A Phenomenological Unveiling

Alexandria Dial

Acknowledgements

To Professor Robert Holmes: Thank you for challenging me to a thesis project when I was apprehensive. Without your prompting I would not have successfully completed a thorough investigation into a topic that deeply interested me.

To my family and friends: thank you so much for supporting me and being a blessing in my life. I am forever thankful for your all.

Table of Contents

From designs like that of Maya Lin, to those of artist like Lesley Richmond and Kelly Schnell, the use of different textures, materials and ideas have helped to both form and create spaces and designs that allow for humans to engage and interact. This interaction is not only physical, but emotional as well. In Maya Lin's design of the Vietnam Memorial, she produced a space in which people could physically interact with various aspects of the design, generating emotional experiences. Each of the soldier's names were carved into the heavy stone wall in a way that encouraged each of the users of the space to feel it. As family members and friends arrive in this memorial, they are allowed several transactional experiences in which an exchange between physical contact produces an emotional connection to those who have passed on.

As humans, we often experience the world around us solely through our eyes, which has hindered us in designing. This is not to state that all human senses are not important, but rather to point out that our potential to unlock a greater level of design has yet to be achieved due the influence of ocularcentrism in our culture. According to Webster Merriam Dictionary, this means that in our hierarchy of senses, vision has taken the primary role, relegating other, more interactive senses like touch, to secondary roles. Our interaction with the world around us must go deeper than vision; as architect Juhani Pallasmaa stated in The Eyes of the Skin, "we must go beneath the skin" when addressing our designs. As landscape architects, it is important that we use toolkits like sense of touch to help create deeper and more meaningful experiences in our designs of the landscape.

This thesis design project explores how landscape architecture might be impacted by haptic design. When breaking down the definition of "haptic" it is described as the interaction that the human body has with both objects and spaces through the sense of touch. In Ervin Zube's *Themes in Landscape Assessment Theory*, he emphasizes the importance of people being active participants in in the landscape rather than being fixed observers of the space. He states that the best way for us to gain an understanding of landscapes is if we treat the human form as an active participant in which the responses of the body to situations, texture and other variables helps us to analyze the quality of the landscape.

From my own investigations through this thesis project I have determined two things: one, that we must use methods of physical models to help us investigate haptic designs by using our hands and two, that there must be a hybrid of both touch and vison, with touch being the leader.

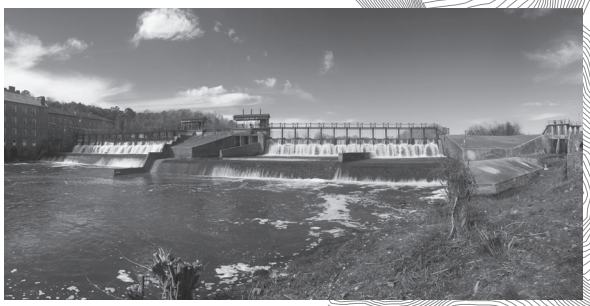
This integration between the designer and materials helps to create a stronger understanding of how to design haptically. Pallasmaa states that often when we build digital models through "computer imagining, it tends to flatten our magnificent, multi-sensory, simultaneous and synchronic capacities of imagination by turning the design process into a passive visual manipulation, a retinal journey."

In my own investigations of designing with raw materials and my own hands I could produce outcomes that would have been nearly impossible through a digital model. Because I was able to touch and feel the situations I was creating through the iterative process, I could then assess what to do next. In this process, I was using the feelings of the models textures and physical states to help guide my next moves, as well as my vision to see what could be done to push the manipulations even further. A hybrid between these two greatly helped my investigation.

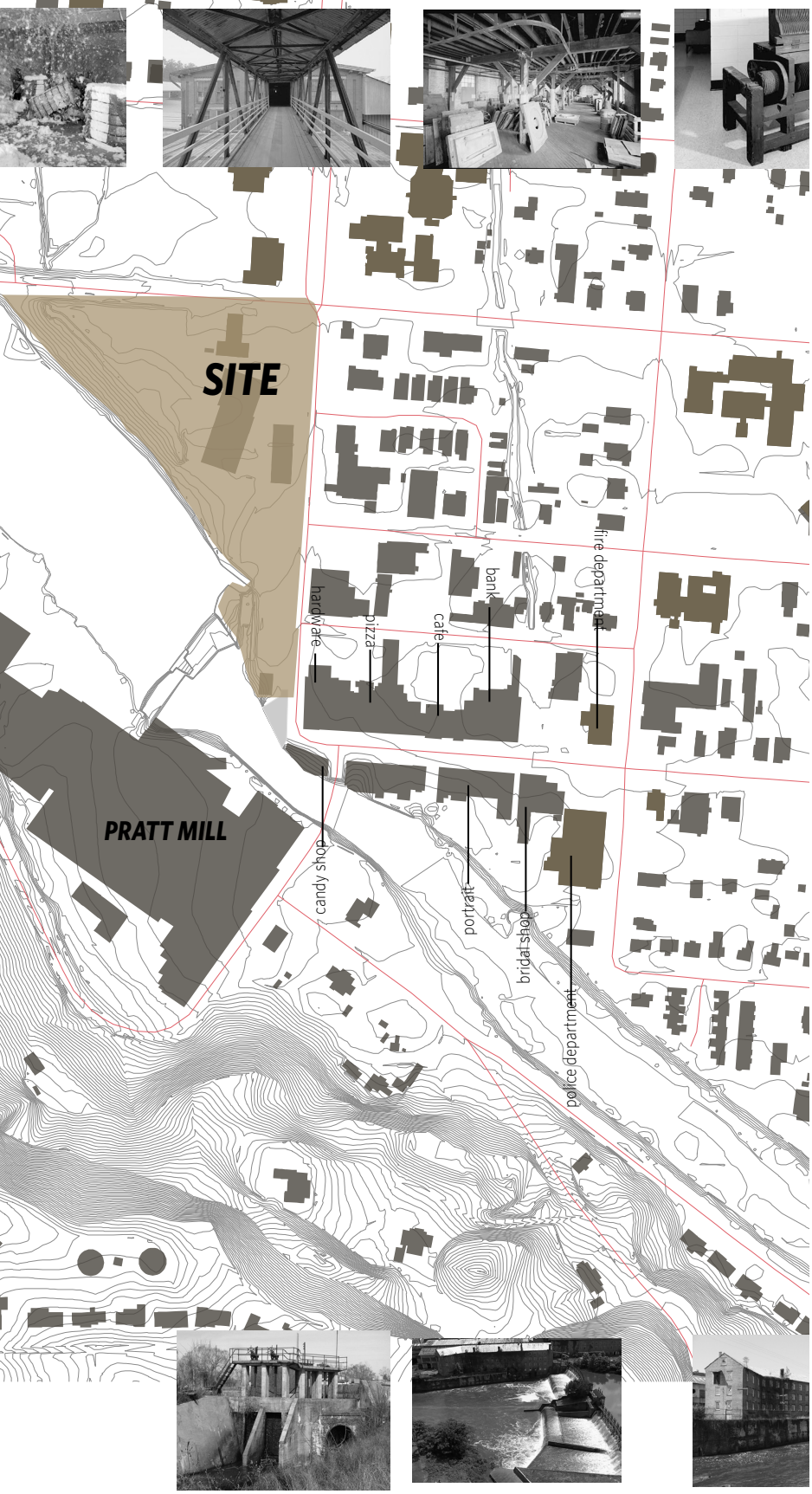
One of the most helpful aspects of my investigation that parallels with that of Maya Lin's Vietnam Memorial, is that I took on a site with a great deal of historical richness and utilized that to help me create certain emotions and situations that matched that of the history. This is not to state that rich history is a requirement for creating haptic investigations, but as another "plug-in" for furthering it.

We, as landscape architects, have the ability to create enriching experiences for people through haptic investigations rather than solely visual ones. It is my hope that both the design and research that I have produced from this thesis project can be used as an example for creating toolkits to be used in the landscape architectural design processes.

SITE



This collage represents the embedded history of the Prattville Cotton Mill.



Site Location

In my desire to explore hapticity in the landscape, I came across a green space across from an old cotton mill in Prattville, Alabama. The Prattville Cotton Mill became one of the earliest textile mills in the South, later becoming the head of the mill boom in the 1890's. Products like yarn, thread, cloths and other assorted fabrics were produced here. The production process started in a room with machines that pulled the cotton apart, then ended in another where the thread would be harnessed onto a weaving machine that converted it to cloth.

This site was the perfect combination of being both historically rich, as wel as rich texturally, in which I could utilize for my investigation. What I found most interesting about this site was the publicity and notoriety that it had for being extremely successful as a mill with no acknowledgement of the basis of its success—slavery. I saw this as an opportunity to take a similar approach to creating a haptic landscape like Maya Lin by tying historical context to the experience.

Slaves were a large missing component of this history of the Prattville Cotton Mill that needed to be unveiled. This helped me to decide what the site would be marked as a memorial. Although, in my investigation I found that a historically rich site is not necessarily requirement for creating haptic designs, it is a bonus that helps to drive ideas .

Having this memorial designed across from the site allows for a close, physical connection to the history of the cotton industry.

After taking on several different words like pressure, crumbling, worn, and broken from my idea of what words best described what the slaves were feeling in the cotton fields, I tested different materials to emulate them.

One of the first materials I tested was a piece of leather in which i took sandpaper to give it a worn affect. This helps to translate both the physical and mental states that the slaves felt during this point in time.

I then took a piece of fabric mesh and coated it in several layers of plaster so that I could then crumble it once dry. The crumbling helped to translate the pressure the slaves had for keeping it together mentally, all while slowly falling apart. The struggles they faced while in the fields and being separated from their families was more than enough to wear them down.

The third material that I found helped convey the idea of crumbling and breaking under pressure is dried/cracked leather in the upper right corner. Its texture can be described as a hard, broken material which translates how slaves had to be tough, but often times would be worn to the point of breaking.

The final, bottom right material showcases one of the cotton plaster models created. This image showcases the cotton breaking through the hard plaster shell. The shell acts as a symbol of the slaves, while the cotton emerging and breaking through it symbolizes the stress and strain that it put on them over time.

Lastly, I chose a picture of slaves that conveyed these emotions and states of pressure, wear and being broken down. The mixture of different materials combined with this image helps to hybridize the connection between history and textures.

With this material exploration, the use of the word pain determined what types of materials and manipulations would be utilized and created.

Before I began this series I made sure to find an image that I felt expressed the physical abuse that I would be aiming to simulate in my material exploration. This is a famous image of a slave who'd been intensely whipped by his owner, much like many of the slaves during this time period. This image is not only visually striking, but one could almost imagine how the texture of this man's back might feel.

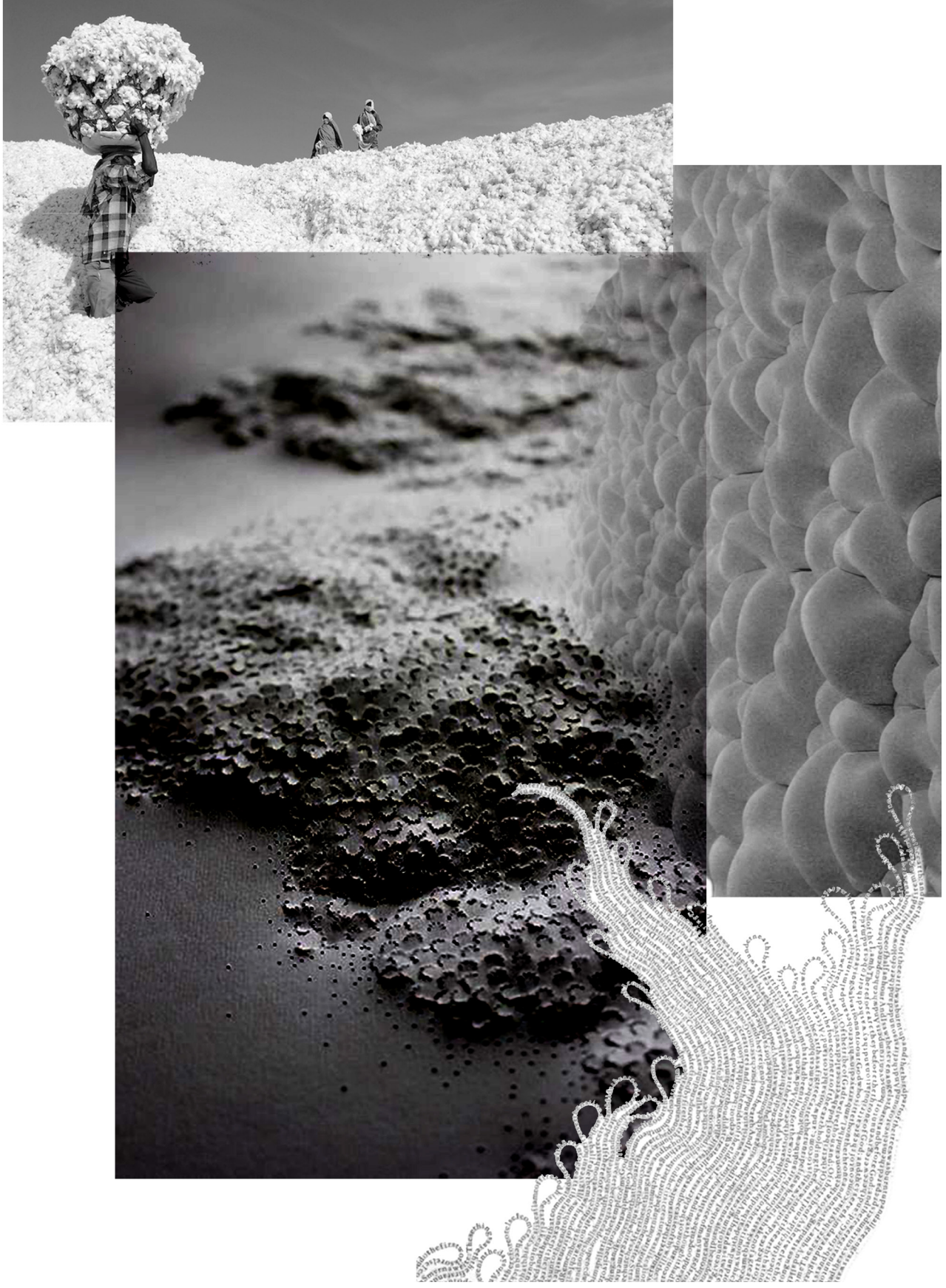
In the top left corner, a series of copper was taken and then beaten against exposed aggregate with a hammer. The goal in this exploration was to create a texture that had qualities that were similar to that of the slaves who were literally beaten and whipped out on the cotton plantations.

While the second image below that shows a chemical reaction between shellac and Indian ink. The byproduct of this reaction is somewhat similar in texture to the copper, but has a more intense color range in appearance visually where some areas appear burnt. These two qualities of intense texture and color help to emulate that of the physical abuse that slaves endured.

The third, white material is of a thin piece of metal that has been exposed to acid. The drops of acid create holes and "scars" across the material, much like that on the backs of the slaves, after being whipped and beaten. This material has both a textural and visual richness that helps to convey this intense and painful history.

The final tested component of this series is the torn leather in the bottom right corner. The leather was taken and beaten against exposed aggregate with a hammer, forming this torn look.

Taking each of these materials and manipulating them through beating on them and in some cases, literally ripping into them much like that of the slaves flesh was an interesting process in which utilization of similar actions to that of the abuse was used to achieve a similar result on these materials.



In this last material exploration I was curious in how I could express awe and amazement of the slaves labor through textures. My first instinct was to find a material that could represent the cotton in a way that had the both the soft textural qualities as well as being visually intense in its amount. One great difference between this collage of material explorations and the others is that I did not actually make these materials, but rather found ones that helped to express what I was going for.

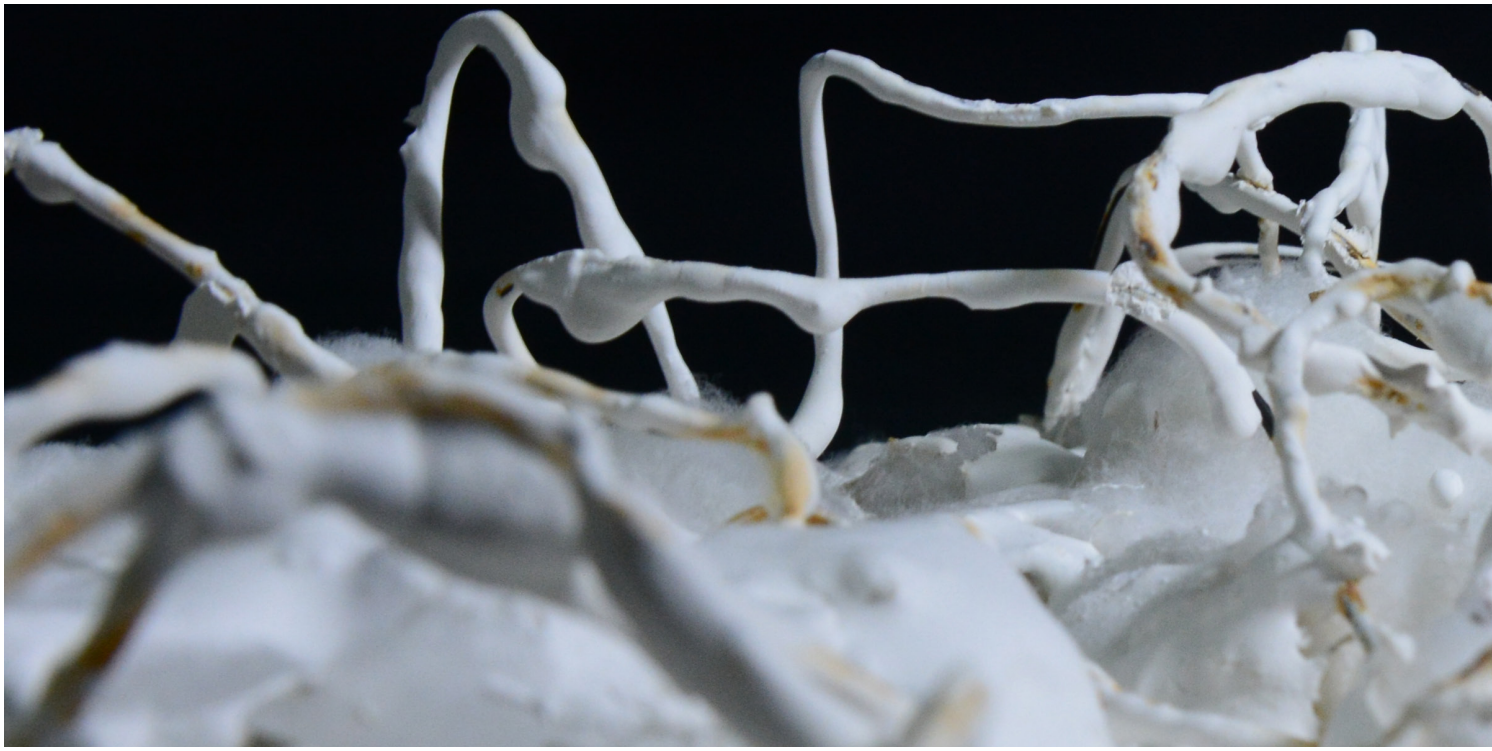
In the top left image is a mound comprised of millions of pieces of cotton that were picked. This image not only has the awe and amazement factor I was intending for, but also the textural quality of all of the cotton together forming an oasis of soft material that one would simply desire to dive into, if not to at least touch with their hands.

In the center image, the material is a series of multiple paper circles stacked on one another. This material is not only visually rich, but texturally too. To imagine the amount of pieces of paper it took to create these stacks, showcases the amount of intense labor it took to keep these cotton mills in business.

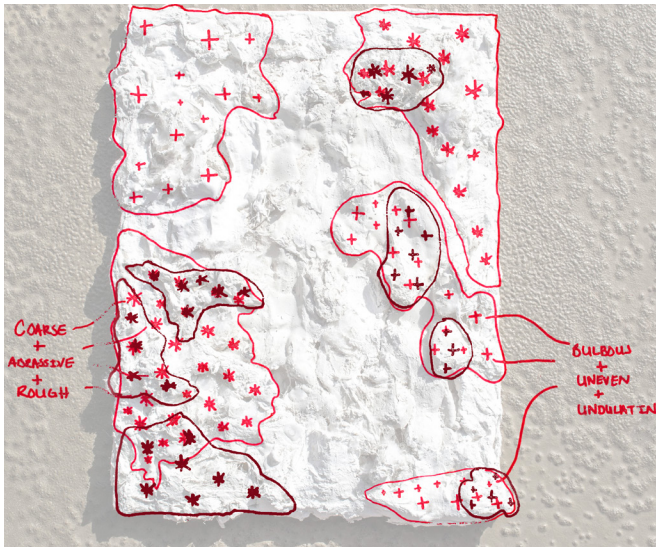
The third image to the far right is a wall comprised of plaster pieces. Although the plaster is not soft, the appearance of the material in this shape and magnitude creates the appearance of being soft and billowy like cotton, but in a more formal manner. The repetition of this material and its texture make it a sound idea for creating the awe inspiring moment.

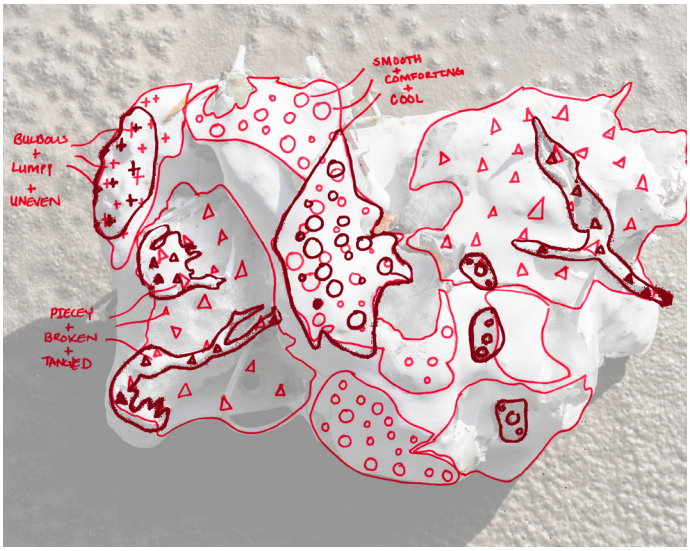
Lastly, the bottom image depicts a series of words written and looped around onto a plastic material. This materials is comprised of thousands of words, in which it creates that awe moment, but also begins to create an emotional connection, like how Maya Lin created with her names carved into the stone cut wall. My goal for using a material like this would be to engrave either names of slaves or words that expressed slaves conditions during this time.

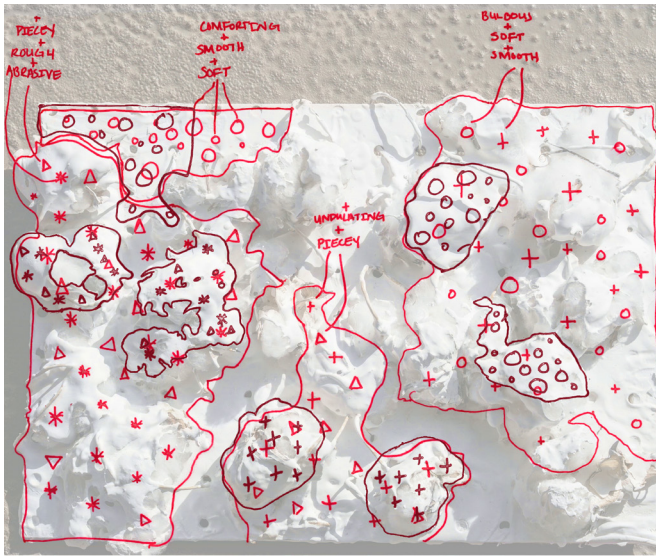
Admittedly, in this exploration there was much more thought of how the material might be implemented into the actual design, later to come, unlike the other two collages.

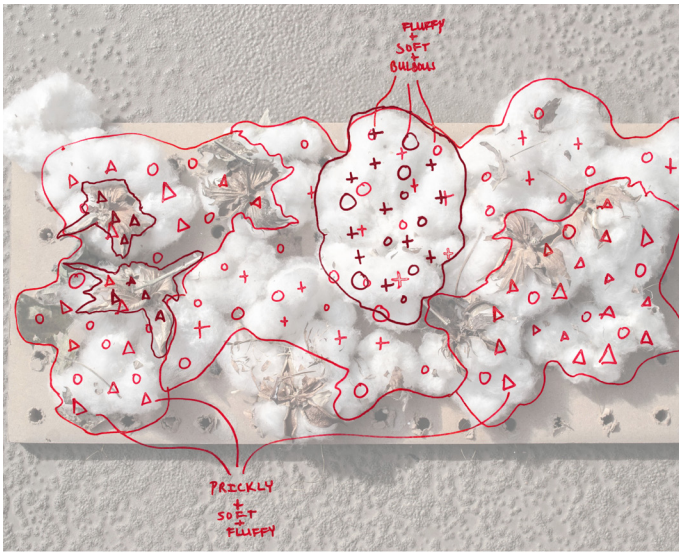


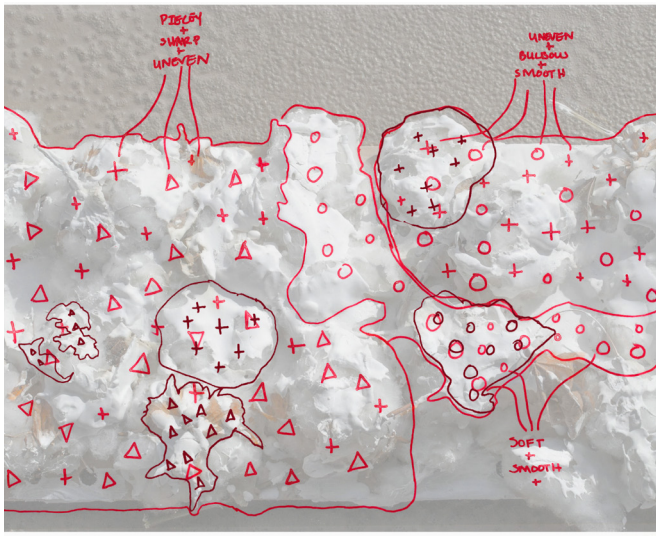
Cotton + Wire + Plaster Model

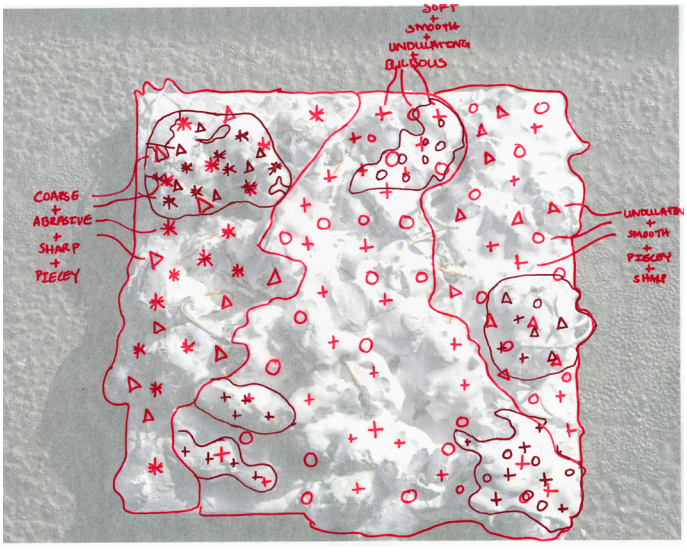

COARSE
+
AGRESSIVE
+
ROUGH
BULBOUS
+
UNEVEN
+
UNDULATIN


SMOOTH
+
COMFORTING
+
COOL
BULBOUS
+
LUMPY
+
UNEVEN
PIECEY
+
BROKEN
+
TANGLED


PIECEY
+
ROUGH
+
ABRASIVE
COMFORTING
+
SMOOTH
+
SOFT
BULBOUS
+
SOFT
+
SMOOTH
UNDULATING
+
PIECEY


FLUFFY
+
SOFT
+
BULBOUS
PRICKLY
+
SOFT
+
FLUFFY


PIECEY
+
SHARP
+
UNEVEN
UNEVEN
+
BULBOUS
+
SMOOTH
SOFT
+
SMOOTH
+

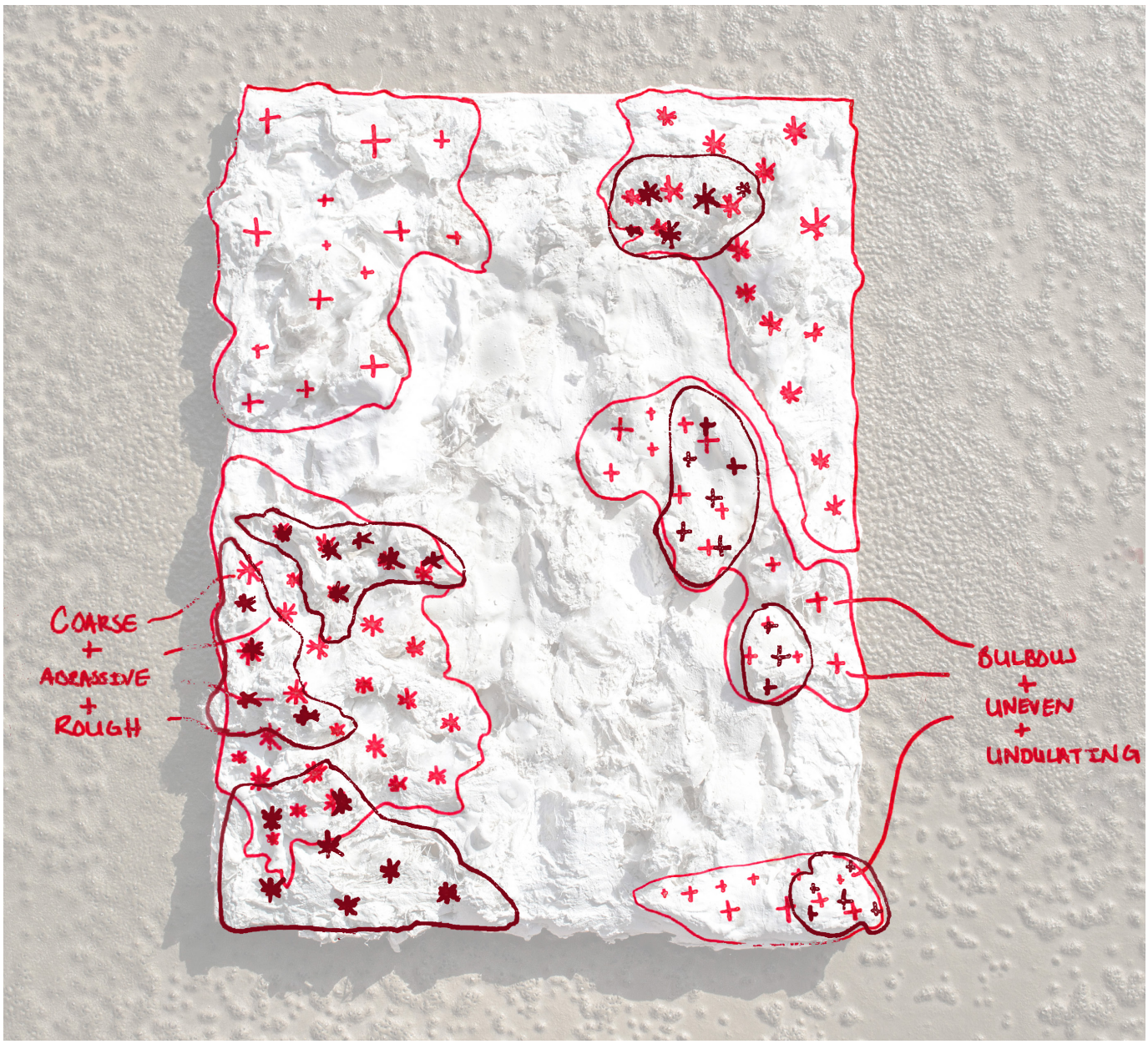

SOFT
+
SMOOTH
+
UNDULATING
+
BULBOUS
COARSE
+
ABRASIVE
+
SHARP
+
PIECEY
UNDULATIN
+
SMOOTH
+
PIECEY
+
SHARP

Model Textural Analysis

In this series, I began to take a deeper, more structured approach toward exploring materials in an abstract way. I took on some of the words that were previously used in the material explorations before and used them to help push my investigations with cotton, plaster and wire. In this investigation, my goal was not that these models would be an exact example of what design would be produced out in the landscape, but rather a textural guide as to what situations could be designed to create similar situations in the landscape.

Before I began this exploration, I knew that I would need to at least use cotton as one of the materials of choice, to not only give me a basis to start with, but to also tie back into the history of this site.

These models and the iterative process used to create them are more about a design process that has helped me to evaluate the haptic experience of each iteration which I would then produce a new version based on these evaluations. After the iterations were complete, a stage of implementing those qualities would then be applied into the design of the landscape.


COARSE
+
ABRASIVE
+
ROUGH
BULBOUS
+
UNEVEN
+
UNDULATING

Model Textural Analysis: 01

In this first iteration, the main objective was to take cotton that is continuously viewed as a very soft and delicate material and to disguise that by using a material that would harden it and ultimately make it appear abstract. In this attempt, I could develop a model that not only disguised the cotton material but also allowed it to become a harder material. As I ran my hand across the model I found that the texture overall was rough with several moments of sharpness and abrasiveness. While performing this iteration, I dipped each piece of cotton into the plaster and then applied it to the wooden panel.

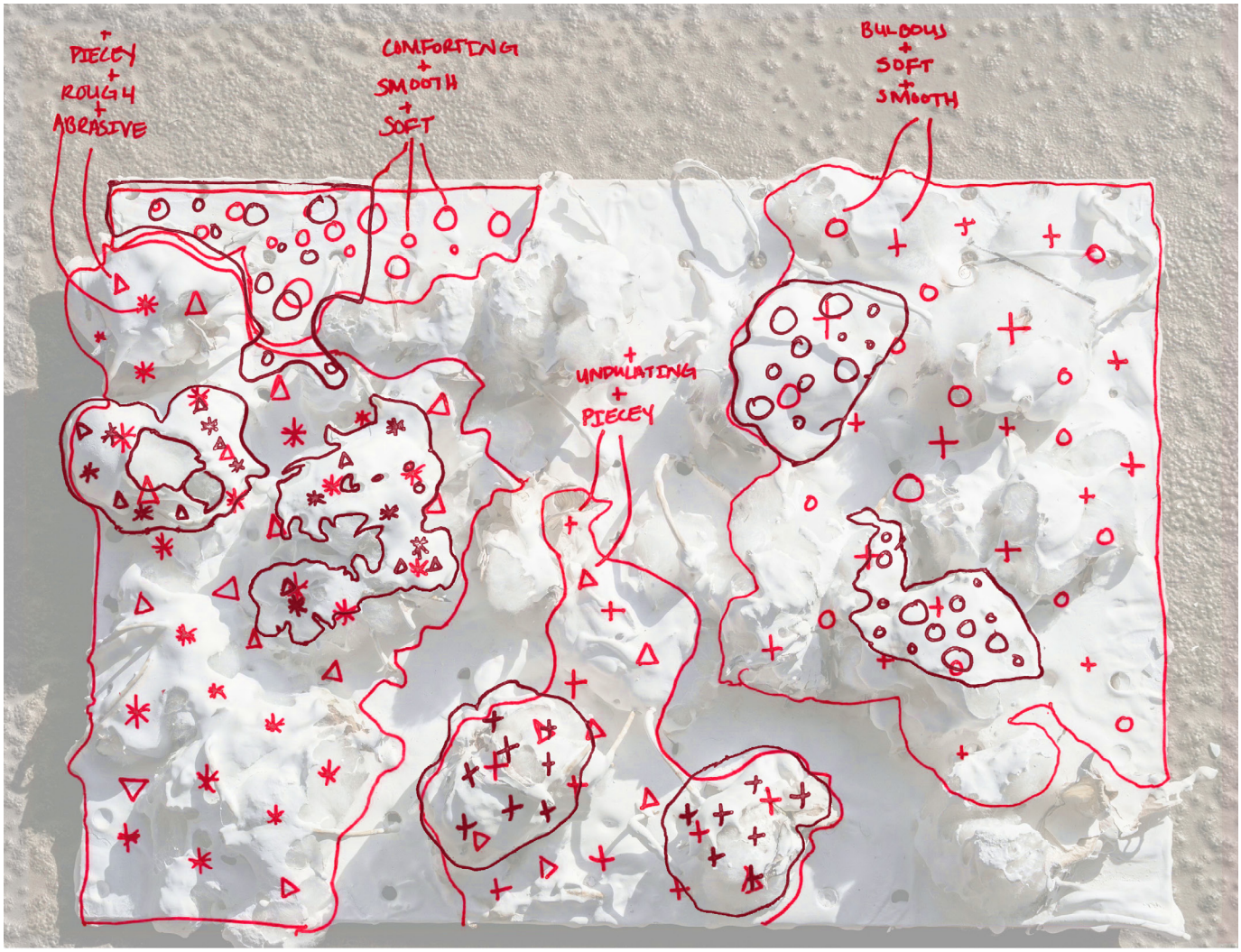
This first model set the tone for how I would continue to manipulate the plaster, cotton and, later on, wire throughout a series of hand made models.

One of the largest differences between this first model and the iterations following it, is that I used processed, store-bought cotton for the model. The other models were created using raw, unprocessed cotton. The use of the actual raw material made a difference in results as well as helped to make a stronger connection to the mill and slaves.


SMOOTH
+
COMFORTING
+
COOL
BULBOUS
+
LUMPY
+
UNEVEN
PIECEY
+
BROKEN
+
TANGLED

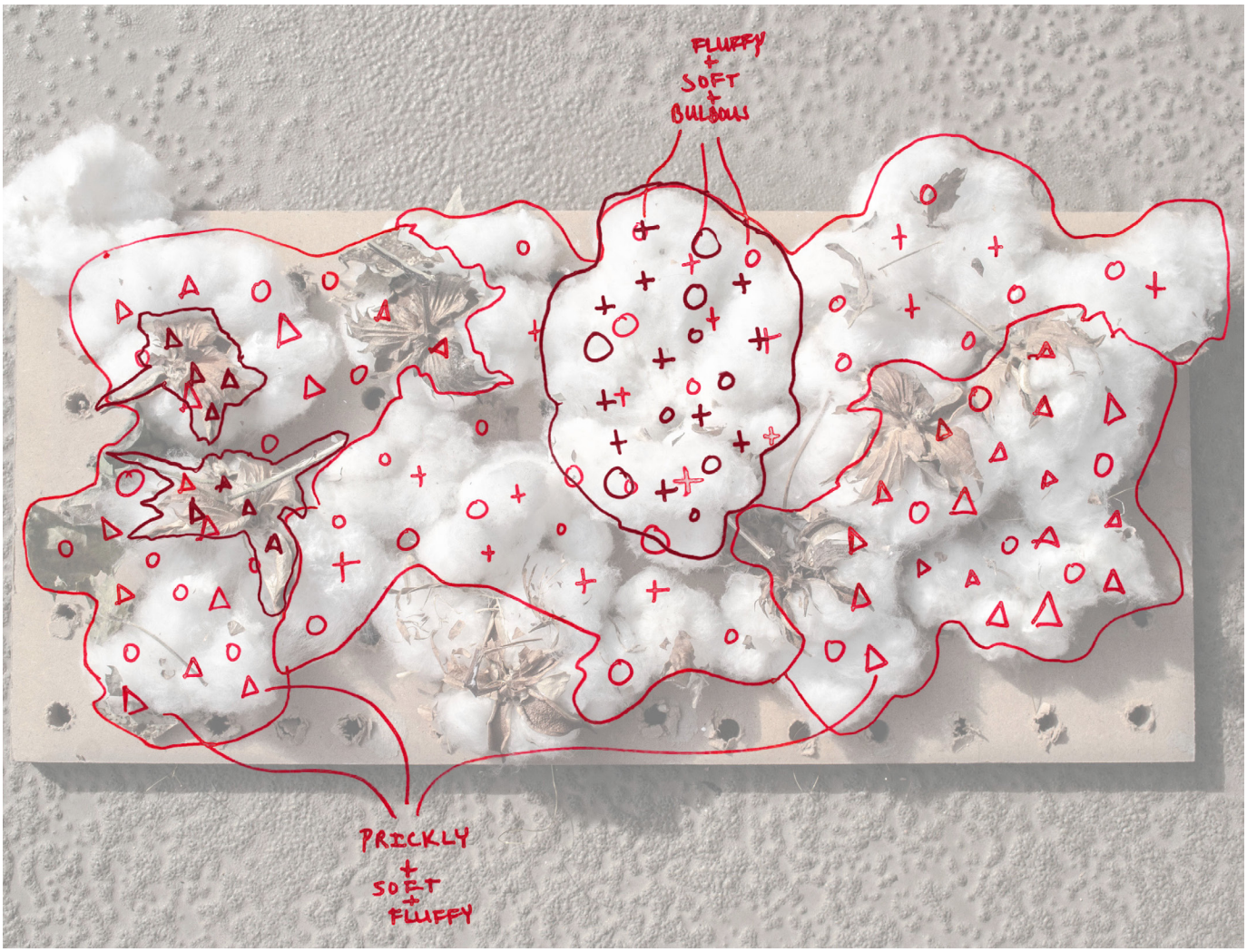
Model Textural Analysis: 02

As I continued on to the second iteration I developed a combination of wire, plaster and cotton all organized against a small piece of peg board. In this iteration, the use of raw cotton created a more bulbous appearance and physical state of the object. This not only added the factor of allowing for a fresher, more softer cotton texture to appeal as a textural quality, but it also allowed for other qualities like the leaves and stems on the raw cotton to contribute to the texture. The combination of leaves and plaster caused some areas on the model to have sharp moments, creating an uncomfortable and unexpected haptic experience. While performing the iteration, there were some moments where the cotton and plaster refused to merge to one another, therefore allowing for areas of completely exposed cotton which contributed softness to the model. This separation also caused portions of the plaster to begin to crack and crumble. These variations in the model creates a hybrid of pleasant and unpleasant sensations through touch.


PIECEY
+
ROUGH
+
ABRASIVE
COMFORTING
+
SMOOTH
+
SOFT
BULBOUS
+
SOFT
+
SMOOTH
UNDULATING
+
PIECEY

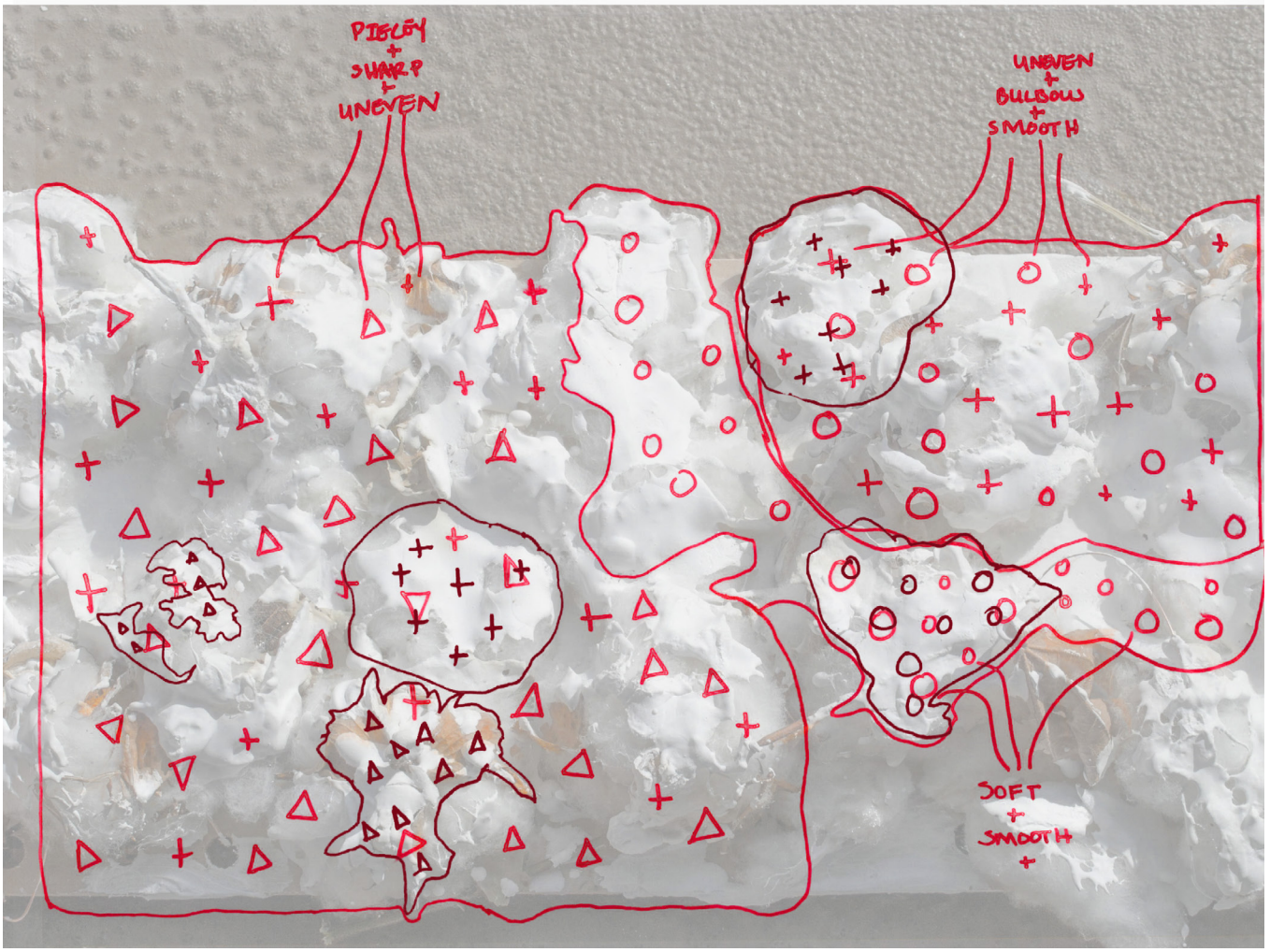
Model Textural Analysis: 03

This third iteration was similar to the second, but at a scale five times its size. I added in wire as a mechanism for anchoring the pieces down. This process was difficult due to some of the pieces becoming flattened or torn due to the conflict with the wire. I used pieces of cotton without leaves or stems for the most part so that the focus on the soft cotton was a more apparent. I used a pouring technique for covering the cotton pieces in plaster, making two coats total. I found that my use of anchoring each individual piece down with wire left a large amount of space open and bare. This caused the plaster model to become less abstract and more obvious about what it was made of. Each cotton piece was separated instead of clustered and some of the leaves and stems that were left out caused it to become more apparent as pieces of cotton stuck to the board. Overall, the texture was bulbous, bare and broken in some places.


FLUFFY
+
SOFT
+
BULBOUS
PRICKLY
+
SOFT
+
FLUFFY

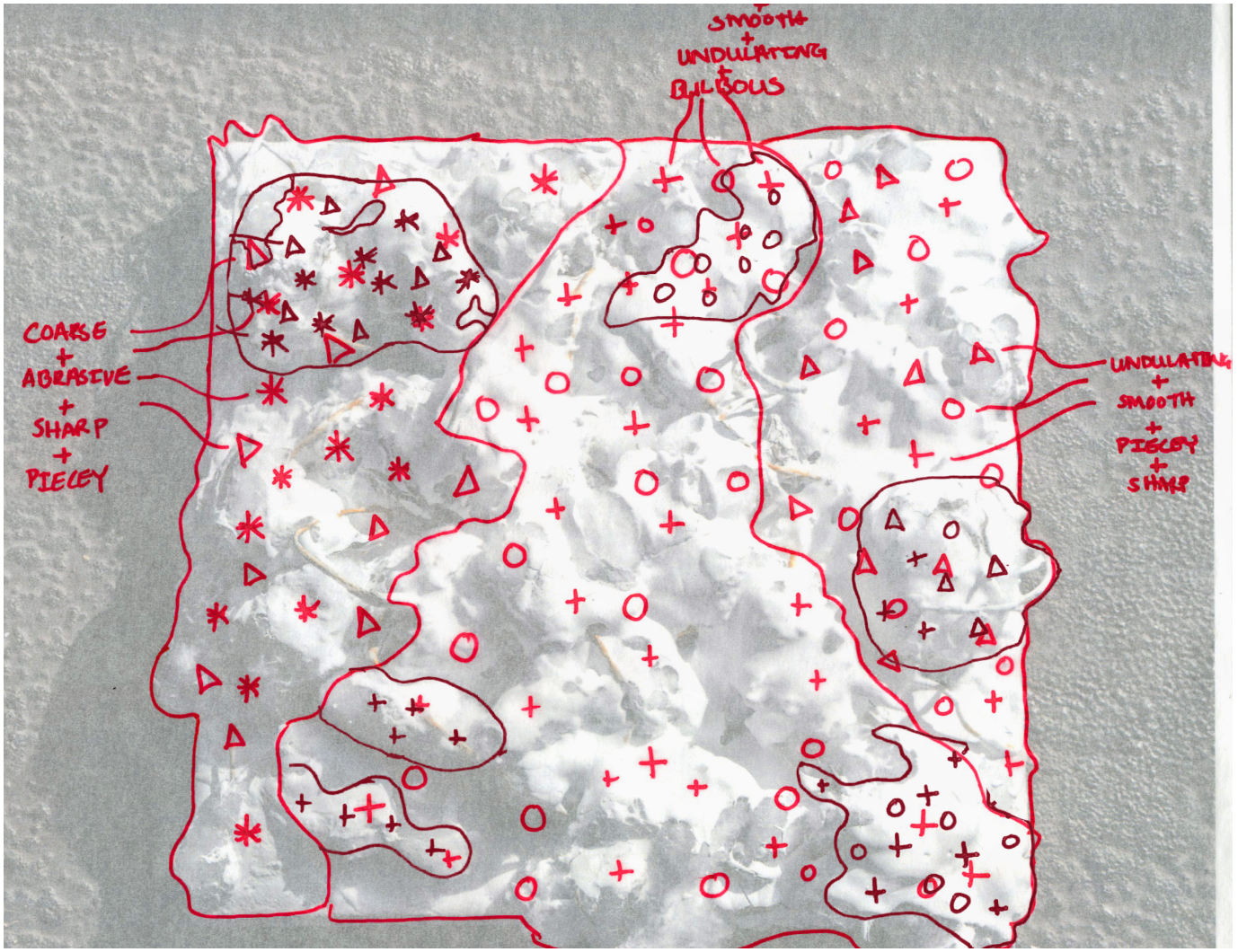
Model Textural Analysis: 04

The fourth iteration was developed through the idea that exploration of the unprocessed cotton clumped together may cause more interest or textural qualities not yet discovered. The ambiguity and abstract qualities are completely dismissed in this iteration as the cotton was completely exposed, devoid of any plaster to alter its appearance or texture. The overall touch sensation is soft and fluffy with slight moments of prickly and discomfort due to the stems and leaves still being intact. This model proved that although the cotton is soft, its repetitive texture continues across the entire model proving to be monotonous and uninteresting with little to no dynamic components to add texture.


PIGGY
+
SHARP
+
UNEVEN
UNEVEN
+
BULBOUS
+
SMOOTH
SOFT
+
SMOOTH
+

Model Textural Analysis: 05

In the fifth iteration, I took the approach of using cotton with lots of leaves and limited amounts of wire. The plaster and leaves created an extremely "piece-y" and sharp textural quality causing a lot of the plaster to break up. The leaves allowed for some desired results of adding another texture experience, but it was difficult for the plaster to stick to it. This issue made the models less abstract and more apparent in the fact that they were cotton pieces being used. Considering this, the iterations following it removed most of the leaves before applying plaster. The overall composition of the model is a mixture of piece-y, bulbous, uneven and smooth.


SMOOTH
+
UNDULATING
+
BULBOUS
COARSE
+
ABRASIVE
+
SHARP
+
PIECEY
UNDULATING
+
SMOOTH
+
PIECEY
+
SHARP

Model Textural Analysis: 06

Iteration six demonstrates the use of removed leaves and stems from the cotton and around two to three coats of plaster on the model. I made sure to use the entire space of the board that the cotton was submerged in to make it as abstract as possible. The use of minimum exposed wire was also imperative as to give the cotton and plaster the ability to merge without any of the factors interfering. The overall outcome caused the model to become very sharp, coarse, abrasive, piece-y, and undulating for fifty percent of it. While the other percentage became more soft, smooth, and bulbous. I believe that the use of wire in some of the outer edges caused the plaster to crack in certain spots, creating this abrasive texture. While the middle portion had minimal amounts of wire running through it casing it to turn out smooth and soft overall.


UNEVEN
+
UNDULATING
+
SMOOTH
+
SOFT
+
FLUFFY
ENTANGLED
+
CHAOTIC
+
BULBOUS
+
UNEVEN
+
UNDULATING

Model Textural Analysis: 07

This seventh iteration took advantage of the use of wire as an element that not only creates more textures but more situational occurrences as well. I strung lots of wire throughout the model in hopes of not only anchoring the cotton pieces down, but to also use its mailability to create dynamic and undulating movements. As I ran my hand across the model I felt moments of cold and hard because of the wire.

The ability to feel a variety of different textures and conditions of these sites allowed for a greater and more enriching process of designing situations.

By having the actual materials in front of me and manipulating them by hand, further proved my point that touch is important in producing and understanding haptic designs rather than the use digital models. These models helped me to understand what types of design conditions I could create texturally, and how they might be applied in the landscape as a haptic experience.

Translation to Site: Mounds

At this stage, the material explorations were then translated into a landscape design. From the previous models I extracted words like bulbous, undulating, soft, and smooth to help determine what to create.

In this translation I took a material, something similar to cotton, and created a series of mounds. These mounds would be large in scale, ranging from 5 feet tall, all the way to over twenty feet. The large scale of these mounds combined with the texture would create a combination of both awe and interaction from users of the space. These undulating mounds would also help to form pathways for people coming through the space.

Translation to Site: Copper Panels

In this translation between the plaster, cotton, wire models, and the collage images I took on the words, rough and uncomfortable.

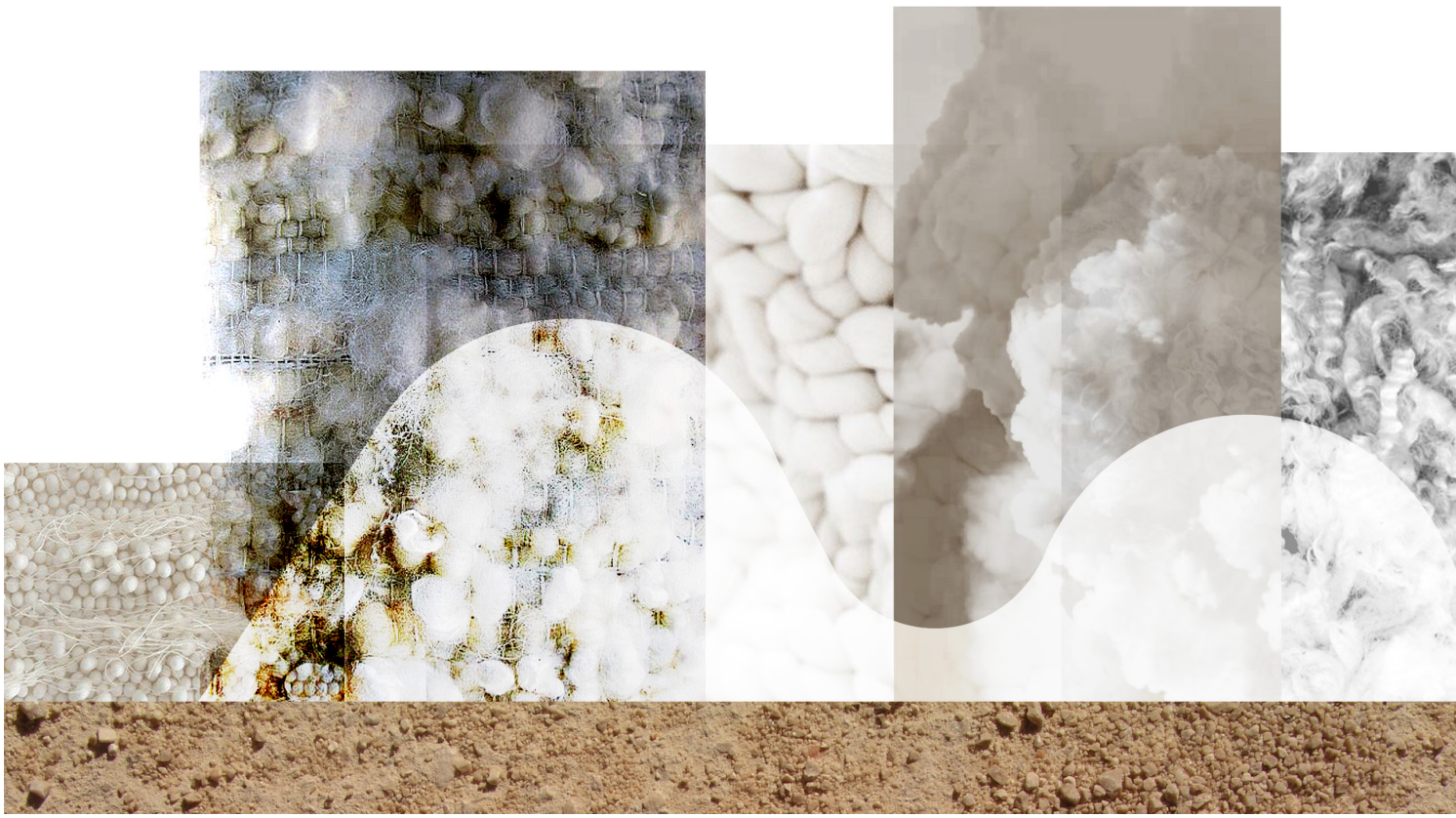
This design translation takes a similar material to that of the copper, as seen in the collage, and utilizes it as a ground plane material in the landscape. In this translation, my desire was to take an almost literal approach to the design by emphasizing that the grounds on which the cotton mill was produced was built on the backs of the slaves who picked the cotton day in and day out.

Both the textural qualities and appearance of these copper slabs helps to translate the historical importance of this place as well as creating an enriching experience for users as they move across this material.

Translation to Site: Cotton Poles

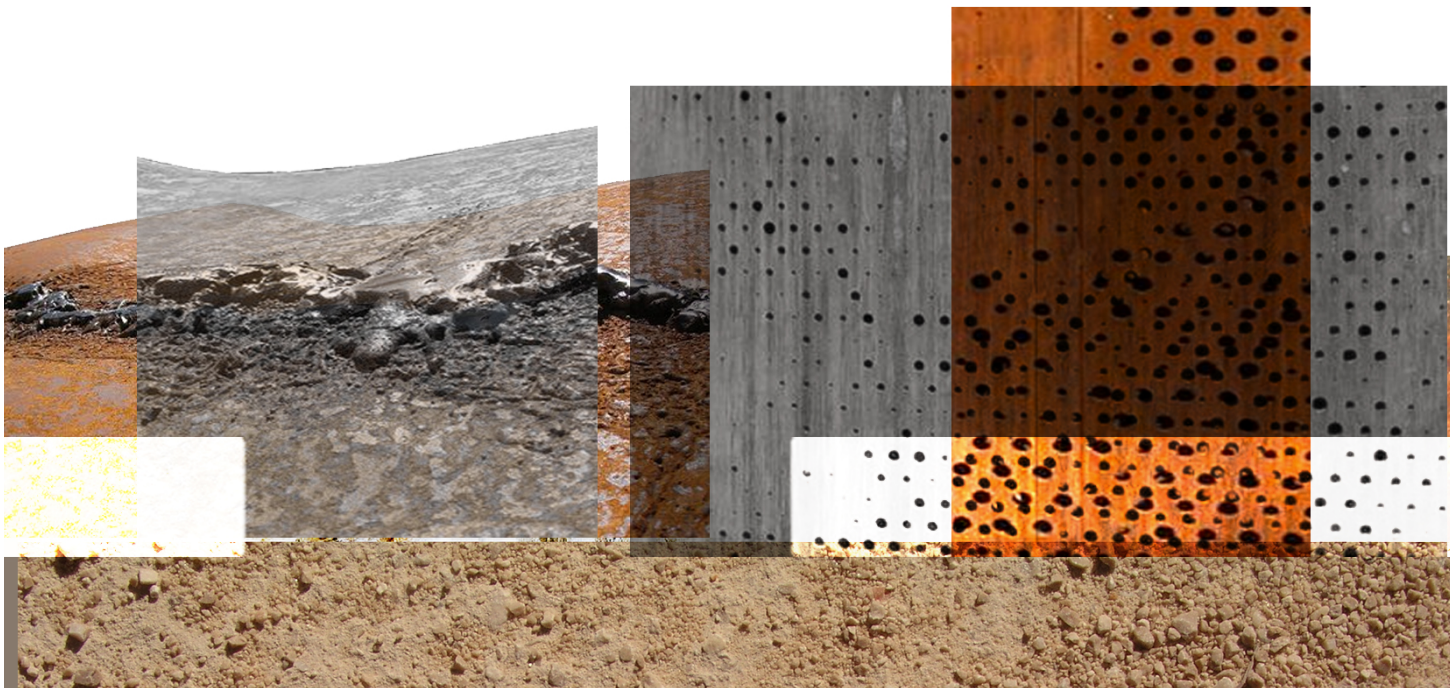
In this translation of model to the site, it became more literal than that of the others. In this design I wanted to emphasize the awe factor that was previously mentioned in the collage image. Each day the slaves were met with miles of cotton stalks that they were forced to pick. In this replication of that struggle, I took the words like entanglement and combined them with the cotton stalks themselves to produce a replication of that feeling, both physically and mentally.

As users move through the site, they are intended to have a similar experience of being surrounded by hundreds of thousands of cotton stalks in the landscape.



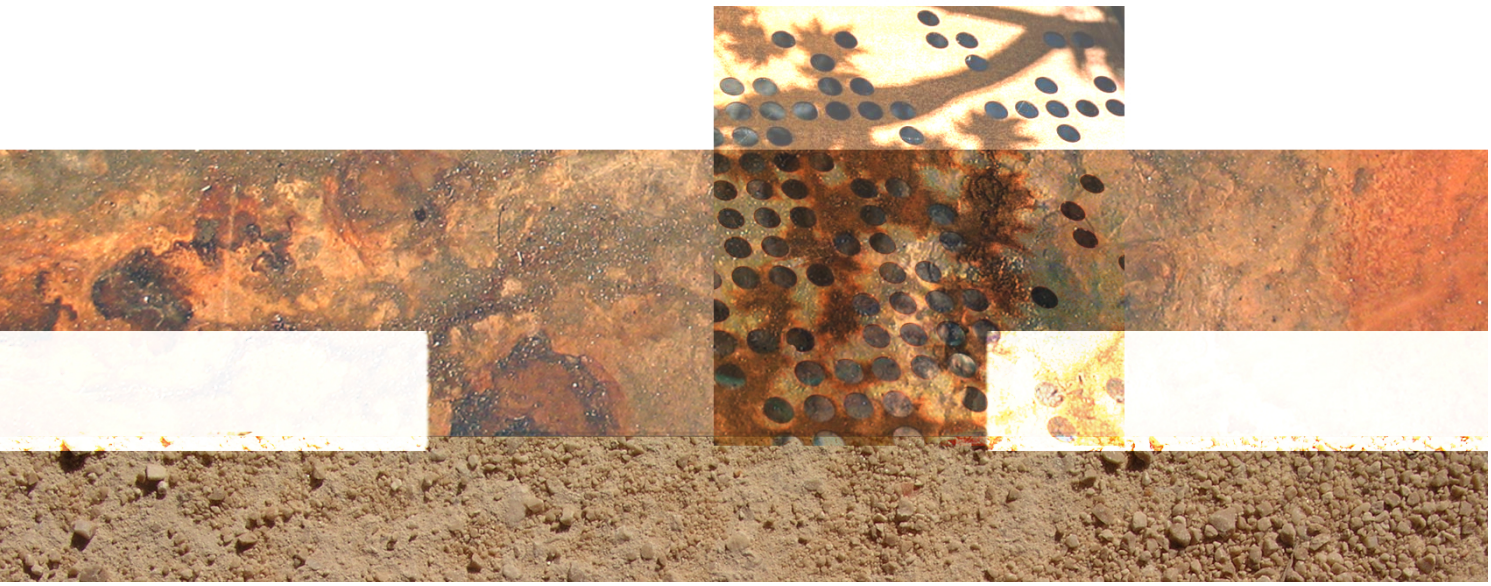
Abstract Material Section: Mounds

The cotton mounds in this abstract section showcases the variety of materials that the "cotton" mounds could be constructed of. Some of these materials include, feathers, cotton itself, wool, and other various soft materials. The intensity of the soft materials combined with their scale would create a space that users would want to interact with through touch, and possibly climbing.



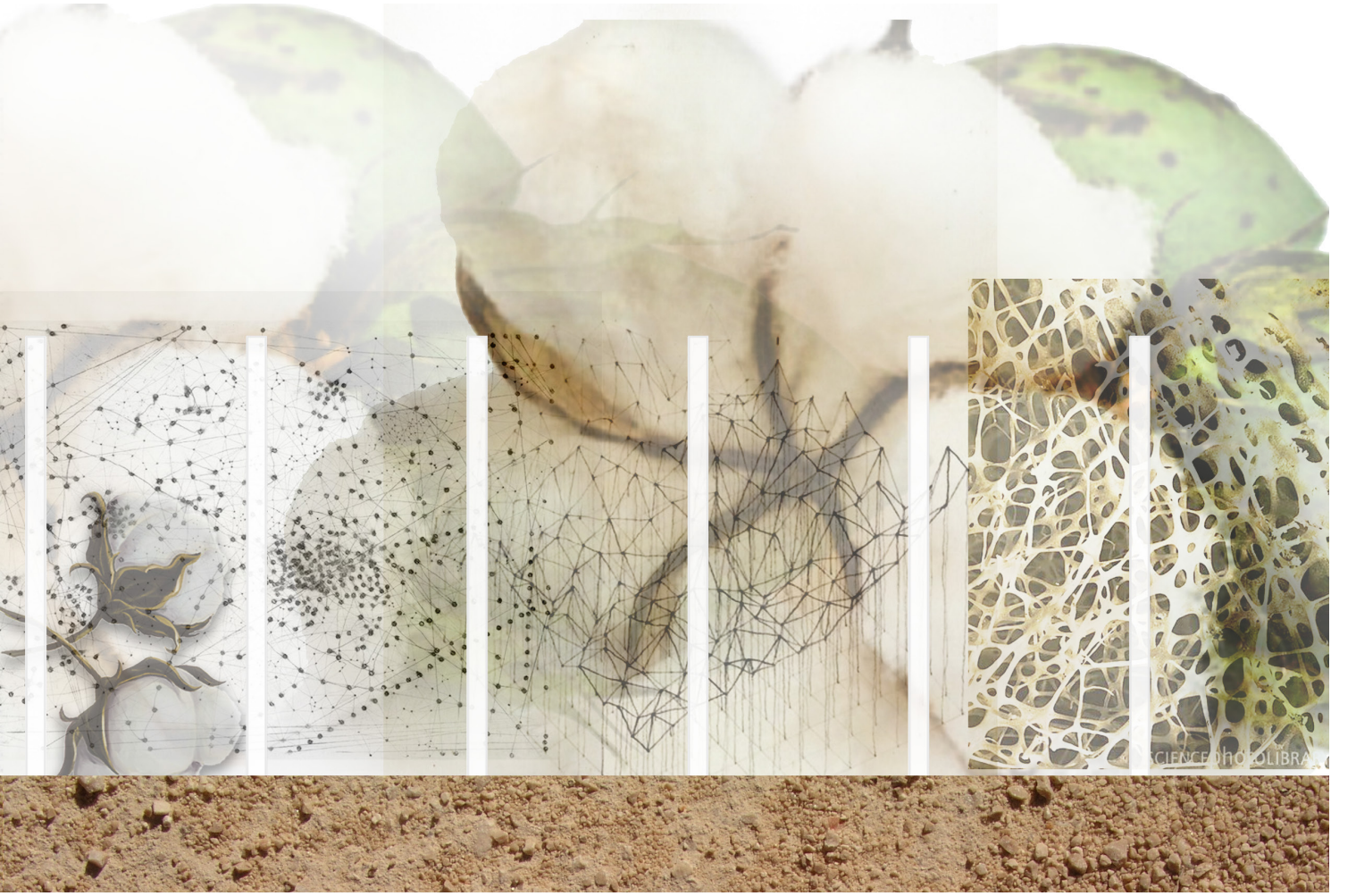
Abstract Material Section: Copper Panels

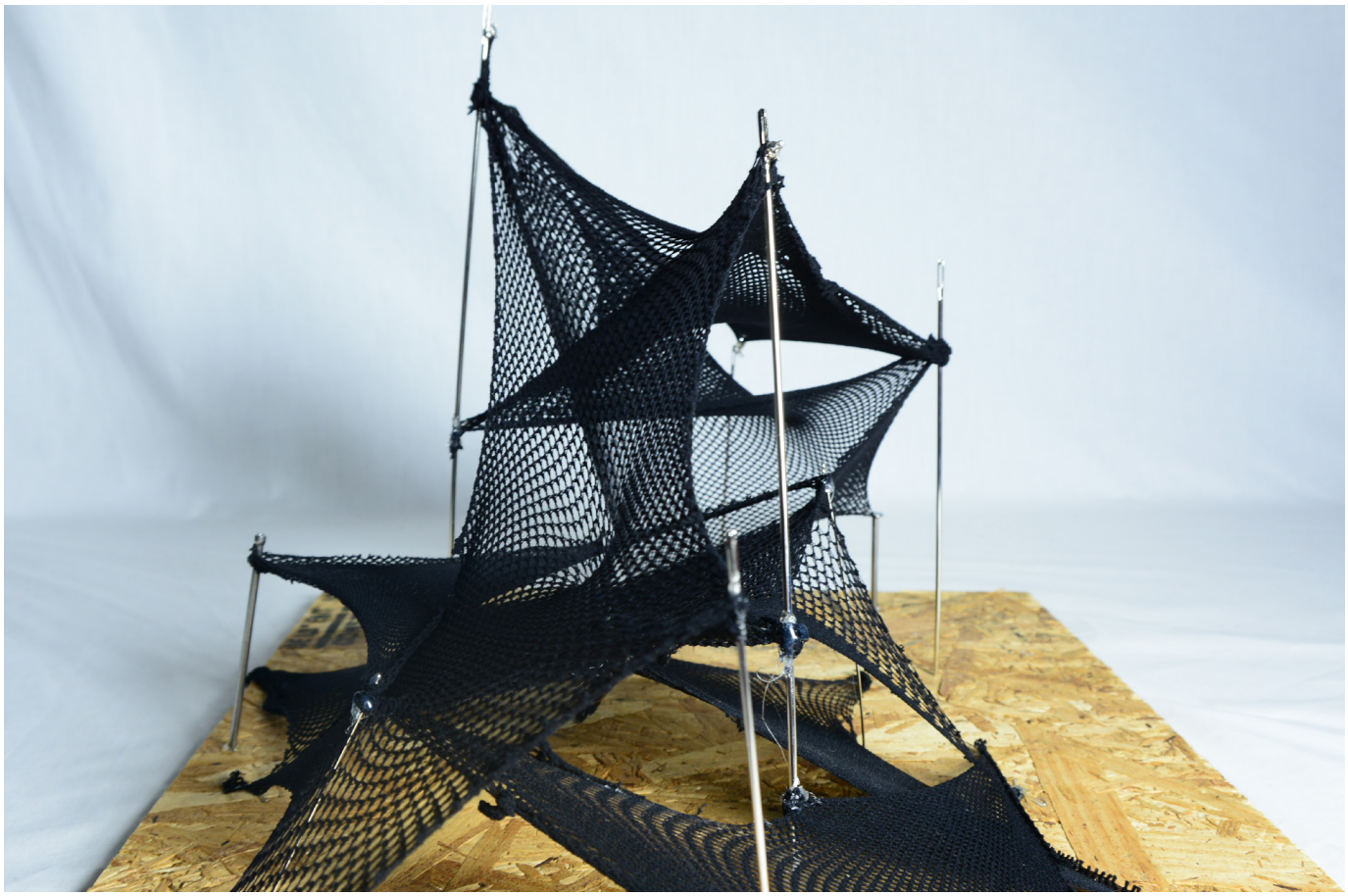
This material section helps to convey some of the feelings that users should feel as far as texture is concerned in this aspect of the site. This also showcases some of the possible materials that may actually be utilized, ranging from perforated cortin, to slabs of rusted copper.

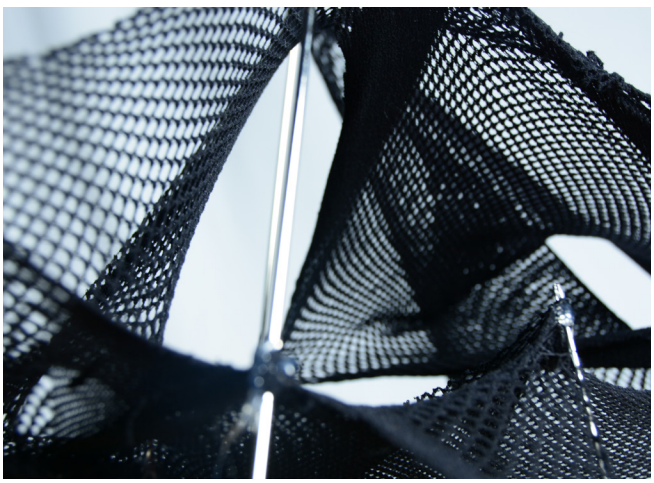


Abstract Material Section: Cotton Poles

This abstract material exploration takes on the intensity of the cotton and aims to produce a feeling of being submerged in the cotton stalks. This not only creates a textural richness, but also helps to simulate the feeling that the slaves had while being faced with the cotton stalks each and every day.



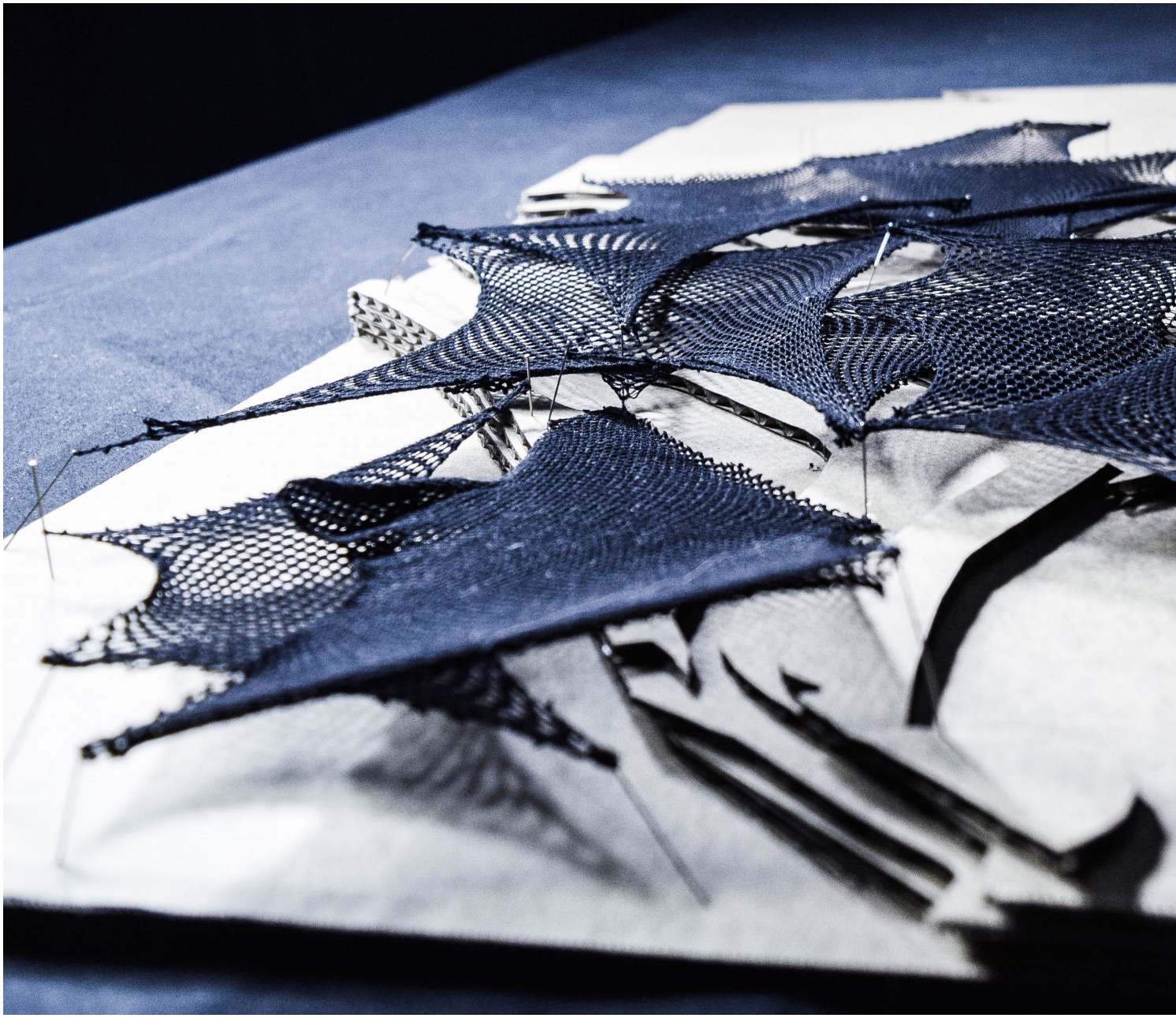




Model Application

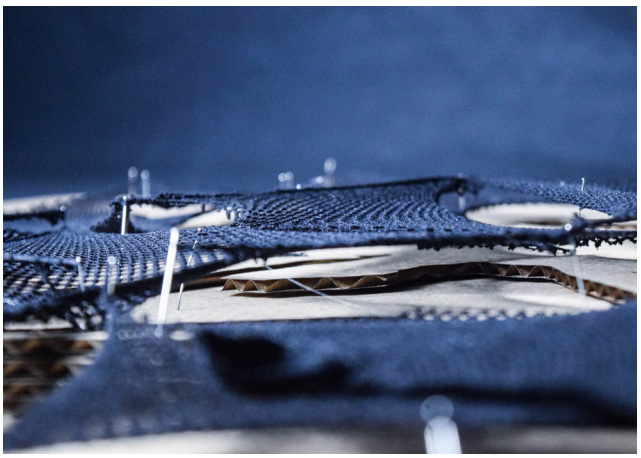
Stemming from the previous cotton, plaster, and wire models emerged the word entanglement. This word not only expressed the haptic qualities of the model, but also helps to express the slaves situation. Haptic perception includes engagement of the body, so with this netted matrix people would be able to engage their entire bodies through touch. This model was constructed with the idea of wanting to make a structure that had both enough flexibility as well as structure to engage users. When constructing the model I used my hands to help me understand how someone's body might feel in a place constructed like it.

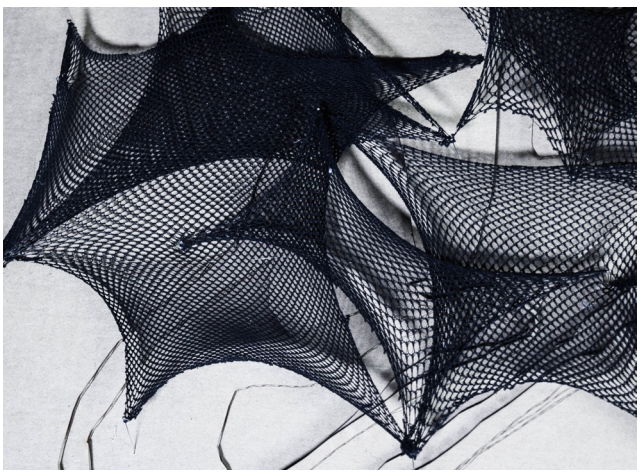
One important factor that I had to consider when designing this, was the question of how appropriate for a memorial setting that I am designing for. I believe that memorials can still be a place of respect, but as a haptic memorial, interactions and playfulness of the site can be an integral part of the design without being disrespectful. People can appreciate the memorial and what it is in remembrance of simultaneously with the physical experience.

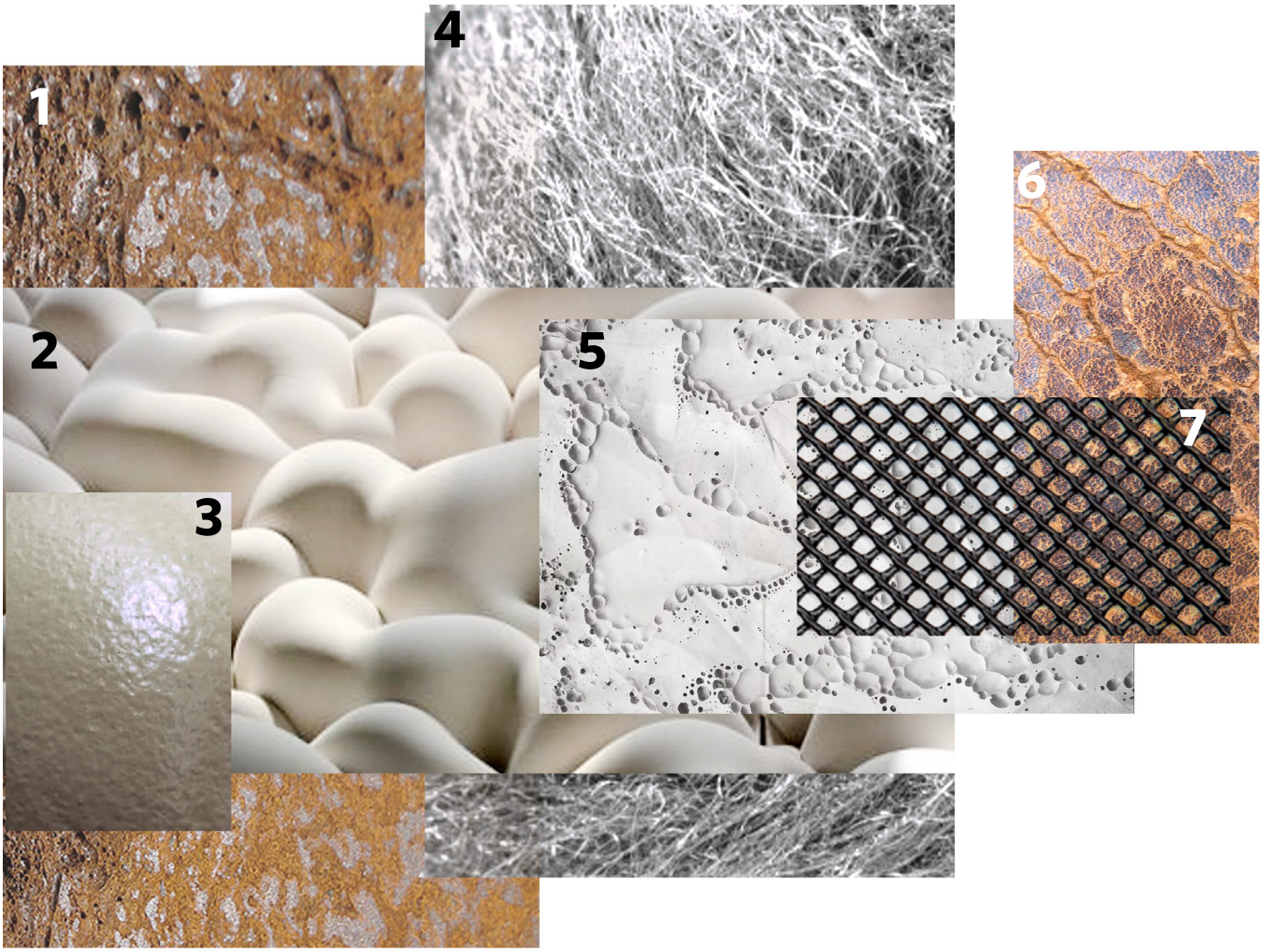


Model Application: Site

This model is a replica of the model application at the site scale. In this model, I was able to see how the design would fit at the scale of the site and how people might move in and underneath it. A continued method of layering, pinching, and pulling were used to help configure the setup of the matrix. Although most of the site was relatively flat, utilizing the topography helped me to understand how the design could play off of that aspect.






1
4
6
2
5
7
3

In order to further understand the site and its context, a materials palette was formed to give specificity to each portion of the design. The materials were chosen based off of a combination of form, texture and color. With these three components in mind, a translation between the plaster, cotton, and wire models became more concrete.

1. This material is a distressed, copper plate that will be used on the ground plane to emulate the worn affect that the cotton picking industry had on slaves. This material would be extremely rough and have a slight rust appearance. This will appear in each of the designed entrances of the site, in which it will help to haptically emphasize the metaphor of the cotton mill industry being built on the backs of slaves.

2. The mounds located on the site would be comprised of a material that appears soft and bulbous, but manages to have enough structure for interactions like climbing to occur. This is part one of how the mounds would be constructed, rather than the actual textural material.

3. For part two of the mound construction, they would be covered in a thin layer of foam and plastic. This material combination is not only be durable, but also malleable in its ability to mold and form over the variety of shapes that make up the mounds, also providing a more inviting material to interact with for visitors.

4. A wire-mesh material, similar to that of a wool cloth used for cleaning in households, would be used on several of the interactive islands as a way to communicate and emphasize the difficulty that slaves endured through materiality. With this implementation, a haptic dialogue can begin between the users and space.

5. This porous concrete material would be used as part of the interactive islands on the site as another option style for the interactive islands. The rough textures and grooves of this material simulate the textures and grooves found on slaves from being whipped and beaten.

6. This leather material represents the third material used for the interactive islands. The worn leather helps to represent the effects of the industry on slaves over time as they were worn but resilient through time.

7. The mesh climbing matrix will be comprised of a cargo climbing material, constructed of twisted nylon. This construction will not only ensure durability, but also comfort when in use by visitors.

copper panels

cotton mounds

netted matrix

interactive islands

cotton stalks

4

Iterative Plan Design

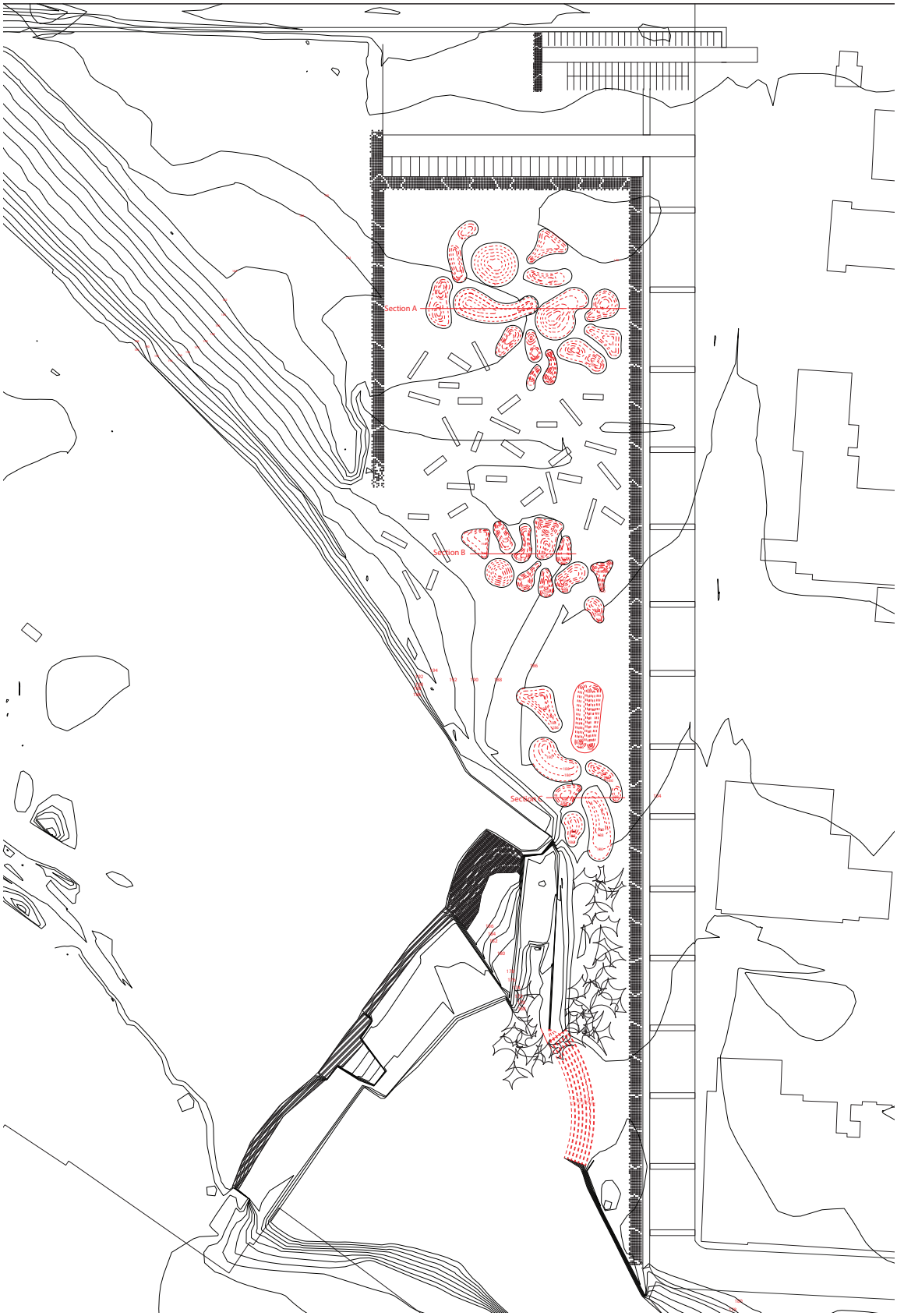
After the development of the different design elements, it was imperative that they be applied to the site to help convey the experience of the place. An iterative design approach was taken to help decide what layout would best allow for the desired haptic, memorial experience. Through this iterative process both program and sequence of the site were developed.

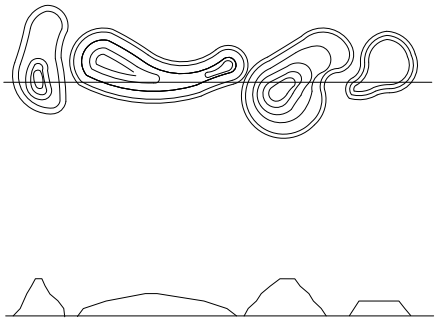
In the first set of iterations it became more about understanding how the experience should occur in sequence across the site. Ideas of creating a universally equal experience from all entrances of the site was the first tested idea, while the next tried to create a hybridized program of activities through overlapping and merging of elements. In the third and fourth iterations, it was decided that the best design would be to utilize the mounds as an anchor across the site, that consistently reoccurred while the other programs were strategically placed in specific areas.

As the iterations continued, it became apparent that the program elements were well organized, but lacked a sense of arrival in the sequence of events. Thus, the solution to this was to create a strong sense of arrival through the use of the cotton poles. These poles then surrounded the entirety of the site as a threshold for visitors to pass through.

The element that remained consistent across each of the iterations, is the use of the copper on the bridge that connects the old Prattville Mill to the site. This helps to emphasize the metaphor of the mill being built on the backs of the slaves.

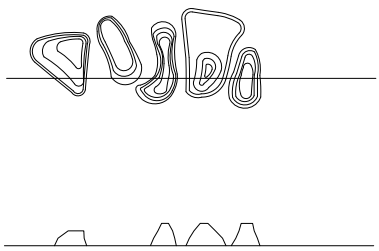
This iterative design process helped to provide an understanding of how users would experience the site as well as how they each might arrive.


Section A
Section B
Section C



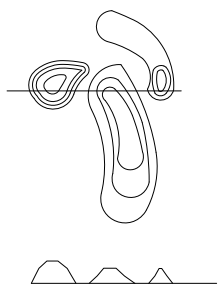
SECTION A

In this mound series, the variation showcases that some mounds may come to a point, while others are more flat. This variability in mound shape allows for some climbing engagement as well as sitting.



SECTION B

In this section, the mounds all come to more of a point, and the scale is quite small. This change in scale, helps to play on the dynamic features of the site in terms of scale to the human body and experience.



SECTION C

This last mound series showcases how some of the mound sections contain a variety of three types. In this case thee is rounded, flat and pointed mound that all exist near one another.

The final plan design sums up all of the iterations that were created in order to resolve issues like access, scale, and users.

For the sequence of how users would enter the site, they all remain consistently the same. For those entering in from the old Prattville Cotton Mill they would cross the bridge that connects the two sites, where the bridge's ground plane would be covered in an old rusted cortin steel material to further push the memorial of the cotton mill industry being built on the backs of slaves. This material is also found on the road parallel to the site, in which the same material is implemented in intervals of thirty feet. This helps to act as a crosswalk to the site as well as cultivating a sense of arrival to the space, as cars drive across its rough texture. This attention to arrival continues on into the designated parking lot for this space as well, in which the cortin plating signals the two entrances to the lot. Utilization of this material consistently allows for the user experiences to become similar to one another.

The second layer of experience is the walk through the cotton poles, in which each user arriving would experience the same. The stalks have openings in them that allow for access and help to direct users into the space, while still remaining closed enough to force a haptic experience of the cotton brushing up against an arm or leg.

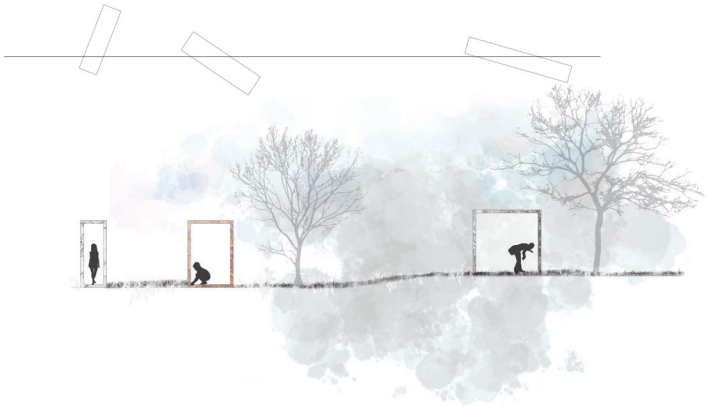
On the northern end coming from the parking lot, lies the variation of interactive islands. These islands act as rooms on the space in which people can go into and experience various textures that convey some sense of the slaves experience.

The mounds integrated throughout the space to help anchor the space, as well as act as a consistent transition threshold between each design element. The variation in shapes and sizes of the mounds makes it a dynamic element of the site's design.

While the netted matrix design installed in the southern end of the site allows for climbing to occur on land as well as in the existing water. This combination of the matrix with the water allows for an enhanced haptic experience of both a cooling sensation as well as an entangled one. While the one on the landscape allows for an option to stay dry while experiencing the design.

The overall site has been designed with a variety of trees to ensure that human comfort while moving through the space.

Overall, the site design is structured enough to allow for a similar arrival experience for each of the users, but remains flexible in its ability to allow users to direct their own sequence once inside.



Interactive Islands:

This section showcases the variety in scale and texture for each of the interactive islands of the space. The islands are similar to textural rooms that have been embedded into the landscape.

Netted Matrix:

This section showcases the use of the netted matrix. The scale in relationship to the body as well as the layering techniques an how the design would be held in place by the poles are better understood.

Cotton Poles:

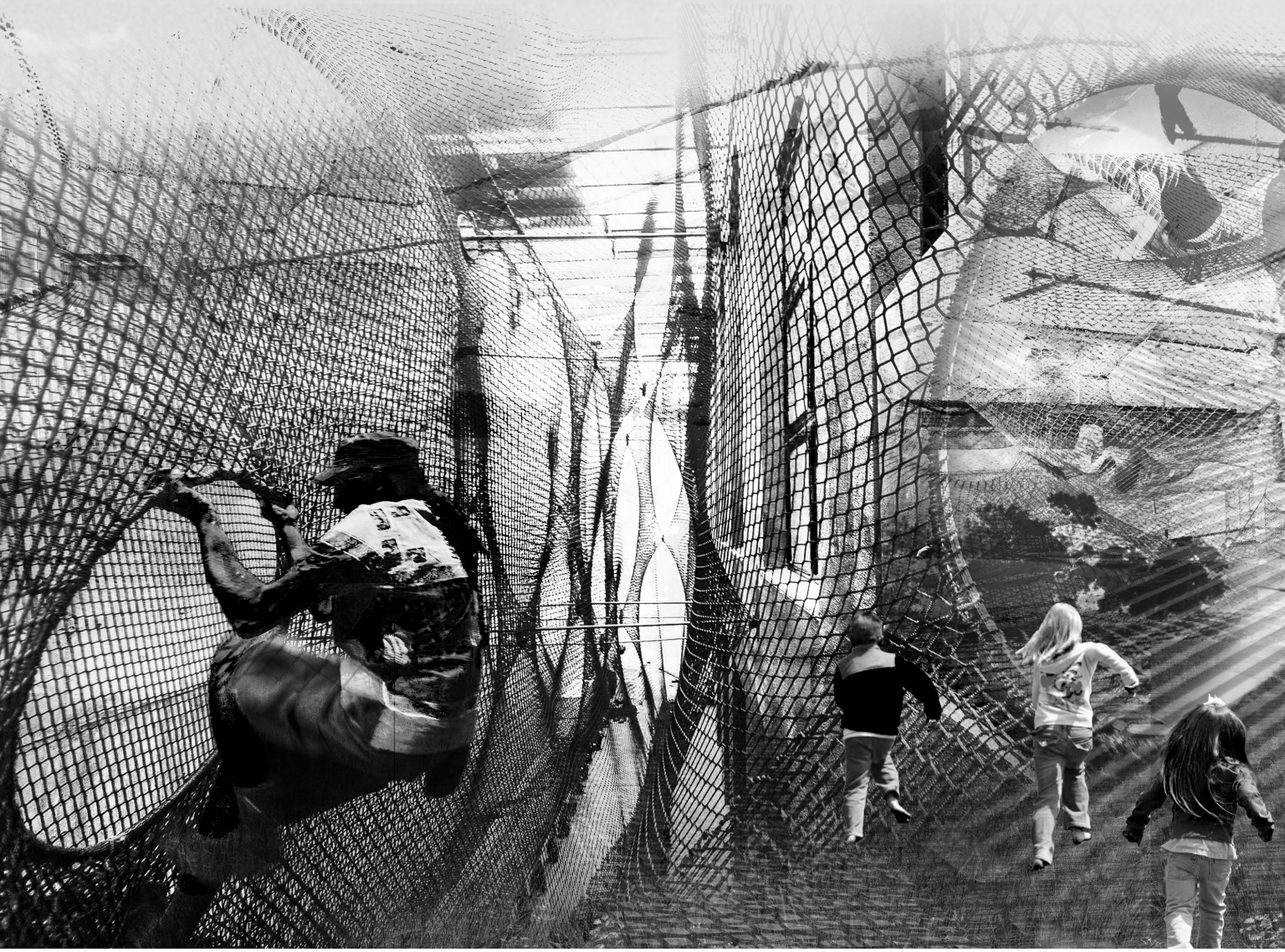
This section showcases the variety in scale and texture for each of the interactive islands of the space.

Cotton Mounds:

This section showcases the variety in scale and texture for each of the interactive islands of the space.

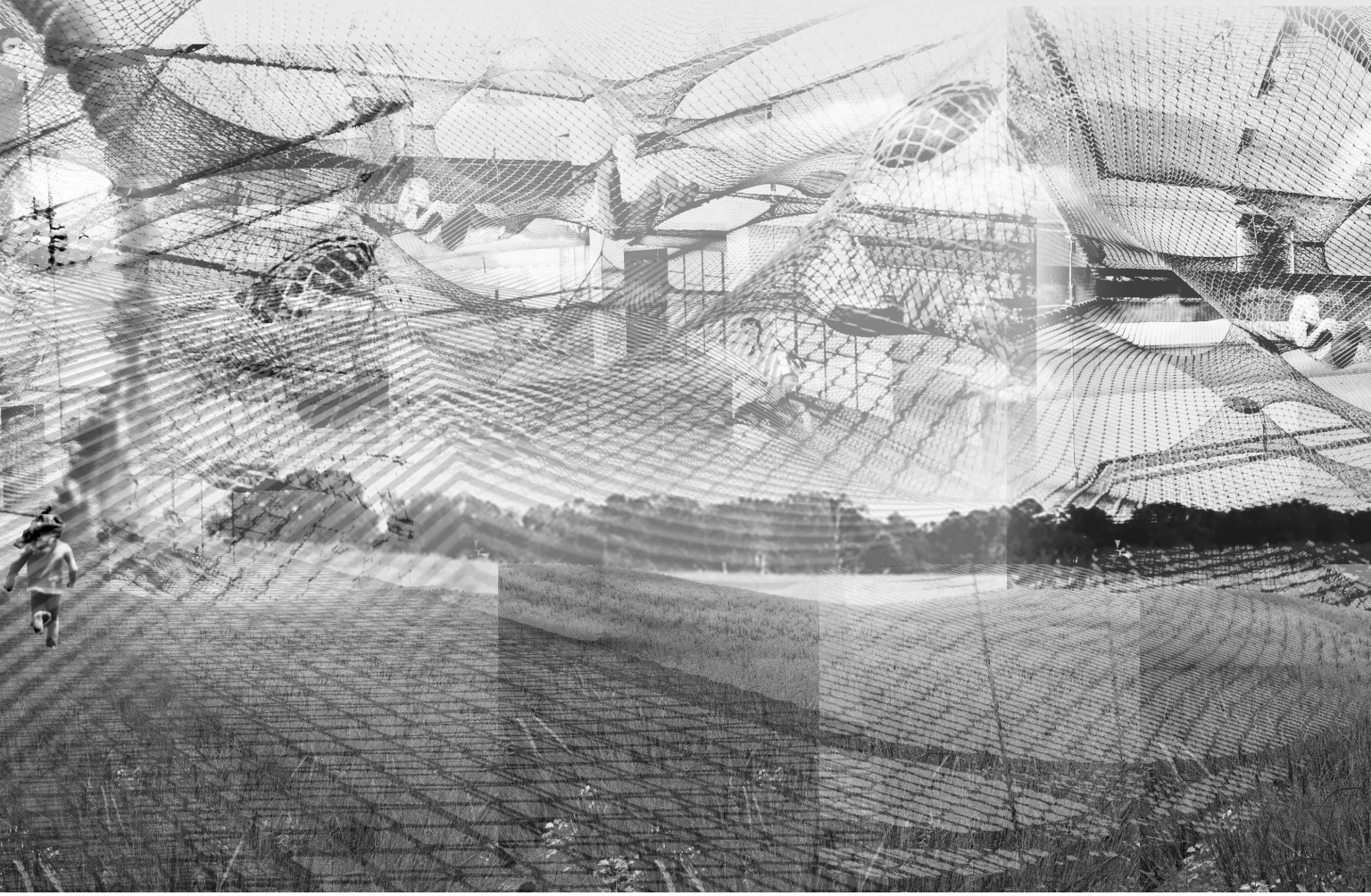
Experiential Perspective 01

This experiential perspective showcases how some of the mounds might vary across the site, as well as how people might physically interact with them, creating a haptic experience. Variations in height and shape will change from one to the other.



Experiential Perspective 02

This experiential perspective helps to express the textural qualities of the netted matrix. The image showcases how haptic experiences might occur in the space. Several layers of the netted material would overlap, allowing for a haptic experience of entanglement to occur for users. This design fulfills the idea of hapticity with the entire body.



During the process of this haptic experiential design, I believe that a successful methodology for creating more interactive landscapes was developed. Although every aspect of the process was not completely successful, it was a giant step in the right direction for helping the profession of landscape architecture move away from ocularcentrism in design.

I believe that the most successful aspect of the research was the material exploration and analyses. During this process, I could work freely with my hands to create textural experiences in the landscape without knowing what exact results should come from it. I believe that this is the type of designing we should be doing more of in landscape architecture. One that is more playful in its approach, but even more so, intimate with our own bodies. In my creation and analysis of each of the models, I was able to determine what I personally found to be coarse, smooth, pleasant, and unpleasant which allowed me to have an experience while creating. I know that if had I used a digital model, I would not have engaged in understanding them as closely as I had with the physical models that I constructed and touched.

One of the biggest difficulties I came across in this research by design, was the design of the plan. When designing the iterations, hand drawing them did help me to make more careful decisions and consideration for what and where I was implementing. Although, after completing the iterations, I came to the realization that the way that I laid them out, it became more object focused and less of a haptic placement of objects. I considered what type of sequential experience I wanted the users to experience, but as far as how they were implemented, it became a somewhat of a game board design. One thing that I might have done to avoid this problem, is to take an approach at creating the entire site in model form and then, by process of moving the elements around I would be able to provide a scale figure as well as see with my own eyes how the actual space might feel. As mentioned before, when we use computer programs or even develop plans through the bird's eye view in plan, it hinders our understanding of a space. The relationships of spaces and design elements become more difficult to understand when you cannot see into the space, but instead are looking from a top view and only estimating what might seem good enough, or what seems to make sense.

Another difficult decision I faced during this process, was whether to create elements of the design that engaged the entire body and how that would affect the space as a memorial. Most memorials are designed in a way that only allows users to observe, rather than interact with them. While, in my design the main purpose was to implement ways that physical interactions could occur simultaneously with the memorial aspect of the site. People climbing on the mounds and the netted matrix does not make this any less of a memorial, but more of a transition into a new type of memorial design that utilizes haptic experiences as the lens.

For further investigations of this research of haptic design in landscape architecture I think another way to substantiate the method I have already set, is to do another abstract model on a different site that does not have a rich historical background to draw from. I could pull from the cotton material as well as the history that I wanted to convey through the textures and material I used. If I wanted to showcase that this method works across a variety of site types, I would need to provide another set of research that does not have any context to draw from. In that case, I would possibly take the ideas of what the sites desired potential would be intended, and then use that to base my abstract model making process from. I think that it would create very different results, but ones that would greatly differ from designs solely based off the standard process in landscape architecture.

Conclusively, I believe, likewise to Zube, that if we are to gain a better understanding of the landscape, we must treat the human form as an active participant and in my case I also believe the designer must be just as active in participating when designing.

Barnett, Rod. *Propositions*. London and New York, Routledge, March 2013.

Biggs, Iain. "*Recovering Landscape: An Art Between Seeing And Hearing.*" Journal Of Visual Art Practice 5.1/2 (2006): 29-37.

Bignante, Elisa. "T*herapeutic Landscapes Of Traditional Healing: Building Spaces Of Well Being With The Traditional Healer In St. Louis, Senegal.*" Social & Cultural Geography 16.6 (2015): 698-713.

Bunkše, Edmunds Valdemārs. "*Feeling Is Believing, Or Landscape As A Way Of Being In The World.*" Geografiska Annaler Series B: Human Geography 89.3 (2007): 219-231

This article looks at landscapes a s a way to engage all the senses rather than just sight. In the abstract the author mentions that too many times landscapes have been designed purely for the aesthetics as it relates to the human eye. Arguably the author states that we should be viewing landscapes from all of our senses. They even pointed out the fact that during our childhoods we experienced everything through all our senses and that is how we learned a lot about the world. I find this statement to be powerful and as a possible stance to have in my argument of the importance of haptic experiences in the design of landscapes coupled with other senses. This article focuses on the individual and the landscape, which I believe will help me to further my understanding of the human in relation to the landscape.

Coleman, Jonathan. "*First She Looks Inward Architect Maya Lin's Viet Nam Memorial Proved To Be A Powerful Emotional Reminder. Now She Has Created Another.*" Time 134.19 (1989): 90.

Maya Lin's design of the Vietnam Memorial transcends to many people. It was seen as controversial and very offensive to many people when first unveiled. The wall was designed to remember those who died in the Vietnam War with the names of each engraved into the black stone. The thought of how someone's fingers may glide across the names of each veteran lost to war and having overwhelming emotions of sadness, empathy, anger and pain was a strategic design that helped to evoke emotion from people. The design of this landscape project has a strong tie to the human emotion because of its deep historical ties to the people who lost their lives in war. Lin's special attention to important historical information and force of interaction with the wall shows that intimacy is key. The intimacy of engraving each and every one of those veterans names on the wall and then having the sensory experience of touching their names with your own fingertips creates a bond between the memory of that person and your own emotions.

Eve, S. (2012). *Augmenting Phenomenology*: Using Augmented Reality to Aid Archaeological Phenomenology in the Landscape. Journal of Archaeological Method & Theory, 19(4), 582-600.

Eve explores the perception of using GIS as a traditionally visual based analysis of a site and arguing that augmented reality is a better method for researching and understanding a space completely. The importance of embodiment in the landscape is stressed as the way that perception of the environment in which the landscape should be understood. "An experience is not limited to what can simply be seen from a point in the landscape, but includes what can be felt, heard, smelt, tasted, and touched; moreover, how our sensory reaction change as we move through and encounter landscape from our situated body" (583). This further enforces the point by also including that social perception combined with this sensory perception together help develop a full understanding of a site in relation to the human body. Through all of this analysis, there is also a focus on how to utilize these lenses of social and sensory perception to interpret historical landscapes.

Gobster, Paul H. *Experiential Approaches to Landscape Assessment*. Landscape Journal: 1984, (3)2: 104-110.

Hawley, Monica E. 1983. *Historic American Engineering Record. National Park Service*. Washington, D.C.

This article basis itself around the history of Daniel Pratt and the Prattville Cotton Mill that lies on the Autauga Creek. The sites historical aspect has helped to create an understanding of some of the material aspects of it in which were used to influence models at the beginning of my thesis research. Understanding the historical aspects of this site help to understand its past and combine it with some of the existing conditions that stand today on the site. This historical information was also useful in helping to develop drivers for the abstract model designs and exploration of materials.

Lee, Kelly (2010). *Sensorial Ecology*: *The Hapticity of Site*.

Kelly Lee explores the need for multi-sensory engagement as the method for man to understand the world around him. She references Juhani Pallasmaa and Steven Holl several times in her analysis of hapticity in the landscape. She breaks down the word haptic into a way that reveals itself as the relationship between touch and the material world in which we live in. Lee also goes on to state how visual focused world has made people "unable to foster sincere connections and interactions" with the places and people around them. Overall, she finds that it is in the responsibility of landscape architects and other like professions to crate spaces that engage all sensory modalities.

Hill, Kristina. "*In Expectation of Relationships*," in Ecology and Design. Washington, D.C. Island Press, 2002. 271-303.

Pallasmaa, Juhani (2005). The Eyes of the Skin: Architecture and the Senses. Great Britain: John Wiley & Sons Ltd.

Pallasmaa takes a perspective on design that questions our ideas of perception, expressing his stance on phenomenological dimensions of the human experience in architecture as a critical one. He shows concern over the bias towards vision over, and the suppression of other senses when it comes to design focus and human interaction with spaces. He mentions that "the very essence of the lived experience is molded by hapticity and peripheral unfocused vision." His view of touch as "the mother of all senses" provides insight on how interacting through physical touch rather than visual as touch integrates our experience of the world with ourselves. Also, he mentions the process of model building and hand drawings to help us understand what we are designing in a more engaging way. Whereas computer imaging tends to cause a distance between the maker and the object. Although, he does not want us to abandon the eye completely, but instead use it as a component to help push haptic experiences.

Patterson, Mark (2016). *Architecture of Sensation: Body & Society*.

Walker, Joanna. "*Ephemeral Architectures: The Body And Landscape In Augmented Reality*." Digital Creativity 15.2 (2004): 93-97

Zube, Ervin (1984). *Themes in Landscape Assessment Theory*. Landscape Journal

Zube responds to several critiques of that have emerged in the field of landscape architecture assessment in terms of theory. Towards the end of his argument Zube begins to delve into the importance of the human as an active participant in the landscape rather than a fixed observer of the space. He continues by stating that the best way for us to gain an understanding of landscapes is if we treat the human form as an active participant in which the response of the body to situations, textures and other variables help us to analyze the quality of a landscape. He then goes on to state that landscapes should permit movement and exploration of the situation and force the observer to become a participant. Conclusively, he states that landscapes create a transactional relationship between the user and the space, in which information is received, transferred and manipulated.