someone in Rome first fill Caravaggio in on the secret? Caravaggio might have been aware of optics before he came to Rome though – Peterzano knew Titian who knew Barbaro. And it was Caravaggio who really brought the style of the north to Rome. He emulated the “reality” he found intermittently in the work of Titian and Giorgione, but more especially in the work of the Lombardians – Alessandro Bonvicino (Moretto) (1498-1554), Giovan Girolamo Savoldo, (1480-1548), Giovanni Battista Moroni (1520-78), and even Lorenzo Lotto (1480-1556) – and made it his own (Gregori quoted in Hockney 2001: 222). Hockney (2001: 41) cites complex designs which perfectly follow the folds of fabric in Giovanni Battista Moroni, *The Gentleman in Pink* (1560),³ and the polished and realistic rendering of armour in Giorgione, *Man in Armour with his Page* (c.1501),⁴ as being a huge leap from artists' previous abilities, and pointing to the possible use of optics. By the time Caravaggio is doing armour, a century or so later, he is even painting the rust (Kitson 1969: 98). Mina Gregori called Giovanni Moroni's attention to detail “the Lombard eye.”

... Caravaggio's Lombard antecedents ... devised a new painterly vision. This consisted of augmenting the power of the eye and the perception of optical phenomena, and avoiding the abstract function of drawing. They observed reality and rediscovered anatomical form as something seen rather than drawn, or altered The paintings of Caravaggio's precursors help us to understand that the

primacy of painting affirmed by Leonardo lay in its double essence as art and science (Mina Gregori quoted in Hockney 2001: 222).

As has been stated before seeing isn't necessarily believing – the eye does deceive. To say that the Lombardians, and then Caravaggio after them, simply made choices in *valori* (Christiansen 2001b: 20), in colour, is to deny nature's mixing of hues into millions of colours and the limitations of oil paint (or even television screens or photographs). In the end, just because artists abandoned so-called drafting, "colour" is not enough to explain the place where an arm ends and infinity begins, as, after all, an arm is an arm and infinity is infinity. We understand, in our three-dimensional world, where we end and others begin. In a two-dimensional depiction, whether done with a camera or simply suggested freehand, what looks "real" is no longer three-dimensional reality, it is all *trompe-l'oeil*, and "line" is part of how we understand form and contour, one shape distinct from another, how ever that line is achieved, whether it be with the pixels of a printer or built up with careful brushstrokes or drawn in hard with a pencil. In fact artist Anthony Ryder, author of the book *The artist's complete guide to figure drawing* (2000) completely contradicts Gregori's sentiments about the "primacy of painting." As Ryder is the one that practices his craft, is he the one we should believe?

It is easier to draw the figure than it is to paint it. And you can only paint the figure as well as you can draw it. If, through the medium of drawing, you do not understand the surface of the human body, nor comprehend its subtle formal structure, there is very little likelihood that you will master it in paint. All the great painters have been great draftsmen. This is because drawing is the essence of painting (Ryder 2000).

Ryder, it seems, would consider painting (realistically) without drawing impossible.

But if Caravaggio was using the camera obscura it would explain his lack of drawing? Lack of drawing does not presuppose lack of skill. Caravaggio simply took painting to a place where the necessity for drafting skills had been removed, but not the discipline of being an accomplished artist. And

Caravaggio always had drama. Georges Braque (quoted from Edwards 1986: 42) is reputed to have said: “Art disturbs: science reassures.” A corruption of this statement – art disturbs *and* reassures – could be an epitaph for the painting of Caravaggio, and also of Artemisia, whose work is both scientifically reassuring in that it looks like “the real thing,” and artistically disturbing in its passion and showmanship. Robb (2000: 219) states that Artemisia’s “work was full of her father’s spirit and fuller, in its urgency and violence, of her father’s wilder younger friend’s – of the art of the difficult man she’d known as a child.” This is perhaps at the heart of Artemisia’s love affair with Caravaggism, that she could, like he did, embrace both the anomalies of artistic creativity and the rigid demands of scientific technique. Caravaggio and Artemisia *were* subversive and disturbing in their art, even as they were “real,” violating preconceived notions about religion and gender roles. The eyes of the north, even Orazio Gentileschi, if they were using camera obscura technology, were using it to get portraits right, to get the look of things more exact.

But how did Caravaggio get where he was going? How did he get from his splattered boys to dazzling the world with his three-metre high canvases, peopled with *life-size* photographically perfect figures (with no left-handers depicted)? Caravaggio had been working towards this since around 1593, in the Uffizi *Bacchus* for example, his canvases getting progressively larger and more confident, like the approximately one and half by two metre *Judith Beheading Holofernes* (fig 51) from around 1595. His experimentation with simple lens-projections must have covered a period of about five to ten years, in other words first his group of “small paintings done in the mirror,” followed by the Uffizi *Bacchus* and other medium-sized paintings from around the same time. Then finally, Della Porta’s new-improved camera obscura was perfect for the San Luigi paintings. Despite his own evidence Michael Gorman, in his essay *Art, optics and history: new light on the Hockney thesis* (2002), tries to use Della Porta’s 1589 camera obscura effect to criticize the theory that

Caravaggio was using optical aids. Gorman claims that because of all those indirect links with Della Porta Caravaggio would have had access to Della Porta's new-improved camera obscura, and would not have had a lot of left-handed drinkers, although to my knowledge Caravaggio only ever had one (left-handed drinker). The fact that it took Caravaggio ten years or so from the publication of Della Porta's second edition of his book (with its advice for the new-improved camera obscura technology) to achieve the San Luigi paintings should come as no surprise. Firstly, there is no evidence that Caravaggio knew any Latin, the language of first publication, meaning he would have had to rely on Guidobaldo Del Monte's reading and translation of the relevant experiments with camera obscura technology (and he only met Guidobaldo around 1595). Secondly, Della Porta's books were, for a time, on the prohibited list and would have been extremely *dangerous* reading (see p. 42). The Pope of the time, Clement VIII Aldobrandini was not to be trifled with. He upped the fervency of the Inquisition and sent some thirty people to the stake during his just over ten years on the Vatican throne (Robb 2000: 48). Gorman's (2002) (false) conclusions come from his conveniently overlooking these realities of the times, and from his own misreading of the art historical record in thinking that Caravaggio's San Luigi (oil) paintings are frescoes? It may be difficult to imagine Caravaggio, his camera and his models squeezed into the Contarelli chapel, but the supposition is erroneous and therefore irrelevant.

To summarize, Caravaggio's development did indeed follow the advances in camera obscura technology at that time, not altogether that far away from the chronology presented in Hockney's (muddled) *Secret Knowledge* (2001). It is still puzzling why Caravaggio was using the mirror lens when both Barbaro and Cardano had already promoted the biconvex lens for enhancing the camera obscura effect. Perhaps because the Inquisition in 1570 jailed Cardano, already an old man, and banned his writing, his work on lenses might not have been readily available. But Barbaro's book was published

before Caravaggio was born and was, presumably, in circulation. Also Barbaro, it turns out, likely knew Titian quite well, and Titian was Peterzano's teacher who was Caravaggio's teacher. Yet Caravaggio must have been using a concave mirror lens in the early 1590s because Baglione is very specific in the word mirror (*uno specchio*) and those small paintings do, indeed, have the squashed mirror-lens look about them. Further, Caravaggio must have known how to use a concave mirror projection (as must have Artemisia) because, as will be shown, it is the only way in which to execute a self-portrait manipulating camera obscura technology. When did knowledge about how to use a concave mirror to project a camera obscura image first appear? It seems to have been with Della Porta, who actually described, in his 1558 edition of *Natural Magic*, "how to use a concave mirror to project an image onto a piece of paper" (Gorman 2002). It is possible perhaps, that Caravaggio simply did not have the money for a biconvex lens. "M in 1593 was still terribly poor and, according to Baglione, unable to sell the paintings he'd done" (Robb 2000: 43). Hockney (2001) suggests that it was Cardinal Del Monte who first gave Caravaggio a biconvex lens. But wouldn't a concave mirror have also been expensive? Maybe not, according to Falco.

Mirrors can be made from metal rather than glass. Metal is much softer than glass, so it requires less time to grind and polish, and when completed a metal mirror reflects light without requiring an additional shiny coating to be applied. ... I was able to fabricate a concave mirror in 59 minutes with sufficient resolution for van Eyck to have produced his drawing of the Cardinal Albergati (Falco 2003).

Caravaggio was too poor then, to own a lens, but Della Porta, on the other hand, came from an extremely wealthy family. He never had to work and optics, it seems, was a hobby he could freely indulge (O'Connor & Robertson 2004). Then, sometime around 1595 Cardinal Del Monte bought one of Caravaggio's paintings, possibly *Cheats* (Robb 2000: 52), although Bellori causes some confusion here because he also states that Caravaggio's *Musicians* (c.1591-2)⁵ "was the first painting commissioned by the Cardinal"

(Kitson 1969: 88). Kitson (1969: 88) is correct in stating that “of the two *The Cardsharpers* is a much more sophisticated work.” In fact, what may be at play here is the lens. Caravaggio’s *Musicians* exhibits that squashed look of the *Sick Bacchus*. In fact, one of the musicians looks suspiciously like a tracing of the *Sick Bacchus*. In the *Cheats* canvas it does appear that Caravaggio has moved back from the action, just as Hockney (2001: 114-19) has claimed for the Uffizi *Bacchus*.

With this evidence it is difficult to sustain Gorman’s (2002) dismissal of Hockney’s theories (about Caravaggio) against what is known about Della Porta. It is also possible to see that Caravaggio, reduced to using a mirror-lens possibly through poverty, was doing smallish, squashed-looking boy-paintings, one of which attracted Cardinal Del Monte’s attention. The cardinal then took Caravaggio in and gave him a new biconvex lens. Somewhere along the way during that last decade of the sixteenth century the cardinal, or his brother Guidobaldo, must have gotten hold of a copy of Della Porta’s *Natural Magic*, and Caravaggio seemed a likely candidate for experimentation. That the cardinal was a churchman does not in any way impede the chronology. In fact, who is most likely to have access to banned books? So, perhaps Caravaggio started to experiment with Della Porta’s new-improved camera obscura, and by 1600 he was able to stun the world with his San Luigi paintings, *Matthew Called* and *Matthew Killed*. Caravaggio now had all the technology in place, and it is technology that, in its entirety, must have eventually been available to Artemisia.⁶ But why has it taken the art world four hundred years to work out what Caravaggio was actually doing? Was Caravaggio really being that secretive about his working practice?

3.2 SECRET MAGIC

Hockney's (2001) theory partly relies upon the supposed secrecy of method by artists using camera obscura technology. Scholars, who cannot see how the many people involved could have kept such a secret, have seriously challenged this notion. "The claim that trade secrecy ... suppressed the 'secret knowledge' is extremely implausible. Such secrecy would have involved hundreds of independent or rivalrous 'co-conspirators' and tens of thousands of complicit observers over centuries" (Stork 2002: 15). Firstly, Hockney (2001) never insinuates that the use of camera obscura technology was any sort of conspiracy. Such a notion would, apart from anything, beg the question: conspiracy against whom? The use of camera obscura technology was not a plot to overthrow the artistic establishment. It was simply a choice of method. Certainly Caravaggio was arrogantly opposed to methods other than his own, which he considered a waste of time and anachronistic. He equally hated others copying him and did little to encourage a following. "I loathed being imitated ... and was so intensely jealous of the art that cost him so much ... that copying his techniques could be *physically dangerous*" (Robb 2000: 253). Having the competitive edge does not necessarily imply a conspiracy. Secondly, having independent rivals keep the same secret is not a far-fetched idea. Competitors would have been secretive about advances made in the technology, and why not. The competition between Caravaggio and Baglione erupted, after all, in a scandalous exchange of insulting poetry, and Caravaggio's arrest, along with Orazio Gentileschi, Onorio Longhi and Filippo Trisegni, for criminal libel in 1603 (Robb 2000: 225).

Gorman (2002) is also scathing of (Hockney's theories) of "a conspiracy of silence." He states that "the description [of Della Porta's new improved camera obscura] was public, and the device had in all likelihood been demonstrated theatrically by Della Porta himself in the fashionable salons of Rome and Naples." It is difficult to assess if this is in fact true, but certainly

Della Porta's arrest by the Inquisition for his showmanship is a point Gorman conveniently overlooks. In fact, Della Porta may himself have been a little complacent about the Church's interest in such matters. "Breaking the ice of this research which bordered on heresy needed the intervention of ... [Della Porta who was] outside the academic circle, someone not afraid of the grave repercussions of an interest in lenses" (my translation; Lapucci 1994: 162).⁷ Perhaps he should have been.

Further sceptics of Hockney's theories ask: "Where's the testimony of sitters or other contemporaries ...?" (John Walsh, director of the Getty Museum, quoted in Weschler 2000: 69). The silence of portrait sitters and/or models is not really that difficult to understand. It would be rarely that one of Daniele Barbaro's scientific standing would cross an artist's path looking for a portrait. The rest would be more interested in the result rather than the method, and as Hockney demonstrates, it is relatively easy to conceal the method from the sitter who is outside in bright sunlight or screened from the "action" by a dark curtain.

[W]e used a simple shaving mirror ... about the size of a top of a can and not very thick. ... I cut a hole in a piece of board to make a little window ..., then I placed this board in a doorway and blacked out the room. I pinned a piece of paper next to the hole, inside the darkened room, and set up the mirror opposite the window and turned it slightly towards the paper. Then a friend sat outside the hole in bright sunlight. Inside the room, I could see his face on the paper, upside down but right way round and very clear. Because the image was not reversed I was able to make a few key "measurements" and mark out the corners of the eyes, nose, mouth Then I took the paper down, turned it the right way up and worked from life (Hockney 2001: 74).

Finally, well in Caravaggio's case most certainly, models were mostly from off-the-street, and hardly likely to be interested in much other than how to survive the boredom of posing and making sure that they got paid.

In fact the testimonies of (some) models do exist, certainly for the case of Orazio Gentileschi, attesting that (some) artists *were* secretive about their

methods. “It is Orazio’s washerwoman who informs us that Orazio (and presumably Artemisia) painted his posed models behind closed doors, evidently protective of the act of painting” (Christiansen 2001b: 12). Cavazzini (2001: 288-9) confirms that for long periods Orazio shut himself up in his studio with his models “and did not let anyone else in.” Caravaggio appears to have been equally secretive. Christiansen (2001b: 10) conjectures that “Orazio must have been one of the very few artists who had observed Caravaggio working.” In fact, critics “never stopped attacking M and his style and spread it around that he didn’t know how to come up out of the cellar” (Bellori quoted in Robb 2000: 176-7).⁸ Caravaggio was so attached to his workplace that when he needed a horse for *The Conversion of St Paul* (1601)⁹ “he led [it] clattering up Del Monte’s stone stairs into the studio” (Robb 2000: 162). So, both Caravaggio and Orazio lock themselves away with their models and do not talk about how they are doing things. It is not clear whether Orazio was so secretive about his working practice before he met Caravaggio, but it hardly seems likely, as apart from anything, his low standard would never have attracted any interest. Christiansen (2001b: 5) claims that Orazio’s work before 1600 should be seen as “irrelevant to a proper appraisal of the artist’s achievements.” However, in consideration of the use of camera obscura technology by artists at this time, Orazio’s inferior work before he met Caravaggio becomes vital evidence. Here is an artist, working in Rome and painting dull and forgettable altar pieces and frescos, meeting a young artist from Milan, suddenly becoming quite a genius, and afterwards always locking himself in his studio and not letting anyone see what he is doing. Of course, Orazio’s embarrassing early work is better erased if one wants to continue to believe the myth that someone clearly untalented could pick up a paintbrush and use it in a way he never could before just because he puts a model in front of him and does it Caravaggio’s way – whatever that is. What is obvious, and what does fly in the face of criticism against Hockney’s theory for the technology being kept secret, is that *this artist at least* was acting in a covert

way. And so was the artist who showed him how to do it, how to get things “real” looking, that is. It does sound a bit conspiratorial, after all.

It wasn't just the need to maintain the competitive edge that kept practitioners of camera obscura technology quiet about what they were doing. “The whole arsenal of different kinds of optical devices was associated with magic, and that certainly would have had a legacy that would have come out of witchcraft” (Johnathan Crary quoted in Landi 2000: 138). And talk of witchcraft would have attracted the attention to the Inquisition, in the case of the Gentileschi and Caravaggio, the Roman Inquisition. As has already been mentioned, Girolamo Cardano and Giovanni Battista Della Porta both ran foul of the Inquisition and had charges of sorcery levelled against them, their books placed on the prohibited index. These accusations were part of a general trend in Italy, where after 1600 the inquisitions “shifted markedly from those of [accusations of] Protestantism to offences generally labelled superstition, particularly magic. Nearly forty percent of all Italian trials seem to have dealt with ‘superstitious magic’” (Peters 1989: 112). It makes Caravaggio's remark, that he was “aiming with his researches to a ‘natural magic,’ that was from 1558 the very title of a famous book by Giambattista Porta” (my translation, Longhi 1992: 36),¹⁰ somewhat audacious, even risky. Of course, what Caravaggio and the Gentileschi were doing was not magic, but it might have seemed so to the nervous minds of the Inquisition.

No longer content with accusations of sorcery, or even with the suggestion that sorcery inherently entailed demonic magic, judges now wanted to portray the magicians as linked in a demonic conspiracy against the Christian faith and Christian society. The sorcerer, intent only on specific acts of malice against particular enemies, gave way before the company of witches committed to the destruction of Christendom (Kieckhefer quoted in Baigent & Leigh 2000: 105).

That the Inquisition was interested in Caravaggio is attested to by the fact that they acquired a report on his movements in Malta (Gregori 1996:23). Why would they want a report of him otherwise? And Artemisia would have been running a double risk as a woman, a beautiful woman by reports, who would

have easily been the target of accusations of witchcraft. The *Malleus Maleficarum*, handbook of witch-hunters categorically stated that women were “‘beautiful to look upon, contaminating to the touch and deadly to keep.’ ... [and that] ‘... witchcraft comes from carnal lust, which is in woman insatiable’” (Baigent & Leigh 2000: 111). The two are synonymous, and Artemisia’s beauty was often “described as interchangeable with that of her subjects ... as her own special, separate, path to glory” (Garrard 2001: 8). It would not have taken much for Artemisia to be acclaimed a witch, especially in view of her tarnished reputation after the Tassi affair, and her husbandless status for most of her life.

Further, arrest by the Inquisition did not mean only imprisonment or torture, as often a more horrible fate awaited heretics, one of whom was the free thinker Giordano Bruno (1548-1600). His crime was of voicing embarrassing theories counter-productive to the control of the Church, and he was effectively silenced, lead to the stake gagged, literally tongue tied, and burnt alive on a cold February morning on the Campo de’Fiori (Baigent & Leigh 2000: 140), which was not far from where Caravaggio lived. The aging friend of Artemisia’s, Galileo Galilei, was also condemned by the Roman Inquisition in 1633 and died under virtual house arrest in Arcetri, near Florence in 1642 (Rowland 2003: 253-7; 263). Artemisia wrote to him from Naples in the October of 1635, claiming that she had “tried to have news of [him] without being able to obtain reliable information from anyone” (quoted in Garrard 1989: 383). She does not refer specifically to his arrest by the Inquisition, which is in itself telling, as letters could end up in the wrong hands. Clearly, artists such as Caravaggio and Artemisia had much to fear from the Inquisition, and much to gain from their silence. But does this prove they were using camera obscura technology, simply because they were being secretive?

3.3 THE EYE OF THE ROOM

Not only did Baglione write about Caravaggio using mirrors, but they are also listed among his painting effects left behind in his secret studio at lodgings he abandoned in 1604 (Robb 2000: 272). Up until now, until Hockney's theory of Caravaggio and the camera obscura, Caravaggio's mirrors were explained away as either for use in self-portraiture, or for framing reality in a two-dimensional way, as per Leonardo. "Leonardo had been emphatic that the mirror – the *flat mirror*, true un-distorting – was the painter's master: When you want to see if your painting corresponds overall to the thing painted from life, get a mirror and reflect the living thing in it, and compare the reflection with your painting" (Robb 2000: 274). However, as has already been pointed out, the small paintings that Caravaggio did using a mirror were not necessarily self-portraits. They also have the look of collaged concave-mirror projections. Further, to paint a mirror reflection, other than your own, is not without the difficulty of where to stand, that is, in relation to the mirror and the model, because if the model is in front of the mirror the artist cannot be and vice versa. In any case, the reflection in the mirror is just as fraught with misperceptions as with so-called "reality," and the only real way to use the mirror's "flatness," is to draw directly onto it. Then at some point the artist will have to move and, as soon as he or she does, what was previously reflected will change. And what does one do with a drawing on a mirror, which is not where it is wanted to be? Of course, the mirrors found in Caravaggio's abandoned dwelling were neither concave mirrors nor lenses of any kind but Hockney (2001: 74) points out refractive mirrors and lenses need not have been very large, no bigger than the bottom of wine bottle. Lenses, most certainly, would have been quite valuable, so that it is unlikely that Caravaggio would have been so careless as to leave his behind at his landlady's.

Even though there is documentation that Caravaggio, at least, had mirrors amongst his painting effects, John Walsh (quoted in Weschler 2000: 69) still has concerns about Hockney's theory because of the seeming lack of actual lenses and other devices in the "vast inventories, often compiled for inheritance purposes at the time of artists' deaths, every single brush accounted for." Yet Caravaggio left no will, nor any inheritance, except his paintings as a gift to art. Gone in 1610, dead on a beach it is said, no one was interested in getting their hands on his lenses, if he still had any. "The hovering of distinguished vultures over the last paintings was the only noticeable reaction" (Robb 2000: 490-1). And Artemisia's tombstone hasn't even survived never mind her will. "Artemisia Gentileschi's own grave slab, simply inscribed 'HEIC ARTEMISIA,' was lost in the restoration of an ignoble Neapolitan church" (Garrard 1989: 138). Orazio left everything to his sons in an oral will declared shortly before he died (Finaldi & Wood 2001: 450). So although it might be true that some artists' wills survive to be inspected, it is not true in this case, not for Caravaggio or for Artemisia or her father. Further, those wills that do survive would have to be studied in relation to the artists' works, as to whether they are relevant to Hockney's theory of the camera obscura or not. The lack of mirrors and lenses amongst *some* artist's effects is not evidence that *no* artists were using them.

Detractors of Hockney's theory have also tried to use the fact that Caravaggio locked himself up in a dark studio as confirmation that he was *not* using camera obscura technology. Stork (2002: 15) claims that because Caravaggio was down in the cellar he "would have been forced to use over 1,000 candles at a time," this, presumably, to get enough light to light his camera obscura. This "candle myth" seems to have started with Philip Steadman: "Hockney imagines Caravaggio painting in a cellar or shuttered room lit just by candlelight, and using a lens in a curtain to form an image in a booth-type camera. One wouldn't get enough illumination [from candles] to do this" (Hockney 2001: 253). Hockney did not say that Caravaggio was using

candles as such. What he did say was that “older painters accused him [Caravaggio] of being able to paint only in cellars—which is to say, dark spaces—‘with a single source of light and on one plane without any diminution’,” and “[Caravaggio] worked in dark rooms—cellars. ... He used artificial lighting, usually from the top left” (Weschler 2000: 68, 73). Awed perhaps by Steadman’s expertise on Vermeer and the use of the camera obscura, Hockney later gets *himself* a bit confused. “I based my speculation on contemporary accounts of Caravaggio’s method,” he says. “The number of candles would have been enormous ... try again with a hundred” (Hockney 2001: 254).

To clear up the “candle myth” a number of factors need to be born in mind. For a start, first-hand documented accounts of Caravaggio’s working practice are quite clear. His studio was a “room lighted from a single window” (Mancini quoted in Christiansen 2001b: 11-12).¹¹ Seventeenth-century biographer Giulio Mancini stated that this was a characteristic of the followers of Caravaggio (and therefore presumably also of Orazio and Artemisia Gentileschi) that they used “an unvaried light shining from above without reflections, as would occur in a room with one window and with walls painted black, so that, the lights being very light and the darks very dark, they give depth to the picture” (quoted in Kitson 1969: 10-11). This obsession with light coming from above appears to have gotten Caravaggio into trouble with the very landlady who attached his possessions. “When she later went to court against M in his absence [1604], her claim was upheld for eighty scudi. Part of this was for six months unpaid back rent and the rest for repairs to a damaged ceiling” (Robb 2000: 279). Robb goes on to speculate that this was unlikely to have been an accident on Caravaggio’s part, especially in view of the steep cost of the repair, and was more likely to be something to do with Caravaggio’s obsession with getting just the right light effects (Robb 2000: 279). In reality light filtering in from high up would have given Caravaggio exactly the ambiance he would have needed for a camera obscura effect, as

direct sunlight casts deep shadows, especially over the face. The dramatic darkness and chiaroscuro modelling that defines Caravaggio's work, and later Artemisia's, feeds on camera obscura technology, but is counter-productive to freehand painting – no one can actually paint (successfully) in the dark. This activity needs the right ambient light, an obsession with painters when organizing their studios, that is, the right light, from the right light source, streaming in at the right angles. Getting the colours correct in the dark is also not easy. As Stork (2004b) points out, "colors appear to change in hue and relative brightness when they are dim." In a dark studio all the colours on the palette would look a bit grey, but this would not be a problem unique to the experience of artists using camera obscura technology. Any artist working in the dark would have the same problems. Objections to Caravaggio's studio being too dark are, in fact, more supportive of Caravaggio using the camera obscura rather than the other way round.

Della Porta enthusiastically recommended dark rooms lighted by torches as a *positive aid* to the camera obscura effect.

We may demonstrate the same without the light of the sun, not without wonder. Torches or lights lighted on purpose in chambers, we may see in another chamber what is done, by fitting as I have said, but the light must not strike upon the hole, for it will hinder the operation; for it is the second light (reflected) that carries the image. ... Fit the image before the hole, that you desire to make seem hanging in the air in another chamber, that is dark; let there be many torches lighted around about. In the middle of the dark chamber place a white sheet, or some solid thing, that may receive the image sent in (Della Porta quoted in Hammond 1981: 18).

Robert Hooke describes a similar setup in a paper read to the Royal Society toward the end of the seventeenth century in which he advised reflecting an image from a mirror, through a convex lens, then a large hole, onto a white screen either "in the midst of a light room in daytime, or in the nighttime in any room which is enlightened by a considerable number of candles" (Gernsheim 1982: 15). Hooke called this idea his "camera lucida," which is not to be confused with the prism camera lucida patented in 1806. Whether

you want to call the room “*lucida*” in reference to the focused light source, or “*scura*” in reference to the fact that to properly see the projected or reflected image the rest of the set up has to be dark, Caravaggio is definitely doing it. “From the start [Caravaggio] used a strong oblique light of a small window in a dark room ... exploiting the contrasts. In the night scene of *Judith & Holofernes* he’d tried overhead lamplight to get even darker surrounding shadows and an even more localized source of light” (Robb 2000: 176). The suggestion here is, of course, for an oil lamp not candles.

Still, Steadman is not happy.

Some people ... have doubted whether cameras could ever have been used by artists indoors. ... [T]o get a decent traceable image ... one needs a VERY well-lit room. Around 40% of the area of the window wall in Vermeer’s studio was devoted to glazing by my estimates. The resulting daylight levels would have been many orders of magnitude greater than candle lighting (quoted in Hockney 2001: 253).

Firstly, as has already been stated, nowhere in any documentary evidence is it said that Caravaggio used an abundance of candles, or even a few. Artemisia uses one as a stage prop in her Detroit *Judith* (c.1625-7), although it is clearly not the source of light as depicted on the figures and surrounding objects (Mann 2001a: 370). Secondly, in comparing Vermeer with Caravaggio it should be taken into account that not all (natural) light is equal. Vermeer worked his entire life in the diffuse light of the darker north, in Delft, while Caravaggio worked, mostly, in the bright Mediterranean light of Rome. It would stand to reason that Vermeer would have needed to let in a lot more (natural) light than Caravaggio. Undoubtedly, each artist would come to the technology of the camera obscura and use it in his or her own way. It was for Caravaggio an obsession to use the high focused light source to narrow his stage and frame his models like actors in a drama. Even with the most mechanical of modern cameras two photographers can take two completely different photographs.

Caravaggio chose to depict his models

so slavishly that he did not take credit for even one brushstroke but said it was the work of nature. ... [M]any artists were infatuated by his manner ... since without study or effort it enabled them to make facile copies after nature. ... If they had to paint armour they chose the rustiest; if a vase, they did not show it whole, but chipped and broken. ... and when they painted figures they gave all their attention to wrinkles and defects of the skin and the outlines, depicting knotted fingers and limbs disfigured by disease (Bellori quoted in Kitson 1969: 11).

Artemisia shows this same penchant, carefully depicting props from real life, such as the sword and scabbard, the gauntlet and candleholder in her *Detroit Judith* (Mann 2001a: 368). She also came in close with miniature details, such as the bracelet in her Uffizi *Judith* and the broach in the Pitti *Judith and her Maidservant*, as has been mentioned. Such details would be barely visible to the naked eye in the dark, as Caravaggio and Artemisia were supposed to be painting (freehand). A lens, a projection, would bring the detail in close, right up to the artist's hand and to his or her eye. But this method would take time, resulting in long posing sessions when only one of the models, if the painting required a group, would be needed. Mancini (quoted in Christiansen 2001b: 11-12) stated that the Caravaggisti could not successfully complete a complex canvas by "portraying a model who is always before them, it being impossible to represent a story by putting in a room lighted from a single window a multitude of men, each one having to laugh or cry or feign walking and ... keep still in order to be copied." There are a number of examples in Caravaggio's work, and also in Artemisia's and Orazio's, which show how figures have been collaged together, resulting in problems with scale and even credibility. This has already been discussed in relation to Artemisia's Pommersfelden *Susanna and the Elders* where Susanna is almost a midget in comparison to the male figures. But nowhere is it more obvious than in an X-ray of Orazio's *Lot and his Daughters* (fig 47). The X-ray (diagram 8) reveals a dramatic display of super-imposition that could only have been effected by using camera obscura technology. Apart from the abandoned composition of figures underneath the finished canvas, the X-ray shows that the pointing

daughter was laid down first, absolutely completely. The other daughter was then painted (the arm she is leaning on is visible in the X-ray but obliterated by the body of the father in the completed canvas). The second daughter's head has been painted over the pointing sister's arm. The father was then squeezed into position, his head not very convincingly tucked "under" the daughter's elbow. (The artist has forgotten to do the shadow that the arm would have cast, but remembered it in later versions.) The father, in fact, seems to have been "laid down" in two posing sessions. If he were to get up and walk away the top half of his body would go in one direction and the bottom half in another. They are simply not connected. I find it incredible that anyone could *imagine* such a thing freehand, never mind execute it.

Diagram 8



X-radiograph of Orazio Gentileschi Lot and his Daughters The J. Paul Getty Museum, Los Angeles (see fig 47). (Christiansen 2001b: 33.)

Scholars have also remarked on this patchwork posing of Artemisia's Naples *Judith Slaying Holofernes* (fig 54).

In the case of *Judith Slaying Holofernes*, it is clear that the composition is based not on an action staged by three figures, but a kind of patchwork of three models separately posed. Only this can explain the lack of spatial clarity, the disparities of scale (conspicuous, above all, in the oversized fist of Holofernes juxtaposed with the head of the servant Abra), and the unwieldy knot of outstretched limbs, which X radiographs demonstrate caused the young artist special difficulties. (Christiansen 2001b: 12).

But why would an artist suffer a "lack of spatial clarity" working freehand if that artist were so skilled, able just to look and do in photographic perfection? Why couldn't that same artist mark out a painted outline from a group posing session, and then work individually on the detail? In fact, it seems that Caravaggio used something like this approach. "A few key incisions lightly cut into the wet priming at the start, enough for the needs of Caravaggio's own visual memory, and just deep enough to show him the contours through the brush strokes of ... earlier stages of the actual painting, would let Caravaggio recompose the group precisely after his models' lunch break, or when they showed up again for work the next morning" (Robb 2000: 110). These marks have been used by Caravaggio to indicate the position of limbs, angles of heads, and so on. It is generally agreed (see also Christiansen 1986) that they were necessary because Caravaggio did not draw, and he needed to have guidelines to later repose his models. Nevertheless, to the naked eye such marks would be meaningless. The incisions are on the canvas in front of the artist and the model is further back in (free) space. How can the artist make sense of a mark on a canvas in relation to a freestanding model? The logical place to make a mark, in such a freehand scenario, is on a wall or screen *behind* the model. The model would then be between the artist and the mark, which is one way for the artist to (visually) gauge the correctness of the pose using such marks. The only other way for the model to be *between* the artist and the mark is if the model's image is being projected onto the canvas. Now

the artist can see straight away if someone has to raise an arm more, or further cock a head, in order to bring model and previous work into alignment. The use of camera obscura technology is really the only adequate way to explain these marks, and also to make sense of Artemisia's, and Orazio's and Caravaggio's "gaffes," like Artemisia's oversize elders in her *Pommersfelden Susanna*, like the deformed baby in the *Fogg Madonna with the Sleeping Christ Child*, and Caravaggio's mistake in his *Isaac and Abraham* (1598)¹² with "Isaac, maybe fifteen, apparently in need of a pair of glasses for his astigmatism, since M hadn't made an incision to align the eyes" (Robb 2000: 114).

Caravaggio and Orazio, and Artemisia after them, were almost ludicrously attached at times to what they saw happening in front of them. Longhi believed this obstinance was reinforced by Caravaggio's use of mirrors, which Longhi naturally felt were ordinary flat reflecting mirrors.

[Caravaggio]'s obstinate adherence to reality may indeed have strengthened his ingenious [sic] belief that it was 'the eye of the room' which looked at him and which suggested everything to him. Many times must he have stood spellbound before that 'natural magic'; and what most amazed him was the realization that the mirror has no need of the human figure. ... Caravaggio dwelt on common life, simple feelings, the everyday appearance of things which, in the mirror, rated as highly as men (Roberto Longhi quoted in Kitson 1969: 13).

But how is an "eye of the room" a mirror? A mirror could be said to be "looking at you," but if it's big it's not an "eye." And if the mirror were small (like an eye) it would reflect little, meaning it could not "suggest everything." A more appropriate analogy for a mirror would be a "window of the room." Certainly if Caravaggio said: *è "l'occhio della camera" che mi guarda e mi suggerisce tutto*, it could be translated (or understood) as: *it is "the eye of the room" that looks at me and suggests everything*, and Caravaggio might not have been too bothered if anyone thought that. He was undoubtedly being ironic. But this translation does not make any sense, especially if "the eye of the room" is thought to be an ordinary reflecting mirror, as I have explained.

But what if Caravaggio was actually just saying: *è "l'occhio della camera"*? In other words: *it is "the eye of the camera."* Certainly, Caravaggio would not have had at his disposal the modern Italian phrase to describe a camera – *la macchina fotografica*, that is, *è "l'occhio della macchina fotografica"* – but camera (without the *obscura*) crept into English, and may well have been used colloquially among Caravaggio's contemporaries. If you therefore translate the phrase ideogramatically it makes absolute sense. Caravaggio said: *it is "the eye of the camera" that looks at me and suggests everything*, and that "eye" is a lens which is indeed small yet powerful and which does indeed "suggest" everything, well certainly a scope far in excess of an ordinary reflecting mirror.

But if this "eye of the camera" was in fact either a concave mirror or a lens how would Caravaggio have been able to paint himself, or Artemisia paint herself as she is supposed to have done repeatedly? "Murals, ceilings, self-portraits and moving objects all elude Hockney's mirror-projection method" (Stork 2002: 15). Caravaggio got around the moving object problem by bringing a horse into the studio to use for *The Conversion of St Paul* (1601), as has already been stated. Caravaggio couldn't do a frisky rearing horse so he used a "somewhat restive carthorse, skinny, skewbald, swaybacked and large headed" (Robb 2000: 162). The child is wrong in the Fogg *Madonna with the Sleeping Christ Child*, while Artemisia avoided children and animals. Orazio did a dog in *Diana the Huntress* (1630),¹³ but who's to say it was a real dog and not porcelain? And Orazio, at least, does appear to have been able to adapt his technique of working from a live model to fresco, at least in the case of his decorations for the Casino of the Muses, *Musical Concert Sponsored by Apollo and the Muses* (1611-12),¹⁴ done with Agostino Tassi.

We must, I think, imagine highly elaborate cartoons of individual figures that were done from multiple sittings, the model posed on a table or other raised surface, so that Orazio could study the effects of the low viewing point. ... Each

figure was then inserted, using a modified fresco, or *mezzo fresco*, technique into the architectural setting (Christiansen 2001b: 11).

These “highly elaborate cartoons” were most likely done using camera obscura technology – not a difficult application actually. As the *Musical Concert* is both a mural and a ceiling, this leaves only self-portraiture to explain. Indeed, how can one be on both sides of the camera? Although it would have to be a concave mirror projection, I believe it is possible, and I believe both Caravaggio and Artemisia did it. (Orazio never drew himself.) However, in executing a self-portrait using camera obscura technology artists will never be able to depict themselves seated face on, eyes to the viewer. The reason is quite simple. The artist sits just inside the camera obscura window (see p. 75). The window itself can be quite big, big enough for a portrait. A good quality flat mirror is placed outside the window, on the light side of the camera, where the portrait sitter would normally be seated. A concave mirror is placed in its normal position, alongside the artist, and turned slightly to reflect the (reflected) image onto canvas or paper next to the window. In this way the artist’s self-image can be reflected back from the mirror, and projected using a concave mirror lens. The artist will not be looking at the mirror, but at the (upside-down) projection, thus the sidelong glance. In fact, I believe it’s the *only* way to execute a self-portrait *without* depicting yourself looking out at the viewer. Titian may well have been one of the first artists to do it this way. His *Self-Portrait* (1562),¹⁵ now in Berlin, denies the self-portrait analogy by having himself looking away from the viewer (and the mirror he would have had to have been looking into had he executed the painting freehand). The head is perfectly rendered in detail, as if a camera obscura projection has been used, while the hands are quite oddly depicted, sausagey and inept. Likewise, two of Caravaggio’s self-portraits show this same side-glance anomaly, in fact the two considered to be the most authentic. In the self-portrait in the Contarelli Chapel *Matthew Killed* (1599-1600), he shows himself glancing down to the left, as if he is looking at something

outside the frame (his projected image?). In *David with the Head of Goliath* (1605-6),¹⁶ he shows himself as Goliath, glancing out of the frame and to the right. Both portraits are within the camera obscura sweet spot, although I would conjecture that for *Matthew Killed* Caravaggio most likely used a traced cartoon because of the large size of the canvas.

For Artemisia two of the most likely candidates for self-portraits reveal themselves as the Pitti *Magdalene* and the Pommersfelden *Susanna*. Again, the head is within the sweet spot, and the model glances up and to the right in the Pitti *Magdalene* (detail fig 38), and up and to the left in the Pommersfelden *Susanna* (fig 1). The so-called *Self-Portrait as an Allegory of Painting* (1638-9)¹⁷ is not an undisputed self-portrait, and offers particular difficulties because of the angle of the sitter's head, whether it is done with or without camera obscura technology. It turns out that the "eye of the camera" can achieve even more than can be imagined. But what else of Artemisia is Caravaggio, how closely does she follow the master in her search to be in front of nature, as he was?

CHAPTER 4

Artemisia's looking glass

4.1 TWO HEADS ARE BETTER THAN ONE

In extolling Artemisia-the-rape-victim the tendency has been to play up her association with Tassi, especially in her early works, and to overlook her technical links with Caravaggio. Garrard (1989: 15) states that the Pommersfelden *Susanna and the Elders* "displays no obvious connection with Caravaggism, and only a single detail shows us that she has begun to look at the art of the radical master: the foreshortened hand of the elder on the left, spread as an ovoid shape, which directly echoes a hand in Caravaggio's Casa Coppi *Judith*." In fact, the elder's hand does not that closely resemble the one in Caravaggio's *Judith*, and to deny the real links to Caravaggio is to deny the narrow stage, the action close into the figures, the cropping (as with Susanna's left foot), and the deep shadows, especially on the nude figure of Susanna, as if the lighting used was extremely bright, high up and singly focused. It is not impossible to imagine the "stage" darkening behind Susanna and the Elders, a spotlight shining on their drama. On the other hand, to black out the background in Guercino's *Susanna and the Elders* (fig 16) would render that canvas nonsensical. Further, Artemisia has stood in front of nature and refused the nude model any gentle makeover, rendering her in the harsh reality of fat, wrinkle and awkwardness. And then Artemisia signs this work, having signed very little throughout her life and having dated even fewer. Very clearly and very specifically the inscription ARTIMITIA GENTILESCHI F 1610 is chiselled onto the tombstone-like bench behind the figure of Susanna. As Hayum (2002: 12) points out, the "Art" and "Gent" are emphasised by the fact that the rest of her name is in shadow. Here, undoubtedly, is her first major tribute to

Caravaggio. Is it a coincidence that 1610 was the year news of Caravaggio's death reached Rome? Sometime towards the end of July that year, the story of Caravaggio was over (Robb 2000: 474). It must have been devastating for Artemisia and her father, maybe even aware that Caravaggio was on his way home, for technically and in spirit here is a young Caravaggista in the making.

Artemisia's next large narrative, her Naples *Judith slaying Holofernes* (fig 54), is dated 1612-13. An earlier dating is more likely however, based on Christiansen's (2001b: 10) identification of the model for Holofernes in this canvas being "Orazio's barber of twenty years, Bernardino Franchi." Franchi never went to Orazio's house near to the Santa Spirito across the Tiber, where Gentileschi moved just two months after the reported rape (Cavazzini 2001a: 436), so he must likely have posed for the painting before the trial, and maybe even before the supposed rape. Christiansen (2001b: 10) also identifies Franchi as the model for Holofernes' head in the basket in the Oslo *Judith and her maidservant* (1608-9), and the head of Goliath in Orazio Gentileschi, *David slaying Goliath* (1607-9).¹ What is even more remarkable, and telling in favour of the use of camera obscura technology by Artemisia and Caravaggio, is that this barber was almost definitely also the model for Caravaggio's *Coppi Judith*. The close resemblance in facial details of the two Holofernes (figs 52 and 53) shows a precise execution of portrait feature, even down to the aging of the model in Artemisia's Naples *Judith*. Indeed one of the characteristics of Artemisia's work, also Caravaggio's and Orazio's, is the confident way in which she executes portraits. X-ray after X-ray shows that there was simply no hesitation in where to put anything, no pentimenti. Artemisia may have struggled over how to arrange limbs in her *Judith*, but she is absolutely secure in her faces. No one has ever commented, as far as I know, on how strange this is, from an artist working from live models with no under-drawings, as she is supposed to have done. Artemisia shows no uncertainty, no vacillation with line or form, no doubts creeping in about the shape of the face, or the

position of an eye, or a nose, or a mouth. Here is pure form juxtaposed effortlessly next to pure form.

Diagram 9



Left: Detail, Artemisia Gentileschi, Judith Slaying Holofernes (c.1612, see fig 54). Right: Detail, Michelangelo Merisi da Caravaggio, Judith Beheading Holofernes (1595-6, see fig 51). Image flipped horizontally. The markers indicate where relevant features line up – ear, eye, frownline.

In order to make a more accurate comparison of the two Holofernes, of Caravaggio's and Artemisia's, I have mirrored the head from Caravaggio's painting, to have it angled and facing the same way as Artemisia's. The grid markings on diagram 9 show an almost perfect match – a feat for two artists working fifteen years apart. The only real explanation for such accuracy has to be the use of camera obscura technology? In fact, there *are* some discrepancies in proportions but, interestingly, X-rays show that Caravaggio made alterations to his painting, which are not found in Artemisia's. Caravaggio "relocated the nose and the left eye [of Holofernes], raising them and moving them slightly to the right and adjusting the silently screaming mouth to show the head was coming away from the body" (Robb 2000: 111). This evidence, that the model used by Artemisia and Caravaggio was undoubtedly the same, certainly one associated with their lives around the

Piazza di Spagna, would make the dating of the Naples *Judith* pre-trial. It could therefore have had nothing to do with Artemisia's anxieties at that time; and it certainly cannot be, in the light of this evidence, a portrait of Agostino Tassi. The expressive violence is copied over from Caravaggio, but may also be unconscious rage felt by Artemisia towards the ignominious end that he suffered. The Naples *Judith* could therefore be described as a eulogy to the master, a careful looking at Caravaggio's Coppi *Judith*, and Artemisia's first real attempt to darken the shadows, brighten the highlights and present her figures on a narrow Caravaggian stage.

Artemisia never really left her penchant for Michelangelo, not until much later in her life. In 1621 she returned to Rome from Florence and seems to have, feverishly renegotiated her passion for his work. This may have had something to do with her friendship with the Frenchman, Simon Vouet, as discussed previously, as he was in Rome then and also a staunch follower of Caravaggio at the time. One of the first things Artemisia may have done, on arriving in Rome, was to complete a copy of the Naples *Judith* for her patron, the Grand Duke Cosimo II de' Medici in Florence. This *Judith* is now in the Galleria degli Uffizi, and has already been discussed at some length. Mann (2001a: 348) considers the Uffizi *Judith* to be quite different in composition to the Naples *Judith*. In fact this supposition (made by numerous scholars) is untenable. When the Naples *Judith* is reduced 62% it is an almost exact fit to the Uffizi version, as depicted in diagram 10. There has been an extra tilt to Judith's head and a repositioning of Holofernes head slightly to the left. The sword has been straightened and the bed sheets somewhat creatively refashioned. And of course the blood is spurting in a parabolic fashion, undoubtedly the result of collaborating with Galileo as has already been discussed. Further, Holofernes has been made to look more youthful in the later Uffizi version. The Uffizi *Judith* does indeed look telescopic, as Spike (199: 732) stated, but it is not seen from a higher point, as suggested by Wangstaff (2002: 94). How did Artemisia achieve this precision? To take a

tracing, reduce it using a grid method and then retrace it the right way onto canvas, would open up margin for error. There is nothing to suggest that her reposing of this Uffizi *Judith* was anything but deliberate. Abra's portrait is an exact match, as is Holofernes, although he has been made to look younger, as has been stated. Could she have been using the camera obscura to make either (in this case a reduced) cartoon or to make a type of photocopy (in the strict interpretation of the word, that is a copy using light)?²

Diagram 10



Background: Artemisia Gentileschi, Judith Slaying Holofernes (c.1622). Galleria degli Uffizi, Florence (see fig 9). Superimposed with uniform transparency of 50% and reduced by 62%: Artemisia Gentileschi, Judith Slaying Holofernes (c.1612-12). Capodimonte, Naples. The "bits" of composition that have been shifted in the Naples Judith to achieve the Uffizi Judith are clearly depicted.

Artemisia worked through an extreme Caravaggism in the 1620s, most notably in her renewed dark and narrow stages with dramatic close-ups, as in her Detroit *Judith*. She also appears to have reposed some of her own models in direct celebration of his work. A relatively recent attribution to Artemisia is a *Penitent Magdalene* (1625-26, fig 55) in Seville, which echoes a copy after

Caravaggio's lost *Magdalene in Ecstasy* of 1606 (fig 56). "The Magdalene in Gentileschi's painting is close to Caravaggio's prototypes in her solitude, her contemplative self-absorption, and her inner directions" (Garrard 2001: 47). Then the pose of Artemisia Gentileschi, *Sleeping Venus* (1625-30, fig 57) mimics the pose of Caravaggio's *Sleeping Cupid* (1608, fig 58). It is said that the model for this painting was a dead baby (Garrard 1989: 109), which would most certainly be one way of keeping it still for the camera. Artemisia would have known Caravaggio's *Sleeping Cupid* from her days in Florence, and in "her memory of this powerfully tenebrist, palpably real Amor ... [she] found a model, ... for her image of his mother, Venus (the pose and lighting)" (Garrard 1989: 108-9). Indeed, this is a photographic tribute to Caravaggio, not with the same model years apart as with her Naples *Judith*, but with different subjects posed and lit in mirror fashion. Garrard (1989: 364-5) also sees a link between Caravaggio's *Narcissus* (1594-96)³ and Artemisia's English *Allegory of Painting* (1638-39). "The structural resemblance between Artemisia's *Self-Portrait* and Caravaggio's *Narcissus*—seen in the arched arms framing an intensely gazing face—is likely to be more than coincidental" (Garrard 1989: 365). This continual reference to Caravaggio, outside of what Artemisia must have learned of camera obscura technology from him through her father, separates her from her father. Orazio Gentileschi appears to have absorbed the technical lessons from Caravaggio to a point, but to have generally eschewed the drama. Orazio was a follower, but Artemisia became a convert. "By the end M had become a kind of messiah of art" (Robb 2000: 175). And as a disciple of Caravaggio, Artemisia was also an heir to his "natural magic."

In the likely use of the same actual model for her Naples *Judith* that Caravaggio used for his, Artemisia has faithfully rendered an interpretation of the story as a celebration to her teacher. A special attachment to this early canvas could also explain why she appears to have hung on to it over the years, only finally parting with it in Naples when she was very much older. Its

being in Naples at all lead to a lot of confusion in the early days of Artemisia scholarship, when it was thought to be a copy of the Uffizi *Judith*, and not the other way round. Undoubtedly it could be said that Artemisia has “involved” her Judith character in the action, in a way that Caravaggio has not. She has also deviated to give the servant Abra a youthful appearance, and therefore a more believable role, although this adjustment is found in many of the earlier Gentileschi *Judiths* as well. Nevertheless, to have Holofernes a symbolic representative for Agostino Tassi, the man whom she and her father claimed raped her, denies the chronology that the “barber sitter” firmly suggests. In her novel of *Artemisia* Lapierre goes so far as to have Duke Cosimo II recognise Tassi from the portrait of Holofernes (2000: 226), which is risible. Even Garrard (1989:278) has to admit that it is indeed “an oversimplification to interpret [Artemisia’s] ... *Judith* purely as an expression of fantasy revenge against a rapist.” That Artemisia would have felt her oppression as a woman in Italian society in those early years of the Seicento is abundantly obvious, and she even makes verbal references to her lowered status as a woman (Garrard 1989: 391-2).⁴ However, her rebellion is much more complex than a simple lashing out at the masculinist hierarchy. Artemisia was undoubtedly an archetypal rebel, and fiercely independent – but then so too was Caravaggio, and he was a man. The question of the marginalization both suffered after their deaths, the languishing of their works in storerooms and under incorrect attributions, the hate poems that were written as their epitaphs, all of this must be accounted for. People, scholars, fall for Caravaggio and Artemisia, come under their spell, as if they were famous sports personalities or film stars. No one seemed to guess the mechanical nature of their meaning production, their secrets. They have come to represent, in this century, the ultimate in liberated genius, able to just look and do – but the reality may be far away from this.

4.2 A TRACE OF COLLABORATION

Caravaggio could rapidly “produce *marvels*” (Robb 2000: 175) but Orazio Gentileschi appears never to have achieved the same speed. He “was conditioned by his Tuscan heritage, which equipped him with a disciplined understanding of the volumetric linear precision of the Florentine form-drawing tradition” (Garrard 1989: 14). Orazio therefore would have been slow, tense and restrained in his working methods. He came to Caravaggio’s methods, possibly to using camera obscura technology, late in his life and because of this he needed as much as forty days at a time with each model in order to achieve anything close to what Caravaggio was doing. The model for Orazio Gentileschi *St Jerome* (1610–11),⁵ the seventy-year-old Giovanni Molli who was a pilgrim from Palermo, explained that Orazio

... kept me in the house all during Lent, and three or four days a week I had to go to his house. Some days I would go and stay from morning to night, and I ate and drank in his house, and he paid me by the day, and I returned to my own house to sleep (quoted in Christiansen 2001b: 10).

Orazio could not keep this practice up for more than a few years though, and really only managed doing single figures (Christiansen 2001b: 11). After this he appears to have resorted to tracings, reworking bits of posing sessions wholly or partly using either cartoons made with camera obscura technology from the live model, or cartoons made from other canvases (perhaps executed using the camera as an epidiascope). From this point, I believe, Orazio worked without a model in front of him.

Artemisia, on the other hand, appears to have built up her images manipulating a projection. Knowledge of these differing working practices using camera obscura technology could settle much of the confusion over father-or-daughter attributions, especially during what could have been an overlap period in Rome before Orazio went to Genoa sometime in 1622. It is not unreasonable to consider that Orazio finished some of the paintings

Antonio Sauli commissioned of him while he was still there. He could have been living with Artemisia on the via del Corso, having left his lodgings with the Savelli. Certainly, by the Lent of 1622 Artemisia's brothers Francesco and Giulio are documented as living with her in Rome (Christiansen & Mann 2001: XVII).⁶ There are a number of canvases wherein it can be seen that Artemisia might have been assisting her father. She appears to have been the one in charge and not the other way around. One such painting is the New York *Danaë* (fig 59), ascribed to Orazio. This has already been discussed with regard to its dramatic handling of the gold cloth, more a sign of an Artemisia autograph than an Orazian one. Christiansen (2001b: 22) points out that when tracings of the New York *Danaë* and the Cleveland *Danaë*⁷ are superimposed they match in part but not in the whole. He states further that the Cleveland *Danaë* also shows "an approach in which the modelling no less than the contours is hard and predetermined by a carefully laid-in design." Needless to say, if all that Orazio Gentileschi was doing was in effect "a type of tracing," that is using camera obscura technology, then there is no reason why working *from a tracing* (rather than an actual projected image) should have tightened his approach, certainly not for the modelling. Strained appears to have been his general style. On the other hand, the New York *Danaë* shows a general "variation in brushstrokes" (Christiansen 2001a: 194), which sounds more like Artemisia. A "precise definition of solid volumes is characteristic of Orazio, a reflection of his Tuscan training, but Artemisia, trained in the less *disegno*-oriented Roman environment of her own generation, had already begun to move away from his linear mode toward a more painterly approach by 1610, when she painted the *Susanna*" (Garrard 1989: 29). A painterly approach, together with Artemisia's general "dazzling technique in the treatment of ... drapery" (Mann 2001a: 326), could place the New York *Danaë* as mostly by her hand, even though father and daughter allowed it to be sold as an Orazio. Were they able to accept that conception, and perhaps commission, governed

autograph? In our modern world where autograph has been reduced literally to a signature, this is not a difficult concept to understand.

This collaboration appears to also affect the ex-Sauli *Penitent Magdalene*,⁸ now in a private collection in New York. Like the *Danaë* it exists in multiple copies. A copy of the *Penitent Magdalene* (fig 60) now in Vienna and also attributed to Orazio, may have actually been executed by Artemisia, as it shows all the trademarks of her hand – the extensive changes and the free brushstrokes (see Christiansen 2001b: 32). Rather than looking for the “prime version” (Christiansen 2001b: 30), it appears that what we are looking at here is collaboration and simultaneity, a feverish amount of work done in Rome around 1621/22, when Artemisia came back and Orazio was still there. Even more surprisingly, this group of *Penitent Magdalenes* echoes the pose of the *Danaës*. “When a tracing of the *Danaë* is superimposed over the figure of the *Magdalene* ..., there can be no doubt that the one was generated from the other, with the position of the upper torso raised to enhance the different expressive content, but the outstretched right foot retained (this last detail was modified in the Sauli version)” (Christiansen 2001b: 30). The bottom torso of the Vienna *Penitent Magdalene* might have been done by Orazio (it is nude beneath the drapery) from a tracing or a projection of the New York *Danaë*. The model was then slightly reposed, her hair loosened, and Artemisia took over, while Orazio went on to something else (perhaps even with brother Francesco lending a hand?). Strangely, Orazio appears to have sold Artemisia’s (?) *Danaë* to Sauli in Genoa, but not her (mostly) *Penitent Magdalene*. I don’t suppose it much mattered. The lots of *Lot* from this time also appear to suffer from the same differentiations in technique. In studying the X-ray of the Berlin *Lot and his Daughters* (no date),⁹ Christiansen (2001b: 26) finds “there is evidence of a hard contour.” He attributes this to a mechanical transfer process and decides for a workshop replica. But the Gentileschi were undoubtedly using a mechanical process – the camera obscura – the whole time, the only variation being in approach. It is their

collaboration around 1621 which, I believe, has caused the confusion, not *tracing* as such.

Not surprisingly Orazio seems to have had a go at a few of Artemisia's canvases from this time, too. Probably he had to help her due to the huge number of works they were generating. "Every inch of Artemisia's Uffizi canvas is painted in a drier, harder, and more linear technique than is anywhere detectable on the Capodimonte prototype, which is more translucent and indescribably more volumetric in its conception" (Spike 1991: 732). Garrard (2001: 32) also takes note of "the sketchy and broad-brushed development of the composition" in the Naples *Judith*. Hard and linear, on the other hand, sounds like Orazio. In discussing Artemisia's two *Judiths*, Spike (1991) is desperate to give her Naples version to her father, but in describing the reasons why, he inadvertently gives evidence for a completely reverse scenario. Orazio, it seems, may have done some of the work on Artemisia's Uffizi *Judith*, the one she was busy doing for Cosimo II de' Medici when she came home to Rome in 1621. That Artemisia prominently signed the Uffizi work as her own – EGO ARTEMITIA / LOMI FEC. on the sword blade – is not really a contradiction. As has already been stated, the composition *was* hers, as was the sheen and the drama. This situation also makes sense of her lie in a letter to Don Antonio Ruffo, in Messina, where she says: "never has anyone found in my pictures any repetition of invention, not even of one hand" (Garrard 1989: 397). Did she actually mean "not even by my hand"? The letter has been lost, so it is difficult to confirm.

Further there is also evidence that it was in fact Orazio who completed most of the second version of Artemisia's Seville *Penitent Magdalene*,¹⁰ that other (rare) replica in Artemisia's oeuvre, considered by many scholars to be a copy by an unknown hand. Making Orazio the author of the French copy takes the mystery out of how this version ended up in France, as Orazio went there in 1624 before going to England. Garrard (2001: 32) finds that the two paintings, side-by-side, offer some puzzling anomalies in execution, in that X-

rays show that both paintings are of a blend of styles. For example: “In the Seville painting, the dropped hand of the saint ... is painted far more meticulously than the other hand and [the] head, displaying a relief mode of construction that could easily be mistaken for that of the other picture.” So, in the Seville *Penitent Magdalene*, generally considered to be autograph of Artemisia, there suddenly appears a fastidiously painted hand – hard and linear. And in the French painting, with its overall precise construction “the folds of the white chemise are laid down with slashing, gestural brushstrokes, similar to comparable passages in the other picture” (Garrard 2001: 32). Here is a perfect example of father and daughter at work on both canvases, yet concentrating overall with one rather than the other.

In both paintings, the pleats that descend from the yoke are defined by matchstick-size brushstrokes, parallel though subtly variegated, “buttery,” strokes, which are also visible in the Genoese *Lucretia*. In technique the pictures are not incompatible, for each work shows a combination of the two modes, even though one mode dominates in each work. (Garrard 2001: 32.)

In the Seville *Penitent Magdalene* the left hand, with its “relief mode of construction,” would betray Orazio’s touch, while in the French version the “gestural brushstrokes” of the cloth would be Artemisia’s style. She must also have done the pleats in both paintings. Artemisia had the upper hand, though, in the Seville *Penitent Magdalene*, while Orazio’s took precedence over the French copy.

This likely collaboration, especially during those crucial Roman years in the early 1620s, means a considerable rethinking in approaching the iconography of Artemisia and her relationship to her father. What is really at work here is a “performance.” The conception (the narrative, the drama, the posing), or as I have said before simply the commission, belongs to one artist. The working method to achieve that commission is similar to each artist – they appear to be using, in their specific ways, camera obscura technology, most likely by this time predominantly Della Porta’s new improved version, with

large, upright, clear projections possible. The differences are in the brush and the deception is in the signature. Artemisia and Orazio built up their fame on just their opposing creative imaginations, which in Artemisia was powerfully dramatic, and in Orazio was more subdued and conventional. They successfully massaged the notion of their inherent God-given talents, and allowed the (art) world to believe in their genius. They relied on the belief that such talent was available to only a few in order to manipulate the market. It was, after all, their bread and butter. It was a “con” that Caravaggio seems to have pulled before them. And they did such a good job at it that, centuries later, they still have the wool over the “experts” eyes.

4.3 WAS ARTEMISIA LOOKING IN THE GLASS?

Artemisia’s association with the looking glass has a double meaning, for as a woman she would have been considered to have a special relationship with her mirror. “In Western culture the magic of the mirror has signified the social construction of femininity as specular consumption and the narcissistic identification of the woman with her reflected image” (Chadwick 1998: 9). Salacious speculation about whether Artemisia undressed for her father, or whether she painted her own nude portrait, is enmeshed in this supposition that woman (alone) is vain, is *vanitas*. I have not read any theorizing about whether her father took his clothes off for his daughter, but Tassi certainly alluded to Orazio’s improper relationship with Artemisia (Garrard 1989: 453). This story may have been spurious, of course, but it is not like such things do not happen. Artemisia’s mother died in 1605, leaving Artemisia unprotected (except briefly by a paternal aunt (Christiansen & Mann 2001: XIV)) in a world of men. But the model’s breasts from the Pommersfelden *Susanna* do not appear again, so if they are Artemisia’s, she only exposed them once. However, Artemisia does appear to have arrogantly revelled in her role as

vanitas, painting in her own image, which was not easy given that she probably was using camera obscura technology.

Artemisia must have used the improved Della Porta camera obscura, as evidenced by the multiple figure constructions and the distance from the action. Yet she must have also been familiar with a simple concave-mirror projection, as she would not have been able to do self-portraits without it. Nevertheless, I believe Artemisia also had other strategies for making portraits look a bit like her, as her identification with the (imaged) object, as a woman painter, seemed to be quite in demand. She might have used a model, one who was not that too different from herself in physiognomy. Artemisia could have then completed her study to a certain point, thereafter projecting her own image onto the (almost finished) canvas and touching up the portrait to look more like her. Likely candidates for this method are the two *Magdalene* canvases, the one now in Seville and the other in a private collection in France. Pointedly on close inspection, the features of the Seville version are quite different from those in the French version, except the chin. The distinctive dimpled chin makes both images a bit like Artemisia in Jérôme David's engraved *Portrait of Artemisia Gentileschi* (c.1628, diag 11). In the Seville painting, the one undoubtedly done mostly by Artemisia, the mouth is fuller and plumper, and the whole face has a soft fleshiness that isn't quite her as illustrated in Jérôme David. The French painting (Orazio's?) on the other hand "shows a slightly rounder face, more pointed nose, more distinctly down turned mouth, and ... enlarged and heavy-lidded eyes, like slit orbs" (Garrard 2001: 29), making this portrait even further from David's of Artemisia. Garrard recognizes facial similarities between the French *Magdalene* and the Milan *Cleopatra*¹¹ (2001: 29). This *Cleopatra* is, confusingly, included in both sections of the Christiansen & Mann catalogue (2001), Christiansen (2001: 97-100) attributing the painting to Orazio and Mann (2001: 302-305) giving it to Artemisia. The fact that the French *Magdalene* seems tellingly mostly by Orazio, and the fact that this portrait most closely resembles the *Cleopatra*,

deceiving. This is not to say that even with chemical photography a photographer cannot make a portrait more or less flattering, only that the scope of interpretation for Artemisia and Orazio, and others using this method, is much greater. Orazio, with his tight handling of form and that Tuscan mannerism he could never quite shake, tends towards the ideal. He gives his portraits (of Artemisia?) more aquiline features, a more “feminine” nose. She, on the other hand, appears to see herself as stronger, even masculine, although the young Susanna is quite tender. The closest *self-portrait* to my mind, the one of both complete narcissistic identification and very close to David’s engraving, and the one that is also almost painfully photographic in its quality, is the Pitti *Magdalene*. The hair, the eyebrows, the nose, the cupid-bow mouth, the dimpled prominent chin, even those drop-pearl earrings, make this *vanitas*, make this Artemisia Gentileschi. And this painting may just have been a *vanitas*. Spike (1991: 734) states: “It is even possible that Artemisia’s composition [of the *Magdalene*] originally extended far enough at the left side to include another figure. If the painting had been intended as a *Vanitas*, the mirror and the pose and expression of the ‘*Magdalene*’ would have been appropriate for a maiden surprised at her toilette by a personification of Death or Time.” He goes on to cite other clues to support his supposition. One is that the woman has a look of surprise rather than remorse (as she would have had to be the true *Magdalene*). Others are the ointment jar and moralizing statement on the mirror, which are later additions. Artemisia’s consumption of herself, as both the object and the subject of her painting, is a specific strategy for woman’s self-coping in a masculine world. “The masculine can partly look at itself, speculate about itself, represent itself and describe itself for what it is, whilst the feminine can try to speak for itself through a new language, but cannot describe itself from outside or in formal terms, expect by identifying with the masculine, thus by losing itself” (Irigaray quoted in Chadwick 1998: 8). Her(self) eludes her, and she must find it where she knows her(self) best, in her mirror and in her art. This is the “identification between the female artist

and the allegory [of painting] that had been fostered, if not constructed, by Artemisia herself" (Garrard 1989: 60). And an artist of Artemisia's creativity would not have missed the double metaphor of the mirror in the camera, the double reflection as it were. Her self-projection, her symbolic play on image, is like Caravaggio's comment on the "eye of the camera," that part of her that wants to share her secret with the (art) world.

But Artemisia does not look at herself in the mirror (to paint herself) because she cannot if she is using camera obscura technology, so to meet her own gaze, and the gaze of her spectator, she must either use someone else's assistance (their gaze), or she must substitute a model (for herself). One such model may have been a female cousin, I would suggest. In fact, I think Artemisia's *Self-portrait as a Female Martyr* (c.1615)¹² may be just this. Mann assumes that the inscription on this painting is confused, in that it mixes up Artemisia as being the daughter of Aurelio Lomi (Pisa, 1556-1622), Orazio's brother, her uncle. It reads: "By the hand of Artemisia daughter of A[u]r[e]li[o] Lomi / Pisan, niece of Orazio." This small painting has been identified with a picture that had been in the possession of the Italian-born Englishman Ignazio Hugford, who was from Pisa. (Mann 2001a: 320.) Could it be simply that it *is* a picture of one of Artemisia's cousins, by Artemisia, which is why it was in Pisa? ¹³ The later *Self-portrait as a Lute Player* (c.1615-17)¹⁴ looks like a copy, merged with some of Artemisia's own features, the eyes still identical to the earlier *Female Martyr*. The foreshortening of the lute in the *Lute Player* does not match the figure's angle, and is awkwardly placed to the body. This might have been a result of posing the hands, and then fitting the lute into the painting. The lute itself is not very dramatically drawn, in terms of photographic correctness, and could even have been one of Artemisia's fanciful creations. The hands are not matched in size, just like the Pitti *Magdalene*. They are also quite different hands to the *Magdalene's*, more like the ones in the *Female Martyr*, attesting to the Gentileschi habit of sometimes pastiching poses together of which the Los

Angeles *Lot and his Daughters* and the Vienna *Magdalene* are already cited examples.

The other likely substitute as a model (of the self) may well have been one of Artemisia's daughters, the eldest Prudenza (born in Florence in 1617 – Christiansen & Mann 2001: XVI). The model for the London *Allegory of Painting* is very similar to one of Lot's daughters in Artemisia's *Lot and his Daughters* (1635-38).¹⁵ She has exactly the same black hair, worn in exactly the same fashion, the same bulky frame, and she exhibits the same dark heavy features. By estimates for both paintings, if Mann's later dating (1638-9) for the *Allegory of Painting* is accepted (2001a: 417), Prudenza would have been around twenty years old. This corresponds to the visual evidence in the *Lot and his Daughters*, and is also more acceptable for the London *Allegory of Painting*, than supposing it to be a forty-five year old Artemisia. As with using a cousin, possibly, Artemisia would have been aware of the filial relationship to her(self). This does not negate Garrard's sympathies with Artemisia's (self)-identity with Pittura, in other words, Artemisia's special relationship to the female personification of painting as a woman artist (1989: 337-70). Actually, insisting on the *Allegory of Painting* being *her* reinforces the masculinist assumption that woman *is* her fixed identity (in the mirror), and can have no other space where she is her(self). It is a re-invoking of the objectification of women. Interestingly also, Diego Valázquez's (1599-1660) *Women as a Sibyl* (1630-32),¹⁶ whom Garrard identifies possibly as being Artemisia, painted perhaps during his Italian visit of 1630 (2001: 60), does indeed look like the (very young) daughter of Artemisia's *Lot*. Could this portrayal by Valázquez actually be a likeness of Artemisia's daughter Prudenza? The London *Allegory of Painting* can remain a narcissistic act, even without the actual reflection of the outside image (Artemisia in the mirror, as it were). The reference between her model and Caravaggio's posing of *Narcissus*, can still offer "a meditation on the nature of the art of painting that draws upon a similarly inclusive understanding of the symbiotic relationship

between the human, natural, and artistic realms" (Garrard 1989: 365). And it was in front of nature where Artemisia wanted to be, like Caravaggio was before her. And always, in her painting, there is that flickering image of her(self), her (true) self eluding the viewer as she flits in and out of auto-photographic intent. She has her own looking glass. But the shadows, the reflections and the projections, those are pure Caravaggio.

CONCLUSION

There are two main issues at the centre of outrage and indignation that David Hockney (2001) has caused with his theory for Caravaggio's use of optical aids. One is the muddled way he presented his thesis, and the string of confusing rebuttals circulating because of this. Second is a general unwillingness to shatter the notion of Caravaggio's divine brilliance, that legend of magnificence that the modern name of Artemisia Gentileschi has also inherited. In allowing the look-and-paint myth of Caravaggio to be dismantled is his posthumous reputation somehow at risk?

“What? Old Masters surreptitiously using the precursors of photography? Wouldn't that be tantamount to cheating?” exclaims Marguerite Rigoglioso (2004).

David Hockney, a practising artist, must undoubtedly be bemused by such sentiments. One can cheat at cards or in bookkeeping or in an exam, but can one cheat in crafting a painting? A painter can get up to tricks (Pollock), however cheat implies fraud, meaning someone has to lose, to be deceived. Needless to say, the art establishment does appear to be feeling aggrieved over this whole issue, with few scholars willing to be dispassionate in their assessment and even hard-headed scientists falling over themselves in a heated rush to “discredit” Hockney. Will the (art) world be able to absorb the reality that Caravaggio's genius stemmed from the astounding way he manipulated early developments in camera obscura technology? I hope that my research will go some way in rebutting the Hockney rebutters. The full list of criticisms, those of which I am aware, cannot in any way be upheld, not in relation to Caravaggio. And if they cannot be upheld for Caravaggio they cannot be upheld for Artemisia. It is not necessary to find a direct link between Artemisia and knowledge of camera obscura technology. Caravaggio had those links. Orazio learned from him, and then passed what he knew to his daughter.

Caravaggio and Artemisia were using light to draw – the very root of the word photo+graph. But critics say that Caravaggio could not have had enough light, from the candles and/or oil lamps he was using, to “power” a camera obscura – that unfortunate candle-myth started between Steadman and Hockney. Needless to say, Caravaggio had a very particular setup that included a *natural light source*, one high up and one he might have, as his studio got more sophisticated, been able to control, incorporating oil lamps for extra drama as Robb suggested for the Coppi *Judith*. And, after all, he got the colours all wrong in the *Sick Bacchus*, the first painting he “portrayed in the mirror,” according to Baglione. So much so, that for four hundred years it has just been assumed that the model *was* sick, and that Caravaggio faithfully recorded this. No one has thought to suggest it may have been a mistake. Caravaggio could not see what he was doing in the dark, not until he got used to it and learned about using white highlights. And there is also an extra factor in the light-metre equation that has simply been ignored, and that is time. Caravaggio and Artemisia had all the time in the world to adjust to the dimness and get their colours accurate (as long as the models could sit still, in any case). Shutter speed was not an issue. Artemisia depicts her Pitti *Magdalene* with enlarged pupils (and not so Domenichino’s *St Cecilia*). Is this because she herself was sitting in subdued light to paint herself? The *Female Martyr*, likely a relative as I have suggested, disconcertingly has different size pupils, the one further away slightly larger (that if anything should appear smaller). Could this have been because the eyes were executed separately at a different time of day, the artist unwittingly recording the pupils adjusting to the ambient light as the sun shifted?

Concerns about the need to have the exact dramatic light for artists to copy in order to get things “right” on the canvas, is a false assumption. Even though Caravaggio and Artemisia were working in the dark the “phenomenon” of the camera obscura projection using lenses would have actually created light (on the canvas), something not available to artists working freehand aiming for a

comparable atmosphere. An artist working in the dark freehand would have had to use further oil lamps or candles alongside their support, creating even more impossible distortions in colour and shadow, if they were working under similar conditions. I agree with Stork that painting in the dark beneath a projection would have had its complexities. Colours on the artist's palette would have been difficult to distinguish, but Caravaggio and Artemisia must have gotten around this. I would suggest that they must have had a system of marking their colours so that they could see which was which, mixing them in the light before they started working, or during the painting process. And as I have stated before, they must have viewed their work in more light as it progressed, as it would eventually be seen. Perhaps Caravaggio did not do this with the *Sick Bacchus*. Importantly, although Caravaggio's and Artemisia's work "looks" like a dark theatre with heightened spotlights, it is not an exact copy after nature as such. The drama of a Caravaggio or an Artemisia depends on the quality of light under which it is viewed. Their work tricks us into believing we are watching a dark scene, all shadows and highlights, but we are, needless to say, not in the dark to view it. Historians have become so used to studying photographs of paintings that the study of the history of art is rapidly becoming the study of the photographed art image. It is clearly not the same thing. Caravaggio, it appears, worked out how to get enough light, and how to adjust to working in dim conditions.

All things considered, could it not have been that Caravaggio simply had the raw talent (for painting it would seem, but not for technology), nothing to do with optical aids? Yet, if *Boy Peeling Fruit* is autograph, then it can only be said that he achieved, in a matter of months, a huge leap to realism in the *Sick Bacchus* – how? His youthful "talent" appears to have been for still-lives, which he spent hours churning out in the workshops of Giuseppe Cesari in Rome (Robb 2000: 36).

M – Bellori was saying – invented still life, unknown before ... in Italy. Some surviving pictures from Cesari's workshop, more like scientific illustrations than

art, were maybe some of M's earliest work. ... all the work he did in his twenties – when he was most exquisitely alive to the world's feel – glowed with unexpected detail (Robb 2000: 38).

Can it have been a simple, growing confidence in his own (freehand) abilities that explains the marked changes between the small splattered-boy paintings, then the medium-sized canvases of limited narrative scope and characters, and finally the dazzling multi-figured works of the San Luigi Church in Rome? The work of Artemisia on the other hand does not exhibit this “struggle.” The Pommersfelden *Susanna*, her first important canvas, shows a lot of accomplished juggling for a painting done by the look-and-paint method, if that is what it was. There is no steady progression, only a bursting forth. The “mistakes” she made were relational; as disproportionate as some of her hands are depicted, the individual detail is perfect. Some scholars have her spending long hours studying plaster casts in order to get the portrayal of anatomy accurate (although why she would need to do this to succeed in the “Caravaggian way” is not clear.) And in any case, such plaster casts would not have helped in mastering such details as eyes. Dissection would have been the only way, and there is not even a hint of rumour that she (or Caravaggio or her father) was indulging in such pastimes. Orazio himself was indecently eclectic in his rendering of figures, and much else. No one could sustain an argument for *his* raw talent. It could not have been down to teaching either, as Orazio seems to have trained more as a goldsmith,¹ and Caravaggio had a mediocre teacher of no particular repute.² “Incredible training” or sufficient “talent” are not sustainable arguments against Caravaggio's (or Artemisia's or definitely Orazio's) use of camera obscura technology.

Nevertheless, scientist David Stork (quoted in Rigoglioso 2004) feels he has settled everything against the use of optical aids by early “masters.” “I wouldn't be so irresponsible as to claim that I've disproved the Hockney theory ... but the burden of proof now rests with the theory's supporters. I feel I've rebutted all their substantive claims.” But then Stork (quoted again in

Rigoglioso) also asserts “there are no historical records before 1598 ... of any concave mirror being used to project an image except through burning.” This “fact” is enough to upset the chronology that I have carefully constructed for Caravaggio. Except Michael Gorman (2002), also a scientist and also a Hockney detractor, contradicts this. Della Porta, he says, described in his 1558 edition of *Natural Magic* exactly how to use a concave mirror to project an image.

... place a mirror, not the kind that disperses the light by dissipating, but the kind that unites by collecting together. Move it closer and further away from the hole until you see it reach the perfect and true quantity, These things, when you see them all inverted, will make you marvel to no small degree (Della Porta 1558, translated M. Gorman 2002).

Further, to deny the power of lenses in Caravaggio’s time is to deny technological developments in lens usage, such as the telescope, and as far as plain flat mirrors are concerned, the quality is there for the looking. Artemisia depicts a sharp reflection (in dim light?) in her *Pitti Magdalene*, while a canvas of the *Conversion of the Magdalene*,³ attributed to either Artemisia or Orazio by Roberto Longhi in 1916 (Christiansen & Mann 2001: 430), has a mirror reflection so clear it could be a painting within a painting.

Critics who cite the lack of (documentary) evidence do not look at paintings it seems, nor do they consider Hockney’s vast array of illustrations as in any way supportive of his theories. They want *written* proof of artists using camera obscura technology. Linked to this scepticism is a general feeling that artists could not have had trade secrets nor been afraid of the Inquisition, Hockney’s (2001: 248) reason as to why such documents have not been found. Nevertheless, I have shown evidence does exist. Baglione has Caravaggio “portraying a few small paintings in the mirror.” These were not self-portraits, and the difficulties of using a flat mirror to assist in crafting “realistic” painting have been discussed.⁴ Caravaggio himself is reported to have said he was aiming at a “natural magic” in his work. It was Roberto

Longhi (1992: 36) who appears to have been the first in modern scholarship to make the connection between this comment and the title of Della Porta's books of 1558 and 1589. But the most telling (oral) evidence is Caravaggio's comment about the eye of the camera: *è l'occhio della camera che mi guarda e mi suggerisce tutto*. This eye that was looking at him must have been a concave mirror or a biconvex lens. The (oral) evidence of third parties has also been discussed at length, for example the account of Orazio's washerwoman who stated that Orazio was very secretive about what he was doing. Secrecy, for Caravaggio and Orazio and Artemisia, was part of the method. It must, therefore, have been necessary. Part of this was due to the competitive nature of getting commissions. The other part *was* fear of the Inquisition; of this there can be no doubt. As has already been stated, the pope during a large part of Caravaggio's time in Rome, Clement VIII Aldobrandini, was one of the most inquisitorial. Further, it must often have been that the person whom an artist looked to for commissions was also the person they had most to fear. Caravaggio's patron, Cardinal Del Monte, was protective of him in those early years when Caravaggio was living in the Palazzo Madama, even after that, getting Caravaggio out of more than one scrape it would appear (see Robb 2000: 229). The cardinal and his brother must have also been instrumental in helping Caravaggio learn how to use Della Porta's improved camera obscura of 1589. However, I suspect that in the end Del Monte might have abandoned Caravaggio, maybe even turned on him. Francesca Maria Bourbon Del Monte had aspirations to become pope at that stage (Robb 2000: 440). Did the wild child of Roman painting become a liability to him? Further, Artemisia, it must be remembered, knew Galileo, who was being investigated by the Inquisition at the time she and her husband were living in Florence. In the December of 1614 a Dominican friar Caccini "preached a sermon from his pulpit in Florence against mathematics in general and Galileo in particular" (Rowland 2001: 133). Optics relies on applied mathematics. It is not possible that Artemisia was unaware of these rumblings. It is also evident that the social

mesh of Church, Inquisition and burnings would have been a deterrent to keeping diaries or writing self-incriminating letters. In any case, the teaching of art is a practical function. It does not require long, detailed manuals. Knowledge of how to manipulate camera obscura technology to assist in the depiction of “realism” was passed by demonstration from Caravaggio to Orazio to Artemisia. Others must have also known about it too, like Francesco Boneri now identified as Cecco del Caravaggio, Giovanni Baglione and the French artist, Simon Vouet, whose style sometimes closely resembles Artemisia’s and whom she undoubtedly knew. But the rules of playing with cards close to the chest would have applied equally to them. Secrecy of method has no bearing on the building of an artistic reputation which relies on the finished product, unlike science where reputation depends on the process, the act of thinking first and publishing first – *exposure* of method.

Practical objections to David Hockney’s theories in *Secret Knowledge* (2001) I have also shown to be unsustainable. Artists using camera obscura technology would have been able to paint animals and children, especially restive carthorses and sleeping or dead babies.⁵ Self-portraiture might have been tricky, but it was not impossible. Ceiling and wall murals could also have been executed by using the camera obscura at one remove, as I have shown. Orazio appears to have made elaborate cartoons using models standing on tables to get the perspective and foreshortening right, and then transferred these by standard method onto the ceiling of the Casino Delle Muse (1611-12). Scholars supporting the look-and-paint talented genius theory of Caravaggio’s method simply ignore the leap in “realistic” detail from Orazio’s frescos of the Santa Maria Abbey in Farfa (pre-Caravaggio) to those of the casino ceiling. Caravaggians, it is said, did not draw; they worked directly in paint with skilled hand-eye co-ordination. But Orazio was already up in the ceiling. How did he get models up higher than he was to “paint” them live? Or did he do “painted cartoons” from live models “Caravaggio’s way,” and then transfer these by tracing onto the ceiling? But when he later busies himself

with the fresco cycle at San Venanzo in Fabriano (c.1616) he must have forgotten how to paint Caravaggio's way? Is it not possible, and more logical, that he used camera obscura technology to trace the cartoons he needed for the casino. Artemisia was still at home, still able to help him. (It must be remembered he is reported to have been very slow.) By the time he was working in Fabriano he was on his own, doing things the old third-rate pre-Caravaggio way or simply constructing oil altarpieces from tracings taken from other paintings.

A final question remains. Is a theory about the use of optics by artists such as Artemisia Gentileschi and Michelangelo Merisi useful? Will further research yield any (art historical) profit? Firstly, although I am not so irresponsible as to claim that I have *proved* that Artemisia and Caravaggio were using camera obscura technology, this research does show that the possibility is increasingly likely. Secondly, if you turn away from the facile arguments that are going round and round in circles mainly due to the creative liberties David Hockney took in presenting his theories in *Secret Knowledge* (2001), and apply the lens of camera obscura technology to the works of these artists, the results are enlightening. Caravaggio's development, from his green-tinted *Sick Bacchus*, to his medium-sized canvases, and finally to his huge and startling *Matthew* paintings from the San Luigi Church in Rome, suddenly looks so much more meaningful, clearer. As brilliant as Robb's biography (2000) of Caravaggio is, with the lens of camera obscura research many of his suppositions would have to be revised, for example the way he tries to make the now-obvious technical mistakes in the *Sick Bacchus*, which he identifies as a self-portrait, as *literal* indicators of Caravaggio's poverty at the time. He even suggests Caravaggio may have had malaria (Robb 2000: 39-40). Robb also has Cardinal Del Monte recognising the "painterly potential" in Caravaggio's *Cheats* (2000: 55), when it is clear (technically) that Caravaggio's *Cheats* came after his *Musicians*, as already suggested by Kitson (1969: 87). In all likelihood, *Cheats* was done with a lens given to Caravaggio

by Cardinal Del Monte. Moreover, although Robb produces written evidence that the Inquisition was directly interested in Caravaggio, I believe he struggles to make a plausible case as to why. Robb (2000: 212) states that in a letter of August 1603 a Cardinal Paravicino, who had earlier backed a proposition for an *Index of prohibited images* to go with the *Index of prohibited books*, was “[f]ishing for confirmation or denial of a rumour he didn’t want to spell out but sounded pretty sure of. ... [He] was also fishing for information about M’s possible dangerous opinions.” Robb himself goes fishing for the rumours to have been about Caravaggio’s “art that was *halfway profane*” as “the perverse embrace of sex and religion” (2000: 212; 326), in other words, Caravaggio’s seeming homosexuality, because Robb cannot imagine what else the Inquisition could have been interested in. Further, Robb is not at all concerned about why Artemisia’s work appeared to have been so close to Caravaggio’s. He does not even consider it relevant. He is not interested in trying to place Artemisia into the warp and weft of Caravaggio’s life. On the other hand he gives Caravaggio’s “boys” copious pages of detailed analysis in Caravaggio’s pictures and in his life, despite the fact that, in his own words, Sicilian model Mario Minniti (1577-1640) ended up being a “pretty terrible painter” (2000: 495) and Francesco Boneri (Cecco del Caravaggio) has nothing like Artemisia’s modern reputation (or even Orazio’s). This denial of Caravaggio and Artemisia, from a gender perspective, is a two-edged sword. Patriarchal (gay) thinking must deny her, as her position would threaten the (natural) male heirs. Feminism must also deny her relationship with Caravaggio, as this would presuppose that she *needed* a male mentor (other than her father by accident). Unfortunately Robb performs Caravaggio’s homosexuality the same way Garrard (1989) performs Artemisia’s questionable proto-feminism. The result of this has been to staple them back into the (fixed) category “genius.” The theory of camera obscura technology begins to project both of them in a different light.

I have shown that the theory of the use of camera obscura technology by artists such as Caravaggio and Artemisia is a powerful tool. For example, it is a far more satisfactory way of sorting out the Artemisia/Orazio attributions, in distinguishing one hand from the other, than the very imprecise methodology of iconographic reading. It also adds weight to the possibility that it is Artemisia who should be considered the “mistress of *luce*,” that such a position cannot be easily upheld for Orazio, with his poor training, third-rate art, and his late arrival at the camera obscura method. Artemisia may well have fallen for the sumptuous cloth available in Medici Florence and its colourful paintings, but it was undoubtedly the projection of coloured light from the camera that she found most enchanting, and thereafter worked so hard to match with her oil paint. This is not to say that she always painted under a projection, with all the inherent difficulties of colour matching, but she certainly worked with it. Yet the ability to straddle art and technology, to mix art with science as Caravaggio and Artemisia did, is still regarded with scepticism. Perhaps this is because, as I have said, knowledge of an artist’s working practice has not been seen as necessary to the establishing of a reputation. The tendency has been to regard Artemisia’s methods as in a category of unassailable genius. Nevertheless, it has not been my intention to simply dismantle this category, but rather to define a more authoritative understanding of her painting. Artemisia Gentileschi seems to have had a looking glass, and metaphorically speaking, that looking glass was Caravaggio’s.

BIBLIOGRAPHY

- Baigent, M & Leigh, R. 2000. *The Inquisition*. London: Penguin.
- Banti, A. 1947. Repr 1989. *Artemisia*. Florence: Rizzoli.
- Benedetti, L. 1999. Reconstructing Artemisia: twentieth-century images of a woman artist. *Comparative Literature* 51: 42-61.
- Berwick, C & Rosenberg, K. 2002. Optical illusions. *ArtNews* 101(2): 38.
- Bonechi, B. 1999. *Rome: 2000 years of history and masterpieces*. Florence: Bonechi Edizioni.
- Carloni, L. 2001. Orazio Gentileschi between Rome and the Marches, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 116-129.
- Carr, DW, Khandekar, N & Leonard, M. 2001. "Amber varnish" and Orazio Gentileschi's "Lot and his daughters." *Burlington Magazine* 143, January: 4-10.
- Carrell, JL. 2002. Mirror images: artist David Hockney shocks the art world with his claim that grand masters from van Eyck to Ingres secretly used lenses in their work. *Smithsonian* 32(11): 76-82.
- Cavazzini, P. 2001. Artemisia in her father's house, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 282-295.
- Cavazzini, P. 2001a. Appendix 1. Documents relating to the trial of Agostino Tassi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 432-444.
- Chadwick, W (ed). 1998. *Mirror images: women, surrealism, and self-representation*. Cambridge, MA & London: MIT.
- Cropper, E. 1993. New documents for Artemisia Gentileschi's life in Florence. *The Burlington Magazine* 135: 760-1.
- Christiansen, K. 1986. Caravaggio and "L'esempio davanti del naturale." *Art Bulletin* September: 421-445
- Christiansen, K & Mann, J (eds). 2001. *Orazio & Artemisia Gentileschi*. New York: New York Metropolitan Museum of Art.
- Christiansen, K. 2001a. Catalogue entries: Orazio Gentileschi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art.
- Christiansen, K. 2001b. The art of Orazio Gentileschi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 2-38.
- Contini, R. 2001. Artemisia Gentileschi's Florentine inspiration, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 312-320.

- Crary, J. 2003. The camera obscura and its subject [Online]. Reprinted from Jonathan Crary *Techniques of the observer: on vision and modernity in the nineteenth century*, Cambridge, MA: MIT Press. Available at: www.acmi.net.au/AIC/CAMER_OBSCURA.html (accessed on 9/9/03).
- Danto, AC. 2002. Artemisia and the elders. *The Nation* 13 (April 8). p. 33-6.
- Edwards, B. 1986. *Drawing on the artist within*. New York: Simon & Schuster.
- Encyclopedia Britannica [Online]. Reflections again. Available at www.mirrorsilvering.com/a_brief_history_of_mirros.htm (accessed on 7/11/03).
- Falco, CM. 2003. FAQ [Online]. Available at: www.optics.arizona.edu/ssd/FAQ.html (accessed on 2/11/03).
- Finaldi, G & Wood, J. 2001. Orazio Gentileschi at the Court of Charles I: six documents, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 448-450.
- Fossi, G. 2000 ed. *L'arte italiana*. Florence: Giunti.
- Gallo, MC. 2003. The Sauli collection, two unpublished letters and a portrait by Orazio Gentileschi. *Burlington Magazine* 145, May: 343-53.
- Garrard, MD. 1989. *Artemisia Gentileschi: the image of the female hero in Italian Baroque art*. Princeton: Princeton University Press.
- Garrard, MD. 2001. *Artemisia Gentileschi around 1622: the shaping and reshaping of an artistic identity*. Berkely, CA: University of California Press.
- Gernsheim, H. 1982. *The origins of photography*. London: Thames and Hudson.
- Gorman, MJ. 2002. Art, optics and history: new light on the Hockney thesis [Online]. Available at: <http://www.stanford.edu/group/shl/Eyes/hockney/> (accessed on 4/2/2004).
- Gregori, M. 1996. Caravaggio in Malta, in *Caravaggio da Malta a Firenze*, edited by Giorgio Bonsanti and Mina Gregori. Milan: Skira: 23-25.
- Grovener Art Dictionary [Online]. 2003. www.groveart.com.
- Hammond, JH. 1981. *The camera obscura: a chronicle*. Bristol: Hilger.
- Hayum, A. 2002. Orazio and Artemisia. *Art in America* 90: 104-13, 145, 147.
- Hockney, D. 2001. *Secret Knowledge: rediscovering the lost techniques of the Old Masters*. London: Thames & Hudson.
- Hirschl, M. 1988. *Creative figure drawing: art from life, life from art*. Englewood Cliffs, NJ: Prentice-Hall.
- Jones, A. 1999. Art history/art criticism: performing meaning, in *Performing the body/Performing the text*, edited by Amelia Jones and A. Stephenson. London & New York, NY: Routledge: 39-56.

- Jones, A & Stephenson, A (eds). 1999. *Performing the body/Performing the text*. London & New York, NY: Routledge.
- Kitson, M. 1969. *The complete paintings of Caravaggio*. London: Weidenfeld & Nicolson.
- Landi, A. 2000. Optical illusions. *ArtNews* 99(3): 134-41.
- Landi, A. 2002. Who was the real Artemisia? *ArtNews* 1(2): 110-13.
- La pittura italiana: i maestri di ogni tempo e i loro capolavori*. 1997. Milan: Mondadori.
- Lapierre, A. (1998) 2000. *Artemisia: a story of a battle for greatness*. Translated from French by Liz Heron. London: Bloomsbury.
- Lapucci, R. 1994. Caravaggio e i "quadretti nello specchio ritratti." *Paragone* March-July: 160-70.
- Longhi, R. 1952. Repr 1968, 1982, 1992. *Caravaggio*. Rome: Editori Riuniti.
- Mann, JW. 1997. Caravaggio and Artemisia: testing the limits of Caravaggism. *Studies in Iconography* 18: 161-85.
- Mann, JW. 2001. Artemisia and Orazio Gentileschi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 248-261.
- Mann, JW. 2001a. Catalogue entries: Artemisia Gentileschi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art.
- Marin, L. 1995. *To destroy painting*. Translated by Mette Hjort from the 1977 original edition *Détruire la peinture*. Chicago and London: University of Chicago Press.
- Naughton, R. 2003. The Camera Obscura: Artisotle to Zahn [Online]. Available at: www.acmi.net.au/AIC/CAMERA_OBSCURA.html (accessed 9/9/03).
- Nerét, G (ed). 2001. *Caravaggio, 1571-1610*. Koln: Taschen.
- O'Connor, JJ. & Robertson, EF. 2003. Galileo Galilei [Online]. Available at: www-gap.dcs.st-and.ac.uk/~history/Mathematics/Galileo.html. (accessed 4/12/03.)
- Peters, E. 1989. *Inquisition*. Los Angeles, CA: University of California Press.
- Pirenne, MH. 1970. *Optics, painting and photography*. Cambridge: Cambridge University Press.
- Previtali, G (ed). 1992. *Roberto Longhi: Caravaggio*. Rome: Editori Riuniti.
- Rigoglioso, M. 2003. Masters of deception? [Online]. Available at: www.stanfordalumni.org/news/magazine/2003/novdec/features/artoptics.html (accessed 6/2/2004).
- Robb, P. 2000. *M*. London: Bloomsbury.
- Rowland, I. 2002. Going for Baroque. *The New Republic* September 30: 37-40.

- Rowland, W. 2001. US edition 2003. *Galileo's Mistake: a new look at the epic confrontation between Galileo and the Church*. New York: Arcade.
- Ryder, AJ. 2000. *The artist's complete guide to figure drawing: a contemporary perspective on the classical tradition*. New York: Watson-Guphil. (Quote accessed online, 10/2/04, available at <http://www.tonyryder.com/a-book.htm>.)
- Smee, S. 2001. Hockney on artists and the use of lenses. *Art Newspaper* 12 (19) p. 36.
- Smee, S. 2003. Optical illusions. *Daily Telegraph* July 29.
- Spear, RE. 1982. *Domenichino: plates*. New Haven and London: Yale University Press.
- Spear, RE. 2001. I have made up my mind to take a short trip to Rome, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 334-343.
- Spike, J. 1991. Review of Artemisia at the Casa Buonarroti Florence. *The Burlington Magazine*. 133. p. 732-34.
- Spike, J. 2001. *Caravaggio*. New York: Abbeville Press.
- Stork, DG. 2002. Hoodwinked by Hockney? Letter to the editor. *Art in America*. 7. p.15.
- Stork, DG. 2003. FAQ [Online]. Available at: www.psych.stanford.edu/~stork/FAQ.html (accessed on 2/11/03).
- Stork, DG. 2004a. Caravaggio's "Supper at Emmaus" (1601-2): problems in refocusing, problems in the studio, problems with illumination [Online]. Available at: <http://webexhibits.org/hockney/post/stork3.html> (accessed on 11/4/04).
- Stork, DG. 2004b. Exchange between Stork and Falco/Graves [Online]. Available at: <http://webexhibits.org/hockneyoptics/post> (accessed on 8/2/04).
- Topper, D & Gillis, C. 1996. Trajectories of blood: Artemisia Gentileschi and Galileo's parabolic path. *Woman's Art Journal* Spring/Summer: 10-13.
- Turner, N. & Plazzotta, C. 1991. *Drawings by Guercino from British collections*. London: British Museum.
- Van Helden, A. 1995. *The telescope* [Online]. Available at: www.es.edu/ES/humsoc/Galileo/Things/telescope.html (accessed 14/11/03).
- Vreeland, S. 2002. *The passion of Artemisia*. New York: Viking.
- Wangstaff, S. 2002. Weltering in blood. *Parkett* 65: 194-202.
- Ward Bissell, R. 1981. *Orazio Gentileschi and the poetic tradition in Caravaggesque painting*. University Park & London: Pennsylvania State University Press.
- Ward Bissell, R. 1999. *Artemisia Gentileschi and the authority of art*. University Park & London: Pennsylvania State University Press.
- Weschler, L. 2000. The looking glass. *The New Yorker* January 31: 64-8.

- Zarucchi, JM. 1998. The Gentileschi Danaë: a narrative of rape. *Women's Art Journal*. 19(2): 13-16.
- Zone, R. 2001. Through the looking glass: painter David Hockney links classical art to optics. *American Cinematographer* 82(12): 96-104.
- Zuccari, A. 2001. The Rome of Orazio Gentileschi, in *Orazio & Artemisia Gentileschi*, edited by Keith Christiansen and Judith Mann. New York: New York Metropolitan Museum of Art: 38-48.

ENDNOTES

NOTES PREFACE

1. Hockney (2001) places the use of optics in the early 1400s. Is he simply looking too early for evidence to support his theories, or is he just completely off the mark altogether? Scientist David Stork (2003) claims that although “there is documentary evidence that concave mirrors *existed* in the early Renaissance, and indeed earlier, we have no evidence in the 15th century, say, that anyone saw an image of a non-self-luminous object (e.g., *not* the sun) projected onto a screen by an optical device (concave mirror or converging lens), the first step in the Hockney projection procedure.” In layman’s terms, what scholars are looking for are signs of early high-quality shaving mirrors (concave mirrors). Unfortunately this “van Eyck debate” has created something of an optical red herring. It was only in late March 2000 that scientist Charles Falco (Hockney 2001: 269) first mentions to Hockney the possible use of the so-called mirror-lens in association with the Flemish artist Jan van Eyck (1395-1441), more specifically with van Eyck’s *Arnolfini Marriage* (1434). [Jan van Eyck, *The portrait of Giovanni Arnolfini (?) and his wife Giovanna Cenami (?)* (1434). Alternative title: *The Arnolfini Marriage*. Oil on wood, 81.8x59.7. The National Gallery, London. (Hockney 2001: 292.)). Already by the December of that same year *Secret Knowledge* “is almost ready for the press” (Hockney 2001: 280). By Hockney’s own admission (2001: 280) “it never ends. It’s open ended and provides a new look at history.” The evidence in *Secret Knowledge* is therefore sporadic. It is perhaps no wonder then that Sara Schechner, Curator of the Collection of Historical Scientific Instruments at Harvard University, is hung up on the quality of mirrors and lenses existing early enough to be of any use to artists (such as Jan van Eyck), that the art historical community is trying its level best to ignore Hockney, and that Stork (2003) is talking teaspoons. “If you look at the concave side of a shiny teaspoon ... you’ll see your image upside down. This real inverted image is indeed projected into the space between the spoon and our eye—but in the context of the Hockney debate, the technique demands a different form of projection: the projection onto a screen, such as canvas, paper or oak support” (Rigoglioso 2003).

Charles Falco (2003) however, has since posted further information about mirrors and lenses on his website. “There is ample evidence that not only were suitable optics—both refracting and reflecting—available, but also that they were inexpensive” (in the time of van Eyck). He refers to the paintings of Tomaso da Modena (1325-1397) [Gibbs, R. 1989. *Tomaso da Modena*. Cambridge: Cambridge University Press and Coletti, L. 1963. *Tomaso da Modena* Venice: Neri Pozza Editore] in which there are supposedly clear examples of reading mirrors (enlarging-concave mirrors), as well as spectacles and a magnifying glass (biconvex lens). As to the quality of these lens devices, Falco cites the opinion of José Sasián of the Optical Sciences Centre that it would have taken less than two days to make a concave mirror at that time,

with the technology available. Falco also claims that there is supporting documentary evidence, specifically *The Romance of the Rose*, by Guillaume de Lorris and Jean de Meun. [Dahlberg, C. 1995. Translator and editor, 3rd edn. *The Romance of the Rose*, by Guillaume de Lorris and Jean de Meun. Princeton, NJ: Princeton University Press.] This thirteenth-century work states that mirrors “make different images appear in different situations—straight, oblong, and upside down in different arrangements ... they make phantoms appear to those who look within. They even make them appear, quite alive, outside the mirror, either in water or in the air ...” (Falco 2003). It should also be mentioned that the thirteenth-century Englishman Roger Bacon (1214-1294) most definitely used a type of camera obscura to view solar eclipses (Naughton 2003). “Bacon ... shared his contemporaries’ knowledge of the magnifying properties of the simple lens and of concave, spherical and parabolic mirrors” (Falco 2003). [Newbold, W. 1928. *The Cipher of Roger Bacon*. ?, PA: University of Pennsylvania Press.] Note that Roger Bacon ran foul of the early Inquisition. Bacon was imprisoned in Oxford, and kept under surveillance for the rest of his life after a new pope was elected sometime in 1270 and did not have the same sympathies for Bacon’s ideas as his predecessor (Hockney 2001: 206). Clearly, there were mirrors and lenses available of the type needed for the projecting of images and although Hockney (2001) alludes to the fact that Caravaggio used camera obscura technology all the time, he is not saying that Jan van Eyck did. There would have been a long period of time (and he demonstrates this) when artists experimented with the early technology in a very limited way. Hockney refers specifically to the possibility of van Eyck using a concave mirror projection to assist only in the drafting of the chandelier of van Eyck’s *Arnolfini Marriage* portrait, and to assist in the preliminary sketch for his *Portrait of Cardinal Albergati* (1431). [Jan van Eyck, *Cardinal Niccolò Albergati*, 1432. Oil on wood, 34.1x27.3cm. Kunsthistorisches Museum, Vienna. (Hockney 2001:79.)]

NOTES INTRODUCTION

1. Artemisia Gentileschi was a “woman in a world of male artists” (Garrard 1989: 44), a world where she would “have met with various forms of oppression attendant upon being accorded inferior intellectual and social status because she was a woman” (Ward Bissell 1999: 115).
2. “No painting, of course, and certainly no great painting, is mere raw autobiography. Yet once we acknowledge, as we must, that Artemisia Gentileschi’s early pictures are vehicles of personal expression to an extraordinary degree, we can trace the progress of her experience, as the victim first of sexual intimidation, and then of rape – two phases of a continuous sequence that find their pictorial counterparts in the Pommersfelden *Susanna* and the Uffizi *Judith* respectively” (Garrard 1989: 208); and “By 1612, when she was not yet nineteen years old, her father could boast of her extraordinary talent, claiming that in the profession of painting, which she had practiced for

three years, she had no peer. This claim was scarcely an exaggeration, for Artemisia's earliest paintings display a highly precocious artistic ability, which consisted in equal parts of an early mastery of technical skills, an extensive informal artistic education in Rome, and sheer creative genius" (Garrard 1989: 13).

3. Peter Robb (2000) uses the acronym M to identify Michelangelo Merisi da Caravaggio. As such, I stay true to his original throughout my text.
4. For example, early articles:
 Longhi, R. 1916. Gentileschi padre e figlia. *L'arte*. Reprinted 1961.
 Longhi, R. 1943. Ultimi studi sul Caravaggio e la sua cerchia. *Proporzioni* I.
 Longhi, R. 1951. Introduzione alla mostra, in *Mostra del Caravaggio*.
 Longhi, R. 1951. Sui margini caravaggeschi. *Paragone* 21.
 and a monograph:
 Longhi, R. [ed. Previtali, G.]. 1952. Repr 1968, 1982, 1992. *Caravaggio*. Rome.
 Longhi's wife, Anna Banti, also wrote extensively on Artemisia, but in a more "fictional" way. See my bibliography for details of her 1947 novel.
5. Anyone reading Hockney's *Secret Knowledge* for the first time, or wishing to re-read it, would be best served starting at the back, with the appendices, in my opinion.
6. For an overview of the web debate the following sites are instructive.
<http://webexhibits.org/hockneyoptics/post/falcograves>
www.stanfordalumni.org/news/magazine/2003/novdec/features/artoptics
www.stanfordalumni.org/news/magazine/2004/janfeb/dept/letters.html
<http://hnn.us/comments/15976.html>
http://artonomy.co.uk/press_hockney.html
<http://diatropes.com/Abstracts/SLS2002.html>
www.optics.arizona.edu/ssd/FAQ.html
www.psych.stanford.edu/~stork/FAQ.html
7. "... all'innovazione scientifica di una camera oscura per riprodurre un'effigie che permetteva di creare un'opera d'arte dal naturale ponendo i colori sulla tela mentre la sagoma era proiettata ..." (Lapucci 1994: 165).

NOTES CHAPTER 1

1. Michelangelo Merisi da Caravaggio, *Matthew Called* (1599-1600). Oil on canvas, 322x340cm. Contarelli Chapel, Church of San Luigi dei Francesi, Rome. (Robb 2000: 506-7.)
2. Orazio Gentileschi, *Baptism of Christ* (1607). Oil on canvas, 300x241cm. Santa Maria della Pace, Rome. (Christiansen 2001a: 77-8.)
3. Orazio Gentileschi, *Circumcision* (c.1605-7). Oil on canvas, 390x252cm. Church of the Gesù, Ancona. On deposit in the Pinacoteca Comunale. (Christiansen 2001a: 64.)
4. Orazio Gentileschi. Wall, vault and arch frescoes (c.1613/14-1616). Church of San Venanzio, Fabriano. (Ward Bissell 1981: 159.)

5. Orazio Gentileschi, *Young Woman Playing a Lute* (c.1612-15). Oil on canvas, 143.5x129cm. National Gallery of Art, Washington DC. Ailsa Mellon Bruce Fund: 1962.8.1. (Christiansen 2001a: 113-115.)
6. "havendola drizzata nella professione di pittura, in tre anni si è talmente appratricata, che posso ardir de dire che hoggi non ci sia pare a lei, havendo per sin adesso fatte opere, che forse principali maestri di questa professione non arrivano al suo sapere ..." (Tanfani-Centofani, 1897, 221-24, in Garrard 1989: 491).
7. Michelangelo Merisi da Caravaggio, *The Magdalene* (c.1594-6). Oil on canvas, 106x97cm. Galleria Doria-Pamphilli, Rome. (Kitson 1969: plate xiv.)
8. Artemisia Gentileschi, *Saint Catherine of Alexandria* (c.1618-19). Oil on canvas, 77x63cm. Galleria degli Uffizi, Florence. Inventory 8032. (Mann 2001a: 328-330.)
9. Artemisia Gentileschi, *Allegory of Inclination* (1615-16). Oil on canvas, no size. Casa Buonarroti, Florence. (Garrard 1989: 43.)
10. Orazio Gentileschi, *Judith and her Maidservant* (c.1608-9). Oil on canvas, 136x160cm. Nasjonalgalleriet, Oslo. NG.M.02073. (Christiansen 2002: 82-3.)
11. Orazio Gentileschi, *Sibyl* (c.1618-19). Oil on canvas, 80x72cm. The Samuel H. Kress Collection, Museum of Fine Arts, Houston. Inventory: 61.74. (Christiansen 2001a: 158-59.)
12. Artemisia Gentileschi (attributed), *Judith and her Maidservant with the Head of Holofernes* (after Orazio Gentileschi) (c.?1610-12). Oil on canvas, no size. Vatican, Pinacoteca. (Garrard 1989: 30.) Considered also to be a "workshop replica" (Christiansen 2001a: 188).
13. Orazio Gentileschi, *Judith and her Maidservant with the Head of Holofernes* (c.1621-2). Oil on canvas, 136.5x159cm. Wadsworth Atheneum Museum of Art, Hartford. Collection fund: 1949.52. (Garrard 1989: 31.)
14. Artemisia Gentileschi, *Allegory of Painting* (1630s). Oil on canvas, 95.5x133cm. Musée de Tessé, Le Mans. Inventory 10.69. (Mann 2001a: 353.)
15. Orazio Gentileschi, *Annunciation* (1623). Oil on canvas, 286x196cm. Galleria Sabauda, Turin. (Christiansen 2001a: 198.)
16. The rendering of cloth alone in the New York *Danaë* could hint to the distinct prospect of Artemisia's (helping) hand in her father's painting. Bissell (quoted in Mann 2001a: 362) proposed a trip to Genoa for Artemisia, along with Orazio, in about 1621. (As a way of getting some of her paintings there?) This idea has been abandoned as new documentary evidence supports "Artemisia's continued presence in Rome between 1621 and 1626" (Mann 2001a: 362). However, it is clear that Orazio did go to Genoa, alone, sometime around 1621-22. "In his 1674 biographical notice on Orazio, Raffaele Soprani recounts how, as part of the Genoese delegation sent to Rome in 1621 to honour the newly elected pope, Gregory XV, Giovan Antonio Sauli became so enamored with Orazio's paintings that he invited the artist to Genoa" (Christiansen 2001a: 172). This enthusiasm for Orazio's work contradicts the Florentine sentiments towards him at the time. A letter (dated March 16, 1615) from Andrea Cioli, the then Florentine secretary of state, to Pietro Guicciardini who was the Florentine ambassador to Rome, confirms this. The purpose of the letter was to

inquire about Orazio's skills as a painter. Apparently news of his "fame" had reached Florence, where Artemisia had already established a firm reputation. Guicciardini sends a swift reply (March 27, 1615). It is scathing. He reports that Orazio has only two pictures on public display: the frescoes done with Tassi at the Casino delle Muse, and the *Baptism of Christ* in the Santa Maria della Pace. (Christiansen & Mann 2001: XV.) It's even worse. Guicciardini states categorically that Orazio's work is "weak in drawing and composition" and he has "such strange manners and way of life and such temper that one can neither get on nor deal with him" (Garrard 1989: 36; her source Wittkower and Wittkower, 1963). This may not have been true, of course, and is only one man's opinion. However, Orazio later writes (1617) to Don Giovanni de' Medici, a son of Duke Cosimo I, trying to solicit help in securing work at the ducal palace in Venice. He had no luck, as he never went to Venice. Then in 1619 he is recommended to Duke Francesco Maria Della Rovere in Urbino for work on some frescoes. He strikes out there too. He also applies to decorate the benediction loggia at Saint Peter's, but Giovanni Lanfranco wins the commission. Then in February 1620 Artemisia writes to her Florentine patron that she intends to return to Rome, and by March of 1621 she is living on the via del Corso with her husband and daughter. (Christiansen & Mann 2001: XVI.)

17. Artemisia Gentileschi, *Portrait of a Gonfaloniere* (1622). Oil on canvas, 208x128cm. Signed (on back of canvas, visible before relining): ARTEMISIA GENTILESCHIA.FA-/CIEBAT ROMAE 1622. Collezione Comunali d'Arte, Palazzo d'Accursio, Bologna. Inventory: 6. (Mann 2001a: 358-59.)
18. Leonardo da Vinci, *Cartoon for the Virgin and St Anne* (1507-8). Charcoal heightened with white chalk on paper, 141x106cm. National Gallery, London. (Hirschl 1988: 113.)
19. Artemisia Gentileschi, *Susanna and the Elders* (1622). Signed (lower center): ARTEMITIA GENTILESCHI LOMI/FACIEBAT. A.D. M DC XXII. Collection of the Marquess of Exeter, Burghley House, Stamford, Lincolnshire. (Mann 2001a: 355-57.) This *Susanna* may have been extensively altered by another artist. See Garrard 2001: 77-113.
20. Michelangelo Merisi da Caravaggio, *Fortune Teller* (1594). Oil on canvas, 115x150cm. Musei Capitolini, Pinacoteca, Rome. (Robb 2000: 500.)
21. Michelangelo Merisi da Caravaggio, *Fortune Teller II* (1595). Oil on canvas, 93x131cm. Musée du Louvre, Paris. (Robb 2000: 501.)
22. Simon Vouet, *Two Lovers* (no date). Oil on canvas, no size. Galleria Pallavicini, Rome. (groveart.com Sv "Vouet, Simon.")
23. Simon Vouet, *Temptation of St Francis* (1624). Oil on canvas, no size. San Lorenzo in Lucina, Alaleoni Chapel, Rome. (groveart.com Sv "Vouet, Simon.")
24. Simon Vouet, *Diana at Rest* (1637). Oil on canvas, no size. Hampton Court, Royal Collection, London. (groveart.com Sv "Vouet, Simon.")
25. "... sia una pittrice dal percorso stilistico sfuggente, non logico né lineare ..." (Contini quoted in Spike 1991: 734.)

NOTES CHAPTER 2

1. Christiansen may, of course, have been misquoted, and have actually said: Michelangelo *da* Caravaggio, rather than Michelangelo *and* Caravaggio.
2. Naughton uses a proliferation of sources, for example:
<http://www.mc.maricopa.edu/academic/art/arh115/glossary.html>;
<http://www.blight.com/~jno/reclaim>;
 Eastman Kodak Timeline of Photography [Online];
http://www.digitalcentury.com/encyclo/update/photo_hd.html;
 The Complete History of Cinematography [Online].
3. "Accusato di praticare magia demoniaca, fu sotto il controllo dell'Inquisizione" (<http://galileo.imss.firenze.it>).
 See also: www.anotherscene.com/cinema/giam1.html
<http://web.tiscali.it/romaonlineguide/Pages/eng/rbarocca/sBWyl.htm>
4. "La letteratura sulla *Gioconda* è senza limiti, come la sua fama. Ormai da un secolo essa non offre che due elementi facili da cogliere: l'esaltazione del sentimento o il sarcasmo, l'effusione o l'irrisione. ... è il fascino del capolavoro, forse anche per gli enigmi quasi tutti irrisolti" (Fossi 2000: 145).
5. Artemisia Gentileschi, *Esther before Ahasuerus* (c.1628-35). Oil on canvas, 208x273cm. The Metropolitan Museum of Art, New York. Gift of Elinor Dorrance Ingersoll, 1969. Catalogue number 69.281. (Mann 2001a: 373-5.)
6. Anthony van Dyck, *Portrait of a Man in Armour* (1625-7). Oil on canvas, 137.2x121.3cm. Cincinnati Art Museum, Gift of Mary M. Emery. Catalogue number 1927.393. (Hockney 2001: 291.)
7. "... così in pittura valent'huomo che sappi depingere bene et imitar bene le cose naturali ... dipingere con l'avere gli oggetti naturali davanti" (Christiansen 1986: 321).
8. "[alcuni] quadretti da lui nello specchio ritratti" (Baglione quoted in Lapucci 1994: 160).
9. Gorman (2004) challenges Hockney's use of the term "mirror lense," claiming he is confused. However, both lens and mirror are (traditionally) made of glass. Bending the glass can create a magnifying effect, useful in optics. Essentially a mirror-lens would do its work by reflecting light, a biconvex lens by allowing light to pass through it. I don't think Hockney is confused.
10. Michelangelo Merisi da Caravaggio, *Basket with Fruit* (c.1596). Oil on canvas, 46x64.5cm. Biblioteca Ambrosiana, Milan. (Hockney 2001: 292.)
11. Michelangelo Merisi da Caravaggio, *Boy Bitten by a Crayfish* (no date). Oil on canvas, 96x73cm. Location unknown. (Kitson 1969: 85.)
12. Michelangelo Merisi da Caravaggio, *Boy Peeling Fruit* (c.1591). Oil on canvas, 65x52cm. Formerly Sabin Collection, London. (Kitson 1969: 85.)
13. Michelangelo Merisi da Caravaggio, *Cheats* (c.1594). Alternative titles: *The Cardsharpers* or *Card Players*. Oil on canvas, 91.5x128.2cm. Kimball Art Museum, Fort Worth, Texas. (Robb 2000: 500.)
14. "Le raffigurazioni proiettate attraverso giochi di specchi e lenti risultavano talvolta ribaltate nella direzione destra-sinistra, soprattutto se, come spiega il

Della Porta, l'osservatore le sagome in trasparenza rispetto al foglio o alla tela. Questo potrebbe essere il motivo per cui il 'Bacco' degli Uffizi ... porge il calice con la mano sinistra. Non si tratta di un personaggio mancino o del pittore che autoritraendosi teneva obbligatoriamente con la mano destra il pennello (avendo quindi solo la sinistra libera per il calice), ma di un errore causato dal ribaltamento destra-sinistra dell'immagine riflessa negli specchi ..." (Lapucci 1994: 164).

NOTES CHAPTER 3

1. Tiziano, *Portrait of Daniele Barbaro* (1545). Oil on canvas, 81x69cm. Museo del Prado, Madrid. (artehistoria.com/genios/cudros/994.htm.)
2. "But if you wish for images to appear upright, this will be a great feat, attempted by many but not discovered by anyone until now. Some ... place flat mirrors at an oblique angle near the hole, which reflect an image onto the screen opposite that is more or less upright but dark and confused. ... But in the following way you will have what you desire. Place an eyeglass made from a biconvex lens ... in front of the hole. From here the image falls on the concave mirror. Place the concave mirror far from the centre ... so that the images which it receives inverted it will show upright, because of the distance from the centre. In this way, above the hole on the white paper you will see the images of the things which are outside so clearly and openly that you will never cease to be delighted and amazed. But here I should warn you, so that you don't waste your efforts, that it is necessary for the lens to be proportioned to the concave mirror, but, as you will see, here we will speak of this many times" (Della Porta, 1589, *Natural Magic*, book XVII, chapter VI, translation Michael Gorman 2004).
3. Giovanni Battista Moroni, *The Gentleman in Pink* (1560). Oil on canvas, no dimensions. Collection Conti Morosoni, Bergamo. (Hockney 2001: 291.)
4. Giorgione, *Man in Armour with his Page* (c.1501). Oil on canvas, 90x73cm. Galleria degli Uffizi, Florence. (Hockney 2001: 43.)
5. Michelangelo Merisi da Caravaggio, *Musicians* (c.1591-2). Alternative title: *A musical scene*. Oil on canvas, 92x118.5cm. Metropolitan Museum of Art, New York. (Kitson 1969: 88.)
6. In a camera obscura setup using a concave mirror the subject would be about two metres from the lens, as per Hockney's (2001: 76) experiment. The projection onto the canvas alongside the "hole" would be about one metre from the lens. If a biconvex lens were used, the subject would be as much as four metres from the lens, greatly increasing the amount of the image that can be projected, as well as allowing for more than one model. The projection onto a canvas further away would depend on the focal length of the lens, but would also likely be around one metre. In Della Porta's new-improved camera obscura, the subject would be about four metres from the lens. About one metre from the lens would be positioned a concave mirror. The life-size,

- upright image could then be projected onto a canvas about one metre from the concave mirror, back towards the subject. (See Gorman 2002.)
7. "Per rompere il ghiaccio su questo argomento che rasentava l'eresia, ci voleva l'intervento di una persona estranea al contesto accademico, che non dovesse temere ripercussioni gravi dal suo interesse per le lente" (Lapucci 1994: 162).
 8. Giovanni Pietro Bellori (Rome, 1613-1696), Italian antiquarian, biographer, critic and theorist. (groveart.com sv "Bellori")
 9. Michelangelo Merisi da Caravaggio, *The Conversion of St Paul* (1601). Oil on canvas, 230x175cm. The Church of Santa Maria del Popolo, Cerasi Chapel, Rome. (Robb 2000: 507.)
 10. "Non meraviglierebbe che il Caravaggio dichiarasse d'intendere ormai con le sue ricerche a una specie di 'magia naturale' che era, fin dal 1558, il titolo di un libro famosissimo di Giambattista Porta" (my translation Longhi 1992: 36)
 11. Mancini, Giulio (1558-?). Physician and writer, moved to Rome from Siena in 1592. (Robb 2000: 11-12.)
 12. Michelangelo Merisi da Caravaggio, *Isaac and Abraham I* (1598). Oil on canvas, 116x173cm. Barbara Piasecka Johnson Collection, Princeton, New Jersey. (Robb 2000: 504.)
 13. Orazio Gentileschi, *Diana the Huntress* (1630). Oil on canvas, 215x135cm. Musée des Beaux-Arts, Nantes. Catalogue number 6735. (Christiansen 2001a: 235.)
 14. Orazio Gentileschi and Agostino Tassi, *Musical Concert Sponsored by Apollo and the Muses* (1611-12). Vault fresco, Palazzo Pallavicini-Rospigliosi, Casino of the Muses, Rome. (Garrard 1989: 20.)
 15. Tiziano, *Self-Portrait* (1562). Oil on canvas, 96x75cm. Gemäldegalerie, Staatliche Museen zu Berlin. (Mann 2001a: 420; <http://gallery.euroweb.hu>.)
 16. Michelangelo Merisi da Caravaggio, *David with the Head of Goliath* (1605-6). Oil on canvas, 125x100cm. Galleria Borghese, Rome. (Kitson 1969: 100.)
 17. Artemisia Gentileschi, *Self Portrait as an Allegory of Painting* (1638-9). Alternative title: *La pittura*. Oil on canvas, 98.6x75.2cm. Signed (on right corner of tabletop): A.G.F. Her Majesty Queen Elizabeth II. (Mann 2001a: 417.)

NOTES CHAPTER 4

1. Orazio Gentileschi, *David Slaying Goliath* (c.1607-9). Oil on canvas, 186x135cm. National Gallery of Ireland, Dublin. Catalogue number 980. (Christiansen 2001a: 79.)
2. Charles Falco suggested to David Hockney (2001: 78) that Jan van Eyck may have used the camera obscura as a type of epidiascope (overhead projector) to make perfectly scaled copies. "[T]o have scaled a drawing [Jan van Eyck, Cardinal Niccolò Albergati (1431). Silverpoint with white chalk on paper, 21.4x18cm. Kunsthistorisches Museum, Vienna. (Hockney 2001: 291.)] up so

precisely, van Eyck must have used an aid of some kind. It cannot have been squared up – the correspondence between the sketch and finished painting is too exact – but optics could account for this precision.”

3. Michelangelo Merisi da Caravaggio, *Narcissus* (1594-96). Oil on canvas, 92x110cm. Galleria Nazionale d'Arte Antica, Rome. (Kitson 1969: 91.)
4. In a letter to Francesco I d'Este of Modena, Artemisia writes: "... forgive my imperfections, which are due to my lack of talent [*mia naturale inhabilita*]". To Don Antonio Ruffo of Messina, in different letters, she writes: "... a woman's name raises doubts until her work is seen" and "I shall not bore you any longer with this womanly chatter [*chiacchiere femminili*]" and "... what can a woman do [... *ma quello che sa fare una donna*]." (cited in Garrard 1989: 389-91.)
5. Orazio Gentileschi, *Saint Jerome* (1610-11). Oil on canvas, 153x128cm. Museo Civico d'Arte Antica e Palazzo Madama, Turin. Catalogue number 469. (Christiansen 2001a: 94.)
6. See Endnotes Chapter 1, number 16.
7. Orazio Gentileschi, *Danaë* (c.1622). Oil on canvas, 162x228.5cm. The Cleveland Museum of Art, Cleveland Leonard C. Hanna Jr. Fund: 1971.101. (Christiansen 2001a: 193.)
8. Orazio Gentileschi, *Penitent Magdalene* (1622-3). Oil on canvas, 149.5x183cm. Private collection, New York. (Christiansen 2001a:174-5.)
9. Orazio Gentileschi, workshop replica, *Lot and his Daughters* (no date). Oil on canvas, no dimensions. Staatliche Museen Preussischer Kulturbesitz, Gemäldergalerie, Berlin. (Christiansen 2001a: 25.)
10. Artemisia Gentileschi, *Penitent Magdalene* (c.1621-2). Alternative title: *Mary Magdalene as Melancholy*. Oil on canvas, no dimensions. Private collection, France. (Garrard 2001: plate 2.)
11. Artemisia Gentileschi & Orazio Gentileschi, *Cleopatra* (c.1611-12). Oil on canvas, 118x181cm. Amedeo Morandotti, Milan. (Christiansen & Mann 2001: 97-100 and 302-305.)
12. Artemisia Gentileschi, *Self-portrait as a Female Martyr* (c.1615). Oil on panel, 31.7x24.7cm. Inscribed (on the reverse): Di mano di Artemisia figlia di A.rili.Lomi/Pisano Nipote di Orazio F[G?] ...E.../. Private collection. (Mann 2001a: 320.)
13. Lapiere (1998: 35) states that Aurelio Lomi had no children.
14. Artemisia Gentileschi, *Self-Portrait as a Lute Player* (c.1615-17). Oil on canvas, 77.5x71.8cm). Curtis Galleries, Minneapolis. (Mann 2001a: 322.)
15. Artemisia Gentileschi, *Lot and his Daughters* (1635-8). Oil on canvas, 230.5x183cm. The Toledo Museum of Art, Clarence Brown Fund. Inventory 1983.107. (Mann 2001a: 408.)
16. Diego Velázquez, *Woman as a Sibyl* (1630-32). No support or medium, no dimensions. Museo del Prado, Madrid. (Garrard 2001: 62.)

NOTES CONCLUSION

1. "The process of becoming a painter was a long and difficult one for Orazio Gentileschi. There are no documents to indicate that he underwent a period of formal apprenticeship. ... Orazio may have practiced initially as a goldsmith" (Ward Bissell 1981: 2).
2. "When Caravaggio was 13, the family decided he would devote himself to painting. He was sent to the painter Peterzano's studio, one of the good studios in Milan. "Good" in the sense that, because Peterzano himself was a poor painter, his apprentices had ample occasion to learn. Unlike talented painters, who tend to impose their vision of the art onto their pupils, the poor painter has nothing to impose. This allows his pupils to blossom out on their own, and to achieve a personal vision. Certainly, a poor pupil will become a poor painter, but the geniuses will accomplish their apprenticeship without suffering damage or influence, and having gained a command of the technique involved. This is the sort of education Caravaggio received." http://www.bergerfoundation.ch/Home/high_caravage.html
3. Orazio (or Artemisia?) Gentileschi, *Conversion of the Magdalene* (c. 1613-15). Oil on canvas, 133x155cm. Alte Pinakothek, Munich. (Christiansen & Mann 2001: 430.)
4. If you photograph a mirror reflection, like someone looking at him- or herself in the mirror, you may confuse the reflection for the "real." But if you saw someone looking in a mirror you would not. This has to do with the way mirrors reflect not only the image, but also the light. Pirenne (1970) discusses at length the way a photograph flattens reality, so that if you photograph a photograph from an off-centre angle you end up with (another) distorted photograph. Further, as the reflection in *Conversion of the Magdalene* shows, it is very difficult for artists to capture the light-reflection quality of mirrors. In this canvas, although the depiction is sharp and clear evidence of the mirror's superiority, the portrayal is flat.
5. I am not saying that Michelangelo da Caravaggio and Orazio Gentileschi could not draw. Clearly they had both trained, to an extent, in traditional methods. They must, to some level of competence, have been able to draw figures, which would include babies and small children. In fact, babies and small children are "cute," meaning it is easy to conceal the fact that the representation is simply a stylised type (not a "realistic" portrait). What I *am* saying nevertheless is that for the *Fogg Madonna and Child*, as an example, the mistake made in the baby's distorted facial features was due to the fact that the artist was using the camera obscura, and was *unaware* that the (sleeping) baby had moved. There is evidence that the artist did, in fact, later try to "fix up" the botch. I do however, claim that Artemisia could not draw (in the traditional way), which is probably why she claimed she didn't. She could have, of course, used the camera obscura as a drawing tool to make preliminary sketches, but this may have been unsatisfactory to her from an economical point-of-view. In other words, hiring models twice for a long and costly process.

Figure 1. Artemisia Gentileschi, *Susanna and the Elders* (1610). Pommersfelden, Bayern.



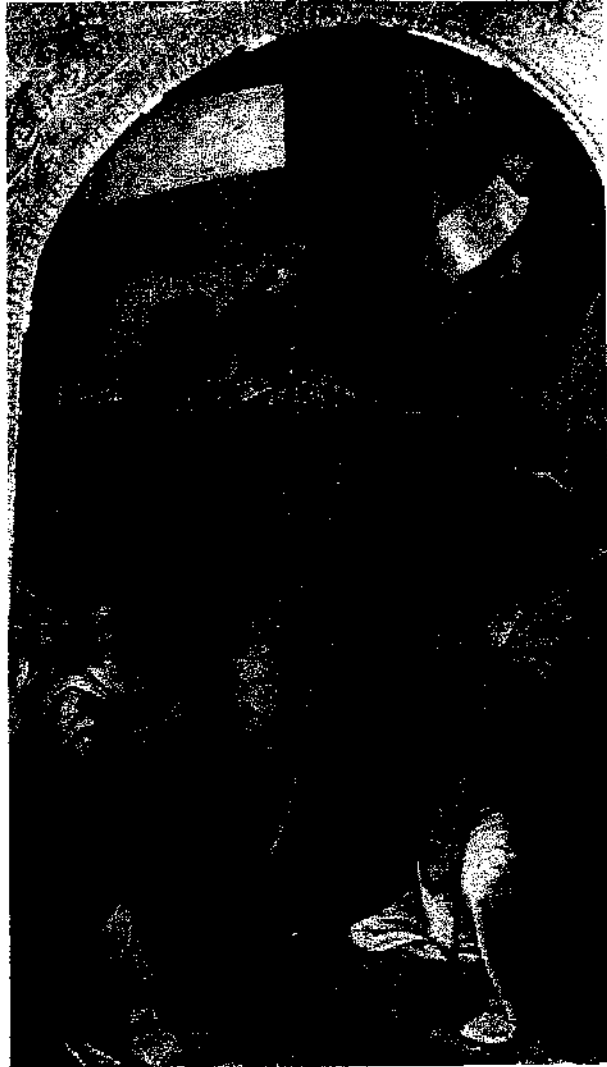
Scale 10:1

Figure 2. Orazio Gentileschi, *Strength* (c.1597-9). Abbazia Santa Maria, Farfa.



Scale 10:1

Figure 3. Orazio Gentileschi, *Triumph of St Ursula* (c.1597-9). Abbazia Santa Maria, Farfa.



Scale 15:1

Figure 4. Detail, Orazio Gentileschi, *Madonna in Glory with the Trinity* (1600-1605), Museo Civico, Turin.



Figure 5. Detail, Orazio Gentileschi, *Martyrdom of Sts Peter and Paul* (1597-9), Abbazia Santa Maria, Farfa.



Figure 6. Orazio Gentileschi, *Madonna in Glory with the Trinity* (c.1600-05).
Museo Civico, Turin.



Scale 25:1

Figure 7. Michelangelo Merisi da Caravaggio, *Matthew Killed* (1599-1600).
Church of San Luigi dei Francesi, Rome.



Scale 25:1

Figure 8. Artemisia Gentileschi, *Penitent Magdalene* (c.1615-16). Palazzo Pitti, Florence.



Scale 10:1

Figure 9. Artemisia Gentileschi, *Judith Slaying Holofernes* (c.1620).
Galleria degli Uffizi, Florence.



Scale 10:1

Figure 10. Detail, Orazio Gentileschi, *Strength* (c.1597-9).



Figure 11. Detail, Orazio Gentileschi, *Madonna in Glory with the Trinity* (c.1597-9).



Figure 12. Detail, Artemisia Gentileschi, *Judith and her Maidservant* (c.1625-7).



Figure 13. Detail, Artemisia Gentileschi, *Judith and her Maidservant* (c.1625-7).



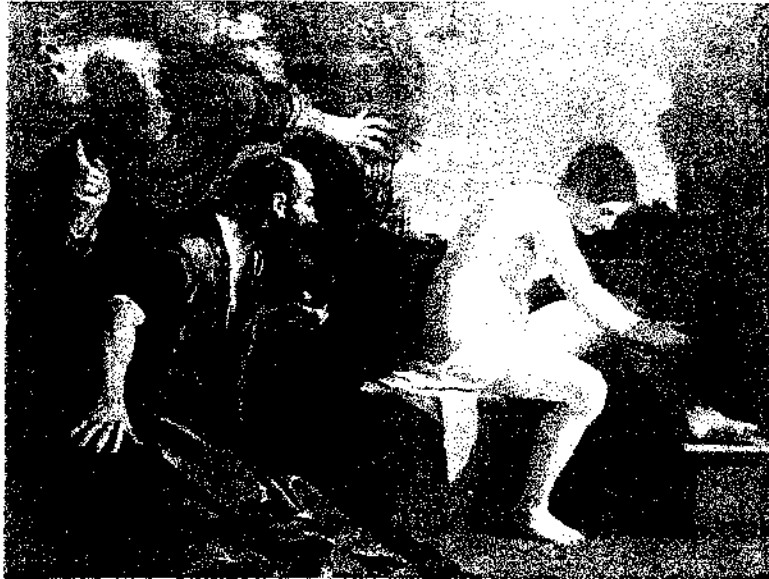
Figure 14. Domenichino, *Study for Susanna and the Elders* (c.1606-8).



Figure 15. Guercino, *Study of an Angel of the Annunciation* (c.1638).



Figure 16. Guercino, *Susanna and the Elders* (1617). Museo del Prado, Madrid.



Scale 17:1

Figure 17. Simon Vouet, *Fortune Teller* (1617). Galleria d'Arte Antica, Rome.



Scale 12:1

Figure 18. Detail, Simon Vouet, *Fortune Teller* (c. 1617).



Figure 19. Detail, Artemisia Gentileschi, *Judith and her Maidservant* (c. 1618-19).



Figure 20. Detail, Domenichino, *St Cecilia* (c. 1617-18).



Figure 21. Detail, Guercino, *Susanna and the Elders* (1617).



Figure 22. Detail, Domenichino, *St Cecilia* (c.1617-18).



Figure 23. Detail, Artemisia Gentileschi, *Penitent Magdalene* (c.1615-6).



Figure 24. Orazio Gentileschi *Matrydoms of Sts Peter and Paul*. (1597-9). Abbazia Santa Maria, Farfa.



Scale 50:1

Figure 25. Artemisia Gentileschi *Judith and her Maidservant*, (c.1625-7). Institute of Arts, Detroit.



Scale 20:1

Figure 26. Artemisia Gentileschi, *Judith and her Maidservant* (c.1618-19). Palazzo Pitti, Florence.



Scale 20:1

Figure 27. Domenichino, *St Cecilia* (c.1617-18). Louvre, Paris.



No scale

Figure 28. Detail, Michelangelo Merisi da Caravaggio, *Supper at Emmaus* (c. 1596-8).



Figure 29. Detail, Leonardo da Vinci, *Portrait of Ginevra de'Benci* (c.1474-6).

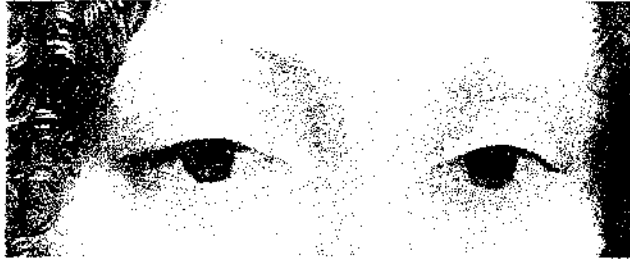


Figure 30. Detail, Leonardo da Vinci, *Mona Lisa* (1503).



Figure 31. Detail, Domenichino, *St Cecilia* (c.1617-18).



Figure 32. Detail, Artemisia Gentileschi, *Penitent Magdalene* (c.1615-16).



Figure 33. Orazio Gentileschi, *Madonna with Sleeping Christ Child* (c.1615-16).
(Cropped on the vertical.) Fogg Art Museum, Cambridge, Ma.



Figure 34. Detail, Orazio Gentileschi, *Madonna with Sleeping Christ Child*
(c.1615-16). (Turned 90 degrees.)



Figure 35. Giorgio Morandi, *Nature Dead with Brioche* (1920). Düsseldorf.



Figure 36. Detail, Orazio Gentileschi, *Lot and his Daughters* (c.1621-2).



Figure 37. Detail, Michelangelo Merisi da Caravaggio, *Bacchus* (c.1594).



Figure 38. Detail, Domenichino, *St Cecilia* (c.1617-18).



Figure 39. Detail, Michelangelo Merisi da Caravaggio, *Lute Player* (c.1595).



Figure 40. Michelangelo Merisi da Caravaggio, *Sick Bacchus* (c.1594). Galleria Borghese, Rome.



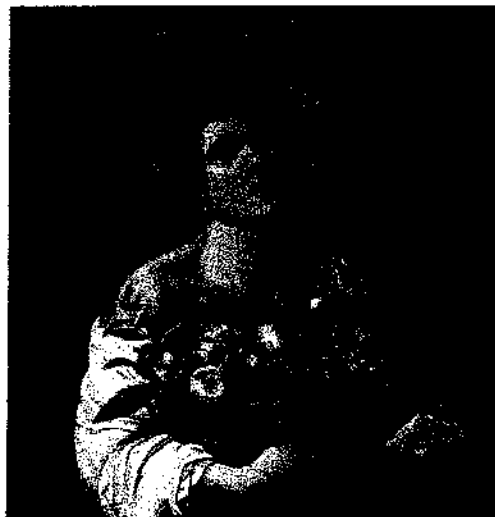
Scale 10:1

Figure 41. Michelangelo Merisi da Caravaggio, *Boy Bitten by a Lizard* (c.1594). National Gallery, London.



Scale 10:1

Figure 42. Michelangelo Merisi da Caravaggio, *Boy with Basket of Fruit* (c.1593). Galleria Borghese, Rome.



Scale 10:1

Figure 43. Detail, Giovanni Baglione *St Francis with Two Angels* (c.1601).



No scale

Figure 44. Michelangelo Merisi da Caravaggio, *Supper at Emmaus* (1596-8). National Gallery, London.



Scale 50:1

Figure 45. Leonardo da Vinci, *Portrait of Ginevra de' Benci* (c.1474-6). National Gallery of Art, Washington.



Scale 15:1

Figure 46. Leonardo da Vinci, *Mona Lisa* (1503). Louvre, Paris.



Scale 15:1

Figure 47. Orazio Gentileschi, *Lot and his daughters* (c.1621-2). J. Paul Getty Museum, Los Angeles.



Scale 50:1

Figure 48. Michelangelo Merisi da Caravaggio, *Bacchus* (c.1594). Galleria degli Uffizi, Florence.



Scale 40:1

Figure 49. Michelangelo Merisi da Caravaggio, *Lute player* (c.1595). Hermitage, St Petersburg.



Scale 40:1

Figure 50. Giovanni Baglione, *St Francis with two angels* (c.1601). Private collection.



No scale

Figure 51. Michelangelo Merisi da Caravaggio, *Judith Beheading Holofernes* (1595-6).
Coppi Collection, Palazzo Barberini, Rome.



Scale 17:1

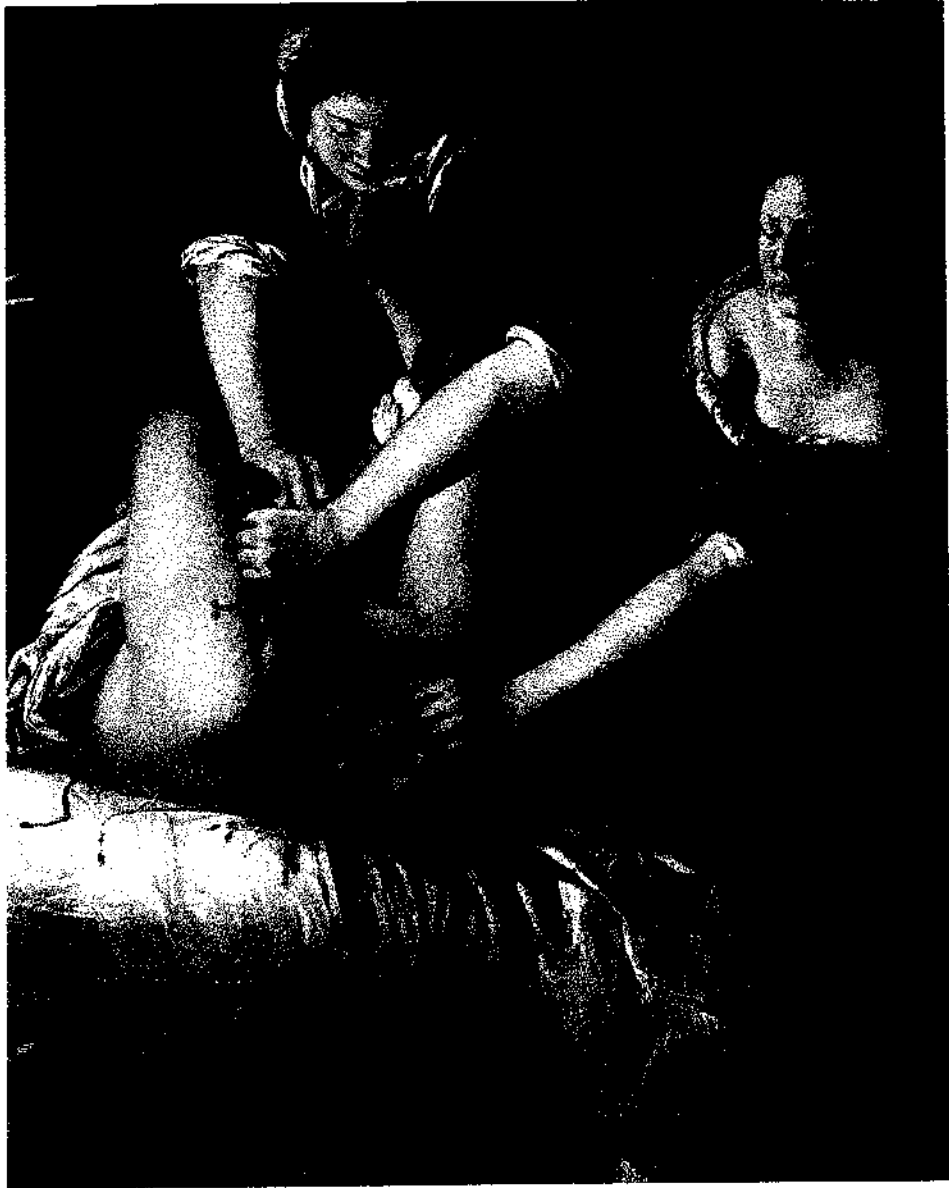
Figure 52. Detail, Artemisia Gentileschi, *Judith Slaying Holofernes* (1612-13).



Figure 53. Detail, Michelangelo Merisi da Caravaggio, *Judith Beheading Holofernes* (1595-6).



Figure 54. Artemisia Gentileschi, *Judith Slaying Holofernes* (1612-13).
Capodimonte, Naples.



Scale 10:1

Figure 55. Artemisia Gentileschi *Penitent Magdalene* (1625-26). (Cropped.)
Seville Cathedral, Seville.



Scale 10:1

Figure 56. Louis Finson, copy of Caravaggio's lost *Magdalene in Ecstasy*
(1606). (Cropped.) Musée des Beaux-Arts, Marseilles.



Figure 57. Artemisia Gentileschi *Sleeping Venus* (1625-30). Princeton, New Jersey.



Scale 12:1

Figure 58. Michelangelo Merisi da Caravaggio *Sleeping Cupid* (1608). Palazzo Pitti, Florence.



No scale

Figure 59. Orazio Gentileschi *Danaë* (1621-23). Private collection, New York.



Scale 15:1

Figure 60. Orazio Gentileschi *Penitent Magdalen* (no date). Kunshistorisches Museum, Vienna.



No scale