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## INTRODUCTION

*"Invisible Cities,"* the novel by Italo Calvino, was recommended to me in the summer of 2003. I wrote the title down in my sketchbook and immediately forgot about it. Eight months later, studying in Florence, Italy, I recognized the title on a table displaying the classics of Italian literature in a popular bookstore, in *Piazza della Repubblica*, and decided to buy it. *"Invisible Cities"* is a novel with a beautiful, non-linear narrative structure, which allows, among other things, for the reader to involve herself without having serious concern towards the plot. The book is divided into nine parts: the first and last parts consist of ten short chapters; parts two through eight contain five short chapters each. Before each of the parts, and separated by an italicized font style, runs a loose narrative in the form of a dialogue between Marco Polo and his patron, Kublai Khan. Through their conversations, the reader contemplates the ideas involved in mapping and traveling, recounting, remembering and understanding places.

Alternating with the sections of dialogue narrative, the ten parts consist of short chapters that describe enigmatic, dream-like cities, whose identities as actual physical locations are less convincing than their possible representations of types of conceptual organization: in the form of city networks, city paths, city grids, city labyrinths, city mazes, city spirals, city centers with peripheries, city peripheries without centers, city canals, city plumbing systems, city towers, etc... The travels of Calvino's character,

Marco Polo, as recounted to the Great Khan, are journeys into his memories and dreams. They are his “internal geography...”<sup>1</sup>

I see that “*Invisible Cities*” has had a great effect on me, as I reflect on the influences that led me to develop this thesis project. I am interested in the metaphor of the network or web structure and recognize its prevalence. In “*Invisible Cities*” the mapping of an historical empire becomes an analogy for how the characters understand themselves. From Calvino’s use of cities in his novel, I recognized their power as metaphors for the complex structures of our thoughts and emotions, actions and interactions, memories and cognition. With inspiration from “*Invisible Cities*” I found visual vocabulary for a personal cosmology translated into the act of anatomical modeling.

The development of my thesis project started with an interest in the anatomical wax models of *Museo della Specola* in Florence, Italy, and a desire to recreate their specific qualities according to my own sensitivities and conceptions. The wax models of *la Specola* are products of late 18th century Italian collecting culture, and exist as markers of many aspects of the Enlightenment. As I searched through various historical descriptions and theoretical analyses of these wax models, I found that I was most interested in them as sculptures, and as evidence of a relentless investigation into the

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<sup>1</sup> Pietralunga, Mark. “Cartophilia and the Poetic Imagination: Map Consciousness in Italo Calvino’s *Le Città Invisibili*,” Albert N. Mancini, Paolo A Giordano, Anthony J. Tamburri, Ed. *Italiana*. RiverForest, IL: Rosary College, 1990.

human body. In my physical, emotional and aesthetic response to the waxes, I am convinced of their relevance and visual power today.

What were the material and formal qualities of the waxes of *La Specola* which caused me to linger among them, and return again and again to their displays? As I read more about the history of wax effigy, I gained vocabulary to articulate some of their power. In order to understand the motivation for my artwork, it is necessary to consider the verisimilar capabilities of wax, and its role in Freud's concept of the 'uncanny'. Even a moderate investigation of such ideas reveals interesting connections between the medium of wax and our (western) conceptions of the body.

The work was developed through three areas of understanding, which I will discuss throughout the body of this paper: 1) historical and theoretical research, 2) my art practice, and 3) the conceptual structure of analogy. A modest investigation into the history of medical imagery (particularly in polychrome wax), and the theoretical writings surrounding wax models such as those in the collection of *La Specola*, helped me to better understand my initial, intuitive attraction to these subjects and images. For example, the philosophies of Descartes figure prominently into the history of dissection and the study of anatomy.

In concert with this research, my art practice was a methodology of practical experimentation into the forms and materials best suited to the conceptual and psychological development of the work. As the work took material form, I adopted the organization of an analogy--informed by the book "*Visual Analogy: Consciousness and the Art of Connecting*," by Barbara Maria Stafford--which is simply the way I am



identifying my strategy of communication. Articulating the structure of analogy, is likening visual art to poetry, and admitting my reliance on metaphors and similes.

Cartography and anatomy come from the same scientific paradigm of valuing the minute and detailed recording of the visible world: the equation of vision with knowledge. What happens when the act of anatomizing (reducing and dividing material, to arrive at a specific system) merges with the act of mapping (in this case a road map)? My work took the form of an 'artistic dissection' process, which answers this question. The 'artistic dissection' required a "body," which I made from paper and beeswax embossed with a pattern designed according to a collage of road maps. When the "body" was fully formed, I proceeded to carve it up with an exacto-knife. While developing my description of process, I struggled with what to call this "body." After much deliberation, the "body" has been termed "waxed paper" or some such variation until midway through the description. At a pivotal step in the process the "wax paper" becomes a "waxy skin." Then only when the "body" is submitted to the process of 'artistic dissection,' does it acquire its final name, wax "carcass."

In my consideration of anatomy and mapping, I am interested in the tension (the overlap and the disparity), between what can be seen and known, and what is felt and known. Is the map absolute? The result of my process of 'artistic' dissection was a map of the body according to its *invisible cities*, a map of my body in a sense, as if those places contain the meanings of my many parts.

## THE NATURE OF WAX AND THE STRUCTURE OF ANALOGY

The predominant material of this thesis project is beeswax. The wax has been brushed onto and soaked into a thin sheet of paper made from a mixture of *kozo* and cotton fiber which will be discussed further in the following section. Historically, wax has been one of the main materials used in the production of the effigy.<sup>2</sup> Merriam-Webster defines effigy as, “a full or partial representation of a person.”<sup>3</sup> This is a broad definition which leaves me to wonder if not all figurative sculpture could be called effigy? Further investigation by Marc Sandberg specifies that effigies

...encompass any practice of corporeal image production but is reserved especially for...clothed...figures. Wax and plaster mannequins would seem to be at the heart of this category, set off as they often are from other forms of sculpture by realistic costuming and theatrical techniques of *mise-en scène*.<sup>4</sup>

According to this definition (based on the specific history of cultural production of effigy), it would appear that neither my work nor the waxes of *La Specola* are effigies, as they are not clothed nor overtly produce a *mise-en-scène*. However, further consideration reveals a more conceptual definition of ‘effigy’ this time in the form of a transitive verb,

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<sup>2</sup> This is investigated beautifully by Georges Didi-Huberman, in his essay “Wax Flesh: Vicious Circles,” found in the *Encyclopedia Anatomica*. Museo di Storia Naturale dell’Università di Firenze. Köln: Taschen, 1999.

<sup>3</sup> Gove, Philip Babcock, Ed. “Webster’s Third New International, Dictionary of the English Language Unabridged.” Springfield, Ma: Merriam Webster Inc, 1993.

<sup>4</sup> Sandberg, Mark B. *Living Pictures Missing Persons: Mannequins, Museums, and Modernity*. Princeton, NJ: Princeton University Press, 2003. 4.

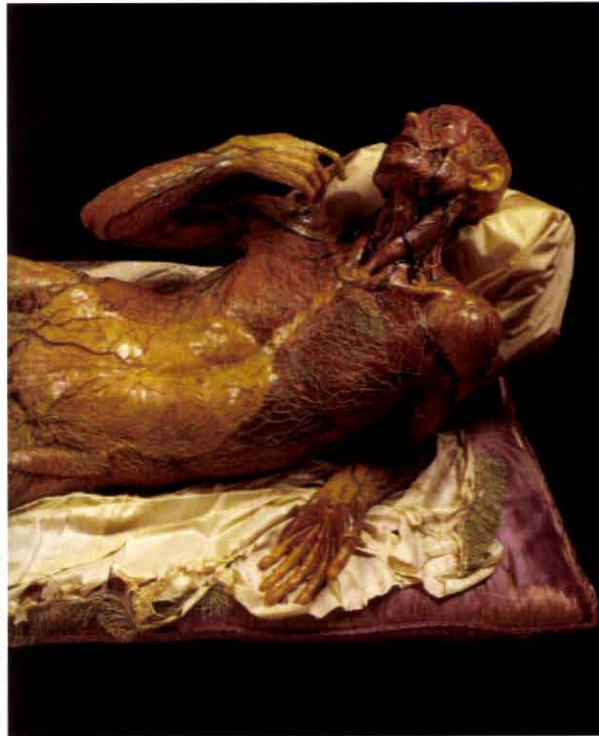


Photo: Saulo Barbi

**Figure 1**



Photo: Saulo Barbi

**Figure 2**

‘to effigy’: “...to serve as a picture of, to body forth.”<sup>5</sup> Because of my use of wax, and the human body as subject matter, I recognize an association between my sculpture and this definition of effigy. How, then, is my sculpture an effigy? What form does the wax paper *body forth*?

My model was meant to invoke a response in the viewer similar to those they would experience in the presence of the wax models at *La Specola*. With this goal in mind, I concentrated on reinterpreting the essential qualities of the wax models through my artistic processes. Using the image of the line structure taken from various road maps, I recreated an anatomical wax model of a body, specifically reminiscent of one of the reclining wax figures in the collection at *La Specola*. On this particular model, the lymphatic vessels and superficial veins are modeled by a myriad of silk threads, each dipped in wax and laid in an intricate web over the surface of the reclining figure (fig.1). These silk threads form a network that speaks of movement through space, and remind me of a road map. I recognize a fruitful analogy between maps of the land, and anatomy diagrams or models of the body (fig. 2). The layering of these parallel systems of knowledge results in multiple, open-ended associations.

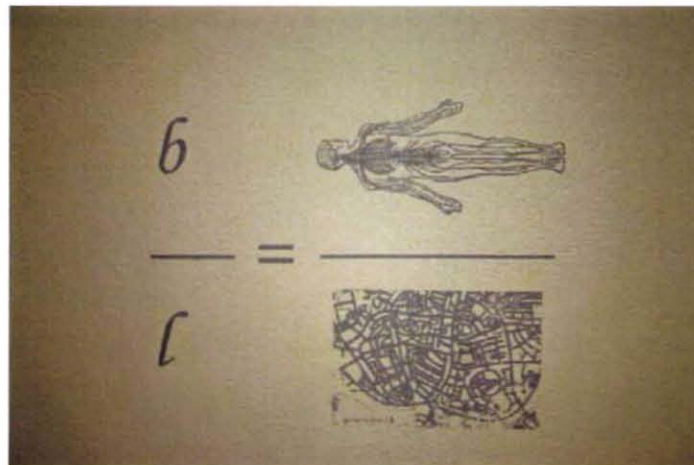
In the Commons Gallery, I designed the interior room as a physical space for my equation. The space of the gallery was divided into two rooms, an entrance, and an inner space. They were divided by a free standing wall, eight feet across, with approximately four feet of space on each side, as access to the inner space. The main installation

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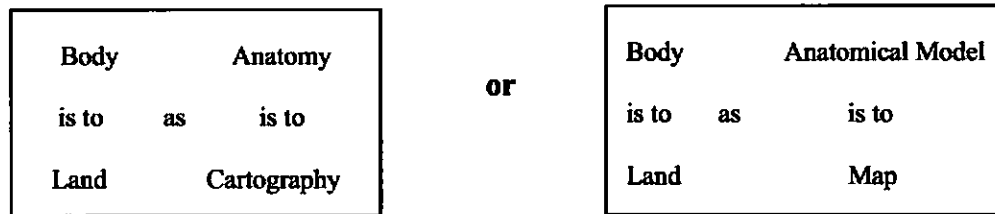
<sup>5</sup> Sandberg, 5.

consisted of two components: a mass of 3500 pins configured on the interior-facing surface of the free standing wall, eight feet by fourteen feet, (plate II), and a wax “carcass” displayed on pins in a Plexiglas case, dimensions 30 inches by 45 inches by 82 inches, placed in the center of the space (plate VI). The lighting was focused onto the display case in the center of the room, and onto the free-standing wall, while the rest of the walls in the inner space remained unlit. The two resultant pieces: the remaining cut lines of waxed paper displayed on the horizontal, and the cut-out shapes pinned on the vertical of the gallery wall became reciprocals of each other. While in one sense the waxy “carcass” was a landscape model on the horizontal, the mass of fragments on the vertical surface became an enlarged figure. Simultaneously and inversely, as the wax “carcass” evoked a body in a glass coffin, the configuration of fragments became a map-like image.

As a “legend” for my exhibition, an equation was screen-printed on the wall which defined the analogical structure of my artwork (fig. 3).



**Figure 3**



The interior space of the gallery where these two elements were installed became, in effect, the structure of this analogy (plate I). In this way the space between the display case and the wall (where the viewer might find themselves looking back and forth from the one to the other) was literally the space of the “=” sign of the equation.

We are most familiar with analogy as an equation of ratios, which allows understanding of disparate entities by comparing measured relationships, so that in the equation,

$$\frac{A}{B} = \frac{C}{D}$$

we understand that the relationship between A and B is similar to the relationship between C and D. These relationships are symbolized in this diagram by the split structure of one letter above another letter, separated by a line. The fraction line, then, represents the relationship of a simile.

There is, however, another element to the diagram, which, contrary to first appearances, is less mathematical. This element is represented in the diagram by the “=” sign. Synonyms for ‘equals’ are: *equivalent, same, like, related, comparable*. What is the significance of the space between the two ratios? In the analogy, lies the power of

association. If the relationship between “a” and “b” can be understood by its similarity to the relationship between “c” and “d” then there is a transformative power in that space of the relation. If we consider the synonyms for the verb ‘*to equal*,’--‘*to create*’ and ‘*to make*’-- then the action of finding equivalence is creative, just as the action of art is creative and open-ended.

The correlation between body and land is a classic one, of which I have taken advantage for the wealth of associations that arise when the two are placed in analogical relation. For example, described by Leonardo in the beginning of the 16th century:

By the ancients man has been called the world in miniature; and certainly this name is well bestowed, because, inasmuch as man is composed of earth, water, air and fire, his body resembles that of the earth; and as man has in him bones, the supports and framework of his flesh, the world has its rocks, and the supports of the earth; as man has in him a pool of blood in which the lungs rise and fall in breathing, so the body of the earth has its ocean tide which likewise rises and falls every six hours, as if the world breathes; as in the pool of blood veins have their origin, which ramify all over the human body, so likewise the ocean sea fills the body of the earth with infinite springs of water.<sup>6</sup>

These classic similes are emblematic of the Renaissance conception of human beings as ‘the measure of all things.’ This microcosmic paradigm finds parallels in nature between the characteristics of the land, and those of the human body. “Like other forms of thought associated with the miniature, the microcosmic philosophies are contemplative and aesthetic rather than scientific and historical...microcosmic thought usually centers on the notion of the individual ‘specimen,’ whether abstract or physical.”<sup>7</sup> Likewise, my

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<sup>6</sup>Stafford, Barbara Maria. *Visual Analogy: Consciousness as the Art of Connecting*. Cambridge, MA: MIT Press, 1999.159.

<sup>7</sup>Stewart, Susan. *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*. Durham, SC: Duke University Press. 1993. 130.

wax model is an individual specimen, displayed as an instrument of contemplation, relying on the generation of correlations between land and body.

*“The miniature offers us a transcendent vision...”*<sup>8</sup>

This project is also about a miniaturization of that which is too large to comprehend in its entirety. “The world” is so much larger than “the individual” that a map is needed to navigate through it. The map is a miniaturization of distance, passage, location, as well as a flattening of topography.

We move through the landscape; it does not move through us. This relation to the landscape is expressed most often through an abstract projection of the body upon the natural world...Hence our words for the landscape are often projections of an enormous body upon it: the mouth of the river, the foot-hills, the fingers of the lake, the heartlands, the elbow of the stream.”<sup>9</sup>

In this way I too have used the order of the body to represent the vast stretches of land. In order to grasp the expansiveness of the world, I rely on the map which is a miniaturization of space, which I have organized into the form of a body. The rivers are like veins, the roads are like the nervous system. Blood flows as water flows; people move as goods move; information travels as electricity travels. These paths form a network that traverse a space which is defined by these passages, and connect its many points.

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<sup>8</sup> Stewart, 70.

<sup>9</sup> Stewart, 71.



## PROCESS/DIGEST/METABOLIZE

Art-Practice as methodology identifies the role of studio work as a type of research. I am primarily motivated to create forms whose material identity is not immediately recognizable. I accomplish this by subjecting an image to a series of processes which translates it from one state or form to another. The development of the material for this project began with a focus on certain physical qualities- lightness, translucency, tenuousness, resilience, disintegration—extracted from my experience with the waxes at *La Specola*. I found a way to mimic skin or viscera using handmade paper bathed in beeswax. The compressed plant fibers became a vehicle for the soft, layered translucency of wax, an organic simulation of preserved human flesh.

The original “drawing” for the waxy “carcass” was a collage of photocopied road maps (fig. 4). The collage was a combination of cities (Honolulu, St. Louis, Florence, Camaiore, Budapest, Paris, Tel-Aviv) as well as regions (greater Lyon, Romania, central France, Israel) important to my personal history. The particular maps used in this collage were procured in different ways: saved from my travels, sent to me from my grandmother or taken from atlases found in Hamilton Library. It was the line-pattern of the roads on these maps that was most important to me. Creating the collage was critical: it was the first step in a long process of transformation and therefore all the subsequent steps relied on the development of this one.



Figure 4

The lines from city maps are more angular, and the resultant shapes created from their intersections are geometric; regional road maps record roads in suburban and rural areas that follow topography and consequentially the shapes from between the lines are more organic. The changes in both structure and scale between city maps and regional maps provided a variety of line formations. These varying qualities were taken into consideration in the composition. The collage “drawing” was then divided into five sections, which were translated onto Plexiglas substrates. This was done by taping the section to the underside of the clear Plexiglas, and tracing the lines of the map with thin coils of oil-based clay or a bead of latex caulking. Through the translation into bas-relief, the lines of the flat road maps became three dimensional, gaining an average height and thickness of 3/16-1/4 inches. In addition, this step was one of logistical and compositional editing. Due to the size of the sculpting tools, and according to my own discretion, certain lines in the collage of roadmaps were sculpted onto the Plexiglas, while others were not transferred at all.

From these prototypes (originals?) of oil based clay and latex caulking on Plexiglas, six interlocking plaster molds were made (fig. 5). When fitted together, the outline shape of the molds duplicated the original collage. The plaster molds were made to cast one large, thin sheet of paper from a mixture of *kozo* and cotton fibers. The *kozo* was chosen for the



Figure 5

bonding strength of its long fibers, while the cotton was chosen for its white color. Wet sheets of paper were coaxed into the bas-relief of the mold with water and a brush whose diameter fit into the negative space of the molds. The plaster material of the molds aided in the drying of the paper; as a porous material, it absorbed the water from the fiber sheets.

The next step was to inlay an infrastructure of soldered copper wire, which ran along primary “arteries” within the network of lines. This armature was imbedded into the paper to give extra structure throughout the “map.” (When the time came to mount the “carcass” on the tabletop of the display case, I was able to bend the wire armature in strategic places to add height, shaping and forming the wax “carcass” into a body and a topography [plate VII]). After the armature was inlaid, and before the paper was removed from the molds, the entire surface was then coated with pigmented beeswax. Shavings of yellow ochre and red crayon were mixed in with the beeswax to create a color of decomposing-flesh. The hot beeswax filled the grooves where the paper had been pushed into the negative areas of the mold. Pooling and hardening throughout the network of lines, the wax helped the paper to maintain its newly embossed form.

Once the wax had cooled, the entire 3' by 7' sheet was peeled out of the mold, and hung on the wall, waxed side facing out. At this point the surface of the paper was carefully massaged with a propane gas torch. By moving a soft flame of the torch across the paper in a constant circular motion at a distance of three to five inches, the wax on the surface of the sheet of paper re-melted and was absorbed fully into the fibers of the paper. This was a truly transformative step in the process—as the wax reached its melting point it

became a clear liquid, and appeared to dissipate into the paper. The excess wax traveled down the paper, dripping and splashing on the wall and floor. The wax coated paper became a mysterious sheet of translucent and highly textured



**Figure 6**

waxy skin (fig. 6). It is at this point that my wax “body” was complete and ready for the next process—artistic dissection.

**Tools required:**

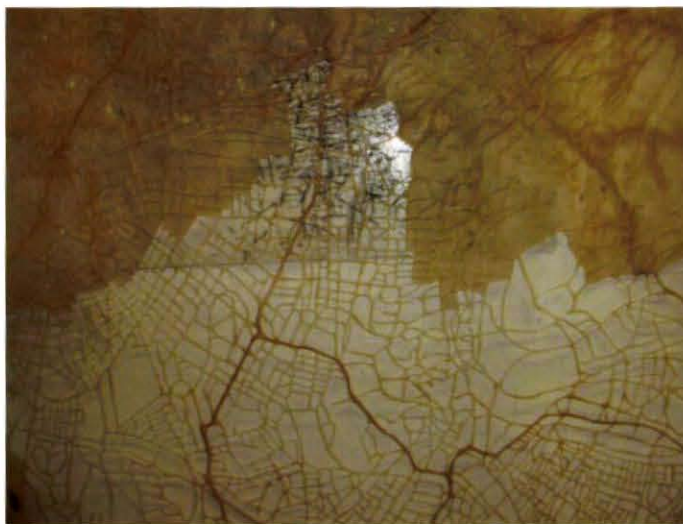
- 1 exacto knife, generous supply of blades
- 1 Plexiglas cutting board
- 1 piece black paper
- 1 pushpin, tied with a string onto wrist
- 1 piece foam core, scrap
- 1 hotplate
- 1 pot of beeswax and pigment mixture, melted
- 5 pounds of 2 3/4" taxidermy pins

The large sheet of waxed paper (“body”) was pinned to the wall, with the cutting board mounted onto the wall underneath the paper (fig. 7). I began cutting at the lower mid-sagittal area of the paper (the “pelvis” of the body). My rule was to keep track of the



relative location of cut-out 'spaces.' These 'spaces' were saved in order, by carefully cutting one area at a time, and laying the pieces onto a scrap of foam core according to their original configuration.

From this step, the cut-out pieces or 'spaces' were suspended onto pins and re-dipped into the liquid wax which served to even-out their thickness and adhere them to the pinheads. Once cooled, they were pinned onto four pre-painted panels (two panels were 4'



**Figure 7**

by 6' and two panels were 4' by 8') that would be installed onto the walls of the gallery.

Figure 8 shows a section of cut-out pieces on the white foam core (which worked as a sort of pincushion backing for puncturing the 'spaces' with the pins) next to the liquid wax pot. A portion of the 'spaces' in the photograph are already pinned and ready to be mounted onto the panels, and another area is laid out following the order in which it was cut.



**Figure 8**

Paper cutting is a reductive process that creates a flat, crisp, graphic image. My main objective was to remove as many of the waxy, skin-like 'spaces' as I could, leaving the thinnest raised-line pattern possible, without completely destroying the integrity of the paper. Because of the embossed nature

of the paper, the graphic quality of the cut-out was at the same time sculptural—the lines remained slightly ‘in the round’ even after I had cut the ‘spaces’ out from around them. When the whole paper had been cut out, with exception to the outer margin (fig. 9), I re-dipped the entire cut-out into hot wax again, in order to modify the thickness and surface quality of the “carcass.” If the temperature of the liquid wax in the pot was hot upon dipping, the wax on the paper “carcass” would thin as its coating melted off; conversely if the temperature of the wax in the pot was relatively cooler, then dipping resulted in a thickening of the layer of wax. This step further sculpted the “carcass,” shaping each line of paper into a rounded element.

The process of ‘artistic dissection’ as described above took three straight weeks, during which time I cut and pinned over 3500 ‘spaces’ (plate V). I tried to not think about what I was doing, but rather immerse myself into the repetitive, tedious technique of cutting, laying out, pinning, dipping, puncturing, pinning again...It was pleasurable for me to feel productive, doing an activity whose pain-staking repetition marked time, and the results of which accrued at a slow and metered tempo. I relate in this way to the work of Ann Hamilton, who said that for her, “making art is a process of affirming work’s pleasure.”<sup>10</sup>

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<sup>10</sup> This citation was taken from the writings of Ann Hamilton and Kathryn Clark, which were included by Kristine Stiles and Peter Selz, Ed., in *Theories and Documents of Contemporary Art: A Sourcebook of Artists' Writings*. Berkeley, CA: University of California Press, 1996. 628.



**Figure 9**



## THE WAXES OF *LA SPECOLA*, FREUD, DESCARTES

To a considerable extent, historical resources have helped me to understand and focus the “content” of my work. I have been interested in the visual representation of the human body throughout the development of western medical science, and attracted to the images found in the study of human anatomy. This research led me to focus my interest on the 18th century anatomical wax models, such as those found at *Museo della Specola*, part of the Museum of Natural History and Physics of the University of Florence, in Italy. A brief description of these models will clarify the intention of my thesis exhibition.

*Museo della Specola* is an 18th century museum in the historical center of Florence, Italy. Within its rooms resides a stupefying collection of over 1400 polychrome, predominantly life-sized replicas of human anatomy (fig 10). The waxes hold a particular place in the story of Enlightenment culture, somewhere between art and science. The particular history of this collection, from its original production up to its present location within the zoology section of a museum of natural history and physics, reflects the history of Italian scientific culture and collecting,<sup>11</sup> which will not be discussed at length here. Suffice it to say that the original function of the wax models as well as their material makeup, have determined their placement outside of the realm of art museums. The reality that the anatomical waxes are housed in a natural history

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<sup>11</sup> Pogessi, Marta. “The Wax Figure Collection in ‘La Specola’ in Florence,” *Encyclopedia Anatomica*. Museo di Storia Naturale dell’Università di Firenze. Köln: Taschen, 1999. 6-27.



Figure 10

context extends early scientific paradigms about the natural world onto the human body. Enlightenment values of gathering, storing and classifying encyclopedic knowledge of the natural world is reflected in this comprehensive collection of anatomical wax models of..<sup>12</sup> Spending time in the display rooms, one is struck by the thought that possibly every aspect of the human body has been captured in a fresh, animated death of polychrome wax.

It is an important detail that the early anatomical wax modeling took place in the city's hospital, before it was moved to the workshop at *La Specola*. The anatomical waxes remain as physical evidence of the search for an understanding of human sickness, the preservation of human health. The waxes were a collaborative work of doctors and anatomists, who prepared human cadavers for the processes of mold-making and modeling of the wax artists. Both Felice Fontana, the museum's first director, and Paolo Mascagni (1755-1815) of Siena, were contributing anatomists. Mascagni is also known for his anatomical illustrations, which were a major source of reference for the wax modelers. The primary modelers of the waxes at *La Specola* were Clemente Susini (1754-1815), Francesco Calenzuoli (1796-1829), and Luigi Calamai (1800-1851).<sup>13</sup> The models were of specific use to medical students, and the period of their production is simultaneous to the study and development of the medical fields of surgery and obstetrics.

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<sup>12</sup> Findlen, Paula. *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy*. Berkeley: University of California Press, 1994. 162.

<sup>13</sup> A comprehensive history of the collection at *La specola* is included in the publication edited by Leo S. Olschki, *La Ceroplastia Nella Scienza e Nell'Arte: Atti del Primo Congresso Internazionale*. Firenze, 1977.

I preparati in cera si dimostrarono un validissimo aiuto didattico: permettevano infatti agli allievi sia di conoscere meglio tutte le strutture del corpo umano difficilmente visibili con la dissezione del cadavere, che di memorizzare, per esempio, scene di parto difficili, comuni operazioni chirurgiche o particolari quadri patologici.<sup>14</sup>

This quote outlines the specific didactic uses of the waxes, which replaced actual human dissection with visual observation of the wax models. However, while the waxes such as those of the collection at *La Specola* were made for purposes of medical study, they carry visual signs of the moral, spiritual and aesthetic conventions of their era. In the essay for the catalogue of the exhibition entitled, “Spectacular Bodies” of 2001, the author Martin Kemp eloquently describes the subjective elements employed in the rendering of the anatomical waxes of this time period:

The vocabulary of form and gesture, particularly in the canonical series produced in Florence during the late eighteenth century in the workshop of ‘La Specola’, is that of Baroque saints, martyred to serve a higher purpose than merely living. In the dramatic images by Clemente Susini,...a disemboweled woman lies back on her silken sheet in the attitude of expiring ecstasy as she goes to meet the ‘maker’ of such a divine contraption, while a man displays the wonders of his internal plumbing in the heroic pose of a dying warrior or ancient river god, a noble player departing the stage of life.<sup>15</sup>

On the one hand the wax models physically represent an inquiry into the origins and final fate of human life. However, they are also a rendering of the violent dismemberment of human bodies which occurred in the process of anatomical dissection. Because of the painstaking verisimilitude of colored wax with human flesh, the

<sup>14</sup>“Le Cere Anatomiche di Clemente Susini” <[http://pacs.unica.it/cere/home\\_it.htm](http://pacs.unica.it/cere/home_it.htm)>, May 25, 2006.

<sup>15</sup>Kemp, Martin and Marina Wallace. “*Spectacular Bodies: The Art and Science of the Human Body from Leonardo to Now*.” Berkeley, CA: University of California Press, 2000. 61.



experience of being with a wax model elicits an ambivalent reaction—of both repulsion and attraction from the viewer.

Wax as a material is intrinsically related to Freud's idea of the 'uncanny.' His concept comes from an etymological comparison of two German words: 'heimlich' (homely, familiar) and 'unheimlich,' (secretive, sinister). Freud



Figure 11

recognized that the meaning of 'unheimlich' was contained in 'heimlich' inasmuch as they are etymologically related. This demonstrated how "...language records the radical ambivalence of physical and mental phenomena which can be at once familiar and unfamiliar."<sup>16</sup> Therefore, 'uncanniness' describes the appearance of something all too familiar in the form of something completely foreign. The relationship between these two opposite emotions encapsulated in the term 'uncanny' serves to describe the mixed feelings evoked when looking at a wax model of a human being. "The experience of the uncanny is itself both disturbing and pleasurable...[t]he uncertainty produced by the the boundaries between our living selves and our dead, automationlike simulacra

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<sup>16</sup>McCallam, David. "Encountering and Countering the 'Uncanny' in Descartes's *Méditations*," *French Studies*. Vol. LVII, no.2, 135-147. 135. This article discusses Freud's concept of the 'uncanny' in relation to René Descartes's contemplations of wax in his second *Méditation* in "*Meditations on First Philosophy, in which God's Existence and the Distinction between the human soul and the body are demonstrated*," written in 1641. While these writings are not included here, they are nonetheless of great interest inasmuch as he used descriptions of the material properties of wax to articulate his ideas of 'clear' and 'distinct' knowledge, which were involved in the explanation of his idea of the *cogito*.

demonstrates the link.”<sup>17</sup> The interior view of ourselves that the anatomical wax model provides seems unnatural, and puts us in a position to experience a simultaneous familiarity and foreignness at seeing inside our bodies from the outside. Although this feeling can apply to many conditions, Freud himself refers to the ‘uncanny’ in his original writings, as being the “...impression made by waxwork figures...”<sup>18</sup>

The waxes of *La Specola* are the products of historic studies influenced by theological, artistic and scientific knowledge. They are a physical record of the type of scientific inquiry conducted, and the paradigm within which modern western anatomical studies developed. The spiritual influences on early anatomical studies are elaborated in the writings of Descartes.

Using the rationality of a new and evolving science of the 17th century, René Descartes wrote of the separation of the mind and the physical body. The mind was equated with the soul in the phrase “cogito, ergo, sum.” The dualism of body and soul according to Descartes, lay in the actuality that the body exists in many parts and can be physically divided, while the soul remained whole– an indivisible, divine essence. Descartes, who was primarily a mathematician, wrote extensively about the rational existence of the human body as machine. Instead of the body as subject, defined by lived experience, the body is objectified by Cartesian philosophy, its existence relegated to

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<sup>17</sup> Jay, Martin. *Cultural Semantics: The Keywords of our Time*. Amherst: University of Massachusetts Press, 1998. 158.

<sup>18</sup> S.E. Freud cited by McCallam, 241.

theory.<sup>19</sup> From this theory, an understanding of the body could be rationally deduced, as if it were governed by a set of predictable rules.

In his treatise *The Passions of the Soul*, published in 1649, Descartes claimed to have found the “seat of the soul,” that is, a specific location of the soul in the physical body. According to Descartes, this location was in the pineal gland, at the base of the brain. Article 31 of the treatise, entitled “That there is a little gland in the brain in which the soul exercises its functions in a more particular way than in the other parts,” is quoted in its entirety as follows:

It is also necessary to know that, even though the soul is joined to the whole body, there is nevertheless one part in [the body] in which [the soul] exercises its functions in a more particular way than in all the others. It is commonly believed that this part is the brain, or perhaps the heart— the brain because the sense organs are related thereto, and the heart because the passions are felt as if therein. But in examining the matter carefully, I seem to have plainly ascertained that the part of the body in which the soul immediately exercises its functions is in no way the heart; it is not the whole brain either, but only the innermost of its parts—a certain extremely small gland, situated in the middle of its substance, and so suspended above the duct by which the spirits of its anterior cavities are in communication with those of the posterior that its slightest movements can greatly alter the course of these spirits, and conversely the slightest changes taking place in the course of the spirits can greatly alter the movements of this gland. (36)

Subsequent to this theory, dissections were conducted on the most freshly deceased bodies and at a frantic rate, with hopes of reaching the pineal gland before it began to decompose, before the soul had time enough to escape the body.

Part of Descartes’s reasoning for locating the “principal seat of the soul” in the pineal gland, has to do with it being a singular gland, as compared to his recognition of

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<sup>19</sup>Judovitz, Dahlia. “Virtual Bodies : Anatomy, Technology, and the Inhuman in Descartes,” *Paroles Gelees*: UCLA French Studies. v.16, issue 1, 1998. 21-41.

the dual existence of the rest of the sensory organs. He explains this in Article 32 of *The Passions of the Soul*:

...just as we have two eyes, two hands, two ears, and, in short, all the organs of our external senses are double; and that, inasmuch as we only have a single and simple thought of a given thing at a given time, there must necessarily be some place...And we can easily understand these images or other impressions to unite in this gland by the mediation of the spirits filling the brains cavities, but there is no place else in the body where they can thus be united unless it is done in this gland.(36)

For Descartes, it is the singularity of the pineal gland that likens it to the soul, as the soul is an essence that is whole and unique. It was Descartes's involvement in the practice of anatomy which helped him to determine the distinction of body and soul. Through the observance of anatomical dissections, he knew that the body was capable of being physically divided into parts, and that the body's sensory experiences were multiple. In contrast, he also understood it to be impossible to fragment the soul.<sup>20</sup> The discovery of the pineal gland provided Descartes with a likely intersection where the multiplicity of sensory experiences was translated into the oneness of the soul.

It was a great motivation in my work to imagine a time when it was considered possible to map the physical location of the soul. It is difficult for me to imagine what Descartes and his peers hoped to find. What would have been the physical signs of the soul's presence in the pineal gland? A movement? A color change? Because it so inspired my own curiosity, I chose to share this beautifully frightening historical anecdote with my audience, in the form and placement of a label at the entrance of the inner room of the gallery (fig. 12).

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<sup>20</sup> Sawday, Jonathan. *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture*. New York: Routledge, 1995. 147.



I must clarify for myself that this exhibition was not meant as an illustration of my interpretation of the quote by Descartes regarding the physical location of the soul within the human body. In what way, then, was my installation more than a mere visual representation of this historical anecdote? My clarification begins with the understanding that the analogy is based on a logic that is not concerned with any sort of ‘mathematical certainty’ in the Cartesian sense. ‘Mathematical certainty’ is the discursive activity which asserts that:

...nothing has been introduced by the actual operation of the intellect that it cannot fully identify...that nothing is being added or subtracted, equated or changed without the mind’s active warrant that no mistake either has occurred or is possible.<sup>21</sup>

The analogy is also mathematical: it is an equation which leaves room for uncertainty and metaphorical identifications involving equations of transformation. This is a stark contrast between the elusive nature of the analogy and the assurance of Cartesian philosophy. The legacy of Descartes’s pervasive mind/body conceptions, Stafford says, is two-fold:

First, it always raises doubts in the face of ambiguity, i.e., when things are not clear and distinct...Moreover, despite his reliance on sight in determining whether something is clear and distinct or not, Descartes ignores the fact that this physiological activity also produces a non-formalizable, nonalgorithmic insight. The practice of thought is consistent with the practice of vision precisely in its elusive capacity to move, adjust, and change registers. (159)

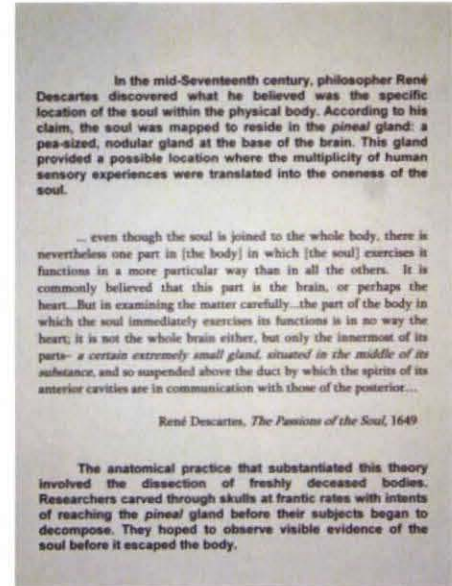


Figure 12

<sup>21</sup> Stafford, 159.

I correlate the ‘insight’ to which Stafford refers with the “=” sign in the analogy. Insight as the opposite of sight—it is vision turned inward; an internalized perception. This “turning inward” is an inevitable part of an art experience: there is the visual that we see, but there are the invisible aspects that are invoked and influence our perceptions. Without any kind of “certainty,” an analogy accounts for this ephemeral aspects of the cognitive process.

My desire to translate the dissecting activity into a visual analogy turns the logic of Descartes on its head. Contrary to what we know of the practice of dissection in the study of anatomy, the deliberate cutting in my process does not reveal any certainty; rather it shows the waxed paper “carcass” in a state of transformation through the act of dissection. Because the object is not yet fully changed, but in a space between two forms—two dimensions or three dimensions, body or land--the possibilities of its identity are numerous. It is textured, waxy skin carved into a “carcass”; a once flat and geometric organization of lines bent and shaped into the undulations of the human form. As a body laid out horizontally it is reminiscent of a model of a landscape; the complex road network meanders across the table of the display case, becoming the veins and arteries of a wax effigy.

*“The space is managed by a simile and by the principles of equivalence existing between the body and nature.”<sup>22</sup>*

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<sup>22</sup> Stewart, 46.

My analogy fills the space of the exhibition, and the viewer experiences the figure-eight pattern of the analogous relationship between the two similes. Standing between the wall and the display case, the meanings shift from body to land, from land to map, from map to anatomy, from anatomy to body, from body to map, from anatomy to landscape, and on, and on...

In both components of my installation, the cast shadows have a presence which at the very least competes in importance with the physical objects (plates III, IV). The shadows become a double of the object, a part of their presence that is absent. Christian Boltanski utilized the visual and psychological power of shadows in his work entitled, *Ombres* (fig. 13: Photo, ICA, Nagoya). In regards to the meanings intrinsic to the shadow, Lynn Gumpert writes, "Rich in nuance shadows have traditionally stimulated a



range of associations...concepts of illusion and reality...”<sup>23</sup> In Boltanski’s installation of *Ombres*, done in 1984, his dramatic use of shadows suggested the presence of multiple souls, or ghostly ancestors.<sup>24</sup> Shadow can be read symbolically as death, as spirit, as soul.

In my work, the shadows are not meant to represent the Cartesian ‘soul.’ The shadows are an immaterial presence in the room, one that is more ‘alive’ than the actual object. In painting the wall a similar color to that of the waxed paper, my intention was to decrease the visibility of the pinned fragments, and heighten the presence of their shadows. The mass of pinned fragments of paper on the wall creates a vibrating swarm of shadows, which appear to be moving, shifting, swirling.

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<sup>23</sup> Gumpert, 80.

<sup>24</sup> Gumpert, 80.

## SCIENTIFIC DISPLAY AND THE DIDACTIC

Another aspect of the anatomical wax models housed in *Museo della Specola*, of the Museum of Natural History and Physics of the University of Florence, which stimulates me as an artist is their role as a collection of objects used for instruction. I marvel at all forms of visual aid which are used for educational purposes. Similarly, scientific and other such didactic exhibits are most intriguing especially when looked at from the perspective of visual art. Merriam-Webster dictionary defines 'didactic' with regard to literature or other art as material "...intended to convey instruction and information as well as pleasure and entertainment."<sup>25</sup> On the one hand, I am almost positive that it does not work for visual art to be didactic; I nonetheless confess an interest in this aspect of didacticism, with regards to a simulated museological experience. This interest was addressed in the design of my exhibition into two displays: the display of my tools and by-products of the process in the window as well as the entry space of the gallery, and the final artwork in the main interior gallery space.

I designed a series of shelves to display the by-products of my process, to be viewed strictly as a window display from the outside of length of the gallery (fig 14). The majority of the shelves held the bas-relief sculptures I did in oil based clay or latex caulking on Plexiglas, and the plaster molds which were taken from these.

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<sup>25</sup>Gove.



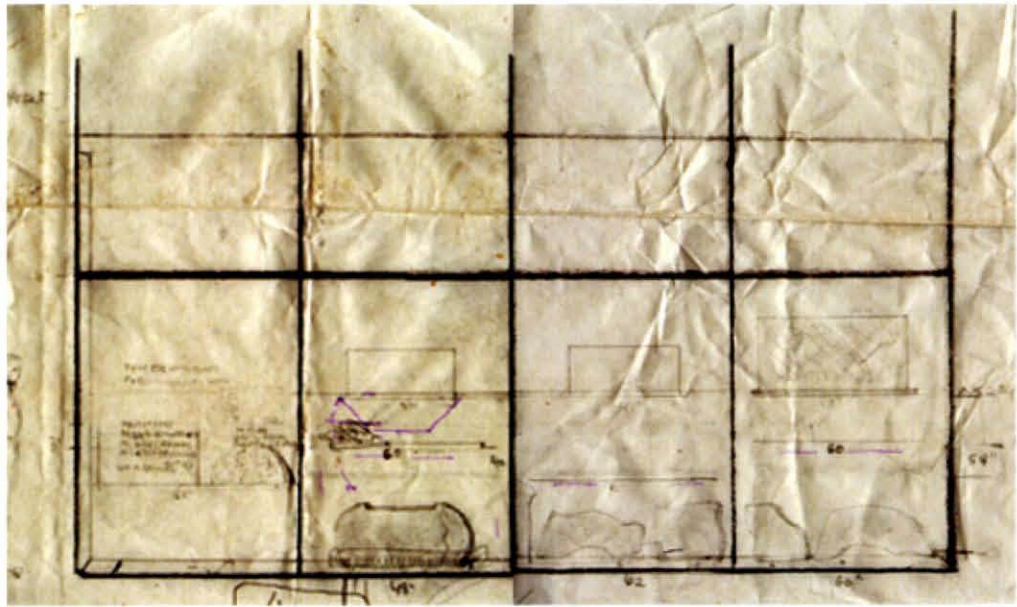


Figure 14

Two of the shelves, one in the second window from the left, and another in the fourth window from the left, held an assortment of tools from my studio. The labeling was minimal, indicating simply the materials of the bas-reliefs, “Oil-based Clay or Latex Caulking on Plexiglas,” and of the molds, “Plaster of Paris,” as well as a label stating “Assorted Tools” on the shelf of tools furthest to the left. The window was designed to be “read” from left to right, as if it were in the format of a book (plate X).

Upon entering the Commons Gallery, the viewer encountered four more elements of my didactic sense of display. On the wall to the left, hung three samples of the wax and paper material of the final work. These samples hung on waxed string from eyehooks, at a height level with their hands. (plate XIII). This was so that they might be further encouraged to lift the samples up to examine them, after being prompted by the label which read, “Please handle samples carefully.” The inclusion of material samples

for the viewer to experience through touch was very important to me. Throughout, I was challenged by the desire to create a tactile experience for the viewer, and in the end did not succeed in incorporating touch into the final artwork. However, having a “hands-on” display with samples of the same material as the artwork provided yet another type of access to work.

I also created a display using my Plexiglas cutting board, the exacto-knife and all the blades that were used during the paper cutting process (plate XV, XVI). I see this as a physical accompaniment to the title, for they were my tools of artistic dissection, the tools of *anatomization*. This display, along with the material samples, the illustrated analogy (discussed previously), and the label containing the historical anecdote about the pineal gland (also discussed previously), all fit the “instructive and informative” aspect of the ‘didactic.’ Each of these displays prepared the viewers with a flood of information to build up their curiosity, before entering the inner room and bringing the work together for themselves. Whereas I do not want my art to be didactic, I hope that the exhibition as a whole experience was.

Giving evidence to the tools of the process portrays my art practice as some kind of scientific “operation.” The original bas-reliefs on Plexiglas and plaster molds are not only interesting objects in themselves; they are evidence of my process. The move to demystify the origins of the wax “carcass” by showing the plaster molds from which they came, as well as the original sculptures formed from the photocopy collage, was meant to instruct and educate the viewer in the process of my art making. While there is a certain ‘lifting of the curtain’ in the display of the objects as they appeared in my studio, without

any accompanying text to narrate the process, the display actually complicated the experience. Whereas visual connection could be made between the pattern of lines in the bas-reliefs, the molds, and the “carcass,” the effect was a re-mystification, due in part to a conflation of time: which object came first? Were they all made by me? Because I chose not to follow through with the didacticism, the relationship between the various displays was not indicated, creating another layer of ambiguity in the exhibition.

The display case helps to create the didactic environment of the exhibition, mimicking the display conventions of a museum of natural science. “The use of the vitrine in science and medicine is linked to the need to keep a specimen in a still viewable, arrested state of being.”<sup>26</sup> The Plexiglas barrier signifies at once a fragility of the object (hence its need of protection) as well as an indestructibility rendered to the object by the protective case. The case provides for another relationship between the viewer and the contents of the display: there is a safety in the barrier as it separates object from subject. By putting a clear barrier between the wax “carcass” and the viewer, not only is the object being protected, but implicitly the barrier also serves to protect the viewer, creating a “controlled” environment in which the object can be observed.

This restrained and removed, yet somehow intimate relationship is inherent to any conventional museological display. It is highlighted by the constant visual presence of the reflection of the viewer and the gallery space onto the surface of the display case, and

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Putnam, James. *Art and Artifact: The Museum as Medium*. New York: Thames and Hudson, Inc, 2001. 15.



add another layer of meaning onto that of the content of the display itself. The reflection reminds us of the barrier, and all that it represents. My use of a display case takes advantage of its power as an institutional symbol, making it understood that not only is the object inside fragile, but the institution and the society at large has deemed the object deserving of preservation.

## CONCLUSION

I have given a comprehensive and anatomized account of my thesis work; the exhibition's didactic display of materials, process and product, was an anatomization of the artwork itself. This is befitting to the content of the work: a consideration of the intense investigation of the interior of the human body in the study of anatomy, as embodied by the collection of anatomical wax models at *Museo della Specola* of the Museum of Natural History and Physics of the University of Florence, Italy.

I understand that to practice anatomy on an artistic analogy is absurd. The study of anatomy is based on the idea of rendering parts visible and distinguishable from each other while analogy is elusive and comes into meaning through ambiguity. By turning the very ordered and methodical practice of anatomy onto itself, the knowledge contained in the map is rendered indecipherable—only an abstracted web of waxy line endures. It has become a skeletal remain, a “carcass” of paper and wax that mimics human flesh. Likewise, after all my attention to displaying my process, it became enveloped in a different ambiguity.

The human body and all it contains is impossible to know in its entirety. Comparing it to a landscape helps me to come closer to it, by relative association. *Who am I in relation to the world?* The installation is meant to set up a relationship between the viewer and an idea too large to comprehend all at once. Its translation into a comparison of two similes, brings the answer to this question down to a manageable size. In order for me to understand “the world” I have to miniaturize it down to a human scale:

that the world is a body, this I can grasp. With the aid of analogy I can better understand the world based on the comparison of it to my body. Analogy is a strategy by which we approach an understanding of something that escapes understanding. In this way, I used analogy to give vocabulary to the unnameable, and give form to the invisible.

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Plate I

Photo: Hal Lum

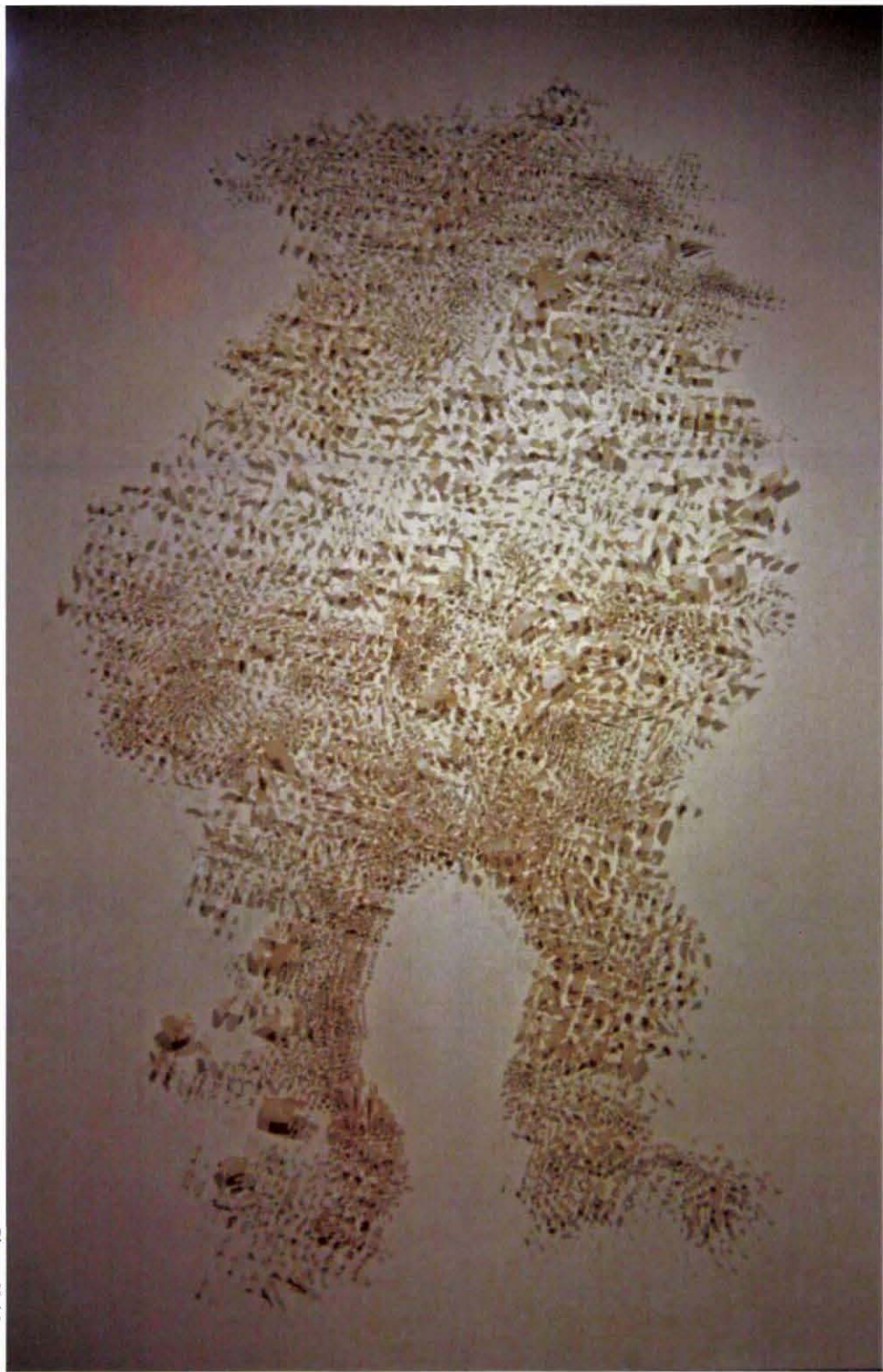


Photo: Hal Lamm

Plate II





Plate IV

Photo: Hal Lum



Plate III

Photo: Hal Lum



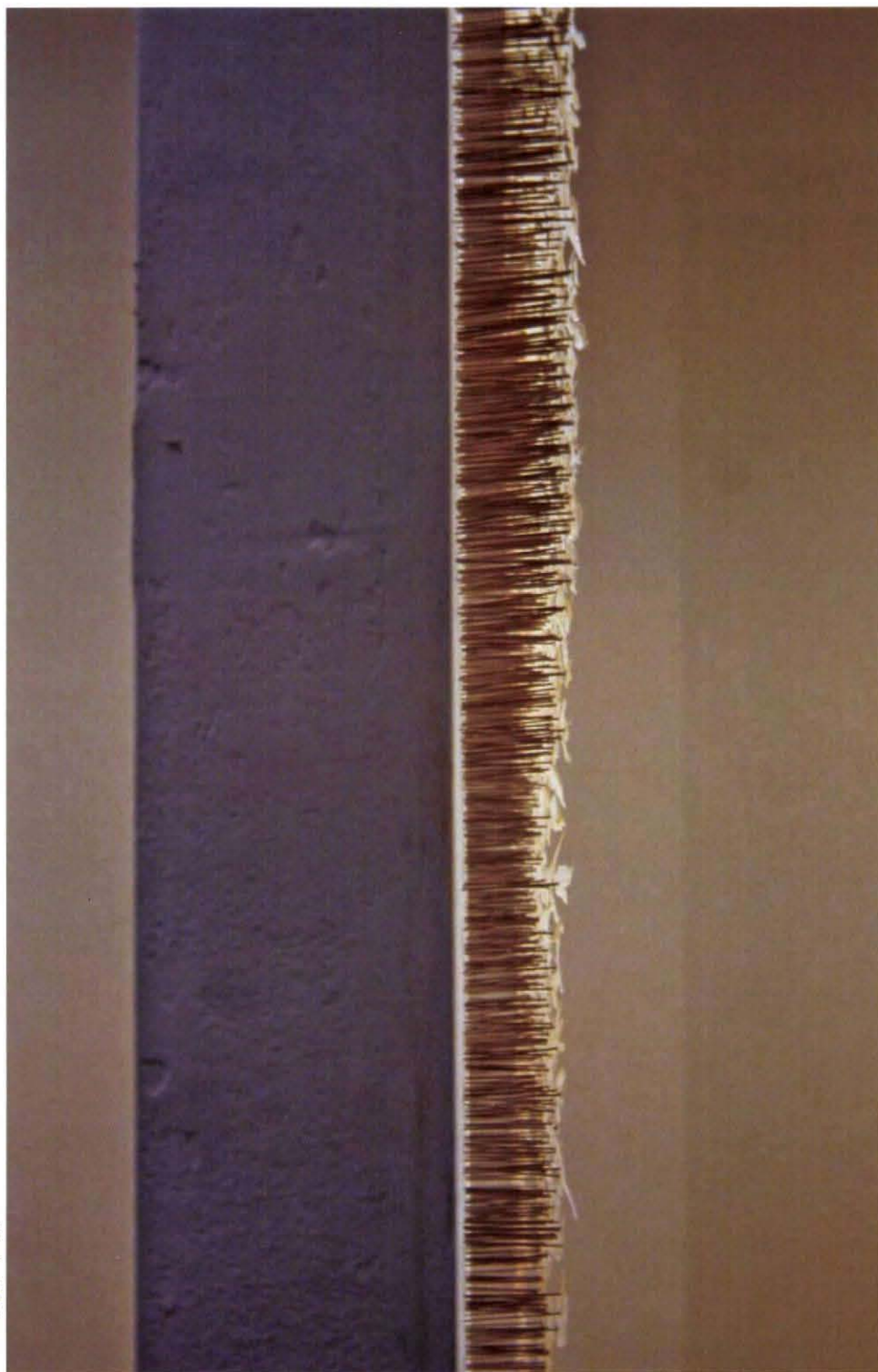


Photo: Hal Lum

Plate V

Photo: Hal Lum



Plate VI

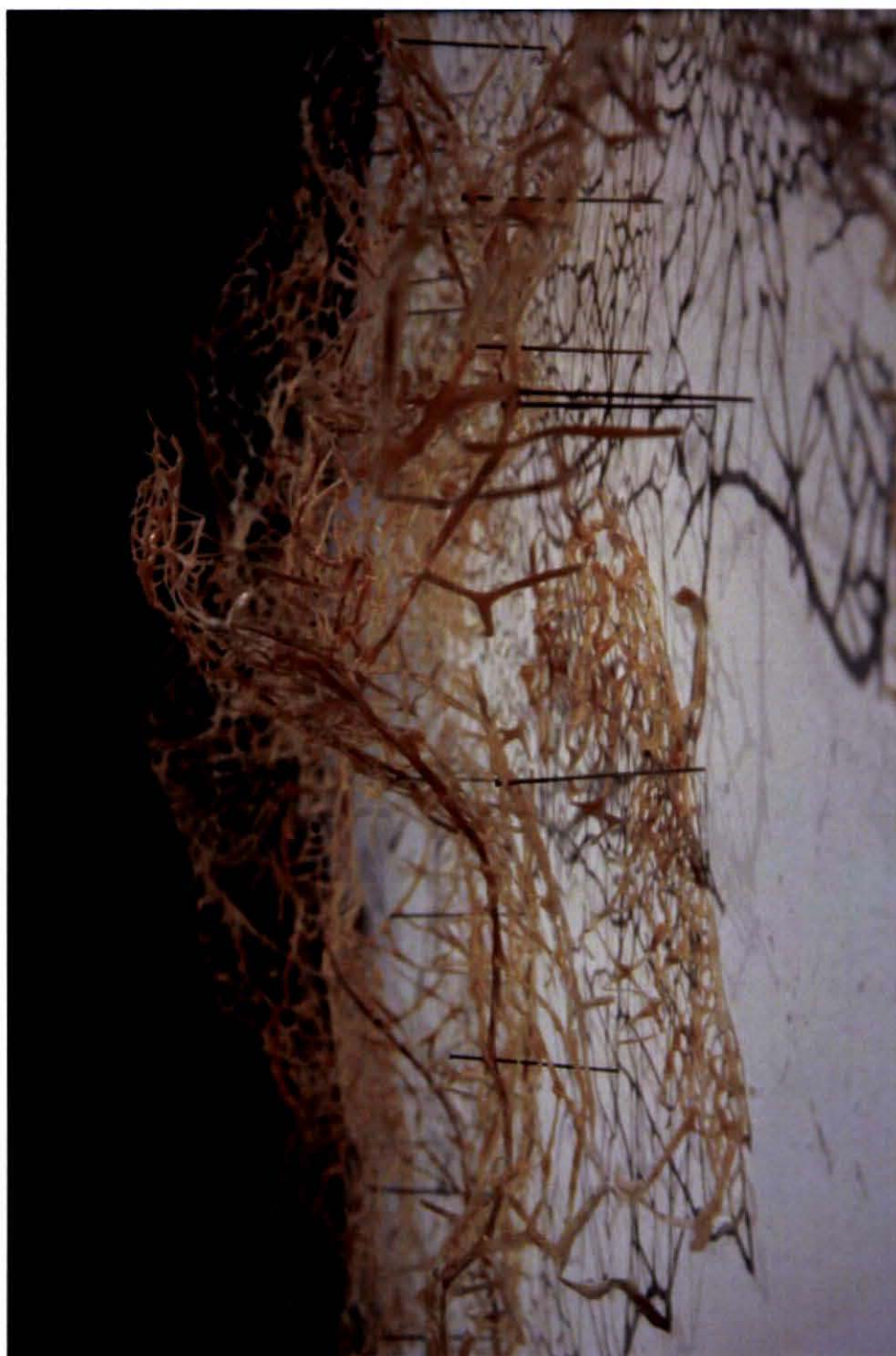


Photo: Hal Lum

Plate VII





Plate VIII

Photo: Hal Lum

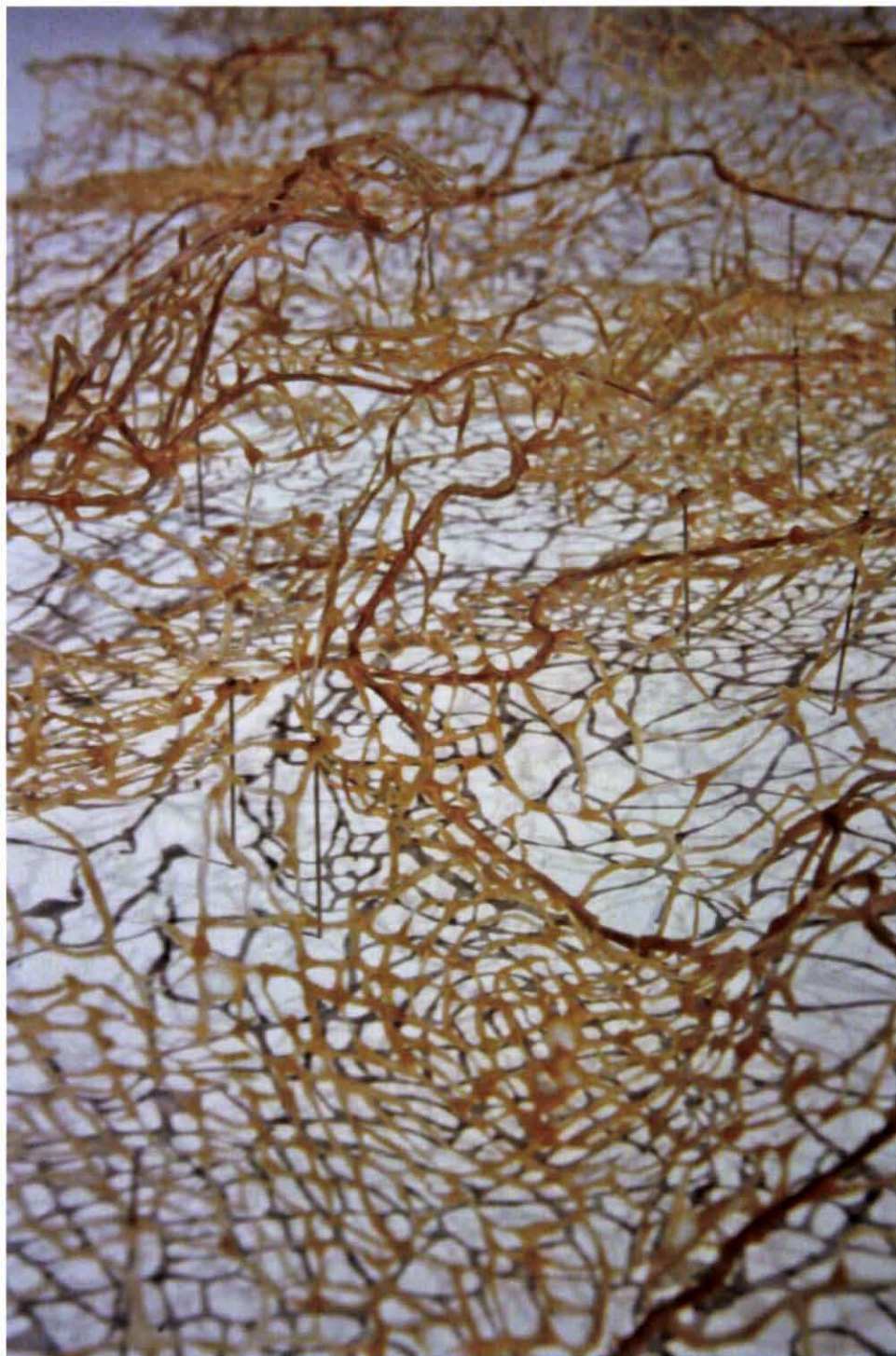


Photo: Hal Lum

Plate IX





Plate X

Photo: Hal Lum

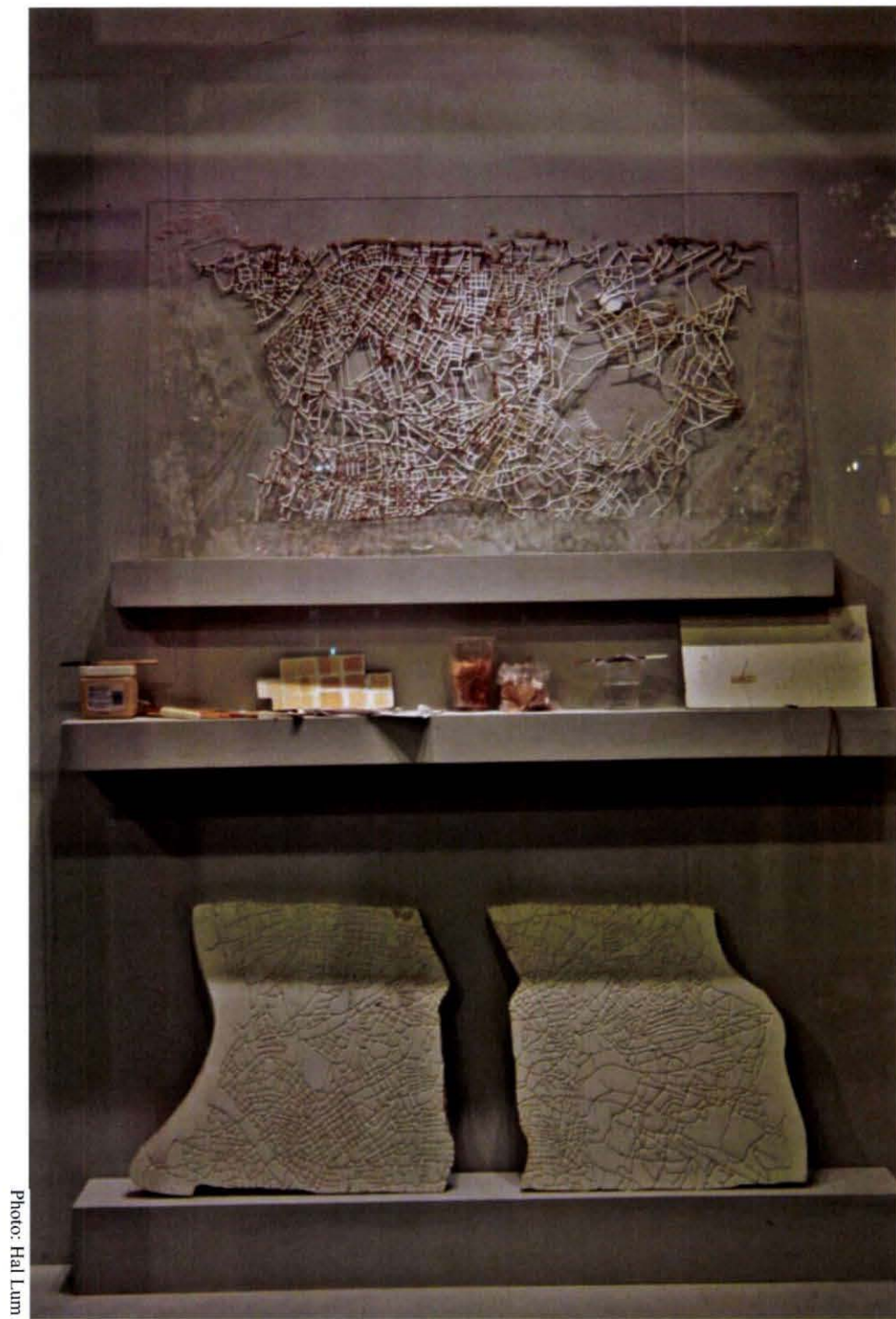


Photo: Hal Lum

Plate XI



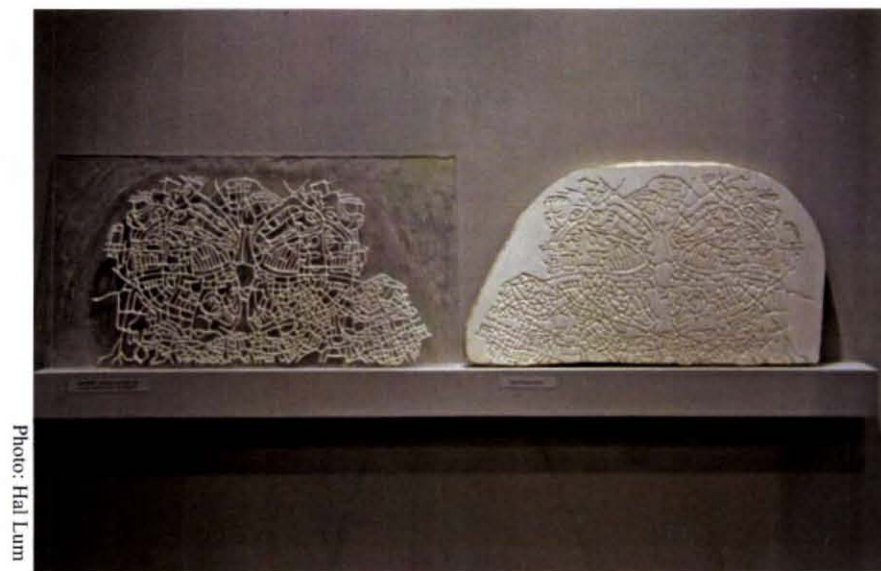


Photo: Hal Lum

Plate XII



Photo: Hal Lum

Plate XIII

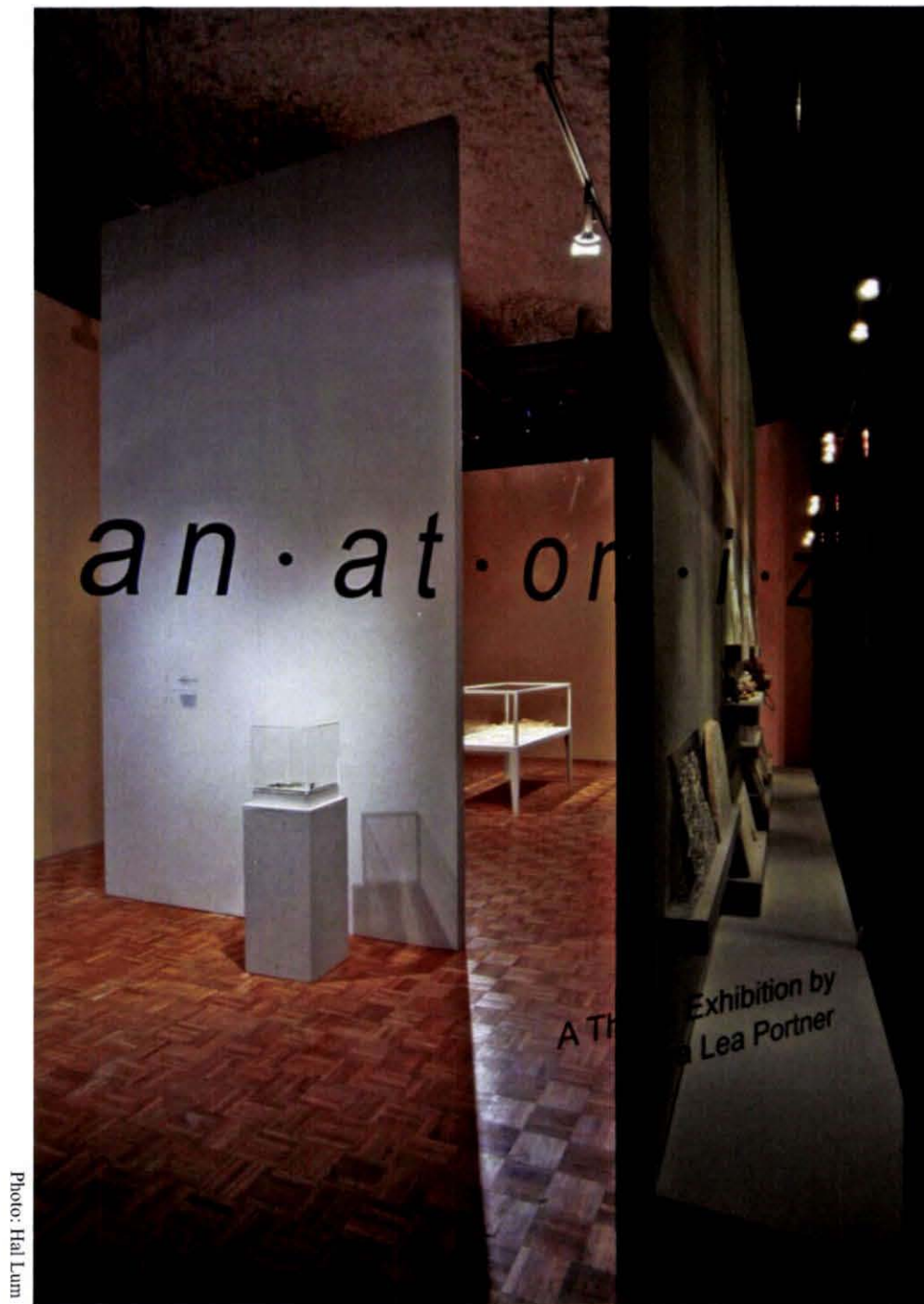


Photo: Hal Lum

Plate XIV

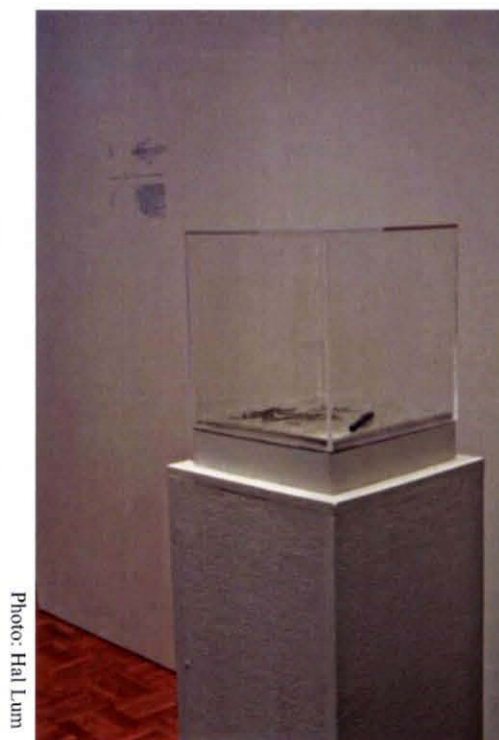


Photo: Hal Lum

Plate XV



Photo: Hal Lum

Plate XVI