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Stripped Bare: Body Worlds' plastinates as anatomical portraiture, informed
by both the wax sculpture of Museo della Specola, Florence, Italy, and the
practices of traditional Early Modern portraiture

by

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Dedication

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Abstract

Body Worlds, the traveling international exhibitions of posed, skinless cadavers, has attracted controversy since 1995. Installed corpses appear animated due to the plastic polymers that are forcibly injected into their bodies that enable the body to retain an enduring figural posture. A particular focus of criticism is the portrayal of the eroticized female corpses inside Body Worlds' displays. However, theatrically sensualized female anatomical figures are not new, having been first presented in the eighteenth-century wax sculpture of Museo della Specola, Florence, Italy. Unlike the waxes of Museo della Specola, Body Worlds' plastinates constitute an entirely new genre of display that I call "anatomical portraiture." The compositions of anatomical portraits are implicitly informed by the display practices of both early modern anatomy collections and traditional portraiture. Approaching Body Worlds' plastinates as anatomical portraits facilitates a more explicit understanding of how gender is constructed using cadaver flesh, plastic polymers, and material objects.

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Stripped Bare: Body Worlds' Plastinates as *Anatomical*

Portraiture, Informed by both the Wax Sculpture of Museo della Specola, Florence, Italy, and the Practices of Traditional Early Modern Portraiture

The expression on the face of *The Basketball Player* (2002) (fig. 1) is determined, mouth opened to yell, gaze focused and intense. His shoulders are tensely pulled back. One arm is extended, with an outstretched hand, signaling movement, directionality. The other widely spread arm dribbles a basketball. His bicep, tricep, deltoid, and trapezius muscles are fully articulated, the shoulders and torso signaling forceful movement and a claiming of space. The left foot is lifted off the ground, preceding the moment before he launches his body into the air. His exposed penis and testicles are forced against the side of his left thigh muscle by the apparent motion of his body. The top of his skull is slipping off, exposing his brain still covered in ruby red meningeal membranes.

Like *The Basketball Player*, *The Archer* (fig. 2) is a posed and plastinated cadaver installed inside Gunther von Hagens' internationally touring Body Worlds exhibitions. *The Archer* is crouching on bent right leg; her left leg is fully extended in front of her with pointed toes. White lines of definition spanning the length of her abdominal muscles draw the visitor gaze upward, calling attention to the anatomy of her exposed

skinless bosom. Her breasts are firm, perky, and displayed with nipples intact. Placed atop the cranium, her brain visually mimics a sleek hairstyle. Her left hand grips a bow; her right arm is upwardly bent at the elbow, with hand and fingers balletically posed behind her head, conveying that the implied arrow has left her grasp. The posture is aggressive and proficient, suggesting a hidden attack—not that of a recreational archer. Despite being posed with an attribute signaling activity, this female figure is shown in a moment of inaction, after the arrow has flown. She is not accompanied by additional ammunition nor is there an apparent target. The agency of the female body is diffused, made impotent by emphasizing her graceful pose, brain as hairstyle, and aesthetically pleasing form.

In no way exclusive to Body Worlds displays, figural poses have been traditionally incorporated in anatomical displays since the early modern period. One of the largest and most influential collections of anatomy was found in eighteenth century Florence, Italy. In 1775, Museo della Specola was created from the combining of the Medici collection of natural curiosities and those of the Grand Dukes of Lorraine, who at the time had assumed control of Florence.ⁱ Museo della Specola simultaneously functioned as a scientific academy, housing telescopes, botanical gardens, and zoological specimen as well as a museum open to the general public.ⁱⁱ The Dukes aspired to create a museum that could

instill a love of science and appreciation of the natural sciences among the general populace.ⁱⁱⁱ Crucial to the design of the museum was the incorporation of wax anatomical models to which both training surgeons and the museum visitors had access. The general accessibility of these models ensured that if visitors were not able to attend live dissections they could experience the wax figures there to replace them.^{iv}

The full-body anatomical waxes were largely produced by the star of Felice Fontana's studio, Clemente Susini, who became chief modeler at Museo della Specola in 1782.^v Susini is most famous for his erotically posed female wax figures, particularly the figure commonly referred to as the *Venus de Medici* (fig. 3). The female figures of the Museo della Specola collection imitate the form of the recumbent and erotically posed *Venus de Medici*, adorned with flowing hair and decorative jewelry. The *Venus de Medici* gained such notoriety that Susini created several replicas for other influential European collections including the Josephinum in Vienna, Palazzo Poggi in Bologna, Semmelweiss Museum in Budapest, and the Wellcome Institute in London.^{vi}

Departing from the traditional wax models of Museo della Specola, I insist that the exhibitionary plasinated of Body Worlds mark the beginning of an entirely new genre of display that I propose to call 'anatomical portraiture.' Anatomical portraits are much different than previous figures of traditional anatomy collections because anatomical portraits

incorporate both original contemporary innovations and early modern methods of display. To support my argument, I draw on a number of sources including my own on-site research at Body Worlds exhibits and the anatomical collection of Museo della Specola, a variety of original early modern texts, and the work of contemporary scholars. My sources focus on the visual construction of gender according to aesthetic criteria. In the early modern period, anatomical models were made by collaborations between naturalists, surgeons, and artists, at each step negotiating aesthetic form and structural anatomy. Indeed, anatomical craftsmen were typically first trained as artists, often concentrating in figural studies, like Clemente Susini, who began his career sculpting religious subjects in bronze.^{vii} I argue that it is therefore necessary to examine in further depth the variety of ways that gender was displayed in early modern society to more comprehensively understand anatomical collections. In addition to anatomical sculpture and traditional portraits, I explore other ways that gender was visually presented in society, such as that of early modern dance, marriage, and horsemanship.^{viii} This comparative analysis of interdisciplinary sources allows a firmer grasping of how gender ideals were socially constructed, physically embodied, and visually displayed in the early modern period. It is from this point that the early modern features of twenty-first century anatomical portraits are made apparent.

Since its first exhibition in 1997, Body Worlds has multiplied from one to as many as five simultaneously internationally touring exhibits. To date, over 32 million visitors have toured the international Body Worlds exhibitions, and over 11,000^{ix} additionally agreed to donate their body to plastination.^x In each venue, over 200 full body and fragment plastinated cadaveric specimen are displayed.^{xi} Historically, the visibility of the dead body is reduced through cremation or earthly burial; this simultaneously associates the corpse with narratives of decomposition and the earth.^{xii} Cultural anthropologist Piero Camporesi states that as far back as the eighteenth century death was understood as a transformative process. The decomposition of the human body into soil signified a change of state that underlined the body's inherent possession of mobile matter.^{xiii} Death did not imply stagnation or arrested functionality. Disposing of the body using traditional burial practices is implied in Body Worlds' text and banners as being wasteful, denying the cadaver body social status in its decreased visibility, and those still living the opportunity to learn from the dead.^{xiv} In contrast, plastinated corpses are imbued with a second chance at life—granted heightened visibility, distanced from the earth, and installed inside exhibition spaces. According to its creator, plastination science has transformed the corpse from useless, decaying organism to useful, aesthetically pleasing, and conceptually instructive object.^{xv} The cadaver is no longer digested by bacterial organisms, worms, and

parasites but visually consumed by Body Worlds' visitors.

Von Hagens insists that the primary aim of Body Worlds exhibitions is to promote a healthful appreciation of the human body, specifically encouraging healthy lifestyles among the general public.^{xvi} As the Body Worlds' website states, "the exhibits help the visitors to once again become aware of the naturalness of their bodies and to recognize the individuality and anatomical beauty inside of them."^{xvii} The use of phrases such as "anatomical beauty" has led many visitors to refer to the exhibits as "anatomical art."^{xviii} Full size Body Worlds figures assume a variety of dramatic poses such as *The Basketball Player* and *The Archer*—their titling more directly linking whole body plastinates to exhibitionary artistic practice. The anatomist insists that Body Worlds' plastinates fragment bodies in ways that are both aesthetically pleasing and scientifically instructive.^{xix} Though the plastinates are not strictly art according to von Hagens, he does believe that they satisfy certain artistic criteria that he calls "aesthetic effect" and "emotional content."^{xx} "Aesthetic effect" implies a visually pleasing composition that encourages the visitor gaze. "Emotional content" refers to the psychological impact that the plastinate has, capable of imparting a lasting effect on the visitor's psyche.^{xxi} Von Hagens insists that the as-if-living poses of the figures are a necessity in conveying anatomical knowledge, stating that, "a whole-body specimen is attractive when its pose is compatible with dissected anatomy and its

function within a living being.”^{xxii} In this association, figural pose not only inhibits visitor revulsion, but it also propels emotional impact and self-perception, thereby increasing the probability of effecting change in the lifestyle habits of visitors. Von Hagens further insists that traditional objects of strict scientific value or interest do not possess these qualities.

The eighteenth-century Museo della Specola famously incorporated figural pose among its anatomical wax models^{xxiii} to encourage the visitor gaze and to highlight specific structures and systems.^{xxiv} The wax sculpture created by Susini in the collection stands out among other early modern anatomical wax sculptures due to the artistically rendered form, sensualized female bodies, and dramatically flayed males. In contrast to other anatomical waxes that depict the dissection specimen as dead, colorless, and limply posed, Susini’s vivid pigmentation, lively poses, and material attributes attempted to breathe life into the Museo della Specola figures. Sussini’s waxes retain the coloration of the living, the sheen of the wax suggesting that the flesh is moist, plump, and lived in, even when only a thin layer of musculature hangs atop the skeleton. The full-length male waxes are each flayed to a different extent, some only lacking skin others exposed down to their ligament and skeletal structures. Whether standing in *contrapposto* or lying recumbent, flayed male waxes feature determined gazes directed at visitors. Male figures appear to be animated agents, actively gesturing to the public. Susini’s female waxes are not

flayed; instead, their skin is enhanced by pigmentation that creates a flushed appearance. Rosy, plump lips are gently parted, eyeballs rolling upwards and eyelids aflutter in ecstasy. Their backs are suggestively arched as both knees rub together. In contrast to their intellectually focused male counterparts, Sussini's dramatic female waxes ooze sensuality, writhing provocatively, and avoiding the return of the visitor gaze.

Susini's models were not displayed in aesthetic isolation. Rather, inaugural Museo della Specola director Felice Fontana conceptualized the display in its entirety as an "anatomical encyclopedia" by installing watercolor illustrations and schematics above full-length waxes and in surrounding drawers.^{xxv} This extended exhibition was intended to not only inform specialized audiences, but also the general public.^{xxvi} Essential to understanding the display of Museo della Specola is the premise that, at that time, the act of seeing in itself was a way of knowing; as art historian Ludmilla Jordanova states, since classical antiquity the process of looking was made central to the acquisition of knowledge in the study of the body.^{xxvii} Through this process, a specialized type of visual acuity was gradually formed, with the intent to penetrate the skin and see the inner human body.^{xxviii} Art historian Jonathan Crary insists that vision is a construction, discussed, controlled, and incarnated according to a variety of cultural and scientific practices.^{xxix} Sight is constituted by a system of

shifting conventions and limitations that not only formulates techniques of vision but also situates the observer in the social matrix.^{xxx} As such, early modern anatomical models were thus used to actively shape the professional gaze of medical practitioners,^{xxxi} highlighting particular features to develop the eye of the novice and to challenge already skilled professionals.^{xxxii} Furthermore, to see like an early modern scientist was to be a careful observer, simultaneously filtering out irrelevant details of appearance while retaining the ability to easily select, compare, judge, and generalize significant features.^{xxxiii} Examination of the models at Museo della Specola in particular allowed even members of the general public an opportunity to mould their own scientific vision.

In the eighteenth century, a set of criteria was constructed to produce objects that were “true to nature.”^{xxxiv} Early modern anatomists adhered to the scientific virtue “truth to nature” by manufacturing reasoned artifacts or, more specifically, models negotiated by the input of both surgeons or anatomists and an artist.^{xxxv} “Reasoned objects” were negotiated by what historian Lorraine Daston and physicist and scientific historian Peter Galison term “four-eyed sight.”^{xxxvi} “Four-eyed sight” refers to the collaboration between two pairs of eyes: one scientific, the objectively minded anatomist, and the other, artistic, the aesthetically oriented artist. “Reasoned objects” produced by four-eyed sight were types, averages made from the scientific experience of scientist and

artist. These typological specimens were no longer the images of singular monstrosities or curiosities on which naturalists formerly focused.^{xxxvii}

Generalized figures were formulated from a multiplicity of encounters but limited to the essential qualities and pleasing aesthetic form.^{xxxviii}

Furthermore, these working objects were associated with other methods that reinforced scientific vision, including the keeping of lab notebooks, introspective categorization of subjective and objective sensations, and grid-line drawing.^{xxxix} Techniques such as these reinforced the anatomical vision depicted in three-dimensional models, composing both techniques of the scientifically disciplined self and practices of scientific objectivity.^{xl}

The aesthetic perspectives of the dissected plastinates not only challenge the professional gaze but also attempt to develop the scientific vision of the visiting public. Creator von Hagens states that each display posture is intended to highlight a specific physiological function or anatomical structure. Body Worlds plastinates are accompanied by only a minimal amount of explanatory text on accompanying plaques. Just as the first director of Museo della Specola Felice Fontana designed the anatomical collection to educate through the display of the body and the watercolor illustrations surrounding it, Body Worlds presents the science of the human body as understandable primarily through visual constructions—embodying the early modern principle that seeing was a way of knowing.

Anatomical sculpture of the early modern period commonly utilized classical poses of contrapposto and recumbent figures, borrowed from the art historical canon that most eighteenth-century wax sculptors were familiar with.^{xii} Postures of traditional portrait subjects indicated qualities beyond the images themselves, and thus were not necessarily a literal representation of the sitters, but rather constructions of desirable social images. Poses aesthetically insisted that subjects were visualized for a distinctive purpose, and as such were cementing symbols of masculine virility, political power, or embodied feminine virtue. Particular postures thus became associated with a specific image type. For example, as art historian Patricia Simons argues, female profile portraits were associated with marriage contracts and socioeconomic exchange.^{xiii} Conversely, as art historian Paola Tinagli insists, male profile portraits framed the subject as a public face, politically engaged, and belonging to a particular ideology.^{xliii} However, while this system of representation was largely abandoned for male sitters in the second half of the fifteenth century, Tinagli argues that it persisted in female portraiture because it conformed to the larger, stable, social ideal of feminine passivity.^{xliii} The depiction of physical mobility in portrait postures further constructed the gender of the sitter. Sixteenth-century painting theorist Ludovico Dolce and pioneering art historian Giorgio Vasari wrote that movement in Renaissance art assisted in manufacturing gender.^{xlv} Art historian Sharon Fermor states that

beginning in the sixteenth-century physical conduct communicated individual gender and character, and conduct therefore required careful management.^{xlvi} For instance, in popular dance, men performed energetic, vigorous, and intricate steps; women observed delicate, beautiful, and restrained movements.^{xlvii} Cultural historian Peter Burke argues that this meticulous image construction was further encouraged in the increased publication of conduct manuals, such as Castiglione's *Courtier* (1528) and Giovanni Della Casa's *Galateo* (1558), which mandated precise presentation of oneself in daily life.^{xlviii} Early modern portrait images reflected societal codes of idealized gendered performance, specifically fixing feminine passivity and masculine agency.^{xlix}

Closely implicated with early modern portrait postures were gendered associations linked to gesture. Portraits of rulers showcase the power of the individual, the exact gestures and associated postures or attributes historically expanding over time. Wearing not the costume of a commanding soldier but the toga of a peace-minded Roman citizen, *Marcus Aurelius* (121-180 AD) (fig. 4) controlled his strong horse with his gently dominating demeanor, his public with extended hand. Hans Holbein's 1537 portrait of King Henry VIII of England (fig. 5), depicted the ruler with a sharply angled elbow, oversized codpiece, elaborate dagger, and legs spread assertively apart.¹ Jacques-Louis David's *The Emperor Napoleon in His Study at the Tuileries* (1812) (fig. 6) demonstrated

Napoleon's right to rule as a tired but dedicated bureaucrat, positioned in front of his desk, candle lit, and a clock with hands past four in the morning.^{li} Unlike the leader Marcus Aurelius who soothingly extends his arm in a gesture of harmonious rule or Henry VIII who capitalizes on his imposing stature with elbow akimbo in a forceful stance to claim his power, Napoleon, dressed in his Colonel of the Grenadier uniform, quietly tucks his hand into his waistcoat, constructing the image of a sleep-deprived and devoted statesman.^{lii}

Generally, female portraits in the Renaissance not only reflected the acceptable roles of women in society, but also the ideals by which women were measured. Many portraits were created to commemorate female beauty.^{liii} Fundamental to *Portrait of a Lady* by Bartolomeo Veneto (1506) (fig. 7) were the constructions of ideal beauty: long, golden ringlets and snow-white, porcelain skin.^{liiv} Her hand gestures with a posy of daisies, anemones, and ranunculi, suggesting that she is the nymph Flora.^{liiv} Her exposed breast reinforces that the nymph was linked to fertility, conception, and sexual intercourse.^{livi} Art historian Paola Tinagli says that this combined gesture of clutched flowers and exposed breast was employed to signify the pleasures of love.^{liiii} Often incorporated in images of ideal beauty was the averted female gaze—cementing the model of feminine passivity. Piero di Cosimo's *Portrait of a Lady* (1485-1490) (fig. 8) did not represent an actual woman, but rather the visual equivalent of

a poetic ode to idyllic womanly beauty.^{lviii} This female is of a higher status, adorned with gold necklace, pearls, and jewels. Her face conforms to definitions of Renaissance beauty, visually indicated by high forehead, slender eyebrows, and full lips. She is immediately seductive, revealing her naked breasts, angled towards the viewer. Despite the direct physical presentation of her torso as an exposed object, she does not orient her face in a similar direction. This is a woman who is not only beautiful but enticing—tempting the male gaze with her gendered presentation but suitably not visually confronting it, allowing it instead to linger on her like the serpent that caresses her décolletage.

Women in positions of rule, in contrast, were wise to abandon these traditional techniques of feminine representation. Instead, female rulers incorporated the visual rhetoric of masculine power in order to assert their social position as a political leader. In Nicholas Hilliard's 1585 *Ermine Portrait* (fig. 9), Queen Elizabeth I of England is saturated by the intricate pattern characteristic of Hilliard's decorative style. The female body is covered in a matrix of detailed design imprinted upon her textiles, and her lace collar is lavishly complicated, contrasted by her face that appears clear and porcelain white. In the midst of what otherwise sounds like a typical construction of Tudor femininity are markers of masculine rule. Elizabeth coolly and directly meets the viewer gaze. She firmly places her hand on her narrow, feminine waist to create the assertive protruding

elbow. Next to her is a sword, close at hand, ready to defend her country against transgressors. She is at once both feminine in decorative body and masculine in attribute and stance.

Common to both genres of portrait and anatomical display is the use of pose and gesture to construct the gendered figure. Male figures typically stand expressionless, in a contrapposto pose, their skin flayed from the body, often with severely angled elbow. They visually contend that masculinity endures extreme physical pain without so much as a grimace of displeasure. Even placed lying on his stomach, the male wax (IXXV, 445) (fig. 10) of Museo della Specola appears to climb the length of his display—moving through pain, actively combating the threat of passive figural femininity. Unlike the *Ermine Portrait of Elizabeth I*, female figures commonly assume a reclining pose, framing femininity as the passive victim of dissecting violence. Like di Cosimo's *Portrait of a Lady*, female waxes encourage the viewer through their open, seductive postures, without directly confronting the gaze of the visitor. Writhing orgasmically as portions of flesh are stripped from their bodies, Museo della Specola's female waxes like (XXIX, 746) (fig. 11) gesture with rubbing knees, partially closed eyes, and hands that appear to grip the satin sheets beneath them—visually insisting that they draw pleasure from penetration, even that as brutal as the anatomists' blade. These gendered and theatrical poses of Museo della Specola wax models

aesthetically foreground the dramatic, exhibitionary postures of Body Worlds figures.

Installed plastinates are an ambiguous mixture of art and science; an understanding of what exactly these partially flesh and partially polymer bodies are has previously been challenging for many scholars to define. Cultural studies scholar Jose van Dijck states that Body Worlds plastinates reflect a historic friction between scientific study and artistic practice present in traditional anatomical displays:

Plastinated organs, orthopedic cadavers, expanded corpses and sliced body parts tells us that the anatomical body, which was already a mixed object of science and art, has also become a hybrid product of artistic models and modeled organisms... so the “real” body is now a cadaver that is surgically, chemically, and artistically modified in accordance with prevailing aesthetic standards.^{lix}

Van Dijck further states that the tension between science and art in Body Worlds installations references aesthetic considerations of traditional anatomical display, but that the injected polymers reach beyond former practices to produce a newly hybridized body. Wax figures were displayed without supporting apparatuses because they did not require preservation and only visually replicated human tissue. Posed skeletal displays were placed on plinths, but lacked muscles, tissues, and organs. Plastination

protocol, however, necessitates the complete evacuation of the fats and fluids of the body. Plastics injected into the remains of Body Worlds donors transforms the materiality of the deceased from soft carcass to hard, resilient techno-corpse. Plastination infuses the flesh of the corpse with new figural capabilities previously unseen in traditional anatomy installations, however complicating the status of the anatomical body infused with enduring polymers.

German studies scholar Peter Mclsaac states that the most significant feature of plastination lies in its ability to seemingly vanish.^{lx} The nature of the technology requires the total innervation of the body's fibers; therefore, unlike other scientific visualization methods that produce secondary objects, plastination inhabits the corpse itself.^{lxi} Indeed, the visitor may forget that within each elegantly posed figure is a manipulated, scientific nanotechnology.^{lxii} Mclsaac contests that the exhibitionary display of this nearly invisible technology so closely intertwines the artistic crafting of the plastinate body with the scientific rhetoric of research and plastination that the two framing devices cannot meaningfully be separated: "Bending itself both to instructive viewing and to idle gawking, it is at once, and inseparably, scientific and aesthetic."^{lxiii} Mclsaac taps into the hidden yet revealed nature of plastination that creates the sense that the exhibitionary Body Worlds corpses literally and visually stand for themselves.

Expanding on the scholarship of van Dijck and Mclsaac, I suggest a new way of appreciating the Body Worlds plastinates in order to address the inherent intermingling of artistic rhetoric with scientific theory, and early modern traditions with contemporary innovations, as well as the invisible nature of the medium itself. Unlike van Dijck who suggests that the injected plastinates alter the cadaver body to something other than “real” or “authentic,” I insist that, as with formaldehyde preservation, the carcass retains its cadaveric status, not changing the dissected person into something other than essentially human. Instead, I propose that the plastinated dead body is assumed into a new genre of display practice, becoming something in addition to deceased donor.

I argue that von Hagens’s plastinated cadavers mark the beginning of a new genre of display that I call *anatomical portraiture*. The phrase ‘anatomical portraiture’ may, on the surface, imply a contradiction, if ‘anatomical’ is taken as referencing categorized typological figures and ‘portraiture’ as signaling individual bodies. However, I assert that in terms of the Body Worlds’ plastinates, ‘anatomical’ here specifically references the framing purpose of the figures, dissected to reveal the internal remains and strategically carved to highlight anatomical configuration; the majority of Body Worlds’ plastinates are entirely skinless, creating a shocking visual appearance—undeniably placing the aesthetics of the anatomy of the dissected body at the fore for visitors. The term

‘portraiture,’ on the other hand, functions more complexly in the context of Body Worlds, simultaneously invoking two separate notions of portraits. On the surface, skinless whole body plastinates of Body Worlds appear to explicitly reveal the “inner face” of an individual donor’s anatomy—reinforced by titles, poses, and attributes that are not repeated in other cadavers.^{lxiv} However, the varied characteristics of the “inner face” are not necessarily perceived by the untrained eyes of visitors. Variance can only certainly be detected in the visual difference between figural poses, accompanying objects, and imposed titles; through viewing the exhibitionary installations of Body Worlds as a larger collection, a pattern becomes clear. Plastinate postures and associated materials appear to directly correlate to the biological sex of the cadaver. Specifically, male bodies are granted access to social materiality and physical prowess, while female figures are confined to presentation emphasizing overt sensuality and relying upon their own corporeality. These poses and attributes therefore become a method to socially gender the body of cadaveric plastinates. I therefore insist that the exhibitionary wholistic figures of Body Worlds instead function as typological portraits, more specifically, portraits of gender.

Anatomical portraits are necessarily a combination of both innovative techniques and older customs of early modern exhibitionary practice. Unlike traditional anatomical specimen, polymers are

biochemically bonded with the cells of the plastinated corpse to produce a preserved body without a jar, mounting plaque, or frame. The resulting cadavers more closely resemble wax models that are also installed without such display apparatuses. However, whereas wax anatomical collections historically display classically posed whole bodies that only vary through standing or reclining positions, anatomical portraiture produces a new pose for each figure, typically accompanied by the inclusion of material attributes, such as the table, chairs, cards, and chips of *The Poker Playing Trio* (2006) (fig. 12). The inclusion of such everyday objects concretely grounds the composition in the daily reality of the visitor. The combined effect of movement and object thus expands upon traditional wax anatomical displays such as those of the Museo della Specola where “living” poses were prominently featured.^{lxv} Instead of purely mimicking the animating poses of historical anatomy displays, von Hagens’ plastinates push beyond figural references of sculptural antiquity to create a new rhetoric of anatomical pose. Indeed, many of the plastinates appear influenced by twentieth century visual culture.^{lxvi} *The Organ Man* (2000) (fig. 13), for example, aesthetically references the twentieth century artistic movement of Italian Futurism, mimicking Umberto Boccioni’s bronze *Unique Forms of Continuity in Space* (1913) (fig. 14).^{lxvii} In addition to the figural depiction of three-dimensional space, a fourth dimension is added to this display—that of time. The plastinate is

posed in the midst of a long, powerful stride, arms bent at the elbow, holding its brain in the palms of its hands. From the head to the feet the figure is sectioned, as if the layers of the body were being pulled apart to reveal the bones, organs, and membranes. The anatomy of this figure is a composition of forms moving through space, depicted by the separation of bodily tissues.

Exhibitionary pieces of plastinated body parts also innovate beyond that of previous anatomy installations, primarily evident in slices of “anatomy glass” (figure 15). Anatomy glass is created from preserved cadavers who are frozen and then portioned with a saw that cuts any length of body into segments—much as meat slicers slash lunchmeat. Once divided, each segment is injected with plastinating polymers, making it durable and translucent.^{lxviii} Museo della Specola previously incorporated thick sagittally and coronally sliced sections of the body placed inside wooden frames. These segments appear only two-dimensional, as the spatial dimensions are blocked by thick wooden frames and a shallow display space. However, such segments reinforced the social necessity of cadaver dissection, the only process that could yield the infinite perspectives of the inner human body at the time. Anatomy glass scientifically positions plastination within a professionalized context, resembling the changing technologies of contemporary medical vision. Now in the twenty-first century, anatomy glass resembles computer

tomography (CT) and magnetic resonance imaging (MRI) scans. Slicing the plastinated body coronally, sagittally, and transversely, sections of anatomy glass assume the visuality of MRIs and CTs that are slim like paper, read by medical professionals, and placed on x-ray light boxes. Similarly, anatomy glass slices are only a few inches thick, translucent, and are backlit by light sources. Plastination therefore manufactures a mimetic opportunity to replicate the aesthetics of alternative methods of imaging science—arguing its own technological supremacy over other sources.

In addition to these more recent innovations, anatomical portraits incorporate early modern techniques of display, particularly those of traditional figurative portraiture. Portraits of the early modern period are often written about as depicting fact, that is the real, visual resemblance of a distinctly individualized person. This, however, is not the case. The idea that portraits exist as material objects to showcase a person's uniqueness is an entirely modern understanding. Early modern portraits were an expression of a type rather than individual. Art historians Patricia Simons and Marcia Pointon argue that early modern portraits depict representations of gendered types rather than realistic representations of individual likenesses.^{lxix} Attributes of gender are heavily employed in the rhetoric of early modern portraiture to insist upon the status and social identity of the portrait sitter. While early modern patrons requested to be

portrayed *ritratto al natural* or “portrayed as if from nature or life,” argues art historian Joanna Woods-Marsen, this depiction was only acceptable beneath a guise of idealization.^{lxx} Thus portraits of the early modern period were managed images, constructed according to the wishes of the patron and their public image or social persona. Similarly, Body Worlds plastinates impose social personas, and not unique individuals, upon the bodies of the cadaveric specimen. When viewed side-by-side, *The Basketball Player* and *The Archer* explicitly contrast masculine agency and feminine passivity; the male figure is active and dynamic, while the female is holding an object suggesting movement, sport or aggression but is still displayed in an inactive pose. Indeed, the delicate pose of *The Archer* more closely resembles a dance movement than weaponized action. Furthermore, commonly thought of today as the organ of intellect, the brain remains in situ inside the male skull; the brain of the female, however, is taken out of her cranium and placed atop her skull—resembling a hairstyle rather than a vital bodily organ. This act visually claims that the intellect is outside the female body, while existing within the male. Consistently the plastinated cadavers of Body Worlds visually assert through pose and attribute that the male body is capable of acts of agency, aggression, athleticism, and intellectualism. In contrast, the female figure is constructed as a fleshy, erotic body, performing only actions that reinforce an aesthetically pleasing and sensualized view.

The gaze of early modern male portrait sitters meets the viewer unabashedly. Bronzino's *Portrait of a Young Man* (1540-1545) (fig. 16) defiantly addresses viewers from a slightly elevated perspective, left hand placed on his hip, elbow sharply jutting out towards the picture plane. The viewer's presence has interrupted his display of erudition; his right fingers are holding his place in the open book he was apparently reading. Similarly, Body Worlds males confront and distance themselves from the visitor. For example, *The Basketball Player* assertively meets the eyes of the public, but aggressively outstretches his arm to move them out of his way. *The Ring Gymnast* (2006) (fig. 17) concentrates with his direct gaze and steadfast discipline. He lifts his entire body with his hands upon gymnastics rings; his biceps appear strained, his legs raised and stretched out before him. The visitor is literally pushed away by the plastinate whose extended feet prevent a closer approach. *The Basketball Player* seems to physically charge at the visitor, while *The Ring Gymnast* appears deep in thought; male Body Worlds plastinates claim visual authority through implied movement and intellectual process—visitors do not want to get in the way of their implied motion or disturb their mental activity.

Unlike the direct gaze of the male portrait sitter, early modern female portraits denied the viewer direct, assertive eye contact. Ghirlandaio's *Visitation* (1486-90) (fig. 18) presents Lorenzo Tournabuoni's wife Giovanna as the ideal of decorous female beauty—

bound blonde hair of ringlets, long columnar neck, long and stiff garments forcing her to walk slowly with a measured, non-confrontational gaze appropriate to her status and gender.^{lxxi} Like female profile portraits of the early modern period, female plastinates largely avoid the visitor gaze, such as *The Archer*. In the instances where plastinated women do not meet the visitor gaze, they are often erotically posed, or implicated in their own death. *Woman on a Swing* (2009) (fig. 19) for example, showcases a dissected female sitting on a swing with sensually splayed legs and perky, naked breasts, staring coyly and seductively at visitors. *Woman Bearing Life* (1996) (fig. 20), on the other hand, addresses the female's blackened lungs, implying that she had acquired lung cancer, a disease responsible not only for her own death but also that of the fetus inside her uterus.^{lxxii} Body Worlds visually frames male figures as active agents, athletically engaged and unafraid of the visitor gaze; female plastinates are primarily visually submissive, postural coquettes, physically sensualized, and sometimes even vilified.

Central to the visual vocabulary of Body Worlds installations and early modern anatomical display is the presence of the living gesture. Wax anatomical models particularly illustrate the combination of classical pose and insinuated movement to draw the visitor gaze towards rather than away from the dissected body.^{lxxiii} Utilizing gesticulations in dissected figures illustrated societal cues of engagement to physically prompt the

visitor to approach and linger around the figures. Living gestures in the wax anatomical sculptures of Museo della Specola vary from the posed rubbing of knees, turned head, arched back, and lifted hand. The medium was manipulated to convey that which is currently alive: pigment was added to wax in order to give the “flesh” a blushing appearance; layering wax affords the illusion of skin; and variance in depth allows the wax to pool, producing the effect of “juicy” anatomical innards. The materiality of wax with its capabilities and features made it the preferred early modern tool to convey living and artfully rendered anatomical sculpture. Similarly, Body Worlds plastinates position the body in creative ways, imitating acts of daily life from sports, such as *The Basketball Player*, to prayer, such as *The Praying Man* (undated) (fig. 21). Like wax figures, the plastinates of Body Worlds are artificially pigmented, imbued with a vibrant palette that attempts to visually breathe life into the rough, dried bodies.

In this thesis, I will be using a specific vocabulary to further define anatomical portraiture. Installed Body Worlds cadavers are inextricably linked to scientific practice through installed textual references, explicit video installations, and donor program associations. However, scientific labels such as ‘plastinates,’ ‘donor,’ and ‘cadaver’ do not fully acknowledge the role of artistic rhetoric incorporated into the display of these figures. While not erasing terms like ‘donor,’ ‘cadaver,’ or ‘plastinates,’ from my discussion of anatomical portraiture, as doing so

would deny the implication of the fleshy organs of each anatomical portrait, I will be expanding the terminology used to address the bodies. Specifically, based on McIsaac, who argues the near invisibility of plastination technology yields an inseparability of science and art in Body Worlds displays, I draw on terms previously linked to artistic display to describe anatomical portraits.

As such, whole body plastinates will be referred to as ‘full-length portraits’ or ‘figures.’ Like full-length artistic portraits they are larger, more expensive to produce, and require larger amounts of time to construct. They are the most prominently featured in installation venues, and, like portraits, they are given unique titles and dates. Furthermore, just as many artistic portraits are referred to *as* the sitter instead of a portrait *of* the sitter, the anatomical portrait cadaver is often addressed by visitors as the individual title rather than an abstract scientific concept. Fragment portraits, on the other hand, refer to plastinated specimen that are only singular systems, organs, or structures. Drawing on sub-genres of portraiture such as that of the bust, fragment anatomical portraits force a consideration of how the limited physicality of the body is used to represent the whole cadaver or additional constructs. Full-length figures are often presented with accompanying items such as basketballs, skateboards, and swings. These items will be addressed as ‘attributes,’ drawing from the descriptive rhetoric

surrounding traditional portraiture, particularly images of saints; objects of the saints, or attributes, are those objects permanently associated with their lifetime and earthly body. As McIsaac stated that the vanishing nature of polymerized technology blurs the line between artistic and scientific practice, so too does it impact the distinction between the body and material culture. The invisible nature of plastination means that not only is the pose made to appear natural, but associated objects are also fused with the corpse body itself. Thus, like iconographic attributes of saints, attributes of anatomical portraits become permanently linked with the body. Articles that accompany anatomical portraits expand the manner in which the body is gender stereotyped because objects are permanently and biochemically joined to the hardened tissues. Lastly, the exact manner of full-length anatomical portrait installation, including pose and attribute, will be referred to as its 'composition.' Composition is used to capture the theatrical totality of the full-length portrait presentation, where the appearance of cadaver visual uniqueness is constructed not only through portrait pose but material items as well.

The biochemical union of plastinated flesh and accompanying articles in anatomical portraits produce an altered body, a new form of matter. In this thesis I address 'gender' as a social process that serves to reinforce the larger label of 'sex.' Influenced by the scholarship of feminist scholar Judith Butler, I assert that gender is manufactured by an ordering

of matter, a process of materialization that stabilizes over time to produce the effect of boundary, fixity, and surface.^{lxxiv} Sex, on the other hand, is more directly related to scientific diagnoses that are commonly understood to affect the physical attributes and sex characteristics of the body.^{lxxv} Sex, moreover, is constantly engaged in a dialogue with socialized gender, framing the scientifically diagnosed body according to normative understandings.^{lxxvi} Butler states that the construction of gender takes place through a temporal process that emphasizes the constant reiteration of prescribed norms and materiality.^{lxxvii} Indeed, the attributes of full-length anatomical portraits grant male plastinates access to the social world while firmly binding females to their own corporeality, visually excluding them from the public sphere. Gendered objects designate male or femaleness as somehow befitting or articulating the scientifically sexed body. Examining Body Worlds exhibits as representations of a larger meta-collection, it is clear that gendered norms are repeated, observable through the use of accompanying objects and pose, to visually articulate the plastinates body of anatomical portraits as being properly male or female. The full-length portraits of Body Worlds are typological, not representations of unique individuals. Therefore, anatomical portraits are a production of materialized gender, consolidating normative conditions of 'sex-ed' emergence.

Susini's early modern wax anatomical sculptures of Museo della

Specola were created two hundred and twenty two years before the plastinated cadavers of Body Worlds. Despite this gap, I believe that the two collections have many shared aspects and thus are optimal aesthetic foils to conceptually illuminate the display practice of one another. Body Worlds and Museo della Specola both anchor their collections on dramatically posed figures and displays of educational aesthetics, with sight as the primary mechanism of knowledge acquisition. I assert that while Susini's anatomical waxes depicted individually posed figures varying only in systems, hair color, and aesthetic arrangement, anatomical portraits of Body Worlds innovate beyond classical pose and minor variation of attributes. Through titling each full-length plastinated figure, and thus impressing roles and identities on bodies, von Hagens initially appears to construct individuals. *The Basketball Player*, for example, appears tall, has large expansive hands, and is dribbling a basketball. The title seems visually plausible for this young corpse body, where all signs of observable aging, wrinkles, or sagging skin, are erased—the plastinate IS a basketball player. Likewise, *Reclining Pregnant Woman* (1999) (fig. 22) has a distended belly, full breasts, and a fetus inside her uterus—she IS a mother. However, these are impositions of identity through title, pose, and attribute. I maintain that, in fact, these are not anatomical portraits of individuals, but rather they are anatomical portraits of imposed gender.

The three chapters of this thesis reflect the contemporary and

early modern interconnections between artistic representation and anatomical science, discussing how lifelikeness, gender, and authority are visually constructed in Body Worlds installations. Chapter one explores the importance of blood in the genre of anatomical display, conveying lifelikeness and constructing a live, present body in the early modern period. Today, Body Worlds plastinates exhibit an imbuing of blood to convey lifelikeness, dynamism, and embodied presence. Particularly highlighted are the parturient bodies of Body Worlds that use a bloody appearance to frame gender roles of the exhibited cadaveric specimen. In the process the fetal body is precariously placed, I insist, prompting the passionate and polarizing reactions to these female figures. Chapter two examines the compositional poses of gendered Body Worlds figures: males exemplifying dynamic agency and athletic and intellectual prowess, and females exemplifying maternal corporeality, erotic sensuality, and fetishized aesthetic object. Integrated into my examination of the posed rhetoric is that of the early modern gendered portrait where types, not depictions of individual identity, dominated the visual convention of the portraiture genre. Chapter three investigates the visual construction of scientific authority using fragment anatomical portraits in a room of the London 2009 exhibition of *Body Worlds and the Mirror of Time*. Strategies of exhibitionary isolation reflect those of the early modern limning portrait—which also showcases authoritative knowledge using fragment

bodies. Both fragment and limning portraits exist within a matrix of the exposed and the hidden, where the understanding of the private, intimate body occurs only after the body is made explicitly more public. Exploring these comparisons between anatomical and traditional portraiture facilitates a new way of thinking about the plastinates of Body Worlds. Referring to the plastinates as anatomical portraits acknowledges not only how the figures are materially gendered, but illustrates how this gendering continues to implicate the flesh of the body and the spaces that surround them.

Chapter One: Plastinating Pregnancy: Exploring Exhibitionary Reactions, Blood's Visual Impact, and Constructed Lifelikeness in Parturient and Fetal Bodies

Visitors to every Body Worlds exhibition are introduced to the human body organized according to its systems—respiratory, nervous, digestive, cardiovascular, and others. Upon entering the reproductive section,^{lxxviii} they might be surprised to hear quiet organ music since the other areas lack this musical accompaniment. At the same time, they will notice rows of embryos and fetuses lined up in front of red velvet curtained walls. The embryos, ranging from two days to eight weeks gestation, are suspended within clear liquid in laboratory-like test tubes; the fetuses, from nine weeks to eight and half months of gestation, are shown atop pillows of black velvet within plexi-glass cubes. These tubes and cubes visually guide visitors to the centerpiece of the display, a kind of reproductive climax, which von Hagens has entitled *Reclining Pregnant Woman* (1999) (figure 22).^{lxxix} She is sensually posed, lying down, nude, and skinless. Her vividly pink exposed musculature articulates the curves of her body and a lily-white fetus is tucked neatly inside her dissected womb. Von Hagens creates the illusion that the fetus is actively spinning within the uterus by cutting away at the maternal stomach—leaving the posterior of the fetal body physically assaulted by the harsh lights above. Curled in the fetal position, the small figure seems to gesture that it

needs protection; installation lighting signals that the fetus is exposed, threatened, and vulnerable.

Many visitors to the 2008 Edmonton exhibition of Body Worlds remarked not on the embryos and fetuses displayed in liquid or atop velvet cushions but on the installation of the full-length *Reclining Pregnant Woman*. Despite its tight, awkward positioning against a curtained wall, visitors physically encircled the plastinated body of the pregnant corpse. One mother directed her two young children, “look at the baby inside the mommy’s tummy!”^{lxxx} Most visitors however, seemed compelled to express their objections to the work. Other visitors remarked, “this is disgusting—shameful!” “How could he do such a thing?!” “Those poor people—think of her family!”^{lxxxii} Body Worlds’ comment books recorded the following: “Initial impression was one of intrigue and awe... The artistic element is quite repulsive. Far from highlighting science, it both scuppers and insults it.”^{lxxxiii} After viewing *Reclining Pregnant Woman* Jason Byassee wrote, “I not only felt for the child who would never be born, but felt claustrophobic at seeing the fetus scrunched inside his plastinate mother.”^{lxxxiii} While reactions to most Body Worlds plastinates are largely split between admiration and revulsion, this parturient display attracts the most critical (and often emotional) comments from visitors.

These negative visitor reviews seem odd, out of character in

today's contemporary society. Why would pregnant plastinates be singled out by these particularly strong sentiments? In popular culture today, images of the fetus are everywhere. The microscopic image of the fetus pioneered by Lennart Nilsson (fig. 23) has become pervasive within all aspects of popular culture, from advertisements to television programs.^{lxxxiv} An image from Dean Markley guitars, for instance, advertises an embryo playing an electric guitar below the tagline "The born rocker" (fig. 24).^{lxxxv} Pepsi Cola pictures the embryo in utero with the motto "Some things were just born to be" (fig. 25).^{lxxxvi} Recently, an episode of television drama "Grey's Anatomy" centered on character Dr. Callie Torres' first ultrasound of her newly pregnant belly.^{lxxxvii} Pregnancy, once an intimately embodied experience, is now verified by medical tests, documented by technology, and popularized in mainstream media, exemplifying what Barbara Duden calls the "public fetus."^{lxxxviii}

Duden's "public fetus" refers to the proliferation of imaging processes that construct the fetus as an autonomous being and allow it to be accessed and controlled by those outside of the maternal body.^{lxxxix} Regardless of whether expectant parents can see the details of the developing fetus, they feel entitled to own an image documenting the "development" of their baby.^{xc} Parents anticipate increased bonding with the eventual infant after having imaged their fetal feet, tiny hands, or, better yet thumb sucking activities inside the womb.^{xci} Independent

videographers set up private studios beside maternity clinics to produce “baby’s first video,” despite often lacking the proper training to interpret what they image.^{xcii} While statistics suggest that around seventy percent of expectant women who have ultrasounds do not diagnostically benefit from them, many national government healthcare programs have mandated a minimum amount of ultrasounds for pregnant women.^{xciii} So, as the familiarity of these fetal images increases in both popular and medical culture, why would so many visitors of Body Worlds exhibitions react negatively to the standard fetal installations?

Visitors to Body Worlds are certainly not responding to the novelty of viewing the dissected womb. For centuries, the anatomized pregnant body has been on display in the anatomical atlases of Vesalius, William Hunter, and William Smellie, subject to the study and inquiry of medical students and laypeople alike. The increasing professionalization of anatomical study correlated with the ritual exposure of the female body, as historian Katharine Park argues, to uncover the perceived secrets of women, the most important secret being the generation of new life.^{xciv} The dissection of a pregnant woman was a much-coveted event that most anatomists would witness at most once in their lifetime.^{xcv} In the early modern period, after the popularization of public and academic anatomies, a shortage of bodies arose out of fears surrounding grave robbing, burial rituals, and vivisection, where experiments were

conducted on the living.^{xcvi} As the numbers of available cadavers and therefore public dissections decreased, anatomical models were increasingly viewed as a viable substitute. Models of the pregnant uterus and enclosed fetus were made from cadaver bodies using illustrations, wax, leather, wood, clay, and cloth to study the structure of the female body and conceptualize the processes that happened within it.^{xcvii} Installed inside museum exhibits that were often open to the public, these obstetrical models of the parturient body were created and used by physicians, surgeons, obstetricians, and midwives.^{xcviii} The female body was actively linked to the expelled products of the uterus, and anatomical models were able to construct both the uterus and foreign bodies that could exist within it.

The polarized visitor responses elicited by the pregnant plastinates of Body Worlds are a result of the representation of the womb, particularly the fetal flesh. The visual representation of the pregnant uterus has changed dramatically over time, impacting how the parturient body is understood, interpreted, and managed. This chapter expands beyond previous scholarship that has explored how technological imaging methods impose a duality upon the maternal-fetal relationship and how this change impacts notions of parturient embodiment, fetal personhood, and patient rights.^{xcix} Through comparing Body Worlds plastinates with the eighteenth-century wax anatomical *Venus de Medici* (fig. 3) of the Museo

della Specola in Florence, new light is shed on the *Reclining Pregnant Woman* (fig. 22) by highlighting the historical references of the dissected womb. That is, the pregnant *Venus de Medici* of Museo della Specola highlights the early modern understanding of the female body, and the womb in particular, in coloration, form and function. Analyzing the reclining pregnant venus (fig. 3) of Museo della Specola, I highlight its adherence in both skin tone and beauty to the early modern of definition of lifelikeness, originally articulated by the writings of Vasari and supported by contemporary medical theory. I argue that the adverse reactions to the parturient plastinates of Body Worlds are informed by von Hagens' simultaneous adherence to and deviation from this definition of 'lifelikeness.' Indeed, lifelikeness is key to deciphering images of the fetus because it prompts viewer assumption, reaction, and emotion. Furthermore, as dead fetal specimen have historically been manipulated to assume lifelike forms and textually framed as living, such as in the iconic 1965 *LIFE Magazine* fetal photographs (fig. 23) by Lennart Nilsson, I compare the embedded fetal displays, insisting that these installations are positioned in Body Worlds as the climax of lifelike display.

I) A History of Fetal Imaging

Illustrations of dissected bodies became of great importance with the proliferation of the printing process and dissemination of popular treatises, particularly in the eighteenth century publications of William

Hunter. Images of the dissected womb certainly were made prior to the invention of the printing press in the fifteenth century. However, the press is what allowed images of Hunter's atlases to become iconic in western culture. Anatomical models and research findings were made increasingly accessible and more widely circulated in published medical treatises; now anatomists everywhere could witness the interior of the parturient body without attending a dissection or traveling to a foreign land.

In 1774, William Hunter, authored his medical treatise, *Anatomia Uteri Humani Gravidi*. Hunter, a Scottish physician and one of the first specialists of obstetrics, had made plaster moulds of the pregnant female body.^c These moulds were used as templates for the illustrations within his treatise.^{ci} Hunter's casts and illustrations showed the torso of the female body, cut away from limbs and head, to show the truncated detail of the maternal-fetal connection. Prior to Hunter's anatomical treatise, images of the womb (fig. 26) focused on fetal forms that were referred to as *nascituri* (fig. 27), and represented the child that was hoped to result from a successful pregnancy—they are images of prophecy, not observation.^{cii} Hunter believed that the truth of nature was perceptible on its surface, and thus details were of the utmost importance. His minimally written text within the treatise emphasized his belief, and generally that of the eighteenth century, that seeing was an act of both understanding

and knowing.^{ciii} Sight, art historian Ludmilla Jordanova states, was privileged as a way of knowing; this was reflected in the observational studies of cadavers during dissection and in the proliferation of anatomical atlases.^{civ} Observation was indeed becoming increasingly widespread in scientific study as a result of a developing scientific method, emphasizing experiments, trials, and the recording of results in explicit detail. Reinforced in experiments, trials and results was the inclusion of explicit detail about the recorded processes.

At the same time, vital to the seeing of nature's truth was the transformation of the cadaver body to that which appeared as living. Despite the severed limbs and headless form of the parturient body, Hunter's torsos appear to be infused with vitality and a sense of life. This was accomplished by the injection of wax into the blood vessels of his specimens to inflate and make voluminous those cadaver specimens that would otherwise appear dry, decomposed, and shapeless.^{cv} Through employing plaster and wax, Hunter transformed the dead parturient body into that which was alive, plump, and seemingly infused with blood—so convincingly so that the viewer could forget that they were examining dead and not live bodies.

Embryological models began to surface in the late nineteenth and early twentieth centuries after the creation and subsequent innovations of the microscope.^{cvi} Invented in the seventeenth century, microscopes

facilitated the study of the smallest organisms, most of which were nearly imperceptible to the naked eye. In the eighteenth century, scholars embarked on “egg hunts” for the earliest fertilized ova to complete collections of aborted embryos and fetuses that they argued composed the entire process of human development in utero.^{cvii} Anthropologist Lynn M. Morgan states that early “egg hunters” or embryologists, embarked on a campaign to convince women and subsequent generations that tissue resulting from abortion, pregnancy loss, and autopsy belonged properly to medicine.^{cviii} Embryological specimen were then ushered to laboratories where tools were used to slice, scan, and sculpt the tissue into recognizable shapes that allowed for a meta analysis of the developing fetus.^{cix} Many techniques were used on already dead specimen or nonviable fetuses such as the injection of India ink and other dyes to show vascular innervation.^{cx} Embryologists like Davenport Hooker conducted experiments on nonviable living specimen obtained through both spontaneous and therapeutic abortions until all activity of such specimen ceased, in an effort to document neurological reactions such as the embryonic grasp.^{cxii} Complete embryological collections suggested a mastery of the body at a new microscopic level.

Throughout the eighteenth century, illustrations and models of the developmental fetus, however, visually depicted the fetus as that which is actively living, not that which is dying or already dead.^{cxiii} Tools were used

to visually manipulate dead specimen, in order to frame them as developing, live human fetuses. Specimen could either be shown in an active pose, insinuating kinetic movement, or arranged in a temporally organized sequence, produced through the illustration of minute details that signaled movement along another dimensional scale of time. For instance, in 1799, anatomist and embryological pioneer Samuel Thomas von Sömmering published his treatise that illustrated two plates where male and female embryos were lined up according to age and size (fig. 28).^{cxiii} Wilhelm His, elaborating on von Sömmering's sequence of fetal development, illustrated embryological development as a number of demonstrable, predictable steps (fig. 29).^{cxiv} His further developed more elaborate standardized tables of development or "normal plates" that afforded the categorization of embryos based on size and morphology.^{cxv}

Following von Sömmering and His, embryological modeler Adolf Ziegler enlarged his models so that they could be closely studied without the use of a microscope to discern fine details. Ziegler's models focused on the highly magnified embryo, coloring the waxes to depict germ layers (fig. 30). Ziegler was focused on manipulating the medium to depict various stages of translucency during the first formative days of the embryo.^{cxvi} These models were based on the removed or aborted embryo with the intention of illustrating that which was live, generating, and developing. Ziegler further crafted extra models to display internal

systems making brains, hearts, and guts.^{cxvii} The details of the embryological body became of primary importance—over and above the visualizing of the connection to the gestating female body. In the models of Ziegler and His, the physical embryological connection to the parturient is entirely erased; embryological models are visually displayed as being autonomous in their development and in possession of their own organs, just as any fully developed, independently functioning human body.

Models of the fetus and embryo were however just that—models. Scientists longed to visually document the developing fetus within the female womb. When the first x-ray of a pregnant woman and her fetus was made in 1896,^{cxviii} the fetus was already deceased.^{cxix} Beginning in the early twentieth century, x-ray technology was used to image the living fetus initially in the cases of problem pregnancies or multiple births, but was later expanded more broadly to estimate due dates and fetal condition.^{cxx} By 1930, many obstetricians were suggesting routine prenatal pelvic x-ray examinations.^{cxxi} Prenatal x-rays became so popular that, by 1917, fetologists were able to label every bone and their dates of appearance in the near-term body of a fetus.^{cxxii} The resulting fetological 1917 diagram^{cxxiii} posed the fetal body as if living, head turned to the left, palms facing up, and left leg raised to the side. This is not the image of an aborted fetus, but rather that of the baby, formerly invisible, visualized as developing inside “mommy’s tummy.”

As technology changed and scientific visual imaging techniques diversified, what remained understood was the necessity of an active, lifelike appearance for the pictured fetus or embryo. To argue for the status of the profession, fetal and embryological models required an application of any findings obtained to the living fetus. Such an orientation was provided by Swedish photojournalist Lennart Nilsson. Nilsson worked under contract for *LIFE Magazine* from 1965-1972 as a medical photographer, initially producing stories on the heart and brain using an experimental mixture of photography and light microscopy.^{cxxiv} Following this method, he began to work with the scanning electron microscope. This piece of equipment provided Nilsson an increased magnification of hundreds of thousands of times beyond light microscopy and a much sharper three dimensionality.^{cxxv} Nilsson authored the first detailed images of the human fetus inside the female uterus using his scanning electron microscope in 1965. However, these images were legible largely only to the trained eye. To increase their legibility for dissemination among the general public, Nilsson collaborated with Gillis Hägg to transform the black and white images from gray scale into full color images.^{cxxvi} These images, once granted a new color identity, afforded the *LIFE Magazine* reader an altered legibility that no longer appeared to require an authoritative vision to decipher. These images were prominently featured in the April 30, 1965^{cxxvii} issue of *LIFE*

Magazine—bringing to life, in vivid color, what once was invisible to their reader’s naked eye.

That April cover (fig. 23) became, and still remains, an iconic image within Western culture. In the upper left hand corner is the large red and white letters spelling “LIFE.” The lower right hand corner reads “APRIL 30 1965” in large white letters just beneath “Living 18-week-old fetus shown inside its amniotic sac—placenta is seen at right.”^{cxxviii} The month of April signals spring, the season of rebirth, regeneration, and the sprouting of new life; here, the month is visually commemorated with this image of the developing human fetus—an icon of life itself.^{cxxix} The image uses a pale color palette against a black background speckled with white spots. There is a fleshy pink mass just behind the fetus, partially transparent with ruffled folds. The fetus is anchored to this mass by a long chord. A large semi-opaque sac envelops the entire fetal form. What appear as fetal eyes are closed, arms tucked just beneath chin, hands clasped, its legs gently bent beneath. Inside this sac, the fetus appears peaceful, floating through the atmosphere. However, an additional title threatens, “Unprecedented photographic feat in color: DRAMA OF LIFE BEFORE BIRTH.” The 18-week-old fetus is now potentially in danger—the floating pink mass behind it is either friend or foe. This new life warrants protection.

Whereas Ziegler’s models illustrated those bodies that had been removed or expelled from the parturient body, Nilsson renders the

pregnant interior as an alternate universe through photographs using the scanning electron-microscope. While the maternal body is again present, it instead resembles an embellished seascape or view of outer space—the presence of the fetus appears unreal and disorienting.^{cxxx} The fetus floats within a black space speckled with white dots, resembling star-riddled space-scapes. It sits enclosed within its own atmosphere, what resembles a deflating balloon. The embryological body is shown within spaces that appear far removed from or related to the body, foraging a place for itself within the visually harsh made-alien climate of the female body.^{cxxxi} For historian Barbara Duden, the fetus of today’s society was not conceived in the womb but rather through medical imaging technology.^{cxxxii} Lynn M. Morgan states, “The “naturalness” of these living fetuses has to be seen as an effect created by the technologies, images and language that are chosen to depict them.”^{cxxxiii} Anthropologist Lisa Mitchell asserts in her analysis of the cultural impact of ultrasound imaging, “the naturalness of fetal persons is constituted through the very technology said to locate it objectively.”^{cxxxiv} Morgan insists that fetal death was banished from public conversation through the cumulative acts of individuals that did not actively or persistently acknowledge that dead specimen were essential in the production of embryological knowledge.^{cxxxv}

The fetuses constitute tiny universes capable of reproducing, mutating, and competing within the alien maternal body—these players

are defined by their place in the natural order.^{cxxxvi} The accompanying narrative of Nilsson's photos describes the physical location and status of the alien embryo and the path of its formative elements. Described in terms that are reserved typically to refer to nature, and the activities of organisms and creatures studied by science, the image of the embryo is further constructed. The sperm swam towards the egg, lashing their tails back and forth, purposefully transgressing the boundaries of the cervix, uterus, and fallopian tubes.^{cxxxvii} The formative parts of the embryo, sperm and egg, engage in species-crossing activities such as swimming. Brandishing the familiar signifiers of natural creatures, tails, those scientific concepts, alien in experience to *LIFE's* readers, are rhetorically made familiar. These alien images are textually tamed. Both the embryo and planet earth encapsulate the concept of that that represents possibilities, generation, where something new is produced where once there was nothing. Duden argues that "life" is increasingly defined as that which cannot verbally or physically defend itself against threat.^{cxxxviii} Nilsson's depiction of life re-appropriates pre-existing signifiers of nature, and suggests that this new "life" is in need of protection.

II) A History of Parturient Embodiment

These depictions portray the fetus as a naturally occurring process. However, while scientists and medical professionals attempt to continue the naturalization of the fetus, academic scholars today argue for the

denaturalization of the fetus, insisting that it is instead a societal construction. Nilsson's embryological specimen act as "icons of life," framed through text and composition as illustrative images of human development; however, paradigmatically these *LIFE Magazine* photos are in fact images of already dead embryos. This new fetal imagery, pioneered by Nilsson's 1965 *LIFE photographs*, visually insisted that these embryos are alive when in fact they are aborted embryos manipulated to appear as-if-living.^{cxxxix} Imaging techniques have always attempted to visually assert the display of motion, to revive dead embryological specimen, framing them as tumbling, kicking, rotating and growing.^{cxl} What today are considered visual signifiers of human life are in fact visually manipulated dead fetal specimen. Lynn M. Morgan, Donna Haraway, and Barbara Duden argue that without the specimens of embryo collectors and embryological photographs, it would have never been possible to imagine embryos as having "bodies," or as functioning as potential members of society, mini-versions of our selves.^{cxli}

Pregnant women have begun to interpret the contents of their womb differently than they have in the past, the fetus and maternal interiority becoming subject to increasing amounts of surveillance and governance in imaging, debates, and legislation.^{cxlii} As Nick Hopwood and Barbara Duden note, pregnancy in the eighteenth century was far more tenuous than it is today. Attention was given to parturient bodily

sensations. Menstrual periods provided no promise of pregnancy and instead could signal a false conception or illness. The developmental charting of the embryo and fetus was absent. Quickening, those first fetal movements felt typically within the first five months following conception, was only a potential sign of pregnancy.^{cxliii} Duden states:

[T]he women had their own tradition for understanding the signs; a myriad of phenomena could point to pregnancy, imminent death, the onset of menses, or impending consumption.^{cxliiv}

Duden goes on to say:

The retention of the menses could be interpreted as a sign of pregnancy, but could also be a sign of an impending illness, of a “swelling,” “dropsy” or the like. The “message of stagnation” was contradictory for a variety of reasons: today we regard the absence of the menses as a likely indication of pregnancy, but in 1720 it was an unclear sign; today pregnancy and regular bleeding usually exclude each other physiologically, but in 1720 periodic bleeding could be part of a pregnancy that was progressing well; today there is operational verification, while back then many other signs of a subjective nature were interpreted as clues since the absence of bleeding gave no certainty.^{cxlv}

Subjective sensations are no longer emphasized during pregnancy

in contemporary society. Most often, pregnancy is scientifically verified through home pregnancy kit, blood test, and medical imaging—where occasionally the developmental age of the embryo can also be determined. Literature can then inform the parturient on the structures beginning to develop and those still to come. Hopwood cautions that this very concept of human embryonic development should not be accepted as a natural process that embryologists study—rather development, in embryological terms, should be classed as an “effect” or “achievement” that the embryologists constructed and labored to produce.^{cxlvi}

Since the Renaissance, the dissected parturient body was offered to both academia and the general public as an object of study. The eighteenth-century *Venus de Medici* (fig. 3) of Museo della Specola bears a fleshy mass within her—not necessarily a viable physical fruit that would mature into a child but only the potential that it could. Gunther von Hagens believes wax insufficient to represent the anatomical female body. He insists that visitors to his Body Worlds exhibits respond to the truth and authenticity of the displayed human corpse body. Drawing upon the sensualized flesh of Museo della Specola’s *Venus de Medici* (fig. 3), von Hagens too has created an eroticized composition of the parturient body for Body Worlds exhibitions—the *Reclining Pregnant Woman* (fig. 22). In the pose of an odelisque, with hand touching her head and pursing her lips, the figure arches her back, simultaneously projecting her breasts and

belly into space. Without the hair, jewels, and skin of Museo della Specola's venus (fig. 3), *Reclining Pregnant Woman* still appears sensually animated, an agent performing for the viewer.^{cxlvii}

Like the display of deceased fetuses and embryos animated to appear as if living, a crucial component of anatomical models has been the visual construction of lifelikeness. Wax was used to create facsimiles of human anatomy in order to depict convincingly lifelike figures. The skin of the *Venus de Medici* is tanned, supple, and rosy in complexion. However *Reclining Pregnant Woman* exists in a permanent state of skinless exposure; her skin is not supple, tan, nor rosy—it is absent. The scholarship examining the lifelikeness of Body Worlds plastinates explores the posing of the figures. Elizabeth Simon Ruchti discusses the *Reclining Pregnant Woman*, referencing how her pose is indicative of her life, her societal role that is both reflective of and determined by her biological capabilities.^{cxlviii} Even in an obviously pregnant state the body of the corpse is contorted and twisted to assume this erotic pose that is intended to entertain and arouse. Ruchti further argues that this plastinate signals extensive gendered disempowerment in her averted gaze, amputated labia, and severed clitoris—serving not her own pleasures but instead to physically entice and arouse the patriarchal male gaze.^{cxlix} Anthropologist Uli Linke discusses the appeal of Body Worlds as hinging on the delivery of the “authentic” human body to visitors.^{cl} In

contrast to ‘mortality museums’ that exhibited the cadaver body explicitly connected to death through the display of torture devices, tools of execution, and dramatized death, von Hagens distances the corpses from themes relating to death.^{cli} He instead poses his plastinated corpses engaging in the activities of the living, simulating the working anatomy of live human beings.^{clii} These supposed displays of corporeal authenticity present the erotic parturient as naturalized, inherently, and continuously prepared for sexual activity.

Some scholars also engage with the exhibitional rhetoric of Body Worlds’ fetal displays. Christian DuComb states that the reproductive exhibits of Body Worlds encourage visitors to identify with the fetuses on display.^{cliii} DuComb argues that fetuses are constructed as autonomous life forms with the illusion of fetal personhood resting on the isolated compositions and framing of the exhibited fetuses as removed from the parturient body.^{cliv} DuComb asserts that the retaining of the fetal dermis inside the parturient body encourages the visitor to visually identify with the plastinated fetus.^{clv} Literary scholars T. Christine Jespersen and Alicita Rodriguez^{clvi} argue that within Body Worlds’ displays the strong, athletic male body is emphasized within expansive and brightly lit exhibition spaces; however within isolated and dimly lit fetal display rooms, gendered compositions of feminine abjection are constructed.^{clvii}

As highlighted by Jespersen and Rodriguez, two staging objects set

the tone of the display within the reproductive rooms: signs and drapes.^{clviii} Firstly, a warning sign is typically placed at the entrance to each fetal display/reproduction room entrance, cautioning the visitor to be mindful that deceased pregnant women and babies await them in the tiny, dark, and somewhat forboding room. This cautionary signage resembles “DANGER: Enter at your own risk” signs, signaling that the female body may place the visitor themselves in peril.^{clix} While male plastinates are exhibited in the remainder of the installation without listing their cause of death, inside the fetal display rooms the pregnant body of *Woman Bearing Life* (fig. 20) is accompanied by a hazy explanation of her cause of death: in life she had lung cancer and that it claimed her life and the life of her unborn child.^{clx} In labeling the parturient body thus, the visitor experiences the female maternal body as “guilty,” dangerous, and volatile.^{clxi} Secondly, the curtains featured in the exhibit reference the socio-cultural domesticated sphere of the female body, upon initial inspection. These heavy red drapes that line the walls of the reproductive salons also act as a reminder of blood, that substance that is purposefully evacuated from the plastinated body. The pleated curtains mimic the flowing movement of blood and the interior folds of the female uterus.^{clxii} In the remainder of the exhibition space, the athletic male plastinated body is associated with hard-edged props, firm and active musculature—often exhibited even without a display envelope of glass casing. Jespersen

and Rodriguez argue that the abjectness of the female body in this room is found within symbols of flowing liquid—particularly blood—which is erased in the rest of the Body Worlds’ installation.

III) The Visual Rhetoric of Lifelikeness

The term “lifelike” as it is understood today, as the encapsulation of that which is actively living, first began appearing in the sixteenth century.^{clxiii} Prior to this time notions of naturalism or liveliness connoted pose and location or environment. In 1486, in the town of Greccio, Italy, for example, the aura of Bethlehem was to be evoked for Italian pilgrims unable to make the journey to the Holy Land. This new Bethlehem was constructed according to the visions of Franciscan Observant Bernardino Caimi, who had visited the Holy Land in 1478. At Varallo Sesia, Sacro Monte, the scene of the Nativity was staged, along with scenes of the Last Supper, the Flagellation, and the Crucifixion, where the wax figures were noted to be so lifelike pilgrims were emotionally affected.^{clxiv} As the “new Bethlehem,” the staged vignettes allowed the pilgrim to walk among religious history—where their experience shifted from that of the imagination to the world of physical involvement.^{clxv} These figures visually and physically engaged the visitors in their scale, being life-sized, confronting the senses of the pilgrims in a way that most religious imagery did not. Instead of simply depicting the attributes of saints, by rendering two-dimensional representations of biblical stories, the staged

vignettes made a physical reality of religious teachings. The wax religious figures, as well as their environment and location in “new Bethlehem,” were transformative for visitors—embodying the contemporary understanding of lifelikeness, evoking the emotions of pilgrims, promoting a connection between the viewer and the art.

While lifelikeness was understood through the pose and location of a figure for the religious art of Sacro Monte—Felice Fontana hoped that he could foster the same type of immediate recognition of life within systematic scientific classification. Fontana, the first director of Museo della Specola, claimed that his classification system was so comprehensive and presentation so concise, that anyone who visited would be able to grasp the underlying laws of nature “at a glance,” including those of the human body.^{clxvi} Before being put on display, the models had to be approved by Fontana as being “perfect,” that is lifelike. The apparently^{clxvii} pregnant *Venus de Medici* of Museo della Specola is displayed as having her own system of natural laws governing the processes associated with the female body, for example pregnancy. Upon the removal of her chest plate, the visitor can observe the coloration of the systems of her body, arteries, veins, and lymphatic vessels. Professionalizing anatomists insisted that the natural systematic laws that defined the human were found beneath the skin, thus, the absence of the chest plate became necessary to achieve Fontana’s goals of immediate

understanding.^{clxviii} Once the chest plate is removed, the potential for alien growth within the female uterus is immediately recognized, prompted by a mass embedded inside her womb.

To simply see the organs of the anatomical figure was not sufficient to constitute lifelikeness. In the early modern period, “lifelikeness” constituted a state of being defined psychologically and physiologically. Artists and scientists engaged in intense collaboration, centering on debates of lifelikeness and the facets of the human form. The concept of paramount importance in the study of both art and medicine was how exactly the spirit could act in concert with the flesh, where and how the biological met the spiritual. Early modern medical practice and theory thus endeavored to explain the entire nature of the human being—the notion of the soul included.

Within early modern humoral theory, ideas of ensoulment were explained as being closely intertwined with biological elements.^{clxix} Humoral regimens assigned to individuals were intended to preserve health by keeping the optimal balance of the four universal humors, black bile, yellow bile, phlegm, and blood, in check. The humoral connection to the spirit characterized the soul as a substance whose qualities humors defined, embodied, and ultimately connected the human being to God.^{clxx} The flow or blockage of blood thus held many meanings for the female body. Aside from potential pregnancy the movement or stoppage of

blood could also symbolize a blockage that required humoral cure or retention of the menses.^{clxxi} An unsuccessful “pregnancy” was not always mourned; a miscarriage or premature birth could have been perceived as the emission of bad blood, the birth of a “moon-calf” or “mole,” the cleansing of the womb, or the healthy flux of a dangerous stoppage.^{clxxii} Moles and moon-calves were growths that resulted from carnal mingling conceived in the womb, nourished through generative power until nature expelled it, being the inverse of a true conception.^{clxxiii} These false pregnancies were believed to result from the male seed being too “weak” or “dumb,” the woman’s blood being too abundant, or too hot, or an afterbirth that was too spongy.^{clxxiv} The births of monsters were often interpreted as omens, divine signs, and symbols of human sin or moral transgressions and excesses.^{clxxv} Therefore pregnancy, the emission of blood, and miscarriages were multivalent in both interpretation and meaning.

The gestures of the *Venus de Medici*, rubbing legs, arched back, and pursed lips, alone, were not enough, according to art historian Fredrika Jacobs, to constitute lifelikeness in the early modern period. Critical to the rhetoric of lifelikeness beginning in the sixteenth century, whether in art or medicine, was the implied presence of blood.^{clxxvi} The presence of blood was essential in conveying lifelikeness in early modern art and modes of representation. Through an analysis of Vasari’s writings

on Leonardo da Vinci's *Mona Lisa* (1503-04) (fig. 31), Jacobs argues that it is because of the pulse that appears to beat beneath her skin (*battere i polsi*) that rendered Mona Lisa as a "living image," instead of a contrived, static, posed, two-dimensional figure.^{clxxvii} In early modern society, blood was not simply a medical commodity as it is often thought of today; instead blood was a major early modern societal player on multiple levels of existence and definitions of selfhood. For example, until the eighteenth century, blood was referred to as, "father of all the humors."^{clxxviii} Furthermore, as noted by cultural anthropologist Piero Camporesi, blood, along with its purity and quality, was associated with life and salvation.^{clxxix} Blood was believed to have healing powers, stemming from the Catholic dogma of the healing powers of Christ's redemptive blood and reinforced with every mass ceremony.^{clxxx} Blood was also thus a key ingredient in the elixirs for long life. Physicians, apothecaries, charlatans, and great intellectuals alike agreed that the blood of a young, fresh, delicate man, well-tempered in humors, soft, blooming with red, "bloody" fat, of a "jovial" temperament and a "cordial" character, preferably having red hair (by association of the color of the hair with that of blood)—enjoyed the indisputable primacy when it came to the slowing of the aging process."^{clxxxii} In the kitchen food was prepared with blood, considered the finest of human juices, it became stock with which dishes were created.^{clxxxii} Blood could be let or consumed to restore the balance of the

body, treatment methods once regarded as important as today's medications and surgeries.^{clxxxiii}

The nourishing properties of blood extended into more abstract notions beyond those of culinary preparations, into the realm of the spiritual. The blood of Christ was believed to be as life-giving as milk; female saints would often fixate on the blood draining from the dying Christ's body, the women crying for the regenerative liquid, "Blood, blood!"^{clxxxiv} The regenerative power of blood, found in its virtue and salvific power, linked it to the congealing power of the divine spirit, the metaphor of the unifying power of the divine blood, associated with the purifying, regenerative fire of the heavenly savior.^{clxxxv} God, being conceived of often as androgynous in nature, would spill both blood and milk alike.

IV) Manufacturing Anatomical Lifelikeness

The anatomical *Venus de Medici* (fig. 3), while wax in form, appears to be full of fleshy, plump, moist organs, exposed entirely to the viewer when her chest plate is removed. Between the ribs of the Venus, the bloody wax appears to pool.^{clxxxvi} The kidneys are shiny, as if full with vital fluid. The small fetus appears to be rotating within the womb. Beyond the coloration of the anatomical atlas that contemporary culture is well acquainted with, the female figure appears to be juicy with the blood of life. The organs are colored with hues of reds and pinks, but are also wet

with the hydration of bodily fluid—most acutely captured by the nature of the medium and the process of Clemente Susini’s modeling.^{clxxxvii} The pigment of the Venus’ skin is also tinted to convey a life within, rather than the pale, ghostly trace of most anatomical models, for example the anatomical venus of the Wellcome Collection (fig. 32).^{clxxxviii}

As Piero Camporesi notes, the early modern definitions of ideal beauty came to coincide with the rosy health that was associated with good blood—the well-tempered, the sanguinic.^{clxxxix} The term *pulcher*, which comes from *pelle rubens*, or “ruddy-skinned,” meant to have skin under which good, perfectly balanced blood moves.^{cx} *Venustus* refers to the veins, meaning “beautiful,” coming from the word “vein,” that is from blood.”^{cxci} The *Venus de Medici* is often referred to as ‘beautiful’ in scholarly discourse.^{cxcii} Her lips are a deep blushing pink, her cheeks appear flushed, her skin olive. Her hair chocolate brown, eyebrows thin, chin pointed, and nose narrow. She is not the vision of a corpse. Rather, the blood that appears to pulse beneath her skin highlights that she is the vision of the Italian beauty defined by the early modern period.^{cxci} Her beauty is worthy of adoration with pearls, adornment befitting that which is visually pleasing to gaze upon, that which is animated by life’s vital fluid. Whereas death comes from aridity, life comes from that which provides and promotes moisture within the body—from blood comes moisture, and so life.

While the early modern definition of lifelikeness revolved around the beating of the pulse beneath the skin as articulated by Jacobs, or the ruddy-complexioned beauty of Camporesi, the lack of plastinated skin in anatomical portraits seemingly violates these principles that signal lifelikeness—upon first glance. However, though the epidermal skin is absent, von Hagens' plastination medium itself becomes the anatomical skin of the corpse. That is, the muscle layers that now form the outer layer of the skinned female figure functions as a veil of such uniformity or opacity that in fact mimics the skin's presence. The break to this pseudo-epidermal uniformity lies in the slitting open of her torso, extending from her sternum to her vagina. The corporeality of the female figure attains the appearance of a fetal envelope, nutritional reserve to the fetus, temporary home to the developing human being. The color of the maternal body is bright red; the fetus is pale white. *Reclining Pregnant Woman* is opened, revealing the maternal reality of her interior's interior, as if she herself is defined by her reproductive role.^{cxciiv} Like Museo della Specola's *Venus de Medici*, von Hagens only reveals as much of her interior as he feels is relevant to the display—the role of the *Reclining Pregnant Woman* is to uncover the fetus that is assumed to have lived seething within her.^{cxciiv}

The body of *Reclining Pregnant Woman* is only opened to the extent that it is able to expose and reinforce the reproductive function of

the female gender.^{cx cvi} This reconstituted epidermal envelope of the figure, is imbued with the early modern sensibility displayed by the *Venus de Medici*—that which is colored by blood. With the absence of the skin, the musculature of the anatomical body becomes as-if-infused with blood. Instead of mimicking the interiority of the body observed at Museo della Specola, signaling the presence of good blood, juicy tissues, a balanced temperament, von Hagens' figures have a dry, stringy appearance to their muscle; the bodies appear as beef jerky. The false skin of the plastinates convey a certain dryness, a denial of the moist human conditions in which we operate. Nonetheless, while the fleshy cavities of the early modern period have been evacuated from this new contemporary body, the coloration of the “flesh,” this period-specific “skin” remains defined by the presence of the life-giving essence of that most vital fluid, blood.

It must be noted that plastination protocol does not necessitate the deep pinks and reds employed in the Body Worlds' display spectacle.^{cx cvii} The plastinates of academic institutions, such as those at the University of Glasgow, show a tonal variety of greys and browns.^{cx cviii} Rather than posing such whitened, grayed, and browned plastinates, the anatomical portraits of Body Worlds are heavily pigmented, denying the cadaver their situational nature, as if denying death itself—resuscitating the dead body with the tonal definition of early modern lifelikeness. In doing so, von Hagens attempts to convey that which still is, where the

cadaver not only comes “alive” in pose, but through the invigoration of the cadaver’s body with crimson infusions of red pigment. In this way, anatomical portraits go beyond the application of early modern anatomical lifelikeness, to portray that which is actively and ambiguously related to the world of the living.

However, this intentional coloration is only present in the body of the parturient. The body of the fetus, which here is pale white, is another matter. This modern fetus, in comparison to its early modern counterpart, stands as an icon of life. The contemporary fetus has invested in it all of the meanings that its public exposure has garnered, standing as a multivalent symbol of “life.” Von Hagens, however, is directly depicting the dead fetus unlike fetal imaging scientists and modelers before him who manipulated the fetal body to make it appear as-if-living. While the fetal icon of life in contemporary culture has become increasingly estranged from its uterine environment, associated more with the photographs of Nilsson or images of sonograms, when re-situated in its embodied generative existence under a reinforced cloak of death, it proves unsettling to the visitors of Body Worlds.

The pregnant female body of the early modern period, prior to the advent of embryological science, interpreted life, and what it meant to be lifelike, in a different way. The fetal body did not absolutely represent life; in fact, it was not even associated with human life until after delivery.^{cxcix}

As the German physician Wilhelm Gottfried von Ploucquet stated, “[N]ot everything that comes from the birth parts of a woman is a human being.”^{cc} As noted by historians such as Katharine Park, Barbara Duden, and Lianne McTavish, the experience of the early modern pregnancy was subjective; women knew a pregnancy through their senses, through “quickenings,” visible growth, and a successful delivery.^{cci} Even *nascituri* (fig. 27) illustrations of the fetus could act only as prophecies and not absolute fact.^{ccii} Indeed, a woman of the early modern period was not truly considered pregnant for a certainty until the woman physically produced a healthy living child, as only then could the child assert its concrete human form.^{cciii} The womb could produce a number of “concepts” or “fruits,” among them stillbirths, moles (miscarriages), and monsters.^{cciv} When the chest plate of the *Venus de Medici* (fig. 3) is removed, then the small body within the uterus is revealed; it is not meant to be seen as human life. The fetal body is displayed as something that is unclassifiable: a mass of twisted limbs, face concealed, all cues of humanness hidden. It could be a fetus, growth, or mole. The scale and color of the fetal body mimics that of the surrounding organs, as if lost within the maternal body itself. The intense red of the fetus may further insinuate that it is an unhealthy growth, possessing an imbalance of humors, an excess of blood. Not large enough to distort the placement of the surrounding organs, it exists at a size that does not appear to drastically affect its environment. This is a

mass whose scale does not signal a visual right to reside within the parturient body, to possess the uterine space. This mass would only become human upon its successful delivery.

Von Hagens' *Reclining Pregnant Woman* (fig. 22), in context, exists within a culture that experiences both pregnancy and the embryo or fetus far differently than those of its early modern counterparts. Women are informed about their bodies via the imaging methods that introduce the fetus, those fuzzied black and white sonographic images that necessitate an excess of professional interpretation to render a reading of what the untrained eye is looking at.^{ccv} The status of the fetus within the *Reclining Pregnant Woman* (fig. 22) is complicated by the tension established in the essence that life is found in death. The maternal body is bright red, symbolically infused with blood. The fetal body is the palest white. The fetus defines the female body. Instead of the small, inhuman ball of limbs observed inside the *Venus de Medici* (fig. 3), von Hagens preserves what appears to be a nearly full-term fetus. In a transitional pose of rotation, it shows itself as human but has not quite rotated to reveal itself—it has yet to enact its own individuality, face and identity. This fetus has encroached upon the space of the parturient body, compacting the surrounding organs, altering her physical reality to suit its own needs. This fetus is visually asserting its place in her body, its right to be there. While the body of the fetus still enjoys the (symbolic) protection of its original

anatomical skin, it visually lacks the lifelikeness portrayed in the pigmentation of the maternal musculature. When this icon of life is shown as a corpse, signaled by its pale white color and the insinuation that the life has left its body, the visitor experiences the death of an icon. The image of the fetus, the modern cultural icon of life here becomes the body denied life, therefore not only confronting the visitor but also shaking the very foundations of their belief structure.

Unlike the glass jars of the embryo collectors, the plastinate parturient as “container” serves as a source of both safety and danger. Alive, the female body symbolizes a source of fetal nourishment; deceased it is a fetal cause of death. The plastinated parturient corpse is displayed as highly reactive, catastrophically threatening. The visuality of the connected fetal-parturient body endangers all certainties that the medical sciences have fought to create in tests, procedures, and imaging. But in the maternal-fetal connection, the parturient body also symbolizes that which loses, the body that is defined by the organs exposed in its display-incisions. In its loss of the “child,” it has ceased to function, it has ceased to deliver new life into the world. It is this simultaneous visible connection, three dimensional and in vibrant lifelike colors, that unsettles the contemporary viewer today—having become so accustomed to encountering the fetal body outside of the embodied connection to its maternal environment. *Reclining Pregnant Woman*, in addition to invoking

the power of the modern embryological icon, also engages with the early modern definitions of lifelikeness, polarizing visitors—making the figure seem alive enough to represent agency, thwarted potential, and vessel of death.^{ccvi}

What separates the pregnancies of the early modern period and ours today is not only the understanding of the status of the fetus, but also the relationship that each culture assigns to the space of the maternal-fetal relationship. Where the fetus exists in contemporary culture in the space-like images of Nilsson or the black theatrical space of the sonogram, it remains alien to the female body. Von Hagens, however, forces the viewer to recognize the spatial situation of generation and reproduction. The resulting combination of illustrated lifelikeness, physical maternal connection, and the assertion of deceased materiality, is what drives some Body Worlds visitors to their extreme negative reactions, particularly towards the parturient plastinate figures.

Chapter Two: Gendering Anatomical Portraiture: Equestrian Sculpture, Sainly Icons, and Eroticized Coquettes

While standing beside the centrally-split ski jumping plastinate, Angie Day commented, “[M]aybe I could be reading a book or maybe I could be running because I like to do those things,[...] I don’t like to ski.”^{ccvii} Day is a 36-year-old Florida woman who decided to donate her body to Gunther von Hagens’ Institute for Plastination (IfP) during a trip to the 2007 Chicago Body Worlds installation.^{ccviii} In donating her body to von Hagens’ IfP, she hopes to one day become a full body plastinate exhibited in the Body Worlds traveling displays.^{ccix} Day concludes that “death is something we’re all going to face. It’s really interesting to think that some day people may be looking at me in a museum.”^{ccx} To date, her sentiments have been shared by approximately 10,000 others worldwide who have offered their bodies to plastination.^{ccxi}

Body donation is today understood as the absolute relinquishing of one’s cadaver to an institution of choice for either scientific study or organ donation. Day’s claims however, reflect a different understanding of the term related to her corporeal gift. Her statements reveal a new interpretation of the donation process, informed by her experiences of Body Worlds. Instead of surrendering her body to a specific scientific

institution for study, Day wants to be installed in a museum—to be looked at, to become an exhibit herself. As a displayed plastinate, she believes that her pose will be tailored to her living identity, reflecting her favorite hobbies and pastimes of reading and running.

However, Day's conception is directly at odds with the way that von Hagens describes his full-length plastinates. He states that their poses are intended not only to be pleasing to behold but also for research and teaching purposes.^{ccxii} Each posture possesses its own instructional potential,^{ccxiii} chosen to highlight specific systems or anatomical features for the edification of the visitor.^{ccxiv} *The Drawer Body* (1999) (fig. 33), for instance, is a male cadaver posed in walking stride with three-dimensional cubes cut out of his flesh. The pose of *The Drawer Body* is not chosen to suit a donor's request or reflect their living identity of, perhaps, a box collector or puzzle maker.^{ccxv} Rather this figural pose highlights the compactness of the human body that von Hagens claims is undetectable in traditional anatomical displays.^{ccxvi} All Body Worlds poses, the creator insists, are intended to highlight the structures and functions of the human body in order to encourage healthy lifestyles and educate international audiences.

What makes Body Worlds plastinated displays different to potential donors, and thus more appealing than traditional outlets? While Body Worlds specimens are called "science-art,"^{ccxvii} I insist that it is largely *not*

science, but the imposed label of ‘art’ that encourages patrons to donate their bodies. ^{ccxviii} Day, for example, believes that her corpse can be fashioned, according to her preferences, into a work of art that will be displayed in a museum. As indicated in statements made by creator von Hagens however, Body Worlds plastinates do not reflect individualized preferences, in keeping with Day’s wishes. I argue that instead Body Worlds plastinates are, what I have called in the introduction, “anatomical portraits” of gender types, where cadavers embody the framing techniques and stereotypes of early modern portraiture.

Anatomical portraiture is at once a new genre and yet one that draws on the rich historical traditions of both anatomical display and traditional portraiture. Historically, anatomy installations have incorporated only slight variations of figural pose and material attribute. Male figures of Museo della Specola, for example, are afforded two styles of pose, namely reclining and standing, with only slight modifications of gesture. Conversely, the uniformly posed female waxes of Museo della Specola are varied by decorative items of flowing hair and fine jewelry. Early modern portraits framed sitters according to gender types, not unique essences, through figural pose and material attributes. Specific gestures were used to demonstrate the social refinement and proper education of the sitter. Attributes were often linked to the body itself, as worn or touched by the sitter, to visually construct gender, implicating

the flesh of the body. The anatomical portraits of Body Worlds are each associated with a specific realm of gesture and attributes, that on the surface appears individualized, though, I insist that they are gendered visual cues borrowed from early modern portraiture. Furthermore, unlike the jeweled adornments of Museo della Specola that simply sat upon the wax cast of the female body, the attributes of Body Worlds are physically incorporated into the medium itself.^{ccxix} The nature of injected polymers means that cadaver flesh can be stretched, twisted, and hardened around the objects it is displayed with;^{ccxx} flesh of the body and object are biochemically joined to become one. This transforms not only the visual display of the body, but blurs the boundaries separating cadaver body, figural pose, and attribute object in a way that neither the anatomical display nor traditional portrait genre has previously.

Although much has been written about Body Worlds plastinates, particularly regarding how their poses convey concepts of identity, previous scholars have not yet considered the full-spectrum of their historical references. Anthropologist and historian Tony Walter claims that von Hagens imbues his cadaver donors with new identities through unique posing strategies.^{ccxxi} For example, in life, that cadaver body may never have played basketball but in its death it is posed as a basketball superstar and titled *The Basketball Player* (fig. 1); indeed, the title of the corpse body is visually, textually, and materially reinforced to construct

active athleticism. Other scholars insist that a specific identity is imposed upon the cadaver body. Bioethicist Lawrence Burns argues that the persistent emphasis of von Hagens' own image erases the identity of the cadaver body.^{ccxxii} Without identifying plastinated cadaver bodies by name, or specifying causes of death, von Hagens titles, dates, and signs the plastinates. In doing so, Burns argues that von Hagens marks plastinated bodies as his own property, technological advancement, and professional achievement.^{ccxxiii} The comments made by Angie Day regarding her decision to donate her body add new dimension to Burns' and Walter's claims, for she does not want a new identity for her deceased body. Instead she, and likely other potential donors like her, wishes to preserve her "old" one even into death.

The question then arises as to why von Hagens would fashion a donor's identity? At first, it might seem that the cadaver poses are straightforward and relate to a particular activity as Walter claims. However, these poses are carefully considered and selected, not random. For the gestures of full-length plastinates in fact reference postures of traditional portraiture that were used to manage the social roles of sitters. Furthermore, I insist that posed full-length plasimates are deeply rooted in early modern gender stereotypes, whereby masculinity is constructed as the embodiment of active agency and linked to material culture, and femininity is constructed as passive corporeality and

associated only with the sensualized flesh of the body. Anatomical portraits of Body Worlds are not portraits of donor identity but instead, portraits of gender.

Beginning in the fifteenth century, Italian texts documented an increasing cultural interest in gestures and postures and their role in demonstrating appropriate social behavior. Cultural historian Peter Burke asserts that movement in the early modern period was gender-specific; masculinity as embodied vivacity, femininity as delicacy.^{ccxxiv} Treatises such as the anonymously authored *Decor puellarum* (1471) prescribed the proper behavior of women, recommending that they walk with eyes downwardly cast and right hand clasped over left.^{ccxxv} Italian men, in contrast, were recommended to demonstrate senatorial gravity and elegant movements of the hand.^{ccxxvi} Art historian Joaneath Spicer states that the purposeful gestures of early modern portraits represent a distillation of societal codes to convey a desired presentation of social identity.^{ccxxvii} Clasped hands, for instance, signaled decorous feminine submission in early modern female portraits,^{ccxxviii} whereas male sitters were depicted as actively gesturing, observed in the outstretched arm of the orator.^{ccxxix}

With this in mind, I assert that anatomical portraits of Body Worlds extensively reference the visual gestures of early modern portraits. For these portraits were not intended to convey individuality, instead, they

configured identity through adherence to postures linked to the construction of gender type. Informed by the scholarship of Patricia Simons and Marcia Pointon on typological portraiture, I highlight the lineage of portrait types from the Hellenistic era, through the early modern period, to its manifestation in the plastinates of Body Worlds installations today. These portraits visually define men as powerful, dynamic agents, and women as passive, physical property. This analysis of anatomical portraits must begin with an analysis of early modern methods of anatomical display, specifically those of the Museo della Specola waxes. While visibly gendered, I insist that these full-length sculptures act only as precursors to and not examples of anatomical portraiture—which is a recent innovation. To further illustrate my argument, I engage four Body Worlds plastinates in a comparative analysis with the early modern artwork visually referenced in each composition. In this analysis, I detail how the rhetoric of pose and inclusion of attributes narrowly frames the gender of Body Worlds cadavers according to early modern understandings of masculinity and femininity. Many of von Hagens’ display techniques are visually unique,^{ccxxx} however I insist that they are, by-in-large, decidedly early modern in concept and tone.

I) A Brief History of Traditional Portraiture

Portraits are often discussed as either capturing or failing to understand the unique “essence” of the sitter. Art historian Richard

Brilliant states that the reward of contemporary portraiture emphasizes the capturing of sitter individuality in the portrait image.^{ccxxxix} Exceptional qualities of the portrait's subject are often acknowledged in terminology that addresses the portrait, for example, the word 'likeness' has become synonymous with the term portrait.^{ccxxxii} Often viewers comment, "This is _____," instead of "this is a portrait of _____."^{ccxxxiii} Portrait images thus establish a connection between the viewer's perception of the portrait object and their knowledge that portraits often refer to actual people.^{ccxxxiv} Brilliant contends that this emphasis on captured individual character has historically persisted over time in the genre of portraiture.^{ccxxxv} However, while Brilliant investigates the notion of the portraiture genre within the changing conception of the individual over time, this perceived function of portraits as displaying the inner individual character of the sitter has become increasingly challenged in academic scholarship. Many scholars now argue that, over time, the tradition of portraiture has depicted not necessarily the unique essence of individuals, but rather universal types to convey the cultural negotiation of gendered positions.

Hellenistic sculptural portraits of women signaled the public image of Greek women that male relatives crafted.^{ccxxxvi} According to art historian Sheila Dillon, female portraits of Greek antiquity subjugated signals of individuality to representing greater categories of virtuousness

and symbols of desirability.^{ccxxxvii} For example, the social status of females was asserted through the drapery that covered their bodies.^{ccxxxviii} Completely enveloping the body in textiles represented modesty, chastity and regard for the gaze of others.^{ccxxxix} The tension between modesty and the increasing conspicuousness of the elite was made visible in the nearly sheer drapery that female figures wore. Also, as asserted by religious studies scholar Jan Bremmer, the depiction of slow walking^{ccxl} was crucial to demonstrating modest femininity; this pace assured the ability to carefully manage one's garments and public appearance, reinforcing inheritance, status, and education.^{ccxli} Greek mythology reinforced feminine virtue by characterizing revered goddesses Hera and Athena as walking with small, light, delicate steps that resembled "timorous doves."^{ccxlii} This dainty gait was further associated with cultures of luxury such as the Persians and Lydians, indicating those who were in fortunate circumstances or well cared for by family.^{ccxliii} Portrait images such as Aristonoe from Rhamnous (fig. 34) articulate the idealized and timid feminine gait. Despite being posed in contrapposto, her left hip and right knee suggest an intention of greater movement. Her body is contorted into a nearly perfect S-curve, breaking the planes of her body so many times that it quickly becomes clear that she is not still, yet her motion is very restricted. This posture does not resemble absolute stillness but rather self-conscious transitional movement. Aristonoe is an idealized

female portrait because she is portrayed as conscious of her movements and therefore in control of her draped garments and feminine sedateness. Thus, the Hellenistic female portrait emphasized not individuality but rather feminine modesty, prosperity, and restraint.^{ccxliv}

Masculine identity in Hellenistic portraiture, in direct opposition to the slow pace of modest femininity, was conveyed through an active and assertive stride.^{ccxlv} Like Hera and Athena, the masculine heroes of Greek mythology also reinforced gendered ideal. Males walking with long strides thus mimicked Ajax, Achilles, Apollo, and Hector approaching scenes of epic battles.^{ccxlvii} Both the Iliad and Odyssey coin the phrase "with long strides" as shorthand to indicate the impressive behavior of male heroes—typically referring to the approach or departure of admirable warriors.^{ccxlviii} Similarly, portraits of Emperor Alexander the Great are intended to visually materialize masculine power and active agency.^{ccxlix} The sculpture of Alexander the Great popularly known as the *Alexander Rondanini* (fig. 35) portrays the gendered authority of Alexander through his stride. Alexander is posed *in quadrigis*, as he steps into his chariot after fighting heroically in the battle at Chaeronea.^{ccxlix} The upper half of his torso is bent, highlighting his intricately muscled physique. His right leg is stepping up onto another level, an illusion to his status as imminent successor to his father's rule. Gesturing with this right leg, Alexander embodied the active and fearless stride of mythological heroes. In

contrast to the small and delicate movements of female Hellenistic portraits, Alexander is dynamic and assertive making a large movement, appearing to step with a swaggered confidence.^{cc1} The gesture insists upon Alexander's power and capabilities as a masculine leader and his father's successor. The visual depiction of gait thus both signaled a portrait sitter as appropriately masculine or feminine and indicated their level of decorous socialization within their surrounding culture.

Similar to Hellenistic portraits, in Renaissance portraiture, female figures displayed the markings that patriarchal fifteenth and sixteenth century society emblazoned upon them.^{cc1i} According to art historian Patricia Simons, the female body of Renaissance portraiture, particularly in the female profile portrait, was subject to the public scrutiny of the male gaze as an object of economic exchange and personification of familial reputation.^{cc1ii} Painted portraits of women thus functioned as a tool in the arrangement of marriages, whereby both men and elder women of potential families subjected the sitter's visual construction of propriety before the exchange of the dowry.^{cc1iii} In portraits, women were marked as property of either their husband or father through family emblems, jewelry, or settings.^{cc1iv} The display of particular jewels, such as the unicorn medal worn by Giovanna Tournabuoni in her 1490 portrait (fig. 36), revealed not only Giovanna as virginal and pure, but also claimed her role as corporeal representative for the entire Tournabuoni lineage.^{cc1v} She

stands for the reputation of her father, and thus it was he who would oversee the construction of her public image, including the physical adornments symbolizing material value and family honor. Female portraiture of the Renaissance, according to Simons, represented women as possessed objects of value, items of economic exchange and physical representatives of familial honor and propriety.^{cclvi}

Conversely, male sitters of Renaissance portraits were posed authoritatively in self-possessed stances. Treatises on social behavior such as Baldasare Castiglione's *Courtier* (1528) recommended that courtiers and leaders act with masculine self-restraint, harnessing aggression, and prideful behavior to convey a quiet, regal *gravitas* in their movements.^{cclvii} An iconic pose used to establish masculine authority at this time is what Spicer calls the "Renaissance elbow."^{cclviii} This posture was created by firmly placing a hand upon the hip, forcing the protrusion of the elbow at a sharp angle. Otherwise known as arm "akimbo," Spicer asserts that this gesticulation is found widely but certainly not randomly, often being associated with powerful military figures^{cclix} in order to register psychological control or physical protection. Jacopo Carucci, otherwise known as Pontormo, painted *Portrait of a Halberdier* (1528-30) (fig. 37) in the costume of a German or Swiss Landsknecht.^{cclx} These mercenaries used halberd poles as slicing and thrusting weapons; typically measuring 86 inches in length with axe blade and spike at its tip,^{cclxi} they

were useful in keeping enemies at a distance.^{cclxii} Similarly, this male figure is actively claiming his space with elbow akimbo—keeping the viewer at a distance, imposingly gripping his halberd, and brandishing the handle of his sword. Adhering to visual depictions of the military type, Carucci thus constructed a portrait of powerful, potent masculinity, not the unique essence of the individual.

In Italian court culture, portraits presented even the most powerful individuals as examples of types, not faithful visual records of unique personalities. Portrait images were vital to the strategy of Renaissance rulers, to assert a strong public image and maintain their claims to power.^{cclxiii} Portrait medals, modeled after ancient Roman coins, were incorporated into the self-presentation of rulers, forming a critical part of diplomacy and gift exchange.^{cclxiv} For example, Caterina Sforza's portrait medals, argues art historian Joyce de Vries, embodied a conscious self-fashioning of image. Caterina Sforza was creating her public persona through the visual construction of a magnificent and grand image—mainly through presenting herself as a beautiful, well-adorned woman.^{cclxv} Manufacturing the image of a beautiful and virtuous female persona meant that one had to be the personification of idealized features, as well as depicted as elaborately dressed, and adorned with jewels. Caterina Sforza's medals, accordingly, highlighted these features. Her earliest medal (1480-84) (fig. 38),^{cclxvi} created while she was married to Girolamo

Sforza, demonstrates her observance of standards outlining virtuous and classical feminine behavior. Her hair is appropriately bound, with a hairstyle that is reminiscent of Livia, the influential wife of Augustus. The allusion to Livia, in particular was invoked to cement Caterina's influential role as diplomat acting between the papal court and the Sforza of Milan.^{cclxvii} Her full name, linking her to both her birth and married lineage, encircles the image. After the murder of her husband, Caterina assumed regency for her son. With this transformation of role came that of her image in her 1488 portrait medallion (fig. 39), attributed to Niccoló Fiorentino. Instead of a virtuous, classical beauty, she visually assumed the appearance of noble widow and powerful ruler.^{cclxviii} Her veil obscures her hair, a gesture of mourning, while her physical frame had gone from slight and feminine to sturdily built and mature. The encircling name also changed, emphasizing her marital union with the Riario over that of her birth inheritance.^{cclxix} Her feminine image has been manipulated to suit her social roles, once emphasizing her youthful beauty and role as diplomatic consort, her portrait was altered to claim her power through her widowed status and regent appointment for her son.

Male portrait medals of the Renaissance, on the other hand, did not rely upon recognition of attractiveness nor of marital association. When Ottaviano, Caterina's son, assumed power in 1498, his portrait medal showcased the image of ruling prince and military officer.^{cclxx} Again

attributed to Niccoló Fiorentino, Ottaviano's bust-length portrait was manufactured to produce the image of strong ruler and powerful soldier.^{cclxxi} He wears the clothes of a nobleman, with small cap and buttoned-up coat. On the reverse side of the medal, he is astride on his horse, carrying a sword as if on parade. The inscription read "Ottaviano Riario," emphasizing his right to rule as the legitimate heir of his deceased father.^{cclxxii} After Ottaviano came of age, assuming the rule of his kingdom, Caterina remained regent while he was away for lengthy periods of time on military campaigns.^{cclxxiii} Her visual demonstration of mourning was no longer necessary, as her husband was long since deceased; what was most important in asserting her power was her role as mother to Ottaviano, the ruling prince. Being of age, he had been able to judge his best successor—his mother. Her identity as chaste widow was discarded, instead showcasing her feminine beauty and virtue once again (fig. 40).^{cclxxiv} While Ottaviano Riario was free to present his identity as related to his own inherited right to rule, Ottaviano's mother Caterina, was forced to construct and reconstruct her image based on her changing relationship with male social players.

Gendered images of early modern portraiture configured the body as both real artifact and symbolic communication. The body functioned as a backdrop upon which material artifacts were placed to construct social meaning, informing and manufacturing daily practices. Marcia Pointon

argues that eighteenth century portraits established a semiotic process where knowledge of the physical and social environment was shaped through visual cues and symbols.^{cclxxv} Material attributes, acting as signifiers of larger social constructs, were specifically managed to construct gender.^{cclxxvi}

In early modern England, masculinity was typed by the wig, signaled feminization if too coiffed, or exposure and humiliation if absent.^{cclxxvii} In eighteenth century performances, actors like Edward Beetham would ridicule the man without a wig, as a universally recognized humorous subject of satire, embodying fragile masculinity.^{cclxxviii} Males appearing in public without a wig were identified as deviants; if one had simply lost their wig, they were unable to appear in polite society until they had procured a replacement.^{cclxxix} The wig was a signifier of masculinity and social authority, but when rendered in an inappropriate way, this same object signified deviation from this masculine typology, producing a concentrated threat to the gender roles of early modern society.^{cclxxx} Male wigs had become so tightly linked to the production of masculinity, and the protection against social associations with femininity and loss of potency, that even pubic wigs gained in popularity. Pubic wigs, or “merkins,” reinforce the connection between hair, its counterfeit production, and the focus on sexual attention in the eighteenth century.^{cclxxxi} Therefore, the male wig as attribute visually instructed the

viewer as to what masculinity looked like, how it was to be modeled, and how it was to be identified.

It follows then that in eighteenth century English portraits male figures commonly featured wigs, which were a major component of professional attire, in order to indicate social rank.^{cclxxxii} In his 1720 treatise on hair,^{cclxxxiii} influential hair stylist and perfumer David Ritchie emphasized the vital role of hair in the early modern assertion of a masculine social image.^{cclxxxiv} Ritchie writes that, following the exile of King Charles II of England in France, the ‘peruke’ or ‘periwig’ was introduced to English dress and linked with cultivated manners and politeness.^{cclxxxv} Wigs, initially only worn by rulers, aristocrats, and courtiers, were thought to add grandeur, importance, gravity, and dignity to the countenance of the wearer. The periwig was then incorporated into the sedate dress of the Lord Chancellor, clergy, judges, counselors, physicians, and other professionals to procure esteem, not to mimic natural hair.^{cclxxxvi} In 1770, Thomas Gainsborough painted a portrait of David Garrick^{cclxxxvii} entitled *Garrick Holding a Book* (fig. 41). Known primarily as an actor, playwright and skilled theatre manager, Garrick was well educated^{cclxxxviii} and fluent in multiple languages, and was close friends with kings, noblemen, intellectuals, politicians, artists, and literary figures.^{cclxxxix} While his profession was not always well respected in early modern society, atop Garrick’s head sits a white powdered wig. The peruke is neat, only two to

three side curls, tidily combed into place and not overly elaborate, which would have suggested femininity.^{ccxc} Pictured in this portrait, is an early modern man who is financially successful, well educated, and overtly masculine—not an individual defined by a precariously positioned profession that fluctuated in early modern social status.

Ritchie also wrote in his eighteenth century treatise that, where men dressed to indicate their social rank in life, women should dress only to enhance their beauty.^{ccxcii} Images of women in eighteenth century portraits, however, addressed rank or beauty depending on the social caste. The social rank of lower class females was chiefly emphasized, as opposed to women of the upper classes, who were typically depicted as adhering to standards of idealized beauty. An example of a lower class female portrait is Jean-Baptiste Greuze's *The Laundress* (1761) (fig. 42).^{ccxciii} The laundress is situated in a setting befitting an underprivileged woman. Her figure foregrounds a brick wall where the plaster has been breaking off, piece by piece. She is surrounded by a somewhat chaotic arrangement of wicker baskets, old pots, and rustic chests. However, this laundress is not engaged in the real work of cleaning linens, which involved hard, vigorous scrubbing, and manual labor out of doors, done either beside the river or on boats.^{ccxciii} Instead, she is gently kneading the wet clothes, slowly wringing the dripping garments through her fingers—teasing the viewer with the sensual movements of her hands. Indeed,

Greuze's laundress is the image of coquettish temptation. She pays no attention to the excess of water that spills over the bowl, onto the floor, but rather her concentration is on the visiting gaze, and the smooth action of her white, delicate hands. Her costume is sensually punctuated with luxurious objects, red Moroccan mules, and fine textiles. She is bent low, over a very shallow washing basin. Spreading her legs wide, she dips her torso, forcing her arms and breasts together—the plunging neckline of her bodice threatening to reveal her cleavage. She coyly challenges the viewer gaze, as if tempting them to enter her space, as she busies her hands between her knees. Such a pose reiterates the common eighteenth-century thought that laundresses were sexually available. Low wages and challenging working conditions meant that laundresses often supplemented their income by selling their bodies.^{ccxciv} The seductive motion of The Laundress' hands thus gestures towards the stereotypes that the upper classes held of lower class working women, as being sexually available and at the universal disposal of the wealthy.

Women of the upper classes, in contrast to the overtly sexualized *Laundress*, were presented as idealized beauties, embodying the virtues of femininity. Sir Joshua Reynolds's *Lady Sarah Bunbury Sacrificing to the Graces* (1763-65) (fig. 43) depicts the influential sitter as the personification of modern grace and beauty. As a famously heralded beauty, Lady Sarah was once courted by King George III. When she

married Sir Thomas Charles Bunbury, Reynolds was commissioned to paint this portrait of her.^{ccxcv} This image presents Lady Sarah as a devotee of the Three Graces, who were the companions of Venus, the goddess of love and beauty.^{ccxcvi} Rather than dressed in contemporary clothing, she is presented in classical Roman costume, wearing loose pink robes cinched at her waist. She stands in a classical contrapposto pose, with her long dark hair bound to accentuate her long, Grecian neck. Lady Sarah is pouring a libation offering to the Three Graces, while looking up adoringly at the three figures. One of the figures has her arms open wide, offering a wreath to Lady Sarah, as if inviting her to become the fourth member of their party. The drapery of Lady Sarah dulls in portions, suggesting that she is beginning to turn into the statue, joining the Three Graces and, in turn, attending to the goddess Venus. Lady Sarah is identified as embodying the stereotypes of classical feminine beauty. This portrait of Lady Sarah emphasizes her adherence to classical ideals of beauty; Sir Thomas proclaims the enduring appeal of his new bride, an appeal that will not only last the course of their marriage but the test of time. Lady Sarah is identified by her social persona, her trademark, of being a great beauty. So beautiful in fact, that she belongs with the gods themselves.

Social personas are indicated in the eighteenth century portraiture of wealthy women in additional ways besides beautiful appearances. In other aristocratic female portraits, such as those of Lady Mary Wortley

Montagu, social position was indicated instead of beautiful appearance. Marcia Pointon argues that Montagu's actual likeness was irrelevant in the end product; rather, it was in her place in Turkish culture that was valorized.^{ccxcvii} Her representation in portraiture cemented her position and authority created by her literary abilities, her role as influential traveler, early feminist, and interpreter of Moslem culture.^{ccxcviii} Attributed to Jonathan Richardson, a 1725 portrait of Montagu depicts her in aspects of both European and Moslem dress (fig. 44). While atop her head is a turban, she also wears a dress of luxurious silk with a deeply plunged neckline. The dress has a draped, high reaching slit on her left side—revealed beneath is what appears to be a sheer, light underskirt through which her legs are made visible. Her arm akimbo is concealed by a cape of ermine that reaches from her wrist to elbow. Montagu's Turkish costumes associated her with a culture of pleasure, luxury, and amusement, sculpting her reputation as a wealthy woman who was sexually empowered by her travel experiences.^{ccxcix} Her accompaniment by a black slave in complementary European dress further reinforces her position as a rich and powerful woman who has the command of the exotic Other to assert her place in society.^{ccc}

The portrait of Lady Montagu has a familiar face—reminiscent of Museo della Specola's *Venus de Medici*. The long, slender nose, wide eyes, and thin eyebrows appear nearly identical to the wax figure. They both

feature full, pouty lower lips. The ceroplasty figure, like Montagu, also features fine jewelry—a pearl necklace. So too does the right arm of the *Venus de Medici* mimic the slightly bent elbow of Montagu's portrait—the curls of the long hair just dusting her hand. Created by Clemente Susini, who had previously trained and worked in figurative sculpture before his employment at Museo della Specola, incorporated a limited variety of these gendered poses, gestures, and attributes of portrait figures. Susini's arrangement of recumbent venuses appropriate signals of portrait femininity, a concentration on aesthetic beauty, fine jewelry and luxurious textiles. The male waxes of Museo della Specola incorporate active postures, intense gazes and implied heroic animation. However the anatomical portraits of Body Worlds feature consciously manipulated full-length compositions, extending beyond the minor variations of Museo della Specola's figures, manufacturing gender according to a specific visual vocabulary.

II) The Anatomical Figure

By the eighteenth century, prestigious European anatomical collections proudly featured wax models cast from dissected corpses.^{ccci} In addition, influential wax artists reproduced popular pieces for export to other collections across the continent.^{cccii} Although male and female waxes were not individualized, they sometimes varied slightly in pose, generally being shown as Adam and Eve figures.^{ccciii} The flayed male waxes

of Museo della Specola, however, were more diversely posed.

Furthermore, for the most part, the male waxes of Museo della Specola were classically posed, referencing the influence of antiquities in the early modern art historical canon. A reclining skinless male figure (fig. 45), for example, contemplatively gestures towards his chin with his finger, gazing directly at the visitor. His legs were spread as if ready to move, his penis prominently hanging between them. Displaying lymphatic innervation, this body assumed a green tint, the musculature a graying yellow. Another skinless male figure was shown lying on his stomach, appearing to actively grab the display sheet as if trying to pull himself up its length (fig. 10). The hands of this figure were positioned flat upon the display bed, implying that action is not only possible but imminent. Without skin, the anatomy of this figure still appeared dewy and plump with vital fluids, not dehydrated or dead. Exhibiting a wide variety of poses beyond that of the traditional contrapposto stance of Adam figures, these flayed yet juicy male waxes assumed postures that visually linked the male form to intellectual engagement and active resistance to physical pain.

Conversely, the female waxes of Museo della Specola were sensually posed. Full-length females were displayed in a single reclining posture (fig. 46). These waxes appeared to grab the satin display sheets beneath them while sensually rubbing their knees together and arching their backs. Their breasts were perky, nipples completely erect. The

female facial expressions were orgasmic: eyes rolling back into the head, lips gently parted as if to moan, and cheeks obviously flushed. Unlike male figures, these waxes were displayed with their skin in tact. Visually penetrated by dissecting knife and visitor gaze, the skin was eroticized, assuming a flushed coloration and dewy sheen. Also in contrast to the males, the female models varied only according to their attributes—the inclusion of long flowing hair, being either brown or blonde, and jeweled adornments of gold and pearls. In early modern portraiture, females were objects to be visually adorned and economically possessed; as previously discussed in the 1490 portrait of Giovanna Tournabuoni, jewelry specifically, was often the language of possession in early modern portraiture. Thus, in contrast to male bodies that stand without material artifacts, the female body is commonly asserted as property, marked by visual signs, to satisfy the male gaze. The jewelry of early modern portraiture was bestowed upon those figures identified as coming from a prosperous family, often having entered into a marital contract with a family similar to their own.^{ccciv} However, the bodies of the female wax models remain nameless, without home or relatives to claim their bodies; the attributes of the female wax figures visually signal family heritage and economic prosperity, yet the cadaver bodies implicitly lacked both. As such, though Museo della Specola's female waxes appear genealogically claimed as those of early modern portraiture, they are not. Instead, they

are claimed by Museo della Specola's dissecting medical gaze that placed the jewelry on their bodies. In other words, these female bodies belong to Museo della Specola's scientific study of the anatomical body.

Like the active agency displayed by the male waxes of Museo della Specola, the posed male plastinates of Body Worlds consistently signal assertive domination, intellectual curiosity, and active agency. *Rearing Horse with Rider* (2000) (fig. 47) and *Skin Man* (1997) (fig. 48), for example, both reference the lengthy traditions of equestrian sculpture and iconic saintly figures, particularly the early modern aspects of such that visually established masculinity and its material cues. Firstly, equestrian sculpture is historically associated with the physical domination of empires, armies, subjects, family members, and animals.^{cccv} This sculptural pose has been employed since Classical Antiquity to convey power, authority, and the right to rule.^{cccvii} Roman Caesars particularly embraced this pose for public monuments made in their image. Then, in the Renaissance, this equestrian aesthetic was revived, particularly among military figures wanting to assert their leadership, through the rediscovery and revisiting of antique visual influences.

Horse With Rider (2000) shares many similarities with the bronze monument of *Marcus Aurelius* (fig. 4) today housed in the Palazzo Nuovo in Rome, as well as Gian Lorenzo Bernini's equestrian portrait sculpture of *Emperor Constantine I* (fig. 49) currently in the Vatican museum.^{cccvii} While

the gesture of leadership assumed by Marcus Aurelius is observed in *Rearing Horse with Rider*, the posed horse and artistic moment captured by Bernini's *Emperor Constantine I* better reflects the total visual message of *Rearing Horse with Rider*. Marcus Aurelius sits atop his horse, holding out one arm in a gesture of governance. The pose of Marcus Aurelius straddles the line of dominance and chaos; Aurelius has enough control over his well-dominated beast that he is confident extending one hand away from the reins. Both Marcus Aurelius and von Hagens' rider sit assertively atop their horses. In contrast to Constantine who appears bewildered and unaware of his chaotically rearing horse, Marcus Aurelius and von Hagens' rider possess the ability to contain unrest with only their intellect and well-muscled thighs, alluding to the power and authority of each male figure.

In equestrian sculpture, the equine character further established the persona of the sitter. Literature throughout the Renaissance and early modern period espoused various methods to dominate one's animals, particularly horses, which served as a metaphor for masculine domination in the domestic setting of marriage and child rearing.^{cccviii} As an attribute, the horse visually functions as a multivalent reassertion of the rider's ability to actively dominate. The horse of Aurelius insinuates motion, visually led by a bent leg suggestive of good breeding, successful training, and calm command claimed by its owner. The other front leg is straight,

extending down to the ground. This is a horse that, while not stationary, is not galloping out of control; it is paced in its movements, syncopated with the motion of his ruler. The horse of Aurelius visually bends to his assertion of will, showcasing his active masculinity illustrated by the attribute of a well-dominated animal.

The horse of von Hagens' *Rearing Horse with Rider* however, more closely resembles that of Bernini's 1670 sculpture *Emperor Constantine I*. In this composition, the horse not only has a chaotic energy, conveyed through his rearing posture, but wild eyes. Bernini's horse rears wildly beneath the Emperor, who is in the midst of his infamous encounter with the Divine and gaining spiritual enlightenment. Unlike the horse of Aurelius, both front hooves of Constantine's horse are raised off the ground. It is not the poised movement of dressage, but rather the rhetoric of an unruly or startled horse that is not fully controlled by its rider. Its hind legs squat low to the ground, as if preparing to propel its rider from its back. This horse as attribute signals that his rider has lost control, ignoring his responsibility to dominate the animal instincts of the beast. Whereas Marcus Aurelius' monument is the managed image of gestural governance, Bernini's Emperor Constantine I is a portrait of momentary experience, spiritual enlightenment, and loss of control.

Unlike Bernini's Constantine, however, von Hagens' rider is not enlightened through God and Catholicism, but rather through science and

plastination technology. While the horse rears just as Constantine's did, the domineering force of the rider is unwavering—he remains fully in control, in the manner of Marcus Aurelius. He gains his power and authority not only through the visual rhetoric of horsemanship, but also through his display of the plastinated brain that he grasps in his hand—symbolizing his knowledge of the human anatomical body and own intellectual capabilities. He masters the science of both man and beast. It is here that the visitor witnesses not only the dominating force of the male figure, but arguably von Hagens' visual assertion of his own professional status. Nowhere else in the Body Worlds exhibits can the female figure be seen as achieving such mastery over nature, animals, science, or even the male figure.

To also symbolize masculine intellectual mastery and existential curiosity, von Hagens elsewhere references the iconic figure of St. Bartholomew. In Catholic iconography, St. Bartholomew traditionally carries the sheath of his own flayed skin as his saintly attribute, as seen in Michelangelo's *Last Judgment* (fig. 50). The St. Bartholomew icon was also appropriated to represent the study of human anatomy, personifying the desire to know the entirety of the physical human being and its mortal existence, in Gaspar Becerra's engraving of the flayed man from *Anatomia Del Corpo Humano* (fig. 51).^{cccix} The attribute of flayed skin historically underscores man's strength and resilience to pain, desire for

intellectual mastery, and ability to uncover the layers of his own physical dimension. Michelangelo's figure of St. Bartholomew also occupies a defensive position. With a threatening gesture and knife in hand, he assertively points his finger towards the opposite side of the composition. Standing opposite St. Bartholomew, who is decorously covered by a piece of cloth, is the figure of a naked barbarian. The naked barbarian, because he lacks the modesty displayed by St. Bartholomew, acts as a symbol of the uncivilized—he is unenlightened, savage, and animal-like. In the *Last Judgment* St. Bartholomew is located on the side of righteous, among those who are God-fearing and who cower at the forceful gesture of Christ, who is in the center of the composition. St. Bartholomew's skin is his evidence of spiritual enlightenment, his proof of suffering and devotion to Christ.

In contrast, the left arm of Becerra's St. Bartholomew figure dangles at his side, grasping the sharp knife that he evidently flayed himself with. Unlike Michelangelo's St. Bartholomew, whose threatening gaze is directed opposite him, Becerra's flayed man peacefully admires his flayed skin. This is a scientifically objectified body; he actively sacrificed himself to the cause of anatomical science. The flaying knife symbolizes the figure's self-dissection in pursuit of intellectual enlightenment and self-knowledge. Small labeling letters and numbers are even included, illustrating specific anatomical structures. This St. Bartholomew figure is

at once a symbol for enlightenment and knowledge, but also stands as a physical diagram for anatomical study.

Grasping his own sheath of flayed skin, von Hagens' *Skin Man* continues to symbolize the masculine resilience, introspective capacity, and intellectual engagement that were previously established by traditional St. Bartholomew figure types. However, *Skin Man* is not aggressively gesturing like Michelangelo's figure, nor does he grasp the flaying knife attribute as Becerra's Bartholomew figure did. Instead, his expression is peaceful, contemplative, and hopeful. Whereas Becerra's flayed man faces his right as if gazing at his sheath of skin, von Hagens chooses a more optimistic gesture, directing the head of the *Skin Man* only slightly above his skin, towards the sky, as if in an offering gesture to the heavens. It is this man-made creation of plastination technology that elevates the skin of this man, bringing him enlightenment, the grace of divine powers.

The capacity for physical resilience and ability for self-discovery, in contrast, are not qualities that female plastinates of Body Worlds are visually indicated as possessing. Instead, the female plastinates are constructed to be both displayer and displayed, forcibly penetrated by the visitor's voyeuristic gaze and linked with docile, and often erotic, passivity. In this way, the female gender of Body Worlds is defined solely by corporeal form, as opposed to male figures whose art historical

references link them to a world of social materiality. Within the optics of Body Worlds installations, males exist within the social polis as they grasp their cultural artifacts, whereas females are outsiders to this material culture, lacking variety in accompanying non-corporeal attributes. Visually, the female gender is simply made entirely separate from the social arenas in which that male body operates.

The material objects most often displayed with female plastinates, such as the swing, function to further expose the gendered body. Historically found in venues such as the nineteenth century cabaret Moulin Rouge and commonly found today in gentlemen's clubs and erotic Las Vegas showcases,^{cccx} swings have been appropriated as tools to elicit male arousal. The cadence of the swinging action conveys a teasing, flirtatious eroticism. The pace can be altered from a seductively slow rhythm to a fast frenetic beat, picking up speed by periodically raising one's legs to "kick." With one movement, the most intimate spaces of the female body are revealed, and with another they are concealed by the plank of the swing in motion. As such, when operated by adults, swings visually signal foreplay, flirtatiousness, and lasciviousness.

In Jean-Honore Fragonard's 1766 *The Swing* (fig. 52), an apparently carefree woman is swinging in a grand garden adorned with cherub sculpture. Beneath her as she swings hides her lover in the bushes, waiting to catch a glimpse of her genitals as her skirt lifts. She

flamboyantly kicks her shoe off, insisting to the viewer that her actions are intentional. It is no accident that her lover gazes up at her—she is purposefully giving him something to look at. Behind the figures, hiding in the shadows, spies a servant who intently watches the flirtatious scene unfold. The light source signals to the viewer that, like the hidden servant, they too are concealed by the shadows, witnessing this illicit scene. This composition functions to convey lustful desire, teasing sexuality, and voyeuristic pleasure. The aesthetic of sensual voyeurism, prior to the creation of Fragonard's painting, was already incorporated into anatomical display, as exemplified in Museo della Specola's orgasmically writhing female figures and the engravings of Charles Estienne's 1546 anatomical atlas *La dissection des parties du corps humain*.^{cccxi} The incorporation of the voyeuristic perspective visually signals the permission to both look inside and physically penetrate the body—particularly that of the female.^{cccxi} Thereby the corporeal was made sexual, and so too the visual work of anatomical science.

While male plastinates have yet to repeat a material attribute, not one but two female plastinates are accompanied by the same attribute—the swing. *Yoga Lady* (2002) (fig. 53) is indeed the most striking of the two. She is suspended within a frame of bars which resemble an open-sided rectangular box, much like an opened coffin or metal scaffold.^{cccxiii} She rests on three Plexiglas swings. Beneath her is a full-length mirror. It

is upon these swings that a sinuous, serpentine curve is created with her body. Her legs are spread apart, feet resting on the third swing, offering full visual access to her vagina. She is nude, skinless, and pushing her breasts outward at the visitor eye level.^{cccxiv} Atop the breasts, her nipples resemble bright red cherries placed on the frosted apexes of cupcakes. *Yoga Lady* contorts her body to suit the gaze of the visitor, supporting only eroticized areas with the swings, letting the rest of her body dangle as “dead” weight. The top of the plastinate head is positioned just below the level of the swing that she rests her hands on, her eyes well below the eyeline of the visitor. This plastinate offers the flesh of her body to be wholly accessible to the visitor gaze while, at the same time, her gaze never meets that of the viewer. Like the early modern profile portraits of female sitters, this plastinate does not address the male gaze that confronts her, but rather is compositionally constructed to invite it, encourage it, and entice it—never to challenge it. While *Yoga Lady* is crafted to appear as if she is spreading her own legs and offering her own breasts to the visitor, von Hagens forces further access to her body in the addition of the clear Plexiglas swings and full-length mirror to reveal fully the female body to the male gaze. Here the female body is transformed into an object to be admired, a body to be made fully transparent and sensually defined.

Like *Yoga Lady*, *Woman on a Swing* (2009) (fig. 54) insists that

the female body desires to be penetrated by both the anatomists' knife and spectator gaze. Perched atop a reflective metal swing, *Woman on a Swing* is flayed from sternum to genitals, forcing visual access to the inner recesses of the female body. Suspended from the ceiling above, she sits higher than *Yoga Lady*, legs spread even further apart and offering an increasingly explicit view of the vagina. Her head is coquettishly brushing her bicep as it winds around the rope above, as if beckoning the visitor to her, enticing them with her sexually suggestive posture. Her gaze coyly addresses the visitor with a sideways glance. The expression on her face is seductive, her eyes appearing focused, her chin pointed down and her lips pursed. Her spread thighs, eye contact, and erotic facial expression communicates that she is meant to be in this position. Here the swing visually frames the feminine body as an object sensually positioned and made fully visible.

The abdomen of *Woman on a Swing* is flayed open and spread apart, similar to female figures in Charles Estienne's 1546 anatomical atlas *La dissection des parties du corps humain*. The illustrations included in Estienne's collection were themselves appropriated from a previous series of erotic engravings authored by Giulio Romano. Originally entitled *Modi*, meaning "the modes," "the positions," or "the postures," these images circulated throughout early modern Italy, plagued by scandal and censorship due to their titillating figural compositions of men and women

posed in the copulative act.^{cccxv} Included in Estienne's atlas were females depicted alone and in sexually explicit postures, most often perched at the feet of luxuriously adorned beds.^{cccxvi} One figure seated upon a wooden chest^{cccxvii} widely spreads her legs, holding them apart with her hands placed upon her knees (fig. 55). Another female reclines on the edge of the bed,^{cccxviii} resting her left foot upon a small chest in order to maximize the expanse between her splayed legs (fig. 56). Their facial expressions are passive and relaxed, as if they are asleep, marked chiefly by their closed eyes, downwardly tilted head, and parted, pursed lips. Sleeping faces ensure that the erotic gaze of the viewer will never be returned by the posed females. Simultaneously, however, their bodies are active, moving. Where St. Bartholomew types embodied the masculine ideal of knowing oneself, and of sacrificing themselves either for religious or scientific devotion, Estienne's females are essentially defined as sensual, making themselves sexually available, passively acquiescent to every desire of the viewer gaze.

Estienne's reclining figure also resembles the female waxes produced at Museo della Specola almost two hundred years later.^{cccix} The left arm of Museo della Specola's *Venus de Medici* is slightly bent away from her torso, resting upon a strategically placed pillow. The right arm arches overtop of her head. Her eyes are closed. Her breasts are perky and nipples erect. She is sexually available and ready to be penetrated.

The visual argument of the image is that the female body is intended to be scientifically, socially, and sexually penetrated—which elicits an orgasmic ecstasy within the half-dissected, writhing venus. The female body both desires and necessitates physical and visual penetration. Similarly, the female figures of Fragonard's *The Swing* and Estienne's reclining woman insist that they gain both physical and erotic pleasure from the voyeuristic gaze. The visual penetration, whether artistic, scientific, or physical, acts as that which is penile, sexual, and carnal.

The seated figure of Estienne's atlas holds her own legs apart, suggesting an active invitation for the erotic gaze of the viewer. Similarly, the materiality of the plastic polymers imposes an appearance of active agency on *Woman on a Swing*. Though her flesh is not physically pulled apart by her own hands, it appears to be held open by the swing's motion. Indeed, not only is she posed with her legs spread, but it is the knife of the anatomist that forces her open. The plastic polymers allow the deepest penetration into her body. Once the impregnating plastics harden inside the body of *Woman on a Swing*, it is permanently exposed, cementing the sexually revealing posture. Therefore, like the hands of Estienne's seated figure, plastination technology forces the penetration deep into the eroticized female body.

The female figures of Fragonard's *The Swing*, Estienne's anatomical atlas, and *Body Worlds* create eroticism through balancing the concealed

and the revealed. Whether invoking the visual sensuality of a richly adorned bed or a swing in motion, these figures are enticing. Each composition becomes a thrilling game of sensual chase. Concealment is illustrated through Fragonard's use of clothing and the viewer's assigned point of view, Estienne's use of skin, and the opaque layer of musculature found in Body Worlds displays. In each composition, the viewer perceives the movement of the swing, coming closer and then moving instantly away. At any moment, that which is revealed is gone again. The climax of the visual chase comes in the perceived unveiling, in which the voyeur experiences visual domination of the viewed body. Visibility is constructed using Fragonard's additional figures and manipulation of lighting, Estienne's perspectival point of view, and the selectively edited anatomy of Body Worlds' female plastinates. Appropriated by anatomical illustration and display the female body is constructed as that which is penetrated, both visually and physically. Uncovering the dissected female body is a double penetration—both scientific and erotic. Once “caught,” this eroticized body visually invites her viewer, both physician and popular audience, to penetrate her.

III) Conclusion

Recall Angie Day's comments regarding her post-mortem plastination wishes. She did not express her desire to be posed as a mother with a fetus, sensually engaging with visitors, or communing with

various animals. She had not stated that she wanted to be posed skiing within a forested nature scene. Instead, Day said that she wants to be plastinated in a reading gesture, a favorite pastime of hers. Unlike the current female plastinates of Body Worlds, Day desires to be accompanied by material artifacts, in her case books, that signal her place within the cultural framework, align with her valued character traits, and immortally mark her as an educated woman.

However, the poses of full-length Body Worlds figures narrowly frame the gendered body according to early modern stereotypes. Therefore, and unfortunately for Day, current female figures of Body Worlds are not accompanied by material artifacts that signal active agency, physical domination, or intellectual capacity as the male plastinates. Instead, female figures are erotically framed, posed to emphasize firm, perky breasts, reproductive organs and a passive yet coquettish character. Demonstrating knowledge of early modern anatomical display in the poses of Body Worlds plastinates, von Hagens presents himself to the Body Worlds visitor as an integral part in the meta-narrative of scientific discovery and innovation. However these early modern references visually function beyond authoritative persona creation. Unlike any portraiture or anatomical display before it, anatomical portraits of Body Worlds are physically fused to their accompanying attributes. Doing so literally (and figuratively) cements these early

modern stereotypes in the figure itself, imbricating the gendered concepts and material objects with the flesh of the body.

Chapter Three: Isolating Exhibitionary Conversations: Anatomical Fragments, Portraits of Penetration, and the Construction of Intimate Space

She sits atop his pelvis. Arching her back she reveals her firm, perky breasts and erect nipples. Her thighs tightly grip his hips. His rigid penis fully penetrates her vagina. Her delicate arms reach back behind her, grabbing his forearms, digging her nails into his flesh. A smile crosses his face. Her eyes gaze up at the ceiling, orgasmically rolling towards the back of her head. Her lips are parted as if she will scream at any moment—but she will never scream and neither will he. They were the posed, skinless, plastinated corpses of Gunther von Hagens' *Suspended Act* (2009) (fig. 57).

Following the inaugural 2009 London installation of *Suspended Act*, German officials blocked its display in the 2009 Augsburg installation of *Body Worlds*, stating that the plastinate composition was indecent and violated the dignity of the cadavers.^{cccxx} In response, von Hagens dismembered the plastinated corpses using a hacksaw, separating their

torsos and extremities, leaving only the site of penetration.^{cccxxi} The act of sawing, as opposed to storage for later exhibitions, seems very strange. Once sawed, the full-length anatomical portrait was irreversibly transformed into a portrait of anatomical fragments—impacting not only the visual composition, but also how the figures will be displayed in the future.

Full-length Body Worlds plastinates are installed much differently than fragments. The visual supremacy of the wholistic plastinates is established largely by their exhibitionary isolation. Each full-length composition is placed alone on its own plinth, spotlit from above and performing a singular task. They are dated, titled, and signed—appropriating display conventions associated with objects of high culture. Conversely, fragment plastinates are displayed in clustered groupings inside low glass cases. These display tables initially appear only as spatial filler, yet they simultaneously function as museological traffic cones. The placement of cases manages the high volume of ambulatory flow, breaking up single file admission lines into smaller microcosms of circular movement around the cases, slowing the experiential pace of visitors. Placing the fragments beneath eye level encourages visitors to experience the fragments as somewhat ordinary or common. Without unique title or signature or date, the pieces are addressed only by popular scientific name such as tibia, clavicle, scapula, or fibula. If accompanied by any text,

a small plaque only briefly lists the anatomical function, possibly including associated pathologies.

Fragmented structures of the body have been incorporated in anatomical display since the early modern period. Renato Mazzolini discusses the fragment anatomy of Museo della Specola as the manifestation of inaugural curator Felice Fontana's interest in bodily mechanics.^{cccxxii} Fragment anatomy, according to Mazzolini, explicitly informed visitor perception of the full-length figures—performing as smaller microcosms that functioned within the larger macrocosm. Historian Anna Maerker discusses how body parts were exhibited according to a strict system of classification in order to distance the collection of Museo della Specola from popular entertainment sites such as travelling shows of monsters.^{cccxxiii} As such, fragment pieces were not only displayed as wax sculpture but also as watercolor drawings installed on the walls and in the drawers of their exhibition room. This allowed visitors to locate the individual parts of the body, mentally assembling them as one would a puzzle, to complete the full-body figure. Alessandro Riva, Gabriele Conti, Paola Solinas, and Francesco Loy argue that early anatomical wax sculptures were systematic in their representation of the internal human body in order to specifically instruct training surgeons.^{cccxxiv} Surgeons, lacking standardized education and unable to read textbook Latin, had scant knowledge of anatomy, specifically of internal organs.^{cccxxv}

Wax anatomical sculpture allowed surgeons to gain knowledge of the body through visual image and perception. Early modern fragmented wax models thus supplemented traditional venues of academic exposure such as cadaver dissections and the written knowledge of textbooks.

Previously, in this discussion of anatomical portraiture, only full-length anatomical portraits have been addressed. I have proposed the concept of anatomical portraiture, a new display genre that is at once informed by a new material visibility and is also selectively appropriating early modern anatomical display techniques. Necessary in this discussion is an investigation into how fragment pieces function in showcases of full-length anatomical portraits. While plastinated fragments are not installed as prominently as the artfully presented full-length figures, they play a subtly significant role in the display of anatomical portraits, visually serving as a managed backdrop to the theatricality of wholistic Body Worlds plastinates. I contend that in Body Worlds exhibits the fragment body functions as a calculated visual assertion of didactic exhibitional authority—evidence that science and reason dominate over the controversial and provocative in Body Worlds exhibits.

In the London 2009 installation of *Body Worlds and the Mirror of Time*, reproductive anatomy was for the first time emphasized by a full-length plastinate composition, the anatomical portrait entitled, *Suspended Act* (2009). It was inside this separated room that the wholistic

plastinate, *Suspended Act* (2009), and fragmented body, *Cross-Section of Coital Act* (2009), visually interacted in an isolated environment. The interior of this room is opposed to the rest of the Body Worlds installation, uncluttered by a multiplicity of banners, full-length plastinates, and exhibitionary video displays. Alongside this pair of plastinate displays are thematically focused banners that directly address the compositional subject matter and thematically oriented props. Analyzing the contents of this sparsely accessorized room facilitates a discussion that centers on exactly how all plastinated fragments are incorporated to function inside Body Worlds displays. The spatial isolation of the fragmented body found in the display of *Suspended Act* and *Cross-Section of the Coital Act* simultaneously references early modern traditions of both anatomical and limning installations. The bodies represented in each were considered intimate and worthy of decorous protection, and were thus hidden from popular view. Like Museo della Specola and early modern limning portraits, the *Suspended Act* room from the London 2009 Body Worlds installation emphasized a physical journey from the public to private realm in order to respectably experience its displayed contents. This constructed veil of privacy reinforces the power of the scientifically defined fragment body, communicating practical information and intellectual understanding in the perceived absence of voyeuristic exploitation.

I) Conversational Exhibition Space

Placement, lighting, and title suggest that *Suspended Act* and *Cross-Section of the Coital Act* are separate entities, even though they are installed in the same room. I, however, insist that both the full length and fragment portraits actively relate to one another. For not only was the *Suspended Act* room centrally located in the 2009 London installation, but after navigating the remainder of the exhibit where up to ten full-length plastinates were displayed in a single room, the impact of the sparsely stocked *Suspended Act* room was striking. This decision suggests that these compositions were selected to frame the sex act in a very specific way. As cultural critic Mieke Bal writes,

Exhibitions are neither realistic nor transparent windows through which the visitor can get a view on the world of art “as it is.” They are the result of pointing by an agent who says, not in general “Look!” but “Look at this! This is what I have selected for you to see.”^{cccxxvi}

As Bal states, *Suspended Act* and *Cross-Section of the Coital Act*, engage in an spatial conversation that underpins Body Worlds’ claims to legitimate didacticism, incorporating new technologies of vision, and attempting to quiet the voices that criticize the sensational displays of Body Worlds’ figures.^{cccxxvii}

The full-length and fragment bodies were spatially segregated

inside the *Suspended Act* room in order to invoke a plurality of voices with which to represent the anatomy of sexual intercourse. Contemporary exhibitionary methods stress the visual incorporation of a multiplicity of considerations that expand beyond a monilinear frame of reference.^{cccxxviii} Conversational display introduces a multitude of disciplinary voices into exhibitionary design, allowing for a narrative construction that includes many diverse types of installed objects. Museum studies scholar Eileen Hooper-Greenhill states that, in contrast to Renaissance era displays where objects were placed on tables of classification with each artifact relating to the next, today things are presented in relation to human beings, historical narratives, and collected stories.^{cccxxix} Conversational exhibition conceptually fragments the object, multiplying meaning and expanding perspectives.^{cccxxx} In this exhibitionary technology, human, social, and cultural networks are simultaneously referenced to expand the presentation of material items, introducing a variety of academic voices from archaeology to the medical sciences.^{cccxxxi} Through this strategy, the surrounding socio-cultural factors involved in the creation of objects and in their exhibition design are made increasingly visible rather than erased to serve a monilinear narrative. In the case of the *Suspended Act* room, the fragment and the full-length portraits were each manufactured by a specific socio-cultural orientation, particularly situating the full-length figures in the sphere of the artistic, and the fragment bodies in that of

the scientific.

The venue for the 2009 London installation of Body Worlds was the exhibition space of the expansive O2 Arena. From the arena entrance, visitors needed to walk through a maze of restaurants, bars, and shops on “Entertainment Avenue” in order to arrive at the entry point of the Body Worlds exhibit. Once inside, bright spotlights illuminated full-length plastinates that lined the black walls of the open-concept installation space. White-bottomed display cases housed clusters of plastinated organs in the center of each room. Text-filled boards were placed throughout the exhibit with quotations by famous authors, poets, artists, philosophers, world and religious leaders.^{cccxxii} These quotations are manufactured to multiply and fragment the significance of the Body Worlds project and the development of plastination as a technology. The continual contrast of black walls and white light made the bright pink and red pigments of full-length plastinates appear striking.

Inside the labyrinth of expansive exhibition spaces was a small rectangular room with a museum guard stationed at the door. When visitors approached the door, the guard asked for identification, denying entry to anyone under the age of sixteen. Admitted patrons then entered a long dark narrow space, larger than a hallway but smaller than another room. A bright white light glimmered in the distance, the pink pigment of the *Suspended Act* figures barely visible through the glare. Closer to the

light, against the far left wall, was a single display board entitled *Waves of Lust*.^{cccxxxiii} This board produces a history of work that visualized the sex act, encompassing the illustrations of fifteenth century Leonardo da Vinci, the experiments of early twentieth century sexologist Robert Dickinson, and climaxing in the creation of von Hagens' *Suspended Act* (2009). In the list of pioneering intercourse researchers, as von Hagens claims for the entirety of his Body Worlds plastinates, art meets science. Da Vinci's sketch *Coition of a Hemisected Man & Woman* (c. 1492) (fig. 58) is especially revered on the board as revolutionary and ambitious. The discussion of da Vinci's image focuses on his artistic rendering of a scientific concept, or rather the expert use of aesthetic principles to visualize facts or theories, in order to truly master the body. Da Vinci is noted on the board to have been influenced by the errors of his predecessors—just as von Hagens claims to have been.^{cccxxxiv} The visuality of da Vinci's anatomical cross-section is at once traditional in its early modern origin, and yet contemporarily relevant, currently observed in medical imaging perspectives such as magnetic resonance imaging and computer tomography scans. However, according to the text of the board, it is von Hagens who achieves what da Vinci, who is referred to simultaneously as both scientific and artistic genius,^{cccxxxv} could only endeavor to do. For it was inside the *Suspended Act* room that only two authoritative voices were presented with which to engage the plastinate

compositions: that of art and that of science.

The main attraction of the room was made apparent by the brightly focused spotlights placed above it, contrasting the rest of the room that was enveloped in total darkness. Posed in a reverse-cowgirl position, the female corpse of *Suspended Act* sits upright on top of the male. The curves of her perky sculpted breasts are emphasized by the angularity of her sharply flayed back muscles. The hardened plastinate materiality makes the posterior female musculature appear as though it is being stiffly pulled apart, away from the rest of her body, as wings. Her facial expression closely resembles the St. Theresa figure of Bernini's *Ecstasy of St. Theresa* (1647-1652) (fig. 59). The eyes of both figures appear to roll back into their heads, eyelids slightly closed, mouths seductively open. As Bernini referred to the passage that described St Theresa as being "on fire" or "alight" with divine love, von Hagens depicts the female cadaver as being on fire with carnal desire, posed in the sexual act.^{cccxxxvi} It is not the gold, flaming arrow of the fiery Seraphim angel that pierces her with desire, but rather the male figure that accompanies her, piercing her with his large, thick, erect penis. Unlike Theresa who is in a passive, reclining gesture beneath the angel that actively assaults her with its arrow, this female cadaver is in an active pose, overtop of the male. However, the male still asserts the active control with his hands on her hips, forcing her pelvis onto him.^{cccxxxvii} Like the fiery Seraphim in

Bernini's *Ecstasy of St. Theresa*, the male figure smiles as he continues to pierce, repeatedly penetrating the female body.

Von Hagens defines his "anatomical art" as "the aesthetic and instructive representation of the inside of the body."^{cccxxxviii} The plastinate compositions of the *Suspended Act* room respectively represent a different aspect of his definition: *Suspended Act* for aesthetic art, *Cross-Section of the Coital Act* for instructive science.^{cccxxxix} *Cross-Section of the Coital Act* compositionally differs from *Suspended Act*, and it is here that their ideological differences are made visually manifest. The materiality of *Cross-Section of the Coital Act*, for instance, is a slick, shiny, hard contrast to the frayed, fleshy, crimson appearance of *Suspended Act*. *Suspended Act* also indicates blade marks, having been carved into form with a decidedly rough texture, implicating the work of the hand rather than technological process. *Suspended Act* depicts gestures of lovemaking, his hands explicitly forcing penile penetration into her body.^{cccxl} Conversely, *Cross-Section of the Coital Act* is a transparent rendering of intercourse through an insistent scientific lens. *Cross-Section of the Coital Act* does not allow the visualization of loving gestures like *Suspended Act*, only a diagram of sexual penetration.

Cross-Section of the Coital Act, in fact, aesthetically mimics contemporary medical technologies such as magnetic resonance imaging (MRI). Being one of only a few anatomical fragments that are shown

posed, *Cross-Section of the Coital Act* is a sagittal sectioning of two cadaver torsos posed in the sex act. In 1999, Schultz, van Andel, Sabelis, and Mooyaart conducted an observational study of participants imaged using MRI technology during coitus.^{cccxi} Imaged research data was published in the study, accompanied by an anatomical key that labeled a duplicate image, explicitly highlighting the anatomical configuration of the copulating bodies. The original magnetic resonance scan, absent of anatomical labels, visually resembles *Cross-Section of the Coital Act*. Both images are cluttered with white masses and black spaces—only the posterior outline of the back signals that human bodies are being displayed. Whereas *Suspended Act* unmistakably renders a portrait of human intercourse, *Cross-Section of the Coital Act* suggests it only in name, its visual form appearing confusing and indecipherable to the average visitor.

Despite the scintillating pose of *Cross-Section of the Coital Act*, these sectioned torsos compositionally read as a medical document or scientific record. The thinly cut flesh visually recalls MRI scans, where computer software is used to visually section the body.^{cccxii} The sagittally sliced perspective of *Cross-Section of the Coital Act* seemingly denies the inwardly projecting depth of the body, instead appearing flat and without dimension. Similarly, MRI produces an alternative variation to traditional depth and perspective seen in its exhibitionary counterpart. Like the

image created from an MRI scan, the organs of the *Cross-Section* cadavers appear embedded within the inner body, overlapping one another, and tightly compressed. Only a portion of medically trained visitors would likely be equipped with an ability to render the MRI-like composition visually legible.^{cccxliv} However, many visitors may not be able to distinguish the pancreas from the liver within this imaging context, as the overlapping organs often appear indistinguishable from one another. Therefore, depth is communicated through the coloration of the plastinated pigments. Using varied shades and tones of colors, the organs are visually extricated from one another, so that even the non-medical eye can sense structural difference; deeper colors are given to recessed organs, lighter pigments for those in the implied foreground. The depth of the human body is simultaneously created through pigmentation and yet denied in the flat hemisected image of the cadaver bodies. Just as von Hagens textually refers to scientific technology throughout the exhibit, *Cross-Section of the Coital Act* visually reads as materially transparent, as concealing nothing.

Technoscientific scholars have demonstrated that, while contemporary medical imaging techniques appear visually transparent and mechanically objective, they are in fact laden with layers of interpretive points and subjective decisions. Technoscientific scholar Kelly Joyce insists that MRI does not reveal the inner body as scientific scholars have

claimed, but rather that it is a highly mediated process that produces the body.^{cccxliv} The practical values of MRI scans are impacted by the actions and decisions of both technician and physician. During MRI exams, computer software is manipulated by the technician to electronically section or slice the area of the body to be imaged.^{cccxlv} If technicians choose to assign parameters that are either too thick or thin, “error” artifacts appear in the scan such as UBOs or “unidentified bright objects.”^{cccxlvii} Radiologists rely upon subjective, and thus nonstandardized, translation skills to decide whether the UBO is simply an artifact or instead a pathological manifestation.^{cccxlviii} Joyce maintains that the source of the communicative gap between imaging professionals and popular audiences exists in the current reliance upon the invisibility of physician and technologist knowledge about and use of MRI.^{cccxlvi} Among one another, physicians and technologists address MRI technology as impacted by human actions, affecting the content and use of an image; when communicating to patients or the general public, they employ tropes that promote the image as truthful, transparent, objective, and progressive.^{cccxlix} Joyce asserts that the continual use of such narratives, combined with broader cultural views that link mechanically produced images to revelations of the physical world and the production of truth, enhances the status of anatomical images, increasing their significance in the construction and assertion of authoritative knowledge in

contemporary medicine and culture.^{cccl} The *Cross-Section of the Coital Act* is installed as an artifact of objective science inside the *Suspended Act* room; yet ironically, MRI and anatomical portraits alike are subjectively framed, produced, and interpreted. Therefore, the thin veil of total scientific objectivity associated with the visibility of these fragment bodies is, in fact, a false one.

Beside *Cross-Section of the Coital Act*, just before exiting the room, was a canvas placed on a staged artists' easel. On the canvas were simple line drawings, the beginning of an artistic sketch, of the posed figures in *Suspended Act*. Here, against the scientific backdrop of *Cross-Section of the Coital Act*, *Suspended Act* is reinforced as artwork. The three-dimensional, sensualized flesh sculpture is what will intrigue artists—art inspires art. Just as art students have studied the sensualized wax full-length wax figures of Museo della Specola, von Hagens is suggesting that his anatomical art too is worthy of emulation. Not one sketch on that easel, however, depicts *Cross-Section of the Coital Act*, despite its resemblance to the Leonardo da Vinci reference and associated textual edification professed on the “Waves of Lust” board. The visual implication is thus that *Cross-Section of the Coital Act* is a scientific object, emblematic of plastination technology and magnetic resonance imagery, and without sensual pose or jeweled adornment. Furthermore, the scientific fragment body is not the last object to be

encountered as one leaves the *Suspended Act* room but rather it is the easel—a reference to the artistry of von Hagens craft. The parting message left with the visitor is how von Hagens’s plastination technology creates artwork from the body. It is this view that is repeatedly emphasized on donor consent forms, surrounding plastinate displays and publicity images.

Like the isolated exhibition space, the fragment bodies of *Cross-Section of the Coital Act* serve to contextualize *Suspended Act* with an aura of scientific grounding and social respectability. The fragments stand to make the full-length plastinates visually legible as intellectually and not carnally defined. Inside the *Suspended Act* room, the fragment figures highlight the scientific theory and studied mechanics of sexual intercourse—downplaying the sensationalized eroticism of the full-length plastinates.

ii) Historically Framing Reproductive Anatomy

Entry into the *Suspended Act* chamber was preceded by a series of nine large rooms in which other full-length and fragment plastinates were exhibited. In these rooms, the gestational, embryonic, skeletal, musculoskeletal, neurological, respiratory, vascular, and digestive systems were featured. Therefore, before entering into the *Suspended Act* room, which contained the acts of the intimate or private body,^{cccli} visitors first had to pass through the layers of the public body. Access to the

Suspended Act room was restricted by both architecture and personnel placement. With a unidirectional traffic flow, guard presence, door number, and placement, the space did not require the visitor to enter. Instead, the room could be omitted from the Body Worlds experience entirely without hindering the narrative flow of the remaining exhibits. Furthermore, it was a space restrictive in size; whereas other rooms in the exhibit were capable of holding several hundreds of people at one time, this room was capable of holding perhaps fifty.

This exhibitionary design plan in which the reproductive installations are concealed is not original. The precedence was set in the early modern period by the design of Museo della Specola. Before entering into the reproductive anatomy installation, visitors to the anatomical display of Museo della Specola first passed through multiple rooms that addressed the anatomical and physiologic systems of the body: musculo-skeletal, lymphatic, cardiovascular, nervous, and digestive. Passing through these preliminary rooms, each equipped with large entrance points linking room to room, the museum patron charted the public body in a systematically organized way.

Progressing from the public to the intimate corporeal understanding, it was inside the obstetrical salon that the concealed body was housed. Because of its separateness, the obstetrical room does not require the Museo della Specola visitor to enter, as do the others. In fact,

after walking up a few stairs, if not careful, visitors would unknowingly neglect the small room on the left, situated just before the exit; instead of insisting upon the visitor's entrance, it rather subtly suggests its presence. Unlike the other displays where two doors necessarily connect one room to the next and with walls lined with objects to seamlessly indicate the prescribed direction of movement, this room exists unto itself with a single door. The museological narrative is largely unaffected if the viewer omits entering the obstetrical room—the human anatomical body is still visually sitting atop the scientifically constructed natural hierarchy, with the animal and plant kingdoms beneath it.^{ccclii}

The restrictive size of the obstetrical room suggests a smaller, differentiated audience compared to the rest of the expansive museum space. Inside this reproductive salon of Museo della Specola, a lesson on sexual reproduction to prepare a young adult for the rite of passage into the marriage bed could easily be explained in a quiet, studious, and uninterrupted manner.^{cccliii} For, like the chamber of *Suspended Act*, Museo della Specola's founding director Felice Fontana utilized multiple perspectives to insinuate sexual mechanics and the functionality of reproductive anatomy. Lining the walls of the obstetrical salon are fragments of the human body. A collection of isolated genitals and reproductive systems^{cccliv} are displayed in shadow boxes made of dark rosewood. In the penile preparations (ostericia 987, 990, 988), the

shapes of both the erect and flaccid penis are illustrated. All penises are skinless, allowing the discerning of the intricate vasculature and innervation of the nervous system. Preparations ostericia 987 (fig. 60) and 988 (fig. 62) show the vasculature of the penis, in both circumcised and non-circumcised anatomy. Preparation ostericia 990 (fig. 61) displays the erect penis in profile, cross-sectioned in a sagittal slice, similar to da Vinci's sketch. From this perspective, the member appears as if immediately ready to penetrate the vagina. The cumulative didactic effect of these displays for the visitor is not only the communication of the internal structure of the penis, but also an illustration of the mechanics of arousal in the male reproductive system. The collected range from flaccid fragment penises to erect sagittally sliced members produces a simulated lapsing of time, allowing the visitor to sense the progression of stimulation upon the male genital blood supply and nervous system.

Displayed beside the male genitals are those of the female. The externality of female genitals is linked with the internal systematics of generation and arousal through varied compositional perspectives.^{ccclv} The female genitalia (ostericia 1012, 1007, 1015) are emphasized primarily by their external characteristics. Preparation ostericia 1012 (fig. 63) displays a series of vaginal entrances surrounding an intact female reproductive system, including uterus, fallopian tubes, and ovaries. Preparation ostericia 1007 (fig. 64) highlights the anatomy of the female

clitoris. The layers of the flesh, displayed in situ near the vaginal opening, are discerned so that the viewer may see the total innervation of the clitoris and not simply its glans. In ostericia 1015 (fig. 65), the pelvic area, inner thighs, and external female genitalia are depicted with blonde pubic hair included. In ostericia 1015 the labial lips and clitoris are most emphasized, colored by a blushing pink toned pigment. Here the progression of time and sexual stimulation is insinuated through the coloration of the female anatomy, the apparent deepening of color and swelling of clitoris and labial lips. Similar to the display of penile anatomy, Fontana employs varied compositional perspective to convey functionality and mechanics of reproductive anatomy.

The focal point of the obstetrical salon is the *Venus de Medici* (fig. 3). Reclining, nude, and partially dissected, her reproductive organs are explicitly displayed. This female wax figure displays the theme of the room, the possible evidence of sexual intercourse—what appears to be fetal flesh that sits inside the uterus. Around her, lining the walls of the room, are the fragment pieces of the body involved in intercourse: uteruses, vaginas, penises, and scrotums. Visitors are able to glance at the fragments inside the box and find their corresponding space within the full-length *Venus de Medici* featured in the center of the small room. Just as the fragmented plastinate *Cross-Section of the Coital Act* informs the scientifically-defined sexual mechanics featured in the larger

plastinate composition *Suspended Act*, the *Venus de Medici* acts as an artistically rendered utilitarian reference point for the fragment body. The manner in which composition, material rendering, and spatial display are utilized encouraged the early modern visitor to mentally assemble the pieces among boxes—illustrating a more intellectual depiction of sexual mechanics than offered elsewhere in early modern Florence.

With only one door and a marginalized location, the obstetrical salon is spatially constructed as an area intended for a potentially lengthy contemplation of its displayed objects by only a small number of people. Without the company of a docent or educator, visitors are able to structure their own visit to include this exhibit and carefully study its contents. It is not a space of high traffic, but rather of intense, isolated, intimate study, out of the view of most other patrons. This is not a space to people-watch in. It is a space for a private study in sexual reproduction, away from the gaze of others. It is here that one learns the ways in which they regulate their own sexual reproduction.

While the fragmented bodies of the obstetrical salon could assist in the diffusing of intense erotic feelings elicited by the full-length female figures, something that museum administrators did in fact fear, they nevertheless were also intended to didactically function for the benefit of the visitors.^{ccclvi} Held within the walls of the obstetrical salon were kinesthetically-oriented reproductive bodies of men and women, depicted

as the sexual mechanics of Fontana’s didactic plan. From the emphasized compositional perspectives of isolated parts, visitors gained a unique perspective into the most intimate spaces of the human body—typically only afforded to those already sexually active. In fact, as historians Mary Sheriff and Francesco de Ceglia state, that such early anatomical collections and museums were used as a sexual rite of passage for some patrons—particularly women.^{ccclvii} Lady Marguerite Blessington, famous author and Countess, remarked that,

I entered the Gabinetto Fisico today, and though I only remained a few minutes I carried away a sense of loathing that has not yet left me. Surely some restriction should exist to preclude men and women from viewing these models together... It is meet that we should know that we are fearfully and wonderfully created.^{ccclviii}

The anatomical prelude to sexual initiation was also mentioned in the letters of Denis Diderot pertaining to the forthcoming marriage of his daughter in 1772.^{ccclix} Diderot writes that he took his daughter to the anatomical cabinet of Mme. Catherine Bilheron, further enrolling her in three anatomy classes prior to her marriage.^{ccclx} Diderot wrote that the education that she received from her visits to Mme. Bilheron’s cabinet both improved “her talent and her wisdom.”^{ccclxi} Sexual rites of passage, whether overseen by elder family members or facilitated by professional

educators, would be less intrusive to other patrons of the museum and more appropriate for safeguarding the fragile construction of early modern notions of proper female character if conducted in a small isolated space such as that of Museo della Specola's obstetrical salon.

While visits to anatomical exhibits for young girls often acted as pre-deflowering experiences, for the men and boys of Florence, La Specola too offered them an encounter with the sexual. Male visitors to the exhibit in Florence were often not physicians. The female figures allowed the young men of Florence access into the adult world of a more explicit sexuality—or, as de Ceglia refers to the exhibit, “an anatomical brothel.”^{ccclxii} The nude, sensually writhing female figures proved so enticing that eventually locks had to be installed on the cases of the reclining female figures.^{ccclxiii} The locks placed on the cabinets prevented male patrons from fondling the female waxes that were rendered so lifelike as to appear physically supple and aesthetically enticing.

By grouping fragmented anatomical pieces of reproduction in the isolated obstetrical salon, Fontana constructed an opportunity for a more intellectual and decorous experience with sexual anatomy. The wax displays emphasize what I argue is a more kinesthetic exercise in sexual education, conducive to the proposition that La Specola's anatomical exhibit also functioned as a venue of sexual initiation. *Body Worlds* arguably draws from this same early modern tradition of isolating the

reproductive anatomy installation within its own room. However, I argue that von Hagens does so for vastly different reasons. Instead of providing visitors with a venue for sexual initiation as the “anatomical brothel” of Museo della Specola likely did,^{ccclxiv} von Hagens uses the space to refute claims of his exhibitionary sensationalism and to argue for the didactic underpinnings of his anatomical art.^{ccclxv} The anatomical displays of Body Worlds and Museo della Specola use full-length and fragment figures in their installations of reproductive anatomy. The small confines of each room, preceded by other larger exhibition spaces featuring the public body, fashion the feeling of intimacy within the exhibit. By constructing an intimate setting, the visitor senses that they are granted access to the most secret, inner recesses of the human body. It is within this fashioned intimate space that the sensationalized full-length plastinate appears exaggerated, the close visitor proximity to the work heightening the physical impact of the theatrical full-length pieces. Therefore, it is the job of the scientifically defined and mechanically composed fragment bodies to give intellectual authority or credibility to the dramatic figures at the center of the room.

III) Early Modern Intimate Spaces: Miniature Portraits

Like the reproductive anatomical installations of Body Worlds and Museo della Specola, where the incorporation of the visually detailed fragment body and physical isolation signaled an intimate space, so too

did display and storage space of the early modern miniature portrait. Otherwise known as limnings, miniature portraiture of the early modern period embraced small spaces and material concealment to convey intimacy. Limnings almost universally displayed the fragmented body of the sitter, most often the torso or traditional bust. Early modern miniature portraits were given as gifts or sentimental tokens, often being exchanged between lovers to convey affection.^{ccclxvi} These small painted images, rich in intricate detail, were intended to embody the personal relationship between sitter and owner. The pictorial composition of miniature fragment portraits, unlike traditional larger portraits, did not emphasize the more public body of rank or office.^{ccclxvii} Instead, miniatures focused mainly on the details of face, shoulders, and hands.^{ccclxviii} English scholar Patricia Fumerton states, “[w]here the oil painting represented “a statesman, a soldier, a court-favorite in all his regalia,” the miniature showed “a lover, a mistress, a wife, an intimate friend.”^{ccclxix}

The sitter’s body was not emphasized as being made of the flesh; rather corporeality was only insinuated beneath a veil of patterned ornament. Nicholas Hilliard, an influential miniature artist in Elizabethan England focused particularly on line, stating that it better showcased light, truth and purity of soul.^{ccclxx} Manipulation of shadow, in contrast, carried undertones of shame, smut, and truth “ill told.”^{ccclxxi} Hilliard noted in his treatise, that his limnings were “for the service of noble persons

very meet, in small volumes, in private manner.[...] it is a kind of gentle painting... it is secret.”^{ccclxxii} In depicting the patron’s secret, Hilliard too embodied privacy through making public—highlighting the person or inner self only behind an elaborate screen of ornamentation defined in his line-driven style.^{ccclxxiii}

Hilliard’s *Unknown Lady* (1585-90) (fig. 66), in particular, reflected his decorative, ornamental style. The hair, clothing and jewels of the Lady are made overtly elaborate. The embroidered linen collar, or ruff, and tightly-curved hair of the Lady consumes three-quarters of the compositional space, leaving her small oval face as the only visual relief from the intricate patterns. Her ruff was so intricately painted that the black bows of her earrings and necklace are lost within its lacey matrix, unless held very closely to the eye. The body of the woman is concealed beneath an elaborately structured pattern, her face appearing softer, flawless, and secondary to the intricacy of her materiality. Indeed, the overwhelming presence of decorative pattern visually asserts itself as primary over that of the body. Hilliard’s patterns would be further enriched by decadent amounts of deep color and gold metal, reinforcing the decorative appearance of the limning.^{ccclxxiv} The body, the relationship between owner and sitter, was not made intimate through this manipulation of line and intricate ornament; intimacy was fashioned in a more physical and performative way.

While the miniature portrait and all its intricateness was intended to convey an intimate relationship between two people, the gifter and the owner of the completed work, it is not the decorative composition that conveys the intimacy but rather the fashioned space in which these portraits were installed.^{ccclxxv} As a result, the early modern miniature portrait occupied a visual balance between the public and private, visible and concealed. Limnings were kept in the most private rooms of the home. The early modern aristocratic household was composed of a series of public reception rooms that wound around, gradually filtering down to a few private chambers. The closer visitors got to the center of the home, the more restricted that space in physical size. The network of reception rooms allowed for the presence of the public body. However, the more private chambers, smaller and accessed by fewer people, conveyed a sense of protection and discrimination of those who entered, assuring that the intimate contents would remain thus.

Fumerton states that upon the creation of privacy in the early modern period there was an immediate need to create further privacy, even more intimate spaces where fewer people would be admitted.^{ccclxxvi} These portraits were not only spatially isolated in their physical placement inside the home, but were also often wrapped inside layers of luxurious textiles. Wrapped limning portraits were often further hidden within specially constructed display cases made of precious jewels and expensive

metals. Fumerton suggests that the function of the limning chest was to serve as yet another room, a further intimate space, within the bedchamber.^{ccclxxvii} Placement of limning cabinets in the most intimate spaces of the domestic architecture—in the bedchamber or closet of the bedchamber—thus reflected the deep intimacy that characterized the relationship between portrait sitter and owner.^{ccclxxviii}

In order to gain access to the private, one must first engage in more public activity—becoming more public, passing through more reception rooms, in order to gain access to the private.^{ccclxxix} Allowing others to view one's limnings made public those private commissioned images, in approaching the miniature portrait exhibition space, visitors also had to become more public, passing through more reception rooms, in order to gain access to the realm of intimacy. Glaringly obvious is the illusion of privacy in the early modern period—for even the most intimate of spaces was entered into by a number of servants.^{ccclxxx} The architecture, the navigation of public to private, mirrored the inward and outward aspects of limning cabinet.^{ccclxxxi}

IV) Intimate Spaces: Anatomical Portraits

Essential to the display of the early modern miniature portrait was the spatial fashioning of intimacy surrounding the portrait. For established in the display of the fragmented anatomical body was a public performance of that which was constructed as being intensely personal.

Similarly, the reproductive anatomy displays of both Museo della Specola and Body Worlds was hidden within rooms presented to the visitor as intimate space. The penetration of the physical exhibition space in Museo della Specola or Body Worlds, like the journey into the private interior of the Elizabethan aristocratic home, is symbolic of the penetration of public into private space. The figures of the preceding rooms in the 2009 London exhibition displayed active poses of sports playing, oil painting, and CPR. In other words, the poses of these plastinate figures were representative of those practiced in these public rooms or in general society. There were no depictions of physical intimacy that paralleled *Suspended Act* displayed in the general space of the exhibit in the preceding rooms. The visitor first had to become more public in their Body Worlds experience, the public body repeatedly exposed before venturing into the interior of the exhibit, gaining access to both the private space but also the private activities of the body. This spatial construction of intimacy, through a network of exhibition rooms, frames the fragmented body within reproductive installations as befitting its surroundings.

Early modern limnings were housed inside specially made cabinets to conceal the intimate portraits within an increasingly private space. Within the architectural isolation of the bedchamber, this cabinet acted like a Russian doll's unfolding of space-within-a-space. The same nesting

doll concept is reflected in the *Suspended Act* room of the London 2009 exhibit where, inside the isolated chamber, *Suspended Act* was kept inside its own Plexiglas case. *Cross-Section of the Coital Act*, on the other hand, was exhibited atop a plinth, but not protected by a case. *Suspended Act* does not employ the same medicalized visuality of *Cross-Section of the Coital Act*, and therefore it requires a different display rhetoric to frame the plastinate to the visiting audience. *Suspended Act*, isolated within its own room, inhabits a transparent space that is defined by still smaller walls. These physical limits allow only the two cadaver bodies to inhabit the space inside; visitors cannot enter into the space, touch the bodies, or closely examine their form. And so, despite its apparent transparency, this glass box creates a physically intimate space in which the platinates are kept. The denial of touch implicit in the encased form frames the plastinate composition as an art object, something to be preserved, displayed, and privileged over other pieces. This case which separates *Suspended Act* from the other piece in the room thus clearly defines the differentiated manner of approach and interpretation compared to *Cross-Section of the Coital Act*.

The absence of the display case signals the accessibility of scientific material that von Hagens' claims is within the rest of the exhibit. Without a glass case to impose a physical boundary between visitor and plastinate, the tactile opportunity to touch the object still exists; rather

than art object, *Cross-Section of the Coital Act* more closely resembles a teaching model—not a treasured art object that constructs the intimate acts of the body.

V) The Spatial Frames of Intimate Anatomy

The fashioning of intimate space in reproductive anatomy installations did not begin with Gunther von Hagens' 2009 *Body Worlds* and the *Mirror of Time* exhibition. Felice Fontana, the inaugural director of Museo della Specola, also displayed reproductive anatomy within a small room, separated from the surrounding anatomical exhibit. While both Fontana and von Hagens create intimate exhibition space, it was intended to function differently in each context. For Fontana, the intimate display mainly encouraged dignified visitor behavior. Despite von Hagens' mimicry of Fontana's early modern Museo della Specola design plan, he did so for an entirely different goal—for the assertion of his own didactic authority, to counter the claims of sensationalist display. The embeddedness of the *Suspended Act* room frames the erotically rendered subject matter as less exploitative or sensationalized in its physical isolation, insisting to visitors that von Hagens is affording the cadaver bodies their "privacy" for such intimate poses.

Visitors to the London 2009 exhibition of *Body Worlds and the Mirror of Time* would also encounter reproductive anatomy nearer the exit of the installation. The cluster was located amongst the urinary specimen

in a glass case in the middle of the large, open room. Unlike the fragment and full-length bodies of the *Suspended Act* room, these small specimen appear unaltered and without added pigmentation. Neither the male nor female specimen emphasized sexual mechanics. The male penis is identified by its urinary functionality. Only the female system is further by its pathological features—it has cancer growing within it. These fragments visually float in the room, unremarkable, without direct visual ties to the surrounding full-length plastinates. This display of reproductive anatomy is defined solely by the didactic rhetoric of science—not the visuality of art.

Together, *Cross-Section of the Coital Act* and *Suspended Act* insist upon the didactic authority of Body Worlds plastinates.^{ccclxxxii} *Cross-Section of the Coital Act* and *Suspended Act* serve to dialogically counter claims leveled at Body Worlds' cadaveric pose as a violation of human dignity. *Suspended Act* was implicitly controversial in its composition—explicitly posed cadavers in the sex act, the facial expression of the female figure orgasmic, the large erect penis of the male obviously spotlighted from above. *Cross-Section of the Coital Act* in contrast, by visually engaging with other forms of medicalized technoscientific imagery, asserts to the visitor that von Hagens' anatomical art is in fact of scientific, and therefore of didactic, value. The employment of medical technologies in MRI-like imagery communicates to the visitor an

accessible, touchable, transparent, and objectively perceived form of knowledge to counterweight the dramatic posing of anatomical art like *Suspended Act*. The technoscientific appearance of *Cross-Section of the Coital Act* grounds the exhibitionary centerpiece in the professionalized aesthetic of science, arguing that Body Worlds installations are not to be criticized but trusted for their knowledge and admired for their abilities.

In Conclusion

Throughout this thesis, as opposed to most scholarship on Body Worlds, a conscious attempt has been made to distance this work from the image of Gunther von Hagens. Since its debut in 1995, Body Worlds installations and their creator have attracted both popular attention and a steady stream of scholarship, with disciplinary focuses ranging from bioethical considerations to performance studies and theological philosophy.^{ccclxxxiii} In the vast majority of the published research, von Hagens assumes a somewhat dominating presence in the tone and subject matter, maintaining his public persona as a polarizing figure, attracting at best controversy and at worst outrage. This is stunting to the wide-reaching capabilities of this material. It is time for the plastinate figures of Body Worlds to engage with critical voices that consider topics beyond black hats and eccentric personalities.

Obviously, treating these cadavers that resemble crimson-tinted beef jerky primarily as visual artifacts would not totally erase von Hagens' image from its association with their genesis. However, it would provide a conceptual respite from the baggage inherited by preconceptions linked to the exhibits and their creator. Not intending to applaud nor condemn von Hagens, the goal of a new and innovative concept like anatomical portraiture is to change how the figures are commonly addressed and understood. Indeed, plastinated exhibitionary figures can act as

conceptual fulcrums, facilitating an expansion of discourse that impacts not only historical theories but also contemporary experience.

I have proposed that scholars approach plastinated anatomical portraits. Anatomical portraits are specific to the plastinated Bodies of the World and mark the beginning of an entirely new genre of display. Resisting the interpretation that portraiture communicates unique essences of sitters, portraits of anatomy exist beneath a guise of apparent individuality, communicating instead portrait constructions of gender. I have demonstrated how anatomical portraits demonstrate lifelike animation through pigmentation, gendered stereotypes through specific poses and attributes, and maintain scientific authority through the display of fragment portraits.

However continuing to consider plastinated cadavers as anatomical portraits can encourage further research, beyond the scope of that already discussed in this thesis. Much as the bodies and experiences of transsexuals has informed gender theory, highlighting how gender is constructed using both the body and material adornment, anatomical portraits compose posture and attribute to frame the body according to definitions of 'appropriate' gendering. Anatomical portraiture can further enrich the fields of gender studies and embodiment scholarship, examining the ways in which the figures "teach" visitors how both the lived and deceased body should be modeled.

Additionally, anatomical portraits hold great potential for developmental sociology and psychology. A common occurrence inside Body Worlds exhibits is navigating through a seemingly endless sea of school children. Accompanied by teachers and parents, these groups of children seemed largely unaware of the reputation, controversies, or significance of von Hagens. Indeed, these school groups splinter apart, with pairs of children investigating each composition on their own. Focusing on the visual messages emitted by anatomical portraits, beyond that of simple anatomy, how do visiting kids interpret these visual images? Opposed to studies where children and teens are interviewed about how advertisements and popular magazines affect their self-image, the gendered images offered by Body Worlds exhibitions are underscored by didactic and scientific authority. Teachers and parents sanction it, permission slips are signed, and exam questions can refer to the experience. Of the utmost importance is whether this authority affects the self-image or embodied understandings of the visiting children and how this change in understanding may differ from other influences like advertisements and images in major magazines. Further, do the visibly gendered images affect the ways that developing children understand science?

By proposing a new way of thinking about the plastinates themselves, that is as anatomical portraits, scholars can begin to engage

with plastinates beyond the restrictions imposed by the baggage of von Hagens' image and scandals. As a result of the growing divide of this proposed detachment, plastinates can be used as thinking tools, to explore a variety of disciplinary focuses simultaneously.



Notes

ⁱ M.L. Azzaroli, *La Specola: The Zoological Museum of Florence University* (Florence: Leo S. Olschki Editore, 1975), 5-7. As noted by Azzaroli, the last living Medici heir, Maria Ludovica, bequeathed all family properties to the city of Florence under the proviso that nothing was to be removed elsewhere. In addition to the large collection of art that the family had accumulated, they had also assembled an impressive collection of scientific specimens. These specimens included but were not limited to fossils, minerals, exotic animals, and plants. The Grand Dukes of Lorraine, who followed the Medici in Principality, were themselves fond of the natural sciences. The Grand Dukes were not only ardent supporters of the natural sciences but they were also researchers themselves. In the establishing of the Museo della Specola, popularly known as La Specola, the property of the Grand Dukes of Lorraine were combined with that of the inherited Medici collection. See also Joseph Renahan, Julianne Hilloowala, Romy Hilloowala, eds. *The Anatomical Waxes of La Specola* (Florence: Arnaud Ed, 1995), 14-15.

ⁱⁱ Anna Maerker, "Uses and Publics of the Anatomical Model Collections of La Specola, Florence, and the Josephinum, Vienna, around 1800," in *From Private to Public: Natural Collections and Museums*, ed. Marco Beretta (Sagamore Beach: Science History Publications, 2005), 81-87. Maerker notes that there were museum regulations that limited access to members of the public depending on class membership—commoners were admitted in the morning, the upper classes in the early afternoon. High-ranking visitors to Museo della Specola were customarily given private tours by the director Felice Fontana. These tours were typically given outside of the regular hours of museum operation. Additionally, visitors were sorted according to standards of cleanliness and were required to leave their greatcoats and swords at the entrance.

ⁱⁱⁱ Renato G. Mazzolini, "Plastic Anatomies and Artificial Dissections," in *Models: The Third Dimension of Science*, eds. Soraya de Chadarevian and Nick Hopwood (Stanford: Stanford University Press, 2004), 45-47, 54. The Grand Dukes built the museum as a cornerstone of a general policy of institutional reform, specifically of universities, hospitals, and learned societies, to enhance the professionalization of physicians, surgeons, and engineers. Also see, Maerker, *Uses and Publics*, 84. Maerker states that Fontana further stressed to the Grand Dukes that the anatomical models of Museo della Specola not only added to the public education but also acted as the crown jewel of the collection, contributing to the noble patron's immortality like the Wunderkammer had done previously for the Medici.

^{iv} Alessandro Riva, Gabriele Conti, Paola Solinas and Francesco Roy, "The evolution of anatomical illustration and wax modeling in Italy from the 16th to early 19th centuries," *Journal of Anatomy* 216 (2010): 241. Fontana insisted to the Grand Dukes that the addition of wax anatomical models would make cadaveric specimen superfluous. This was of vital importance at

the time as surgeons who were trying to professionalize the discipline were still viewed as uneducated as they could not read Latin (which was the dominant language of textbooks) and had very little anatomical knowledge. Dissections became a great necessity for this profession in particular. However, there were not chemicals available to preserve the corpse nor were there freezing facilities to halt its decomposition. Further complicated by a variable supply of cadavers to dissect, models became a supplementary way to study anatomy in the early modern period.

^v Francesco de Ceglia, "Rotten Corpses, a Disembowelled Woman, a Flayed Man. Images of the Body from the End of the 17th to the Beginning of the 19th Century. Florentine Wax Models in the First-hand Accounts of Visitors," in *Perspectives on Science* 14 no. 4 (2006), 435-6.

^{vi} de Ceglia, "Disemboweled Woman," 437; Maerker, "Uses and Publics," 87-95; Renahan, Hilloowala and Hilloowala, eds., *Anatomical Waxes*, 7-9. Renahan, Hilloowala and Hilloowala further demonstrate that additional editions of Sussini's work were exported to Montpellier, France; Leiden, Netherlands; Caligari, Sardinia; Budapest, Hungary; Bologna, Italy; and Louisiana, United States of America.

^{vii} "Clemente Susini," *Clemente Susini's Wax Anatomical Models at the University of Caligari*, accessed June 20, 2011,

http://medicina.unica.it/cere/mono13_en.htm. Susini studied art specializing in bronze sculpture, painting on glass, and copper engraving.

^{viii} Erica Fudge, ed., *Renaissance Beasts: of Animals, Humans, and Other Wonderful Creatures* (Chicago: University of Illinois Press, 2004), 116-137. Erica Fudge, *Brutal Reasoning: Animals, Rationality, and Humanity in Early Modern England* (London: Cornell University Press, 2006), 123-174. Elizabeth Foyster, *Manhood in Early Modern England: Honour, Sex and Marriage* (New York: Addison Wesley Longman, 1999). Allison Levy, *Remembering Masculinity in Early Modern Florence* (Burlington: Ashgate, 2006). Sharon Fermor, "Movement and gender in sixteenth-century Italian painting," in *The Body Imaged: The human form and visual culture since the Renaissance*, Marcia Pointon and Kathleen Adler, eds. (Cambridge: Cambridge University Press, 1993).

^{ix} "Original & Copycat, Body Worlds website, accessed on May 06, 2011,

http://www.bodyworlds.com/en/exhibitions/original_copycat.html

xxxxxx; "Press Releases & Statements: July 21st, 2009," Body Worlds website, accessed on April 12, 2011,

http://www.bodyworlds.com/en/media/releases_statements.html; 2009

Los Angeles installation; "The Unparalleled Success," Body Worlds website, accessed on May 06, 2011,

http://www.bodyworlds.com/en/exhibitions/unparalleled_success.html .

^{xi} "Questions & Answers: Where did the bodies on display come from?," Body Worlds website, accessed May 05, 2011,

http://www.bodyworlds.com/en/exhibitions/questions_answers.html?edit#1. Not all bodies donated to Gunther von Hagens' Institute for Plastination

are placed in Body Worlds exhibits, instead, they are sold to private buyers and academic institutions.

^{xii} “The Order for the Burial of the Dead,” *The Book of Common Prayer*, accessed May 28, 2011.

http://justus.anglican.org/resources/bcp/CofE1928/CofE1928_Burial.htm.

In the 1928 proposed Book of Common Prayer it is written, “[W]e therefore commit his body to the ground; earth to earth, ashes to ashes, dust to dust.”^{xii} as these words are read, the coffin is lowered into the ground, handfuls of earth should be tossed on the coffin by funeral attendants.

^{xiii} Piero Camporesi, *The Incorruptible Flesh: Bodily mutation and mortification in religion and folklore*, trans. Tania Croft-Murray and Helen Elsom (Cambridge: Cambridge University Press, 1988), 88-89.

^{xv} Gunther von Hagens, “Anatomy and Plastination,” *Body Worlds: The Original Exhibition of Real Human Bodies catalogue*, Angelina Whalley, ed. (Heidelberg: Arts & Sciences, 2009), 34. Von Hagens states that by donating their bodies, donors have waived their right to be buried, thus, being plastinated for permanent exhibition either in private academic institutions or in Body Worlds installations.

^{xvi} “Original & Copycat,” Body Worlds website, accessed May 06, 2011, http://www.bodyworlds.com/en/exhibitions/original_copycat.html.

^{xvii} “Mission of the Exhibitions,” Body Worlds website, accessed May 06, 2011, http://www.bodyworlds.com/en/exhibitions/mission_exhibitions.html/.

^{xviii} von Hagens, “Anatomy and Plastination,” 35-36.

^{xix} Von Hagens, “Anatomy and Plastination,” 36-38.

^{xx} Von Hagens, “Anatomy and Plastination,” 36.

^{xxi} Von Hagens, “Anatomy and Plastination,” 36-39.

^{xxii} Von Hagens, “Anatomy and Plastination,” 37-38.

^{xxiii} Riva, Conti, Solinas & Loy, “The evolution,” 215. The collection of wax anatomical models at Museo della Specola were cast from the unclaimed cadaver population of Florentine hospitals, including 19 full-length bodies and 543 cases containing over 1400 anatomical fragments. Azzaroli, *La Specola*, 7, 19-20. Azzaroli states that the School of Anatomy and its wax modeling workshops were established early in the planning of the Museum. By 1772 sculptor Guiseppe Ferrini filled six rooms in the Palazzo Pitti with wax anatomical models. Grand Duke Peter Leopold and Felice Fontana together established the wax “officina” or workshop, where the wax pieces were modeled straight from cadavers. Azzaroli estimates a higher number of waxes were produced in the workshop than Riva et al. Azzaroli claims that the officina manufactured over 40 whole bodies and thousands of anatomical pieces were cast.

^{xxiv} de Ceglia, “Disembowelled Woman,” 433. Not only were the figures exhibited for the general public but they were also used as didactic tools for training physicians, anatomists and surgeons. Inaugural museum director

Felice Fontana insisted that training surgeons could, “make more progress in six months with models than in six years with corpses.”

^{xxvi} de Ceglia, “Disembowelled Woman,” 433; Maerker, “Uses and Publics,” 82-86; Riva, Conti, Solinas & Loy, “Evolution of Anatomical” 215.

^{xxvii} Ludmilla Jordanova, *Sexual Visions: Images of Gender in Science and Medicine between the Eighteenth and Twentieth Centuries* (London: Harvester Wheatsheaf, 1989), 91-92. Jordanova states that an example that particularly highlights seeing as a way of knowing was the historical persistence on physiognomy. The practice of medicine incorporated regular external examinations to interpret an internal state, such as in physiognomy, whereby facial and cranial features were analyzed to predict corresponding characteristics. The historically pervasive physiognomic focus, Jordanova argues, is a significant indicator that vision was consistently linked with scientific knowledge and that the success of scientific study was measured by the removal of visual obstacles. Ludmilla Jordanova, *Sexual Visions*, 91-92.

^{xxix} Jonathan Crary, *Technologies of the Observer: On Vision and Modernity in the 19th Century* (Cambridge: MIT Press, 1990), 7.

^{xxx} Jonathan Crary, *Technologies*, 6-9.

^{xxxii} Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007), 19-23, 26, 27, 58-59. Working objects such as anatomical atlases and models defined the way that scientists experienced the body, teaching anatomists how to see the corpse, emphasizing its most important features. Atlases and models challenged the gaze of the seasoned professional and shaped the gaze of the newly practicing. Working objects of anatomical science were collective in nature, designed for longevity, the result of collaborations, disseminating information across a wide audience and creating a common visual criterion for practicing anatomists. Daston and Galison argue that from the eighteenth century images of the body were the centerpiece of professional practice, making both the status and the visual guidelines for the science itself.

^{xxxiii} Daston and Galison, *Objectivity*, 58-60.

^{xxxiv} Daston & Galison, *Objectivity*, 58-60. For an object to be “true to nature,” the internal reality of the specimens had to assume priority. Discipline-specific practices shaped systems that were designed to average the appearances of specimens, to produce the truth of nature beneath the surface. Representing the internal reality was thought to distance the innovative scientific practices beyond the previous focus on natural curiosities and external manifestations of monsters, thus standing for enlightenment, innovation, and progress.

^{xxxv} Daston & Galison, *Objectivity*, 60.

^{xxxvi} Daston & Galison, *Objectivity*, 84.

^{xxxvii} Daston & Galison, *Objectivity*, 69; Also see Katharine Park and Lorraine Daston, *Wonders and the Order of Nature 115-1750* (New York: Zone Books, 1998), 203-205, 208-209. Park and Daston argue that of particular interest in anatomical study in the sixteenth- and seventeenth-centuries, were monstrous births. Medical men and eye witnesses detailed the appearances of the masses and published these accounts in journals. The study of monsters was thought to better assist physicians and anatomists in defining what the normal body was.

^{xxxviii} Daston & Galison, *Objectivity*, 69.

^{xxxix} Daston & Galison, *Objectivity*, 38.

^{xli} Jordanova, *Sexual Visions*, 45, 49; states that the female waxes resemble the face of Bernini's *The Ecstasy of St. Theresa of Avila* while males resemble Michelangelo's figures taken from the Sistine Chapel or the *Pieta*.

^{xlii} Patricia Simons, "Women in Frames: the gaze, the eye, the profile in Renaissance portraiture," in *History Workshop: A Journal of Socialist and Feminist Historians* 25 (Spring 1998), 4-30.

^{xliii} Paola Tinagli, *Women in Italian Renaissance Art: Gender Representation Identity* (Manchester: Manchester University Press, 1997), 48-49.

^{xliv} Tinagli, *Women*, 50-51.

^{xlv} Fermor, *Movement and Gender*, 129-131, 141-143.

^{xlvi} Fermor, *Movement and Gender*, 131-134, 139.

^{xlvii} Fermor, *Movement and Gender*, 132-134, 139-141, 144. Fermor states that dances such as the galliard demanded the refinement of the body's natural movements, departing from "normal" motion to emphasize movements that demanded physical agility and a developed sense of rhythm. Too much vigor displayed in the dance presented a loss of control and rationality, risking confusion with a professional, who would have often been a person of low social standing.

^{xlviii} Peter Burke, *The Italian Renaissance: Culture and Society in Italy* (Princeton: Princeton University Press, 1986), 201.

^{xlix} Burke, *Italian Renaissance*, 201-202. Burke emphasizes that portrait images, popular dances, and etiquette manuals each emphasized self-conscious, calculated refinements of movement that were intended to appear, on the surface, effortless.

^l "Henry VIII Revealed: Holbein's Henry VIII," accessed June 19, 2011, <http://www.liverpoolmuseums.org.uk/walker/exhibitions/henry/holbeins.asp>.

^{li} Peter Burke, *Eyewitnessing: The Uses of Images as Historical Evidence* (New York: Cornell University Press, 2001), 69-71. See also: Lindsay Rothwell, "Pictures in Focus: The Death of Marat (1793) and Napoleon in His Study (1812)," from the Citizens and Kings exhibition at the *Royal Academy of Arts*, accessed on June 19, 2011, <http://www.royalacademy.org.uk/exhibitions/citizensandkings/comparative-page.329,AR.html>.

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- lii Rothwell, "Death of Marat," accessed June 19, 2011, <http://www.royalacademy.org.uk/exhibitions/citizensandkings/comparativ-e-page,329,AR.html>.
- liii Tinagli, *Women*, 85-85, 98. Tinagli states that according to idealized images, beauty was heightened and idealized according to generalized aesthetic criteria, not that of individual beauty.
- liv Tinagli, *Women*, 99. Tinagli notes that the image is thought to portray either Giulia Farnese or Leczizia Borgia. Further, this portrait can be understood as a marriage portrait because of the wreath of myrtle, symbol of loyalty, on her head.
- lv Tinagli, *Women*, 99-100.
- lvi Tinagli, *Women*, 100.
- lvii Tinagli, *Women*, 100-101. Tinagli states that this system of signification was also used to represent the Roman prostitute Flora.
- lviii Tinagli, *Women*, 75, 77.
- lix Jose van Dijck, "Bodyworlds: The Art of Plastinated Cadavers in Configurations 9 (2001), 99-126; 119.
- lx Peter McIsaac, "Gunther von Hagens's Body Worlds: Exhibitionary Practice, German History, and Difference," in *Museums and Difference*, ed. Daniel J. Sherman (Indianapolis: Indiana University Press, 2008), 155-202; 164.
- lxi Jose van Dijck's is unsure whether plastinates are cadavers at all, inherently transformed by the evacuation of the bodily fluids and forced impregnation of plastic polymers.
- lxii As a result video installations are placed throughout Bodyworlds exhibitions to reinforce the creation process behind the plastinates. These installations are generally placed against a wall, sometimes encased in a box that resembles an arcade game or tucked in a corner. Most often these installations are positions in front of the only chairs inside exhibits, visually forcing the constant engagement of visitors with the plastinates.
- lxiii McIsaac, *Gunther von Hagens*, 177, 166.
- lxiv von Hagens, *Anatomy and Plastination*, 88.
- lxv Mazzolini, "Plastic Anatomies," 47-48. See also: de Ceglia, "Disembowelled Woman," 425-426, for a discussion about how dead assumes a moist, fleshy condition in other Museo della Specola wax anatomical figures.
- lxvi van Dijck, "Bodyworlds," 113-114. Van Dijck compares the *The Chess Player* plastinate to Auguste Rodin's *The Thinker* and the expanded body plastinates to Giacometti bronze sculpture.
- lxviii van Dijck, "Bodyworlds," 116-118. These plastinates are created from a combination of cutting, plastination and cryogenic freezing.
- lxix Simons, "Women in Frames," 5. Marcia Pointon, *Hanging the Head: Portraiture and Social Formation in Eighteenth-Century England* (New Haven: Yale University Press, 1993), 18. Marcia Pointon, "The case of the dirty beau: symmetry, disorder and the politics of masculinity," in *The Body Imaged: The human form and visual culture since the Renaissance*, eds. Kathleen Adler

and Marcia Pointon (Cambridge: Cambridge University Press, 1993), 175-198; 175-179.

^{lxx} Joanna Woods-Marsden, "Ritratto al Naturale:" Questions of Realism and Idealism in Early Renaissance Portraits," in *Art Journal* 46 no. 3 (Autumn 1987), 209-216; 209-210.

^{lxxi} Tinagli, *Women*, 66-67.

^{lxxii} Author's research notes from the Body Worlds exhibitions of San Diego, CA in 2009 and Calgary, AB in 2011.

^{lxxiii} Lucia Dacome, "Waxworks and the performance of anatomy in mid-18th-century Italy," in *Endeavour* 30 no. 1 (March 2006), 29-35; 30.

^{lxxiv} Judith Butler, *Bodies That Matter: On the Discursive Limits of Sex* (New York: Routledge, 1993), 9.

^{lxxv} Butler, *Bodies*, 6. Also see: Thomas Laqueur, *Making Sex: Body and Gender From the Greeks to Freud* (Cambridge: Harvard University Press, 1990), 6,8, 11.

^{lxxvi} Butler, *Bodies*, 8, 10; Laqueur, *Making Sex*, 11.

^{lxxvii} Butler, *Bodies*, 3.

^{lxxviii} Author's notes from the Edmonton 2008, San Diego 2009, London 2009, and Calgary 2010 Body Worlds installations.

^{lxxx} Author's notes from 2008 Edmonton Body Worlds exhibition.

^{lxxxi} Author's notes from 2008 Edmonton Body Worlds exhibition installation.

^{lxxxii} Tony Walter, "Plastination for Display: A New Way to Dispose of the Dead," in *Journal of the Royal Anthropological Institute* 10 no. 3 (September 2004), 603-627; 621.

^{lxxxiii} Jason Byassee, "The Human Specimen," *The Christian Century* 122 no. 06 (March 22, 2005), 10-11; 11.

^{lxxxiv} Duden, Barbara, *Disembodying Women: Perspectives on Pregnancy and the Unborn* (Cambridge: Harvard University Press, 1993) 1-4.

^{lxxxv} Accessed on March 1, 2011,

<http://file.vintageadbrowser.com/lzehbikh29ddb1.jpg>.

^{lxxxvi} Pepsi Cola ad, accessed March 1, 2011,

http://www.google.ca/imgres?imgurl=http://adsoftheworld.com/files/jwen_pepsi.jpg&imgrefurl=http://adsoftheworld.com/forum/exhibition/pepsi_ad_cmt&usq= 8ug0mQ I EbnKU lNXVvr5 SWmk=&h=475&w=400&sz=125&hl=en&start=51&zoom=1&tbnid=Rdh UmJ_wqm M:&tbnh=144&tbnw=121&ei=V6ZtTa2iHYSglAfzh6j9BA&prev=/images%3Fq%3Dadvertisements%2Bfetus%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den%26biw%3D1010%26bih%3D643%26tbs%3Disch:10%2C1772&um=1&itbs=1&iact=hc&vpx=356&vpy=293&dur=1142&hovh=245&hovw=206&tx=150&ty=138&oei=OaZtTcvbKYT68AbT_v2ODQ&page=5&ndsp=14&ved=1t:429,r:1,s:51&biw=1010&bih=643.

^{lxxxvii} Mike F. Wilding, "Don't Deceive Me (Please don't go)", *Grey's Anatomy*, season 7, episode 13, directed by Kevin McKidd, aired February 3, 2011.

^{lxxxviii} Duden, *Disembodying*, 50-55.

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- lxxxix Duden, *Disembodying*, 51-55.
- xc Bettyann Holtzman Kevles, *Naked to the Bone: Medical Imaging in the Twentieth Century* (New Brunswick: Rutgers University Press, 1997), 247.
- xcⁱ Kevles, *Naked*, 248-250.
- xcⁱⁱ Kevles, *Naked*, 249.
- xcⁱⁱⁱ Kevles, *Naked*, 249-250; Kevles states that Europe mandates at least ultrasound for all pregnant women; Germany dictates three; England two.
- xc^{iv} Park, Katharine, *Secrets of Women: Gender, Generation and the Origins of Human Dissection* (New York: Zone, 2006) 91-93, 96-97, 248.
- xc^v Park, *Secrets*, 18-19, 211-216, 218-219; Lianne McTavish, *Childbirth and the Display of Authority in Early Modern France* (London: Ashgate, 2005), 65.
- xc^{vi} Katharine Park, *Secrets*, 214.
- xc^{vii} Both models and illustrations of the womb were popular. Both attempted to conceptualize of what could happen within a woman's uterus. See Mary E. Fissel, *Vernacular Bodies: The Politics of Reproduction in Early Modern England* (Oxford: Oxford University Press, 2004), 145-156; Nick Hopwood, "Plastic Publishing in Embryology," in *Models: The Third Dimension of Science*, eds. Nick Hopwood and Soraya de Chadarevian (Stanford: Stanford University Press, 2004), 17-173; McTavish, *Childbirth*, 65, 68, 180, 182-185.
- xc^{viii} Daston & Galison, *Objectivity*, 52-53, 66-67, 82-84; McTavish, *Childbirth*, 65-66, Mazzolini, *Plastic Anatomies*, 47-48, 55-71.
- xc^{ix} Nathan Stormer "Seeing the Fetus," *Journal of the American Medical Association* 289 no. 13 (April 2003), 1700. Sozos J. Fasouliotis and Joseph G. Schenker, "Maternal—fetal conflict," in *European Journal of Obstetrics & Gynecology and Reproductive Biology* 89 (2000), 101-107. Mette Bryld and Nina Lykke, "From Rambo Sperm to Egg Queens: Two Versions of Lennart Nilsson's Film on Human Reproduction," in *Bits of Life: Feminism at the Intersections of Media, Bioscience, and Technology*, eds. Anneke Smelik and Nina Lykke (Seattle: University of Washington Press, 2008), 79-93; 82-83. Iris Young, "Pregnant embodiment," in *Throwing Like a Girl* (Bloomington: Indiana University Press, 1990), 160-74.
- ^c These moulds are still displayed today in the Department of Anatomy at the University of Glasgow, Glasgow, Scotland.
- ci Ludmilla Jordanova, "Gender, Generation and Science: William Hunter's Obstetrical Atlas," in *Nature Displayed: Gender, Science, and Medicine, 1760-1820* (London: Longman, 1999), 183-184; Fox, Hingston R, *William Hunter: Anatomist, Physician, Obstetrician* (London: Headley Bros., 1901); N. A. McCulloch, D. Russell, and S.W. McDonald, "William Hunter's Gravid Uterus: The Specimens and Plates," in *Clinical Anatomy* 15 (2002), 253-262.
- cii Barbara Duden, "The Fetus on the "Farther Shore,"" in *Fetal Subjects, Feminist Positions*, eds. Lynn M. Morgan and Meredith W. Michaels (Philadelphia: University of Pennsylvania Press, 1999), 18-19; McTavish, *Childbirth*, 190-196.

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- ciii Jordanova, *Nature*, 185.
- civ Jordanova, *Nature*, 191.
- cv Jordanova, *Nature*, 190, 193-194.
- cvi Massimo de Felici and Gregorio Siracusa, "The rise of embryology in Italy: from the Renaissance to the early 20th century," in *Interdisciplinary Journal of Developmental Biology* 44 (2000), 515-521.
- cvii Lynn M. Morgan, *Icons of Life: A Cultural History of Human Embryos* (Berkeley: University of California Press, 2009), 124-158,
- cviii Morgan, *Icons*, 196.
- cix Morgan, *Icons*, 197.
- cx Morgan, *Icons*, 198.
- cxii Morgan, *Icons*, 198-200.
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- cxiii Duden, *Farther Shore*, 18-19.
- cxiv Nick Hopwood, "Pictures of Evolution and Charges of Fraud," in *Isis* 97 (2006), 260-301; Nick Hopwood, "Modeling, Mechanism, and the Microtome in Late Nineteenth-Century Anatomy," in *Isis* 90 (1999), 462-496; Nick Hopwood, *Embryos in Wax: Models from the Ziegler Studio* (Cambridge: Whipple Museum, 2002), 40-50, 69-72.
- cxv Hopwood, *Embryos*, 44-45, 48-49.
- cxvi Hopwood, *Embryos*, 42, 49.
- cxvii Hopwood, *Embryos*, 49.
- cxviii Kevles, *Naked*, 230.
- cxix Kevles, *Naked*, 230.
- cxx Kevles, *Naked*, 230; it is also noted by Kevles that x-ray imaging was not possible within the first six weeks of pregnancy however in 1910 imaging was made possible after the first four weeks of gestation.
- cxxi Kevles, *Naked*, 230. Kevles writes that in 1931 the invention of the rabbit test for early pregnancy confirmation and its inclusion in medical protocol diminished the prominence of prenatal x-ray examinations; It was only in 1956 that the research findings of epidemiologist Alice Stewart were published, documenting the dangers of prenatal x-rays and cancer rates in children younger than fifteen; physicians had often noted that the practice resulted in both fetal and maternal death.
- cxixii Kevles, *Naked*, 230-231.
- cxixiii Kevles, *Naked*, 231; Diagram of a fetus (1917), J. Hess, "The Diagnosis of the Age of the Fetus by Use of Roentgenograms," *American Journal of Diseases of Children* 14 (1917): 397-423.
- cxixiv "Biography," *Lennart Nilsson website*, accessed March 5, 2011, <http://www.lennartnilsson.com/biography.html>
- cxixv "Biography," *Lennart Nilsson website*, accessed March 5, 2011, <http://www.lennartnilsson.com/biography.html>
- cxixvi "Biography," *Lennart Nilsson website*, accessed March 5, 2011, <http://www.lennartnilsson.com/biography.html>

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- cxxvii Lennart Nilsson, "The Drama of Life Before Birth," in *LIFE Magazine* 58 no. 17 (April 30, 1965), 54-72.
- cxxviii George P. Hunt, "Editor's Note," in *LIFE Magazine* 58 no. 17 (April 30, 1965), 1, 3. Also accessed on March 5, 2011, http://books.google.ca/books?id=UVMEAAAAMBAJ&pg=PA3&lpg=PA3&dq=Lennart+Nilsson+Life+1965+month&source=bl&ots=zmNGnrnVZc&sig=I0a-hdpceywLNKGwBjrljSzMSbo&hl=en&ei=uJRyTYGyJMK88gaPqIG2Dw&sa=X&oi=book_result&ct=result&resnum=5&ved=0CDAQ6AEwBA#v=onepage&q&f=false
- cxxix Duden, *Disembodying*, 93.
- cxxxi Duden, *Disembodying*, 18; Maher, Jane Maree, "Visibly Pregnant: Toward a Placental Body" in *Feminist Review* 72 (2002), 95-107.
- cxlii Duden, *Disembodying*, 11-23; Maher "Visibly," 98-99.
- cxliiii Duden, "Farther Shore," 16.
- cxliiii Morgan, *Icons*, 204.
- cxliiii Lisa Mitchell, *Baby's First Picture: Ultrasound and the Politics of Fetal Subjects* (Toronto: University of Toronto Press, 2001), 11.
- cxliiii Morgan, *Icons*, 205.
- cxliiii Helmreich, Stefan, "Replicating Reproduction in Artificial Life: Or, The Essence of Life in the Age of Virtual Electronic Reproduction," in *Reproducing Reproduction*, Franklin and Ragone eds. (Philadelphia: University of Pennsylvania Press, 1998), 208-209.
- cxliiii Duden, *Disembodying*, 12-13.
- cxliiii Duden, *Disembodying*, 105-107.
- cxli Morgan, *Icons*, 209.
- cxli Morgan, *Icons*, 7.
- cxlii Barbara Duden, *The Woman Beneath the Skin: A Doctor's Patients in Eighteenth-Century Germany*, trans. Thomas Dunlap (Cambridge: Harvard University Press, 1991); Donna Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991).
- cxliiii Morgan, *Icons*, 24-29; Duden, *Disembodying*, 1-4.
- cxliiv Duden, *Woman Beneath*, 111-112.
- cxliiv Duden, *Woman Beneath*, 159-160.
- cxliiv Hopwood, *Embryos*, 1-4; Haraway, *Simians*, 182.
- cxliiii Elizabeth Simon Ruchti, "Corpse-less: A Battle with Abjection," in *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens* eds. T. Christine Jespersen, Alicita Rodriguez & Joseph Starr (London: McFarland, 2009) 189-199.
- cxlix Ruchti, "Corpse-less," 196.
- cl Linke, "Touching," 100, 108-110, 112.
- cli Linke, "Touching," 109-111, 116-117.
- clii Linke, "Touching," 108-111.

cliii Christian DuComb, "The Politics of Fetal Display," in *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens*, eds. Jespersen, Rodriguez & Starr (London: McFarland & Co., 2009), 176-188; 177.

cliv DuComb, *Politics*, 177.

clv DuComb, *Politics*, 181.

clvii T. Christine Jespersen & Alicita Rodriguez, "Forced Impregnation and Masculinist Utopia," in *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens*, eds. T. Christine Jespersen, Alicita Rodriguez, and Joseph Starr (London: McFarland, 2009), 170-173.

clviii Jespersen & Rodriguez, "Forced," 171-173.

clix Jespersen & Rodriguez, "Forced," 171-172.

clx Jespersen & Rodriguez, "Forced," 171-173; additionally note in the author's notes from San Diego 2009 and Calgary 2010 exhibitions.

clxi Jespersen & Rodriguez, "Forced," 171.

clxii Jespersen & Rodriguez, "Forced," 171-172.

clxiii Jacobs, Fredrika, *The Living Image in Renaissance Art* (Cambridge: Cambridge University Press, 2005), 2-8; Jacobs states that the usage or frequency of the term "lifelike" increased with the codifying of the language of art criticism and was pioneered in the work of Giorgio Vasari. The notion of art itself was changing, whereupon utility and functionality came to the forefront of the discussion. Art no longer belonged solely to the church or privileged aristocrat—art was being embraced by the urban intellectual. And so the purpose(s) and patrons of art began to change, as did the definition and interpretation of what it meant to appear "lifelike." These models were required to have the appearance of the utmost grace and perfection—flawless in their replication of the human body—something that the very practice of the science depended on. In addition, the appearance of the models signaled the taste and craftsmanship of its users, its observers and their skills.

clxiv David Freedberg, *The Power of Images: Studies in the History and Theory of Response* (Chicago: University of Chicago Press, 1989), 192-193, 196.

clxv Jacobs, *Living Image*, 16-20.

clxvi Maeker, "Uses and Publics," 83.

clxvii de Ceglia, "Disembowelled Woman," 441, 444-445. De Ceglia notes that the Venus di Medici of the Museo della Specola is only falsely pregnant, the body is not that of distention or expansion in other areas outside of the uterus.

clxviii Benthien, Claudia, *Skin* (New York: Columbia University Press, 1999), 37-42; Johnathan Sawday, *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture* (London: Routledge, 1995), 183-188; Mazzolini, "Plastic Anatomies," 56,60-62. Mazzolini in particular notes the fondness that Fontana had for models that required assembly and kinesthetic interaction; however Fontana largely made wooden anatomical models to pursue this

interest. The Venus di Medici, however, can be viewed as the most kinesthetically-oriented wax model in the collection at the Museo della Specola.

clxix Noga Arikha, *Passions and Tempers: A History of the Humors* (London: Harper Perennial, 2007), 120-128.

clxx Arika, *Passions*, 121-122.

clxxi Duden, "Father Shore," 16.

clxxiii Duden, "Farther Shore," 16-17; Park and Daston, *Wonders*, 180-193, 198-205. Molar pregnancies were not understood as delivering aborted fetuses, or lost children, but the birth of something else, sometimes interpreted as omens from the Divine.

clxxiv Duden "Farther Shore," 18.

clxxv Park & Daston, *Wonders*, 176-177.

clxxvi Jacobs, *Living Images*, 111, 129-131; Piero Camporesi, *Juice of Life*, (New York: Continuum, 1995), 101-103.

clxxvii Jacobs, *Living Images*, 130.

clxxviii Camporesi, *Juice*, 14.

clxxix Camporesi, *Juice*, 14.

clxxx Camporesi, *Juice*, 14-17.

clxxxi Camporesi, *Juice*, 17.

clxxxii Camporesi, *Juice*, 18. Camporesi states that the thick, viscose liquid being used to prepare endless amounts of blood sausages, blood puddings, brain puddings, and blood cakes.

clxxxiii Arika, *Passions*, 110.

clxxxiv Camporesi, *Juice*, 19.

clxxxv Camporesi, *Juice*, 31-32.

clxxxvi It is also important to note that if portrayed with an excess of blood, as described by Camporesi and Arika, she would be termed "damaged" or unhealthy; thus, she would be unsuitable for exhibition.

clxxxvii Azzaroli, *La Specola*, 12.

clxxxix Camporesi, *Juice*, 101.

cxc Camporesi, *Juice*, 101-103.

cxci Camporesi, *Juice*, 102.

cxcii Azzaroli, *La Specola*, 14.

cxciii Camporesi, *Juice*, 45.

cxniv Ruchti, "Corpse-less," 194-197.

cxvii Jespersen & Rodriguez, "Forced," 169-173.

cxviii Author research in Glasgow Anatomy Department, September 2009.

cxix Duden, *Woman*, 158-164.

cc Duden, "Farther Shore," 13-16.

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- cci Park, *Secrets*, 63; Duden, *Woman*, 158-165; McTavish, *Childbirth*, 178, 186.
- ccii McTavish, *Childbirth*, 179-185, 192-196.
- cciii Duden, "Farther Shore," 13.
- cciv Duden, "Farther Shore" 13-14; Herman W. Roodenburg, "The Maternal Imagination: The Fears of Pregnant Women in Seventeenth-Century Holland," in *Journal of Social History* 21 no. 4 (Summer 1988), 701-716. Pregnancy, even when carrying a healthy child, was a tenuous process, one that could be affected by the maternal imagination.
- ccv Duden, *Disembodying*, 76.
- ccvi Duden, *Disembodying*, 102-109.
- ccvii Kevin Wiatrowski, "Body donor visits display that may one day include her," in Tampa Bay Tribune (June 20, 2009). Also see: accessed July 17, 2010, <http://www2.tbo.com/news/northeast/2009/jun/20/body-donor-visits-display-may-one-day-include-her-ar-101019/>.
- ccviii Wiatrowski, "Body donor,"; accessed July 17, 2010, <http://northeast2.tbo.com/content/2009/jun/20/body-donor-visits-display-may-one-day-include-her/news/>.
- ccix Wiatrowski, "Body donor,"; accessed July 17, 2010, <http://northeast2.tbo.com/content/2009/jun/20/body-donor-visits-display-may-one-day-include-her/news/>; accessed April 12, 2011 @9.04 pm MDT.
- ccx Wiatrowski, "Body donor,"; accessed July 17, 2010, <http://northeast2.tbo.com/content/2009/jun/20/body-donor-visits-display-may-one-day-include-her/news/>.
- ccxi Wiatrowski, "Body donor,"; accessed July 17, 2010, <http://northeast2.tbo.com/content/2009/jun/20/body-donor-visits-display-may-one-day-include-her/news/>.
- ccxii In the cases of controversial plastinate poses, such as the Suspended Act (2009) von Hagens insists that the donors consented to being posed in the sex act—this remains explicitly undocumented in a public, published way; with respect to the pregnant plastinate bodies he specifies often in text but also in audio guides that consent was given to donate both female and fetal bodies.
- ccxiii Gunther von Hagens, "On Gruesome Corpses, Gestalt Plastinates and Mandatory Interment," in *Body Worlds: The Original Exhibition of Real Human Cadavers* (Heidelberg: Arts & Sciences, 2009), 211.
- ccxv von Hagens, "Gruesome Corpses," 214-216. Additionally, in January 2011 von Hagens announced that not only was he diagnosed with terminal Parkinson's Disease but is also planning his own posed plastinate installation, according to his likes and dislikes. <http://www.independent.co.uk/arts-entertainment/art/news/physician-plastinate-hisself-von-hagens-reveals-hes-dying-ndash-and-wants-to-be-preserved-2176057.html>, accessed on April 18, 2011.; <http://www.dailymail.co.uk/news/article-1343910/Gunther-von-Hagens->

[Dr-Death-plans-human-corpse-exhibition-grim-farewell.html](http://www.mirror.co.uk/news/top-stories/2011/01/04/dr-death-gunther-von-hagens-is-dying-from-parkinson-s-and-his-body-will-become-an-exhibit-115875-22824850/), accessed on April 18, 2011; <http://www.mirror.co.uk/news/top-stories/2011/01/04/dr-death-gunther-von-hagens-is-dying-from-parkinson-s-and-his-body-will-become-an-exhibit-115875-22824850/>; <http://www.aolnews.com/2011/01/06/dying-body-worlds-artist-plans-to-put-his-plastinated-corpse-o/> accessed on April 19, 2011.

ccxvi von Hagens, "Gruesome Corpses," 212-213.

ccxvii von Hagens, "Anatomy and Plastination," 36.

ccxviii von Hagens, "Anatomy and Plastination," 36-37.

ccxix von Hagens, "Anatomy and Plastination," 26-30, von Hagens, "Gruesome Corpses," 220-221.

ccxx Body Worlds incorporate other display objects such as mirrors, steel and Plexiglas structures to not only maximize access, increasing reflection or refraction, but to also frame and manipulate the dissected body for the pleasure of the visitor gaze. von Hagens, "Anatomy and Plastination," 27.

ccxxi Tony Walter, "Plastination for Display: A New Way to Dispose of the Dead," in *Royal Anthropological Institute* 10 no. 3 (September 2004), 606.

ccxxii Lawrence Burns, "Gunther von Hagens' Body Worlds: Selling Beautiful Education," in *American Journal of Bioethics* 7 no. 4 (2007), 12-23.

ccxxiii Burns, "Gunther von Hagens," 18-21.

ccxxiv Peter Burke, *Varieties of Cultural History* (Ithaca: Cornell University Press, 1997), 71.

ccxxv Anonymously authored *Decor puellarum* (1471), a vernacular text published under a Latin title, is also discussed by Burke. Burke, *Varieties*, 66.

ccxxvi Burke, *Varieties*, 66-72.

ccxxvii Joneath Spicer, "The Renaissance Elbow," in *A Cultural History of Gesture: From Antiquity to the Present Day*, eds. Jan Bremmer and Herman Roodenburg (Cambridge: Polity, 1991), 85.

ccxxviii Peter Burke, *Varieties*, 66.

ccxxix Burke, *Varieties*, 71.

ccxxx Richard Brilliant, *Portraiture* (London: Reaktion, 1991), 11-14.

ccxxxii Brilliant, *Portraiture*, 25; However the term likeness implicitly infers a degree of difference between the portrait and the original.^{ccxxxii} Brilliant states that this caveat refers to the restricted nature of the image's freedom of reference.

ccxxxiii Brilliant, *Portraiture*, 22-25.

ccxxxiv Brilliant, *Portraiture*, 23.

ccxxxvi Sheila Dillon, *The Female Portrait Statue in the Greek World* (Cambridge: Cambridge University Press, 2010). Dillon states that the portraits further

reflect the types of female behavior that are the product of careful social observations, adaptations, and reinforcement.

ccxxxvii Dillon, *Female Portrait*, 1.

ccxxxviii Dillon, *Female Portrait*, 68; Dillon argues that despite the stereotyping of the female body in pose, the complex elaboration of fabric weight, pattern, stance and gesture serve to fix the distinguishing marks of Hellenistic portraiture. The costume of Hellenistic women revolved around the arrangement of three garments: the tunic or chiton, mantle or himation, and the rectangular peplos. The fringed garments worn in the Hellenistic period represented those women of a luxurious and affluent background. Dillon goes on to state that costumes depicted in the portraits indicated the conflict between feminine modesty and the increasing conspicuous visibility of the elite.

ccxxxix Dillon, *Female Portrait*, 101.

ccxli Dillon, *Female Portrait*, 101. Wearing voluminous costume women in ancient Greece were instructed to walk slowly, using small steps, to preserve their social modesty.

ccxlii Bremmer, "Walking, standing and sitting in ancient Greek culture," in *A Cultural History of Gesture: From Antiquity to the Present Day*, eds. Jan Bremmer & Herman Roodenburg (Cambridge: Polity Press, 1991) p 15-35.

ccxliii Bremmer, "Walking, Standing," 20.

ccxliv Bremmer, "Walking, standing," 20-21.

ccxlv Bremmer, "Walking, standing," 20. Bremmer further states that when males walked slowly with small steps they were understood as feminine—risking being labeled "womanish."

ccxlvi Bremmer, "Walking, Standing," 16-17. The stride of men was asserted in the approach to battle scenes or, in contrast, for women, in the approach to assist.

ccxlvii Bremmer, "Walking, standing," 9, 16-18. Bremmer states that this can specifically be observed in the Iliad, in the battle between Achilles and Hector, and in the Odyssey, when the soul of Achilles departs from Odysseus in the underworld as well as when Polyphemus has been blinded by Odysseus he goes searching among his sheep. Polyphemus refers to his favorite ram as always having been 'the first to graze on the fresh flowers of the meadows with long strides.' Bremmer goes on to note that in the Archaic age, the gait of males is not mentioned because the battle tactics of the Greeks were altered to introduce the phalanx, the formation in which troops stay grouped together in one single line.

ccxlviii Anne Marie Nielsen, "Alexander and the Question of "Alexander Likeness," in *Ancient Portraiture: Image and Meaning*, eds. Tobias Fischer-Hansen, John Lund, Marjatta Nielsen and Annette Rathje (Copenhagen: Museum Tusulanum, 1992), 29-42. This portrait image, however, depicts Alexander after a battle that he fought before he became emperor. Alexander

participated in the battle with his father, Phillip II, who was the ruler. However, Alexander was being groomed to assume a position of power and his combat skills displayed in the battle at Chaeronea asserted his leadership capabilities.

^{ccxliix} Nielsen, "Alexander," 34. Pliny the Elder wrote of a sculpture that included both he and his father, Phillip II, in chariots. Nielsen and others claim that this sculpture is the same. This Alexander Rondanini sculpture is identified as a copy of Euphranor's 338 B.C. sculpture that depicted the aftermath of Alexander's heroically fought battle at Chaeronea.

^{ccli} Nielsen, "Alexander," 33-34. Nielsen writes that Phillip II, Alexander's father, is thought to have been in the chariot already.

^{ccli} Simons, "Women in Frames," 7.

^{cclii} Simons, "Women in Frames," 5, 7.

^{ccliii} Simons, "Women in Frames," 9, 10, 16-19, 20. Marriages arranged were intended to form strategic alliances between families, facilitating economic connections and cementing social station for each party. The perceived permanence of marriage was based on the rarity of divorce and the difficulty in securing annulments from the Catholic Church—therefore families had to be very selective in choosing the most honorable spouse for their child. Women particularly carried the reputation of their father, acting as concrete evidence of proper moral guidance, adequate socialization befitting their sex, decorous material adornment, and an economic lifestyle representative of the family societal rank.

^{ccliv} Simons, "Women in Frames," 9-16.

^{cclv} Simons, "Women in Frames," 10.

^{cclvi} Simons, "Women in Frames," 10, 24.

^{cclvii} Burke, *Varieties*, 66, 68-71. Burke emphasizes that in each Castiglione's *Courtier* (1528), Paolo Cortese's *On the Position of the Cardinal* (1510), Giovanni della Casa *Galateo* (1558), Giovanni Battista Della Porta *On Human Physiognomy* (1586), Matteo Vegio *De iberorum educatione* (1500), and Gianmatteo Giberti *Constitutions* (1527), it is recommended that men modify their behavior, restraining their movements of lips, hands and limbs to reform the loud, bawdy gestures commonly associated with Italian men from the realm of the clergy to the education of young boys.

^{cclviii} Joneath Spicer, "The Renaissance Elbow," in *The Cultural History of Gesture: From Antiquity to the Present Day*, eds. Jan Bremmer and Herman Roodenburg (Cambridge: Polity, 1991), 86.

^{cclix} Spicer, "The Renaissance Elbow," 88-92. Male renaissance sitters often assumed the pose of mercenary-flag or standard-bearer. In this posture the hand can rest on the hip, upon a weapon or grasping a flag. The role of the bearer was associated with the display and guarding from capture a flag that was an essential rallying tool when soldiers often became scattered, to commanders sending orders to other companies. This flag was the locus of pride for the company, region or unit—the bearer making visually manifest this symbol and embodying emotional charge. Also see:

John Hale, "The soldier in Germanic graphic art of the Renaissance," *Art and History: Images and their Meaning*, eds. R.I. Rotberg and Th. K. Rabb (Cambridge: Cambridge University Press, 1986), 87. Hale discusses the attention paid to the bearer figure in military images of the sixteenth century. However he largely does not discuss the visually depicted gestures enacted by these figures. Spicer further notes that the gesture of elbow akimbo was commonly found in Florence, rife with political unrest for hundreds of years—frequently appearing after the unveiling of Michelangelo's *The David* in 1504.

^{cclx} Spicer, "The Renaissance Elbow," 93. There is a bit of attribution confusion with this particular portrait, Spicer and other sources identifying it as a Portrait of Cosimo I de Medici (1537), whereas The J. Paul Getty Museum currently own the work and refer to it as Portrait of a Halberdier (Francesco Guardi?) (1528-1530).

^{cclxi} Spicer, "The Renaissance Elbow," 93;

<http://www.thefreedictionary.com/halberdier>, accessed April 5, 2011;

<http://www.chacha.com/question/what-is-halberd>, accessed April 5, 2011;

<http://medieval.stormthecastle.com/armorypages/hallberds.htm>, accessed

April 5, 2011; <http://www.middle-ages.org.uk/halberd.htm>, accessed on

April 5, 2011.

^{cclxii} <http://medieval.stormthecastle.com/armorypages/hallberds.htm>;

<http://www.middle-ages.org.uk/halberd.htm>; accessed April 5, 2011.

^{cclxiii} Joyce de Vries, "Caterina Sforza's Portrait Medals: Power, Gender, and Representation in the Italian Renaissance Court," *Woman's Art Journal* 24 no. 1 (Spring-Summer 2003): pp. 23-28; 24.

^{cclxiv} de Vries, "Caterina," 24.

^{cclxv} de Vries, "Caterina," 24-25.

^{cclxvii} de Vries, "Caterina," 24.

^{cclxviii} de Vries, "Caterina," 25.

^{cclxix} de Vries, "Caterina," 25.

^{cclxx} de Vries, "Caterina," 26.

^{cclxxi} de Vries, "Caterina," 26.

^{cclxxii} de Vries, "Caterina," 26.

^{cclxxiii} de Vries, "Caterina," 26.

^{cclxxiv} de Vries, "Caterina," 26.

^{cclxxv} Pointon, *Hanging the Head*, 1, 4, 113.

^{cclxxvi} Pointon, *Hanging the Head*, 6; 107-136; 159-175.

^{cclxxvii} Pointon, *Hanging the Head*, 120-122.

^{cclxxviii} Pointon, "Dirty Beau," 176; E. Beetham, *Moral Lectures on Heads* (Newcastle upon Tyne: 1780).

^{cclxxix} Pointon, "Dirty Beau," 178.

^{cclxxx} Pointon, "Dirty Beau," 175-190. Men would often shave their hair to better accommodate the false hair. Women were marked by their absence of

wig, encouraged to add to their natural hair with hairpieces only on very special occasions.

cclxxxix Pointon, "Dirty Beau," 180.

cclxxxiii David Ritchie "A treatise on the hair: Shewing its Generation, Means of its Preservation. Causes of its Decay. How to recover it when lost. What occasions its different Colours; Management in different Climates, and in all the Stages, and Circumstances of Life. Also a description of the most fashionable methods of dressing ladies and gentlemens hair, both Natural and Artificial. With An Essay on Dress in General, Address'd to the Ladies of Great Britain. Printed in London for the author, sold by him at his shop on Rupert-Street, two doors from Coventry-Street, Haymarket, MDCC.LXX., [1770]. 15-19.

cclxxxiv Ritchie, "A treatise on hair," 21, 78; Pointon, *Hanging the Head*, 107. David Ritchie stated that, "Women study to dress only to add to their beauty; whereas men should dress suitable to their various ranks in life." Commonly asserted throughout Ritchie's text is that men are more at risk for hair dysfunctions such as baldness, that women are not typically troubled by. Ritchie's treatise outlined methods of hair management, procedures of coloration and causes of decay and baldness. These strategies of hair intervention were practical for practicing hair professionals but also for other members of society.

cclxxxv Ritchie, "A treatise on hair," 45-46. Ritchie states that perukes or male wigs, were worn by the King Louis XIV of France, depicted in his Place des Victoires in Paris to signify social status and regal respectability.

cclxxxvi Ritchie, "A treatise on hair," 46, 79.

cclxxxvii <http://www.folger.edu/template.cfm?cid=1464>, accessed April 6, 2011; <http://www.folger.edu/template.cfm?cid=1463>, accessed April 6, 2011.

cclxxxviii <http://www.folger.edu/template.cfm?cid=1463>, accessed April 6, 2011. In 1763-1765 he embarked on the Grand Tour, traveling to France, Italy and Russia and he was also educated by Dr. Samuel Johnson. Garrick's private library, spanning a wide variety of topics, formed the foundation of the British library.

cclxxxix Kalman A. Burnim, "A Brief Introduction to David Garrick," in The Exhibition of David Garrick at the Folger Shakespeare Library. <http://www.folger.edu/template.cfm?cid=1464> accessed on April 6, 2011. Garrick founded the Drury Lane Theatrical Society, created a plan for the relief of indigent persons and the support of invalids, widows and orphans and had the fund included in an Act of Parliament that was passed and published in 1777.

ccxc Ritchie, "A treatise on hair," 81.

ccxci Ritchie, "A treatise on hair," 78; Pointon, "Dirty Beau," 175.

ccxcii *The Laundress* was initially promoted as a genre scene however the

model became so associated with this image that when she was used in other compositions to depict upper class women, viewers were confused and often angered, further impacting the reception of Greuze's later works. While *The Laundress* was on the one hand interpreted as a genre painting, many viewers received the painting as a portrait.

^{ccxciii} Colin B. Bailey, *Jean-Baptiste Greuze's The Laundress* (Los Angeles: Getty Museum Studies on Art, 2000): 48-51; 52, 53.

^{ccxciv} Bailey, *The Laundress*, 71-75; For further reading see Cissie Fairchilds, *Women in Early Modern Europe 1500-1700* (London: Pearson Longman, 2007) and Cissie Fairchilds, *Domestic Enemies: Servants and Their Masters in Old Regime France* (Baltimore: Johns Hopkins University Press, 1984).

^{ccxcv} Malcolm Warner, "The Sources and Meaning of Reynolds's "Lady Sarah Bunbury Sacrificing to the Graces," *Art Institute of Chicago Museum Studies* 15, no. 1 (1989): 6-19; 8.

^{ccxcvi} Warner, "Sources and Meanings," 8.

^{ccxcvii} Pointon, *Hanging the Head*, 143; 149; 151; 143: Montague's reputation was made in large part by what she observed in her Ottoman travels, correspondence with her husband, poetry shared with friends and by her visual reproduction of herself in society.

^{ccxcviii} Pointon, *Hanging the Head*, 147.

^{ccxcix} Pointon, *Hanging the Head*, 146.

^{ccc} Pointon, *Hanging the Head*, 145-6.

^{ccci} Bologna, Josephinum Vienna, Florence, among others. See Dacome, "Waxworks," 29-35; Riva, Conti, Salinas & Roy, "The evolution," 209-222; Renahan, Hilloowala & Hilloowala eds., *The Anatomical Waxes*, 7-10; Maerker, "Uses and Publics," 87-96; Brunetto Chiarelli and Alberto Simonetta, *Storia dei musei naturalistici fiorentini* (Florence: Florence University Press, 2008), 11-30; Rebecca Messbarger, *The Lady Anatomist: The Life and Work of Anna Morandi Manzolini* (Chicago: University of Chicago Press, 2010).

^{cccii} Maerker, "Uses and Publics," 81-96; Mazzolini, "Plastic Anatomies," 52-55, 62-63.

^{ccciiii} The eighteenth-century standing wax anatomical figures of Ercole Lelli in the Museo di Palazzo Poggi, Bologna, Italy, are an example of the Adam and Eve figure types.

^{ccciv} The social stigma surrounding those that were dissected was immense in the early modern period. During this time bodies procured for any kind of anatomical dissection often remained anonymous. Governing bodies began to legislate the seizure of deceased criminals, unclaimed bodies and those of citizens that were foreign to the region that they died in. As demonstrated by Simons and Tinagli, jewelry on the female body in Renaissance and early modern art was a symbol of ownership or belonging, typically given to women by either male relatives or husbands. This gesture was a claiming of the female body as a piece of property. If cadavers utilized in producing anatomical displays were given an identity, that would necessitate that it was

ever known to begin with.

cccv Erica Fudge, *Brutal Reasoning: Animals, Rationality, and Humanity in Early Modern England* (London: Cornell University Press, 2006), 7-54, 147-174; Elspeth Graham, "Reading, Writing, and Riding Horses in Early Modern England: James Shirley's Hyde Park (1632) and Gervase Markhams' Cavelarice (1607)," in *Renaissance Beasts: Of Animals, Humans, and Other Wonderful Creatures*, ed. Erica Fudge (Chicago: University of Illinois Press, 2004), 116-138; Foyster, *Manhood*, 28-93.

cccvi Fudge, *Brutal*, 50-52; Leon Battista Alberti, *The Family in Renaissance Florence*, trans. Renee Neu Watkins (Columbia: University of South Carolina Press, 1969).

cccviii Fudge, *Brutal*, 1-58; Alberti, *Family*, 220-250.

cccix

http://www.nlm.nih.gov/exhibition/historicalanatomies/valverde_bio.html, accessed July 23, 2010.

cccxi Charles Estienne, *La dissection des parties du corps humain libri tres* (Paris: Apud Simonem COLinaeum, 1545)

cccxi Valerie Traub. "Gendering Mortality in Early Modern Anatomies," in *Feminist Readings of Early Modern Culture*, eds. Valerie Traub, M. Lindsay Kaplan, and Dymna Callaghan (Cambridge: Cambridge University Press, 1996), 44-92.

cccxiii The display frame resembles an exploded version of the museo della specola display cases that house the full-length wax figures—but without the glass featured in the traditional examples.

cccxv Bette Talvacchia, *Taking Positions: On the Erotic in Renaissance Culture* (Princeton: Princeton University Press, 1999), xi. The engravings were later accompanied by graphic sonnets authored by Pietro Arentino, publishing the combination as a book. These illustrations marked what art historian Bette Talvacchia argues is the first instance in Italy of a series of veristic sexual situations that were marketed for profit in print media.

cccxvi Some female figures also are shown standing, but are in close proximity to beds.

cccxx The charges of indecency centered on the facial expressions of the plastinate figures

http://www.zimbio.com/Body+Worlds/articles/SBzViIg0S_U/Sex+corpses+cut+bits+over+decency+row; <http://www.metro.co.uk/weird/732988-von-hagens-saws-up-sex-corpses>;

<http://www.guardian.co.uk/world/2009/may/06/german-artist-sex-death>, accessed March 2, 2010.

cccxxi

http://www.zimbio.com/Body+Worlds/articles/SBzVilg0S_U/Sex+corpses+cut+bits+over+decency+row, accessed March 2, 2010;

<http://www.metro.co.uk/weird/732988-von-hagens-saws-up-sex-corpses>, accessed March 2, 2010.

cccxxii Mazzolini, "Plastic Anatomies," 50-51, 55-58, 60-63. Fontana later formed his own collection of wooden models to explicitly illustrate anatomical actions and organization of the human body, insisting that this was an integral part of anatomical studies.

cccxxiii Anna Maerker article, "Scenes from the museum: The hermaphrodite monkey and stage management at La Specola," *Endeavor* 29 no. 3 (September 2005), 104-108.

cccxxiv Riva, Conti, Solinas & Loy "The evolution," 216.

cccxxv Riva, Conti, Solinas & Loy, 214.

cccxxvi Mieke Bal, *Double Exposures*, (New York: Routledge, 1996), 158.

cccxxvii Walter, "Plastination," 620, 621, 622; Debashis Singh, "Scientist or Showman?," in *British Medical Journal* 326 no. 7387 (March 1, 2003), 468; John Bohannon, Ding Yimin and Xiong Lei, "Anatomy's Full Monty," in *Science* 301 no. 5637 (August 29, 2003), 1172-1175; Charles M. Moore and C. Mackenzie Brown, "Experiencing Body Worlds: Voyeurism, Education, or Enlightenment?," *Journal of Medical Humanities* 28 (2007), 231-254.

cccxxviii Eilean Hooper-Greenhill, *Museums and the Shaping of Knowledge* (New York: Routledge, 1992), 204.

cccxxix Hooper-Greenhill, *Museums*, 204.

cccxxx Hooper-Greenhill, *Museums*, 204.

cccxxxi Hooper-Greenhill, *Museums*, 204-205.

cccxxxvi Tom Poundstone, "The Ecstasy of St. Theresa," *St. Mary's College of California website*, <http://www.stmarys-ca.edu/news-and-events/saint-marys-magazine/archives/v26/su06/feature4.html>, accessed November 15, 2010.

cccxxxvii Her hands are placed on his arms, however in such a way where it would be more difficult to remove them from her hips. In contrast, if she were asserting control, her hands would be closer to his in order to remove them. Therefore I believe that the male is in fact the dominating gesture in the composition, not the female figure.

cccxxxviii van Dijck, "Bodyworlds," 100; von Hagens, "Anatomy and Plastination," 36-37.

cccxi Willibrord Weijmar Schultz, Pek van An del, Ida Sabelis, and Eduard Mooyaart, "Magnetic resonance imaging of male and female genitals during coitus and female sexual arousal," *British Medical Journal*, December 319 (1999), 18-25.

cccxlii Kelly Joyce, "Appealing Images: Magnetic Resonance Imaging and the Production of Authoritative Knowledge," *Social Studies of Science* 35 no. 3 (June 2005), 437-462.

cccxlili Kelly Joyce, "Appealing Images," 454-456.

cccxliv Kelly Joyce, "Appealing Images," 445-453.

cccxlv Joyce, "Appealing Images," 439. The initial information the software produces from the scan is numeric, not visual; the numeric data is then translated into an anatomical image.

cccxlvi Joyce, "Appealing Images," 450-452.

cccxlvii Joyce, "Appealing Images," 452-453; 453-456.

cccxlviii Joyce, "Appealing Images," 440-444.

cccxliv Joyce, "Appealing Images," 440-453.

ccccl Joyce, "Appealing Images," 456-458.

ccccli Sex organs are exhibited elsewhere in the exhibit, however are linked to the renal system and evacuative function of the anatomy.

ccccli de Ceglia, "Disembowelled Woman," 439-440; Samuel Kline Cohn, Jr., "Marriage in the Mountains: the Florentine territorial state, 1348-1500," in *Marriage in Italy, 1300-1650*, eds. Trevor Dean and K. J. P. Lowe (Cambridge: Cambridge University Press, 1998), 174-198; Trevor Dean, "Fathers and daughters: marriage laws and marriage disputes in Bologna and Italy, 1200-1500," in *Marriage in Italy, 1300-1650*, eds. Trevor Dean and K. J. P. Lowe (Cambridge: Cambridge University Press), 85-106; Stanley Chojnacki, "Nobility, women and the state: marriage regulation in Venice, 1420-1535," in *Marriage in Italy, 1300-1650*, eds. Trevor Dean and K. J. P. Lowe (Cambridge: Cambridge University Press, 1998), 128-154. Venetian Renaissance statistics suggests that it is uncertain how many people engaged in pre-marital sex. Anatomy exhibits, specifically reproductive installations, therefore may have been used as a more general rite of passage, even for men who would go to brothels. However de Ceglia asserts that, particularly for women, visits to these exhibits could act as a rite of passage before entry into the marriage bed.

ccccliv Individually they simultaneously can depict nerve or vascular innervation and interconnectivity to other organs.

cccclvii de Ceglia, "Disembowelled Woman," 439-440. See also: Mary Sheriff, *The Exceptional Woman: Elisabeth Vigée-Lebrun and the Cultural Politics of Art* (Chicago: Chicago University Press, 1996), 1-25. Until now this has gone unmentioned in the literature on Museo della Specola.

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- ccclviii de Ceglia, "Disembowelled Woman," 439.
ccclix de Ceglia, "Disembowelled Woman," 439.
ccclx de Ceglia, "Disembowelled Woman," 438-440.
ccclxi de Ceglia, "Disembowelled Woman," 439.
ccclxii de Ceglia, "Disembowelled Woman," 440.

- ccclxvi Patricia Fumerton, *Cultural Aesthetics: Renaissance Literature and the Practice of Social Ornament* (Chicago: Chicago University Press, 1991), 70.
ccclxvii Fumerton, *Cultural Aesthetics*, 70.
ccclxviii Fumerton, *Cultural Aesthetics*, 70.
ccclxix Fumerton, *Cultural Aesthetics*, 70.
ccclxx Fumerton, *Cultural Aesthetics*, 77.
ccclxxi Fumerton, *Cultural Aesthetics*, 77.
ccclxxii Fumerton, *Cultural Aesthetics*, 78; Nicholas Hillard, *A Treatise Concerning the Arte of Limning* (London: c. 1660), 63, 65.
ccclxxiii Fumerton, *Cultural Aesthetics*, 78.
ccclxxiv Fumerton, *Cultural Aesthetics*, 78.
ccclxxv Fumerton, *Cultural Aesthetics*, 73. Note that Fumerton states that miniature portraits were only initially exhibited inside of the home, later being worn on the body, as talisman or personal object of devotion and affection.
ccclxxvi Fumerton, *Cultural Aesthetics*, 69.
ccclxxvii Fumerton, *Cultural Aesthetics*, 72.
ccclxxviii Fumerton, *Cultural Aesthetics*, 70.
ccclxxix Fumerton, *Cultural Aesthetics*, 72.
ccclxxx Fumerton, *Cultural Aesthetics*, 77.
ccclxxxi Fumerton, *Cultural Aesthetics*, 72.
ccclxxxii "von Hagens exhibition criticized over corpse sex display," *The Telegraph* (May 07, 2009), accessed November 13, 2010, <http://www.telegraph.co.uk/news/newstoppers/howaboutthat/5289311/Gunther-von-Hagens-exhibition-criticised-over-corpse-sex-display.html>.
ccclxxxiii Stephen Johnson, "The Persistence of Tradition in Anatomical Museums," in *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens*, eds. T. Christine Jespersen, Alicita Rodriguez, and Joseph Starr (London: McFarland, 2009), 68-85; Paul Wodja, "Adoration, Veneration, Plastination: Theo-Liturgical Reflections," in *The Anatomy of Body Worlds: Critical Essays on the Plastinated Cadavers of Gunther von Hagens*, eds. T. Christine Jespersen, Alicita Rodriguez, and Joseph Starr (London: McFarland, 2009), 211-227; Lawrence Burns, "Gunther von Hagens' Body Worlds: Selling Beautiful Education," in *The American Journal of Bioethics* 7 no. 4 (2007), 12-23.

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