COUNTER-SPACES AND NOTATION MACHINES

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Christina Shivers

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COUNTER-SPACES AND NOTATION MACHINES

Approved by:

Dr. Benjamin Flowers, Advisor
School of Architecture
Georgia Institute of Technology

Brian Bell
School of Architecture
Georgia Institute of Technology

Volkan Alkanoglu
School of Architecture
Georgia Institute of Technology

Date Approved: 4/17/15

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SUMMARY

The modern American city is organized into a multitude of spaces based upon function and use. These organized spaces dictate a prescribed behavior and social awareness resulting in a landscape of ill-fitting and awkward territories existing in opposition to one another. An unintended byproduct of these collisions is the counter-space. Akin to slag, sludge and waste resulting from modern industrial processes, the counter-space is the left-over and neglected space of the city resulting from the ever increasing hegemony of society. Hidden within plain site, abandoned and unused, these spaces exist everywhere.

This thesis seeks to understand and reveal these counter-spaces and their subsequent populations within the city of Atlanta in order to bring an awareness to the design of the city for all populations. The spatial-temporalities of counter-spaces will be understood through a de-territorialization of representation through notation and mapping. Through this act, a "cartography of events" will be created for each counter space using series of *notation machines* in which temporal stimuli from each counter-space site will be used as inputs for the machines.

CHAPTER 1

INTRODUCTION

The modern American city is organized into a multitude of spaces based upon function and use. These organized spaces dictate a prescribed behavior and social awareness resulting in a landscape of ill-fitting and awkward territories existing in opposition to one another. An unintended byproduct of these collisions is the counter-space. Akin to slag, sludge and waste resulting from modern industrial processes, the counter-space is the left-over and neglected space of the city resulting from the ever increasing hegemony of society. Hidden within plain site, abandoned and unused, these spaces exist everywhere.

Fields and Disturbances

Stan Allen discusses the open field of the American city in his essay "From Object to Field". Born from the Jeffersonian grid placed over the landscape in the late 18th century, the American city is defined by the grid's condition of openness, with no close to its borders and the ability to always expand. From the macro-scale, the field is continuous, devoid of difference and acts as "a vast, geometric net thrown indifferently over all of the local variation of geography, topography, culture, and history" (Allen 228). The grid is homogenous, but on closer investigation, the production of difference appears at the micro scale. The association between objects within the field and their subsequent contrasts and deviations allows for the ripe potential in variation and gradations of difference seen at the macro scale. Differences and disturbances within the

field at the local level allow for the production of "vortexes, peaks and protuberances-effects that introduce difference and direction…-out of a system of repeated individual elements that are themselves regular and organized into a larger, coherent whole."(Allen 231).

The existence of the *counter-space* within the homogenized grid of the American city begins to present the potential for disturbance within this field. More important than simply understanding the counter-spaces' existence however, is developing an understanding of their associated character and voice. Within a counter-space, acts of appropriation, resulting from neglect begin to occur within the absence of an overseeing eye or gaze (Foucault 201). These acts begin to present the opportunity for further disturbance of the field, producing temporal effects capable of producing new and previously unseen structures within the homogenization of society.

Temporal Stimuli

Appropriation of counter-spaces can occur due to many differing factors; due to neglect and abandonment, these spaces often appeal to those populations also neglected by society. Through this appropriation, the counter-spaces of many cities play host to a number of uses and un-prescribed behaviors. Within the context of the surrounding city, these spaces also present opposing temporalities.

Iain Borden analyzes the use of public spaces by skateboarding counterculture in his article titled "Skateboarding and the Critique Architecture". Borden notes multiple instances of appropriation of space by skateboarders throughout London. An inherent aspect of this appropriation and subsequent breaking of specified patterns of usage involves temporality. Borden documents the manner in which skaters use privatized

public spaces, programmed and designed for a very specific use and user, in the hours and times in which office workers are absent. Furthermore, Border describes the skateboarders as "interweave[ing] their own composition of time into that of regular temporal patterns, such as waging a fast assault on a handrail outside a bank, adding a speeding skateboard to the slower pattern of those walking on the sidewalk… or staying longer in an urban plaza as others hurray through." (Borden 12). This aspect of temporality and oppositions and variations on lived experience in the city is described by Borden as "micro experience….the relation of the self to the city's physical minutiae that are not always obvious to, or considered by, the dominant visualization of the city on which we most commonly depend." The production of counter-spaces within the city allows not only spatial appropriation but temporal appropriation and collision. Stark contrasts can be drawn between temporalities within counter-spaces (Borden 11).

Borden further analyzes the temporalities of the city through the use of a term coined by Henri Lefebvre: rhythmanalysis. This term refers to the daily routines, patterns and habits of city dwellers. Within modern design practice and zoning, spaces of the city are designated precisely for these patterns. For instance the interstate is not only a space for the car, but it is the space of the daily commute, a space for the ushering in and end of the work day, a space of production and efficiency. As noted above, the temporalities of space can come into sharp contrast against one another through the appropriation of architectural elements using a skateboard. These juxtapositions, contrasts and varying "micro experiences" occur in many differing and often hidden ways throughout the city daily (Borden 10).

John Latartara refers to John Cage's use of "temporal layers" existing simultaneously within two compositions dating from 1943 and 1983. Latartara defines these temporal layers as "musical material that has a distinct temporal identity, created through rhythm, meter, repetition, or accent.....regularity of pattern is often de-emphasized and irregularity emphasized through both the superimposition of multiple temporal layers and anomalies within each layer" (Latartara 101). In a sense, a temporal layer may be compared to hegemony of space, or temporal realities within a counter space. Interestingly about Cage is his use of assignment of temporal layers to individual experience (Latartara 101). Cage's use of assignment begins to not only address different experiences, but to give them agency and meaning in the production of new musical structures. As in the city, many experiences, groups of people, and places are ostracized or forgotten in the homogenization of society. Like Cage's use of temporal layers, the designer possesses the responsibility to give the people and places ostracized by modern society a voice.

New Means of Notation

In order to reveal and channel these voices, a new form and process of notation must be developed. Within the framework of modern architectural and urban design practice, the counter-space and its associated break from societally prescribed behavior is ill understood or ignored. A major reason for this can be attributed to issues of representation and notation. Architectural notation often ignores time, event and movement in favor of formalist visions of the near future. While ignoring an understanding of the present and existing, architects and urbanists also ignore present conditions in favor of a clean slate of destruction.

Architectural notation has always failed to understand the temporal. Akin to frozen music, architecture does not respond to gradual or immediate changes within society (Zuk and Clark, 2). A major reason for this stasis is the architectural perception of the world through representation and notation. Michel de Certeau's notion of the planners' view of the city, a conception of space in which life on the ground is rejected in favor of the bird's eye view of the world, is a major problem in design for the city (de Certeau 92). De Certeau equates the act of visiting the top of the World Trade Center and viewing the city below as an act of distance and a moment in which the temporality of the city is ignored: "To be lifted to the summit of the World Trade Center is to be lifted out of the city's grasp. One's body is no longer clasped by the streets that turn and return it to an anonymous law…"(de Certeau 92). The act of viewing the city from a bird's eye perspective is not a liberating experience; de Certeau equates this view as an act of disconnect, an act in which the "space planner urbanist, city planner and cartographer… must disentangle himself from the murky intertwining daily behaviors and make himself alien to them" (de Certeau 92).

Stan Allen discusses the contradictions between the city and notation further, and begins to implicate architectural representation in the problems of the modern city. In "Practice: Architecture, Technique and Representation", Allen claims "the problem of architecture and the contemporary city is also in part a problem of representation, resulting from the substitution of the intangible for the tangible, and registering the inadequacy of the image as a descriptive mechanism" (54). According to Allen, the previously accepted understanding of a city as a tangible location, drawn and conceptualized from a fixed vantage point does not account for the current situation of

society: “Today, the technologies of communication, information exchange, and war, along with the economies of multinational capitalism and global commodity exchange, have produced a condition in which the urban site is no longer simply geographic” (56). Architectural representation ignores the reality of temporal juxtapositions, fragmentation, and simultaneity evident in cities today. Notation must account for the hidden dynamics of a space; complex layers exist, interacting, colliding and making up the hidden life of a space.

In his essay entitled “Points of Influence and Line of Development”, K. Michael Hays describes the shift in architectural notation that began in the early 1980’s. At this time, the traditional form of perspective began to come under scrutiny for its overuse and lack of dynamism in a world changing quickly due to technology. Hays describes this scrutiny as a process of “retooling”; the much used instruments of representation began to give way to new conceptions of “notational and cartographic systems” (Hays 2). Using these new means of visualization, this thesis proposes a further exploration of representation through the melding of notation and site in order to reveal the hidden voices neglected by current designers.

CHAPTER 2

METHODOLOGY

In order to begin a new retooling of architectural representation in relation to the problem of the *counter-space,* this thesis proposes the design of three machines that respond to environmental stimuli provided from three different sites within the city of Atlanta. Each chosen site is unique in its state of existence with different stages in the progression of abandonment and decline. An inherent characteristic of the counter-space is their abandonment, neglect and subsequent appropriation. The increasing hegemony of society has led to an expanding propagation of separation in which the landscape has become organized based upon capitalist values of production (Lefebvre 10). This separation of space based upon function and use has created instances, however, of left over spaces which do not fit into any use classification, hence the immense amounts of left over space surrounding interstates. In many places, this space is not used, left and abandoned. In in the case of Counter-Space #1, however, this space has become appropriated by those people of society who are also forgotten and do not fit into any classification: the homeless and transient.

Processes of Distillation

The process of site selection began with the drawing of a situation plan examining various features of the chosen site. Aspects such as traffic flow, topography change, decay, etc. were examined through the act drawing. After this preliminary investigation, the situation plan was further distilled into prevalent stimuli and inputs to be used in the design of a drawing machine. Each of these stimuli possesses an inherent temporal quality that drove the conception and design of the drawing machines.

Machine 1

Name: Temporograph (Figures 4 and 13)

Site Location: Median between I-75/85, I-20, I-285; Downtown Atlanta (Figure 1)

Machine Inputs: Human Foot Traffic and Car Traffic

Carving through the landscape, water tables, existing neighborhoods and street grids, the interstate system plowed through downtown Atlanta in the 1960's. The interstate acts as a space- maker, creating new, unique and hybridized landscapes within its wake. These spaces, however, are a no-man's land for any working citizen of the city. The hegemonic division of society is on full display in this place; within this left-over space one can glimpse the tents and tarps of the city's homeless and transient community. Those with houses miles away in the suburbs speed by on their way to and from work. The larger issues of Atlanta's homeless population can be understood analogously through the way Atlanta treats this left over spaces.

Multiple temporal layers are on display within this space, juxtaposed against one another. The traffic, although constant, exists on a cycle, growing in intensity and speed until gridlock ensues during the rush hours in the morning and evening. The interstate acts as an impassable viaduct for traffic, slicing the landscape and creating islands of land within its wake. Smout and Allen claim "the reshaping of terrain by modern industrial activities of refineries, quarries and waste sites, often photographed at indeterminate scale, illustrates the vast extant of man's intervention in the landscape. The result is an appreciation of the built environment as '*man-made sublime*'" (6). The massive scale and shear amount of energy necessary to build the downtown connector truly results in the sublime. Simultaneously, the interstate system is also a ubiquity of everyday life.


Memorial Dr SW
Memorial Dr SW
Ralph David Abernathy Fwy
Ralph David Abernathy Fwy
Fulton County Juvenile Court
US Post Office
Pryor St SW
Pulliam St SW
Eugenia St SW
Eugenia St SW
Formwalt St SW
Cooper St SW
Alice St SW
Central Ave SW
Downtown Connector
Capitol Ave SE
Georgia Department of

Figure 1

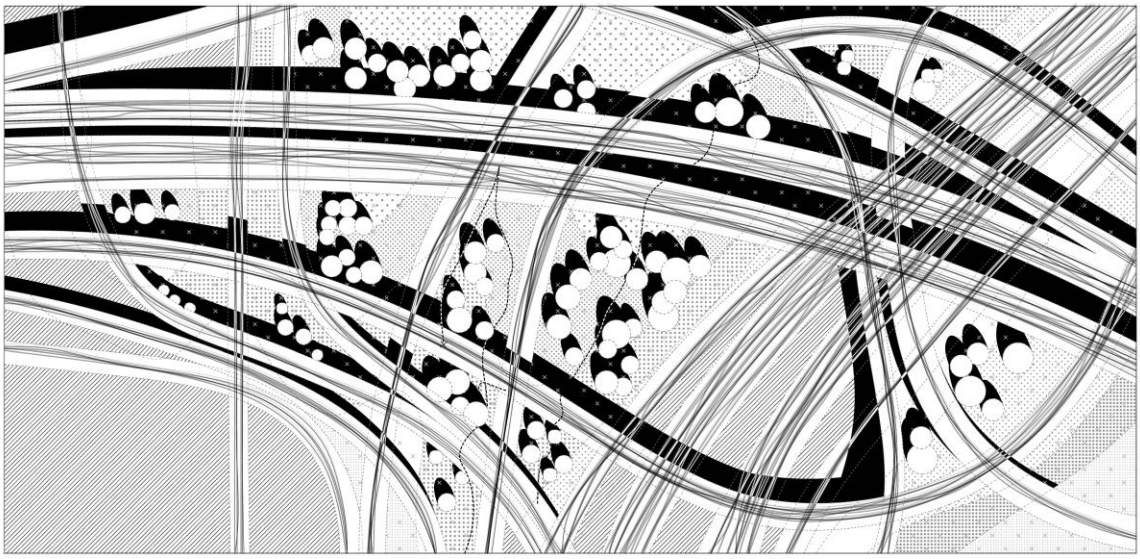


Figure 2

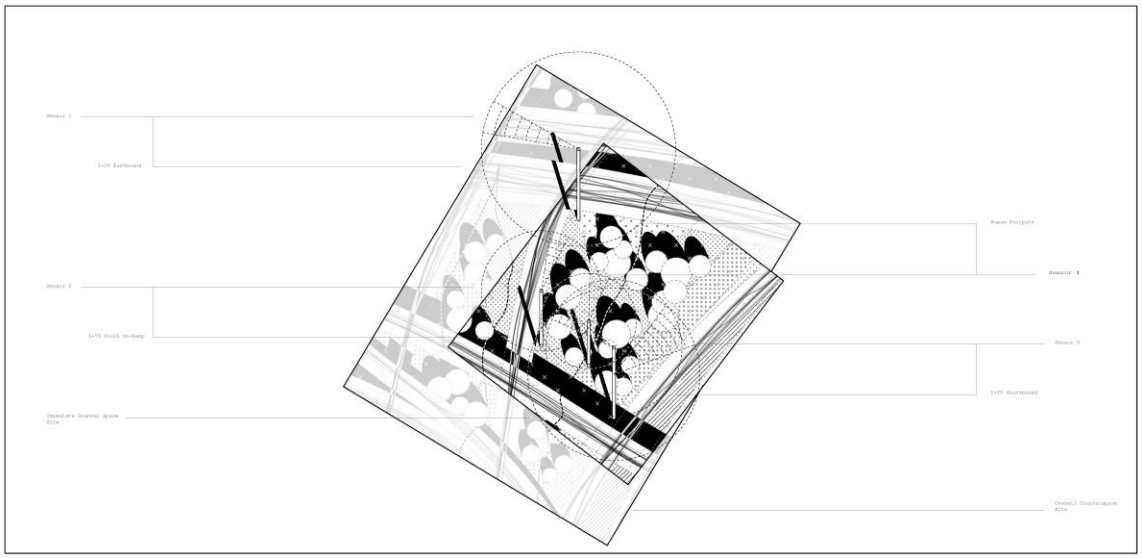
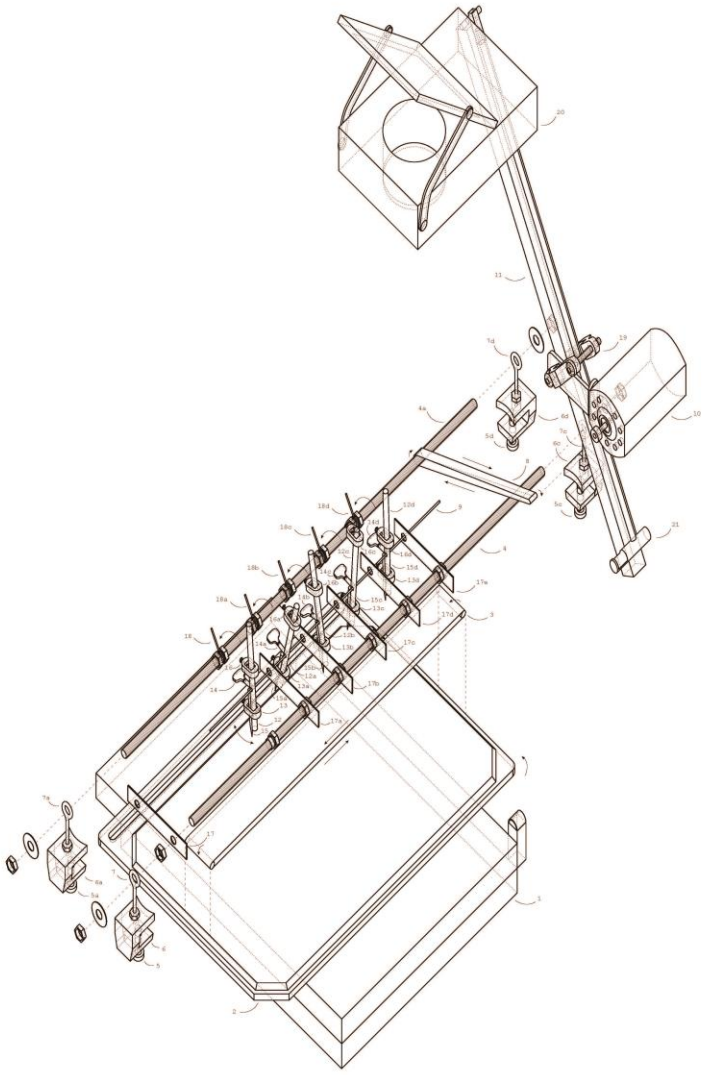


Figure 3



Name	Tempocograph
Sites	Median of I-75, I-85, I-20, I-285 Downtown Atlanta
1:	Machine Base
2:	Swivel Base
3:	Paper Conveyor
4, 4a:	Mounting Rod
5, 5a, 5b, 5c:	Bolt Connection
6, 6a, 6b, 6c:	Rod to Base Connections
7, 7a, 7b, 7c:	Rod Base
8:	Motor Conveyor Belt
9:	Pendulum Rod
10:	Motor
11:	Machine Arm
12, 12a, 12b, 12c, 12d:	Pendulums
13, 13a, 13b, 13c, 13d:	Pendulum Base Weight
14, 14a, 14b, 14c, 14d:	Pendulum Strike Plate
15, 15a, 15b, 15c, 15d:	Drawing Device
16, 16a, 16b, 16c, 16d:	Adjustable Weight
17, 17a, 17b, 17c, 17d, 17e:	Pendulum Support
18, 18a, 18b, 18c, 18d:	Rotating Pendulum Striker
19:	Motor to Arm Connection
20:	Machine Inspection Device
21:	Arm to Base Mounting Pin

The interstate is a necessity for the large population of commuters from the suburbs of Atlanta as well as for the transient community that lives within its wake.

Upon analysis of the temporal layers exhibited at the site, several trends began to reveal themselves. Surrounding the median, the daily flow of traffic is relentless and cyclic. The topography changes drastically, a left over remnant of the previous natural environment. A topography change of over 20 feet allows a separate world to exist upon the bluff of the median, using trees to further create shelter and separation. Two opposing dichotomies reveal themselves; the space/time of production vs. the space/time of domesticity. Furthermore, the traffic within the highway viaduct moves in a cyclic manner; throughout the day a steady flow of traffic occurs, however, the rate changes depending upon rush hour. The frequency of cars increases as the rush hour approaches, only to reach a standstill once the capacity of the interstate is reached, a traffic jam (Figure 2).

These factors began to drive the design of the notation machine (Figure 4). These juxtaposing temporalities can be equated to the pendulums of a metronome, varying in speed as the rate of traffic changes. The machine takes the concept of the metronome and equates it to five temporal inputs: traffic on four sides of the median and one human footpath that cuts through the median. The machine is made up of five pendulums with drawing pens attached to the bottom, each assigned to one of five sensors placed at the site (Figure 3). Every half-hour, these sensors register the rate of traffic; this rate is then translated to the machine through the movement of a weight at the top of the pendulums. For example, if traffic slows on the right side of the median, the weight is moved to the top of the pendulum, thus slowing the rate of movement. A spool of paper moves

beneath the pendulums at the rate of one spool per 24 hour period. As this spool moves, the pendulums draw upon the spool at different rates, thus creating a drawing based upon the major temporal dynamics defining this counter-space.

Results: Score (Figure 16)

As the machine begins to come alive, so does the site. A structure of pulses, lulls, jarring disturbances jitter forth from the machine; the landscape is speaking through the forces holding dominion that have molded this piece of ground into an island. As the machine moves, the site breathes in a creaking motion to the forces that characterize the site's existence. Over the course of the day, the ticker tape from the spool piles up, the readings slowly accumulating upon the floor.

Machine 2

Name: Displacement-graph (Figures 8 and 15)

Site Location: Alonso Herndon Stadium at Morris Brown College (Figure 5)

Machine Inputs: MARTA East/West Line

The Alonzo Herndon Stadium has sat empty since the Morris Brown football program was cut in 2002. This stadium at one of the first historically black colleges, sits in shadow of another relic, the Georgia Dome. The contrasts and juxtapositions of value in this area of Atlanta are drastic: the cost of the future Atlanta Falcons Stadium runs into the billions of dollars, yet several blocks away, the stadium at Morris Brown sits empty amidst the debt of the college.


Historic Mims Park
Thurmond St NW
Spencer St NW
Foundry St NW
Lester St NW
Magnolia St NW
Dishongh St NW
Alonzo Herndon Stadium
Walmart
Herndon Home Museum
MLK Jr Dr NW
Morris Brown College
New Art Gallery At Jordan
The Busy Bee Cafe
Mitchell St SW
Markham St SW
Beckwith St SW
Stats
Centennial Olympic Park
Georgia World Congress Center
Omni Atlanta Hotel at CNN Center
West Plaza
Georgia Dome
Philips Arena
CNN Studio Tour
Georgia International Plaza
Google

Figure 5

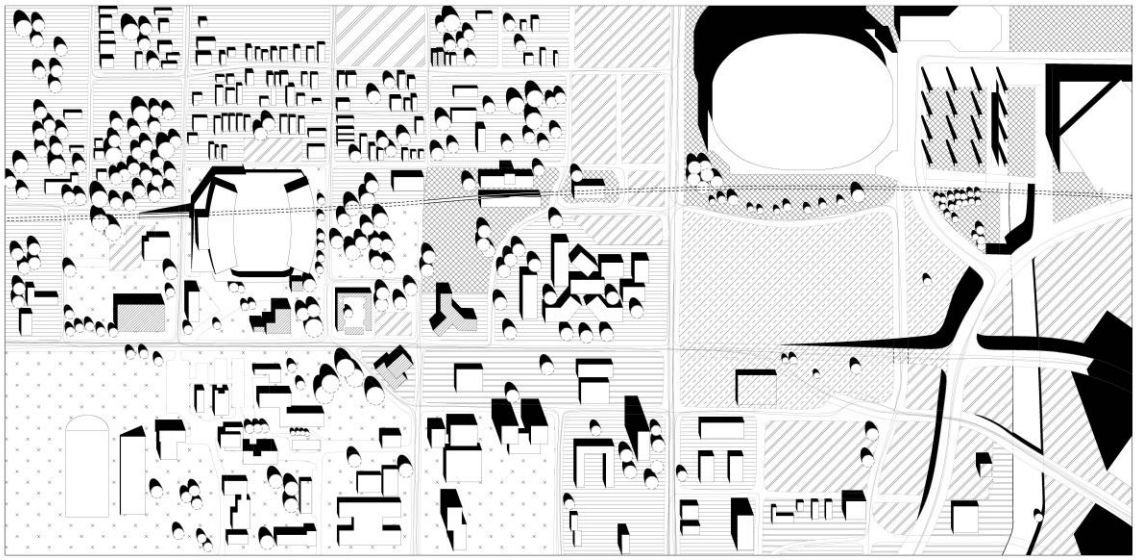


Figure 6

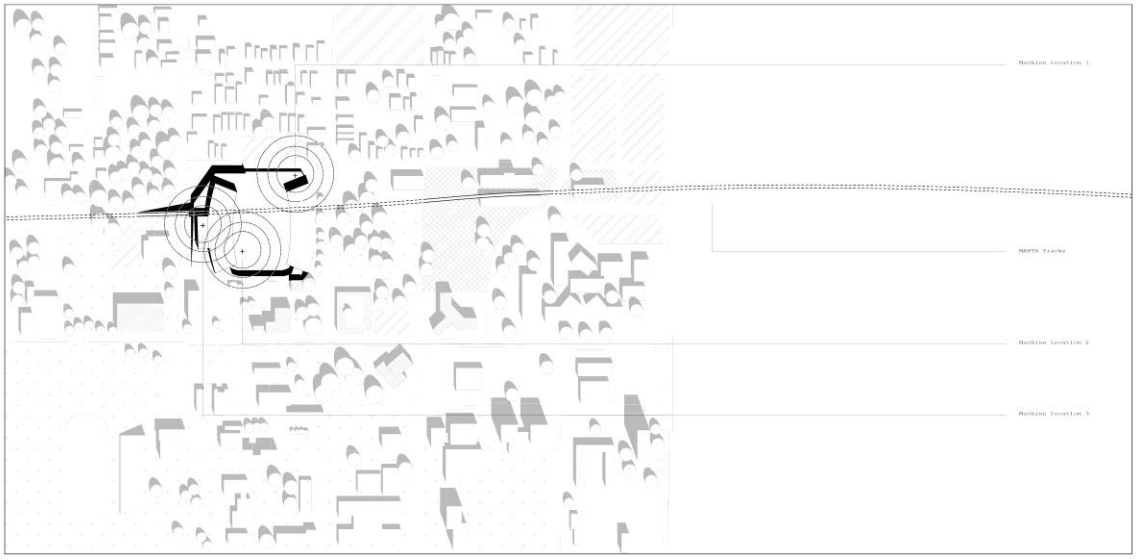
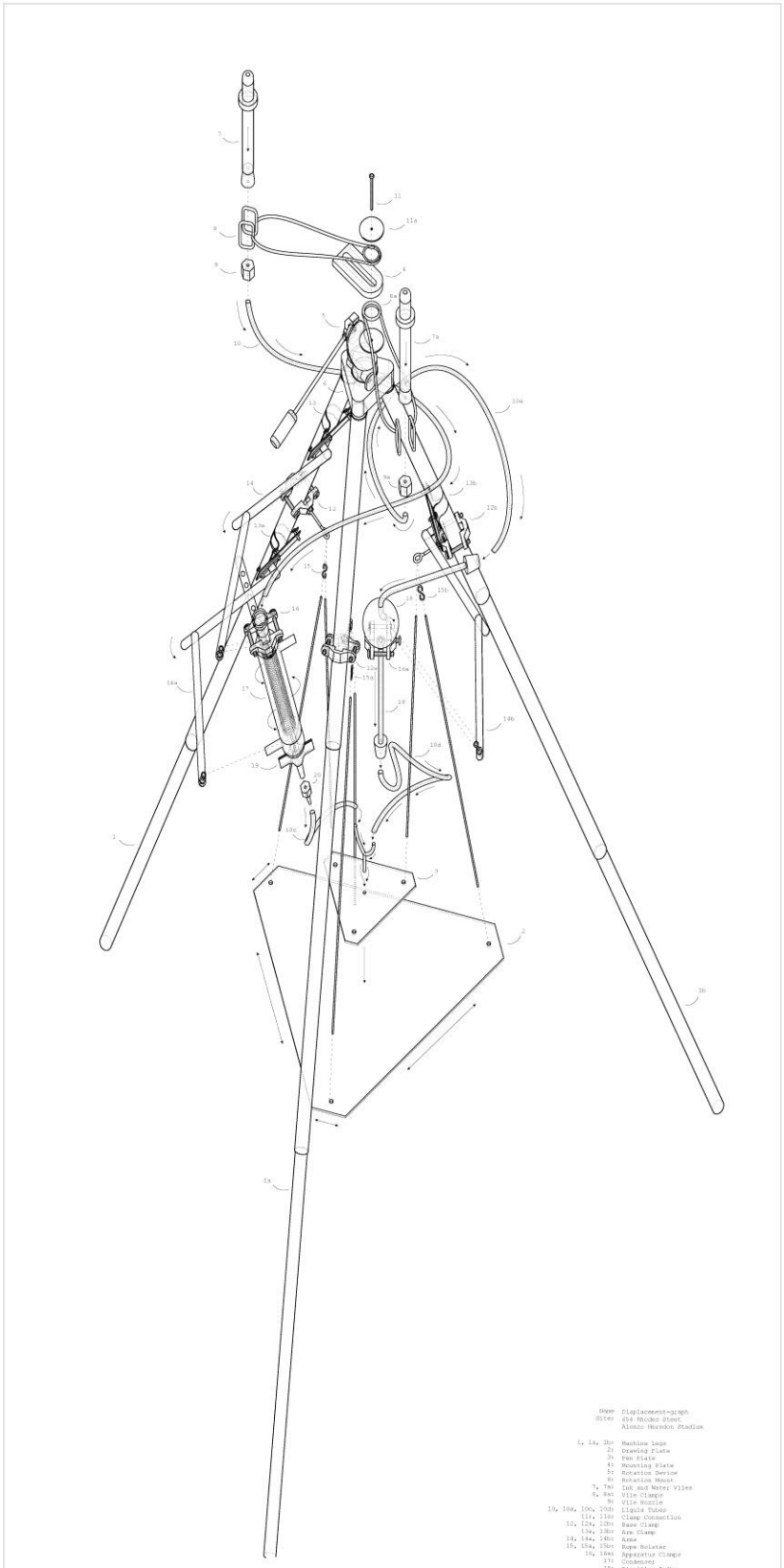


Figure 7


Name Displacement-graph
Sites 454 Rhodes Street
Alonzo Herndon Stadium
1, 1a, 3b Machine Legs
2c Drawing Plate
3a Fan Plate
4c Mounting Plate
5c Rotation Device
6c Rotation Mount
7, 7a, Ink and Water Vlies
8, 8a, Vile Clamps
9c Vile Nozzle
10, 10a, 10c, 10d Liquid Tubes
11, 11a, Clamp Connection
12, 12a, 12b, Base Clamp
13a, 13b, Arm Clamp
14, 14a, 14b, Arms
15, 15a, 15b, Rope Holster
16a, 16b, Apparatus Clamps
17, Condenser
18, Distiller Bulb
19, Distiller Stem
20, Condenser Pipe

Upon visiting the stadium, the stillness is startling. This site played host to years of college football, the Atlanta Beat Women's Soccer team and the 1996 Olympics Field Hockey competition. From the top of the stadium, the view of downtown Atlanta is beautiful. Yet, amidst the history and beauty, the stadium sits empty, slowly decaying and returning from its former glory back to the ground it was built upon. After several minutes of contemplation, a whirring sound disrupts the stillness. Below the stadium, the MARTA East/West line emerges from beneath the ground, the tracks surfacing from the tunnel.

Through the investigation of the situation plan, a landscape of territories began to emerge, organizing the area into several adjacent but separate zones. (Figure 6) Governmental, residential, and commercial territories sit amidst areas of abandoned plots, empty and decaying buildings, and the slowly dying corridors of the buildings on Morris Brown's campus. The abandoned plots exist in subservience to the commercial plots, used for parking on the weekends for events at the Georgia Dome and Georgia World Congress Center.

This territorialization informed the design of the machine (Figure 8) through the conceptualization of displacement amidst this landscape. The machine is built upon a tripod that is placed onsite at the Alonzo Herndon Stadium (Figure 7). Two viles are attached at the top. Black ink is held in one vile and water is held in the other. These vessels attach to several tubes and devices through which the ink and water travel and mix at the end of the network of tubes. The mixture of ink and water slowly drips upon a hanging plate attached to the tripod, the drips registering the slow passing of time amidst the stillness of the abandoned stadium. As the cyclic progression of the travelling

MARTA trains disrupts this stillness, the machine registers this movement. Underneath the drawing plate, a small motor reacts to the movement of the trains and moves the drawing plate, causing the dripping ink to splatter across the page on the plate.

Drawing Results: Field (Figure 17)

The slow accumulation of the ink bleeding onto the page registers a displacement through the temporal disruption of MARTA. The machine begins to channel the voice of the site into the form of a field in which the ink dries into gradients of black and gray. Amidst the landscape of territories, these new drawings begin to form a new landscape, in which the site speaks. The original situation plan can be likened to an architectural site plan in which the idea of temporality at the site is ignored and neglected. As the machine slowly bleeds out, a new form of site plan and territory begins to emerge through the pools of ink and splatters upon the page.

Machine 3

Name: Stratograph (Figures 12 and 14)

Site: Sawtell Avenue and McDonough Blvd; site of the former Lakewood GM Plant (Figure 9)

Machine Inputs: Temporal layers from the site's history

At the site of the former Lakewood GM plant, a massive, 10 foot high concrete plinth sits, decaying in the space between the railroad tracks and McDonough Boulevard.


Benteen Park
BENTEEN
United States Penitentiary Atlanta
Chosewood Park
Sawtell Ave SE
ROSELAND
Lakewood Ave SE
Google

Figure 9

Figure 10

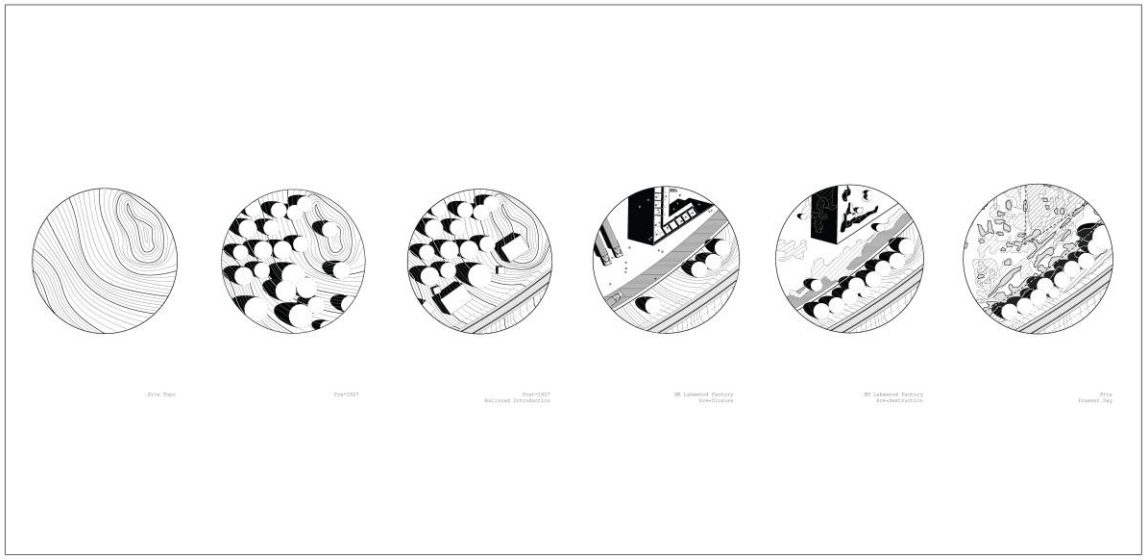


Figure 11

The site sits in the shadow of the Federal Penitentiary. At one time, the massive concrete plinth housed a factory supplying automobiles to the United States. Its vicinity to the prison begins to create a dichotomy between two forms of penal colony, the factory and the prison. Over the years, one of the penal colonies began to fail. The factory, which absorbed the daily lives of multitudes of workers over the years and produced objects impacting millions of lives across the United States, was closed at the end of the decline of industrial activity in the United States, the draining of the city to the suburbs, and white flight. The penitentiary remained, an active symbol in the punishment and profit of human lives. The factory and the prison operate in the same manner, hierarchies of production and society housed within walls.

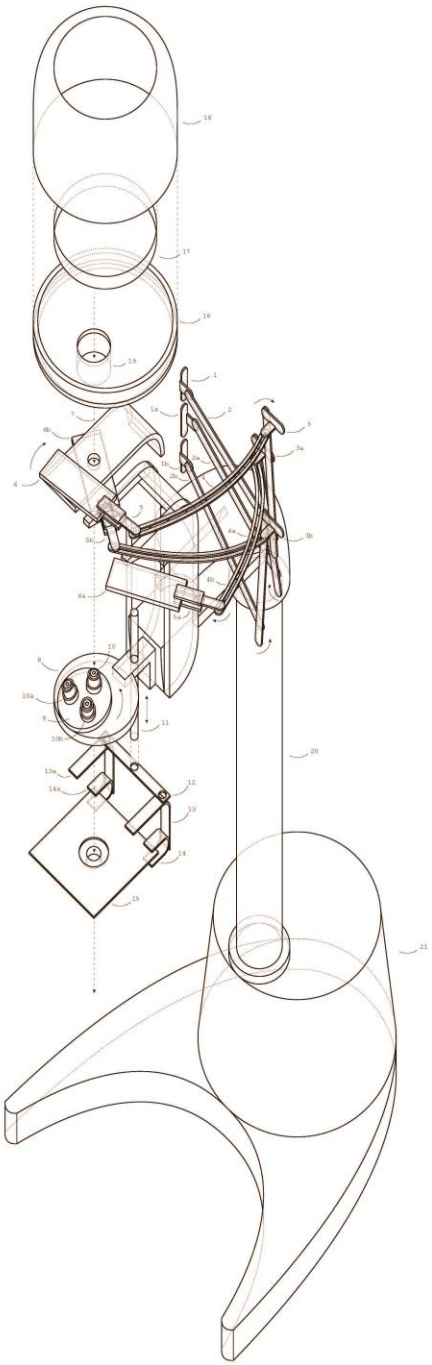
Temporally, this site exists in a duality of decay and growth. Upon the abandoned plinth, visually inaccessible to all except aerial view, a patina of destruction and accumulation has colored the top of the site (Figure 10). The palimpsest of historical layers encased in concrete began to inform the design of the machine. Key moments in the growth and decay of the site begin to present themselves as the only means to tell the story of the site: the original primordial topography, the growth of the forest, the slicing of the topography for the railroad, the creation of the GM plant and its final destruction, and the current patina of the site (Figure 11).

For the design of the machine, these imagined histories were etched into glass and placed upon a series of arms attached to a microscope. The arms on the microscope mount allow for the possibility to display the slides at different angles and multiple slides are overlaid upon one another in the constitution of an image (Figure 12). The machine

becomes an anamorphic device, allowing for the distortion of the slides to create a new image that reconstitutes the composition of the site.

Drawing Results: Anamorphic Plans (Figure 18)

As the machine projects the layers of history upon the photographic paper below, a new form of the site emerges, combining the histories at different stages over the years. Different combinations occur as the site reveals the hidden layers beneath the concrete and patina. These new forms of plan, built upon the layers of history, begin to create new structures, an imagined world inhabiting the previously abandoned counter-space.



Name	Stratograph
Site:	Sawtell Ave and McDonough Blvd. Former GM Lakewood Plant
1, 1a, 1b:	Bending Arm Attachment
2:	Bending Arm
3, 3a, 3b:	Bending Arm & Swivel Arm Joint
4, 4a, 4b:	Swivel Arm
5, 5a, 5b:	Swivel Joint
6, 6a, 6b:	Site Sliders
7:	Slide Bed
8:	Lens Mount
9:	Lens Bed
10, 10a, 10b:	Microscope Lenses
11:	Adjusting Bar for Enlarger
12:	Enlarger Connection 1
13, 13a:	Enlarger Connection 2
14, 14a:	Enlarger Connecting Joint
15:	Enlarger Lens
16:	Lamp Hood
17:	Lamp
18:	Lamp Bed
19:	Lamp Diffuser
20:	Microscope Mount
21:	Microscope Base

CHAPTER 3

CONCLUSION

Next Steps

The machines produced three distinct outputs specific to each counter-space. The results of the machines embody the voice of the chosen counter-space, yet these drawings must be further distilled. The issue pertaining to this refinement involves one of language and interpretation. A distinguishing feature of architectural notation is its association as an allographic form of representation (Allen 45). Allographic forms of drawing possess the ability to be interpreted, with a common and agreed upon means of interpretation. Like musical notation, architectural notation can act as a set of instructions, creating structures, whether musical or spatial, through the interpretation of notation. The drawings produced by the machines act as a new form of architectural notation, creating "cartographies of events" (Conde 74).

Unlike traditional musical and architectural notation, the allographic language has not been developed for the machines' act of channeling a site's voice into drawing. In order to further develop this thesis in the future, three forms of allographic interpretation will be developed and refined. The score produced by the *Temporograph*, the field produced by the *Displacement-graph*, and the anamorphic plans produced by the *Stratograph* are all capable of producing new and unique notational structures derived from site.

Architectural Relevance

As architectural practice and theory develop further into the 21st century, the issue of site is slowly becoming less and less relevant. Architectural projects are built upon layers of time and space. Whether this is acknowledged of not, a design project greatly impacts the plot of land it inhabits as well as its surroundings. The intent of this thesis is primarily based upon this notion of site and placement. Humanity's impact upon the world has greatly changed the landscape; according to Smout and Allen, "the 'natural' landscape has taken on an artificial patina. Alien materials interrupt the processes of growth and decay. New and evolving features created by man are, to an extent, absorbed by the fluid and yielding nature of our surroundings. What results is a hybrid environment, a utilitarian topography, a sustained artifice." (Smout Allen 6) Through the built environment, humanity has greatly altered the earth. Instead of rejecting this impact and wiping clean the landscape for new building, these hybridized landscapes hold unique and secret histories that must be revealed.

The three counter-spaces chosen in Atlanta have been bruised, scarred and punished in the city's conquest of space and production. Atlanta's history of racism, segregation, incarceration, economic and environmental development and decline is inherently intertwined with the histories of these three spaces. The messy and imperfect history of these sites is also the history of Atlanta, as well as capitalist society and its pursuit of production. Through the design of the three drawing machines, I propose that

the histories of these three sites should be preserved through a new form of recording and archiving in which the site's voice is allowed to be heard.

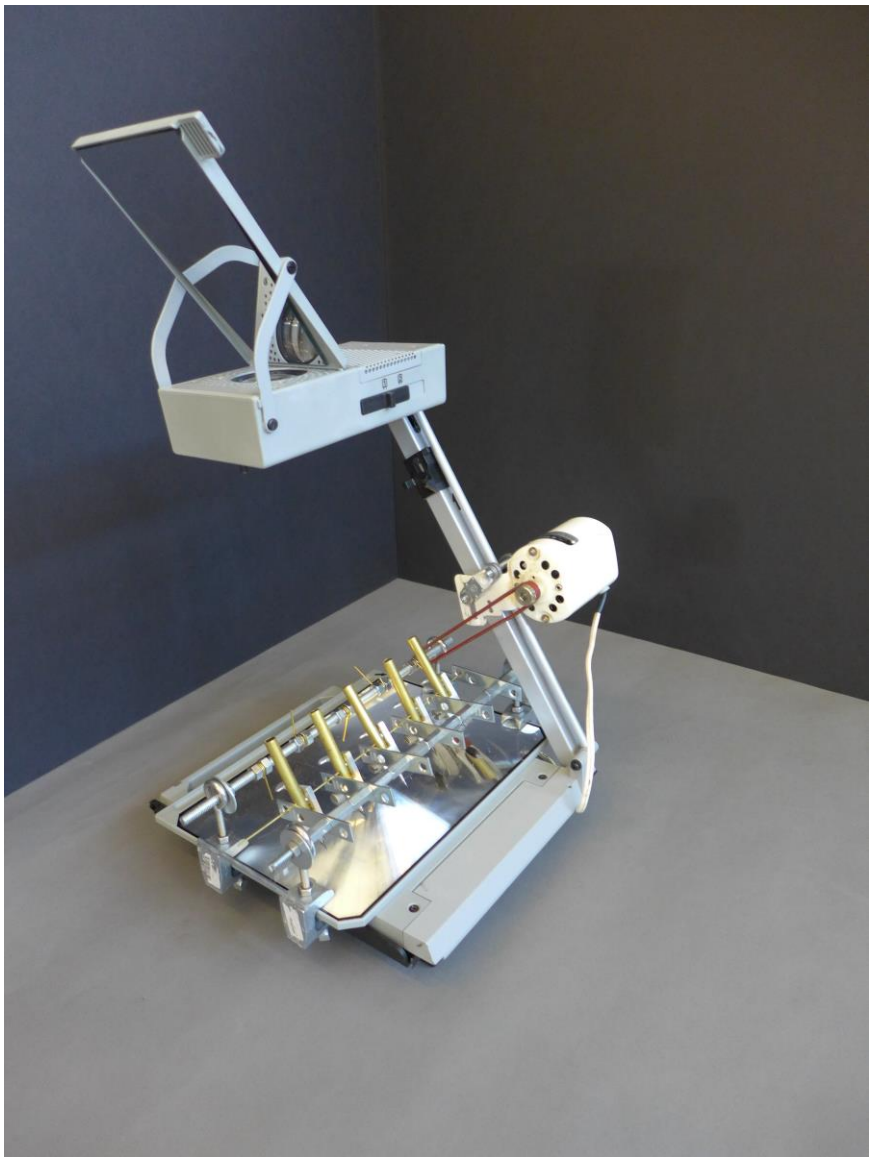


Figure 13

Figure 14

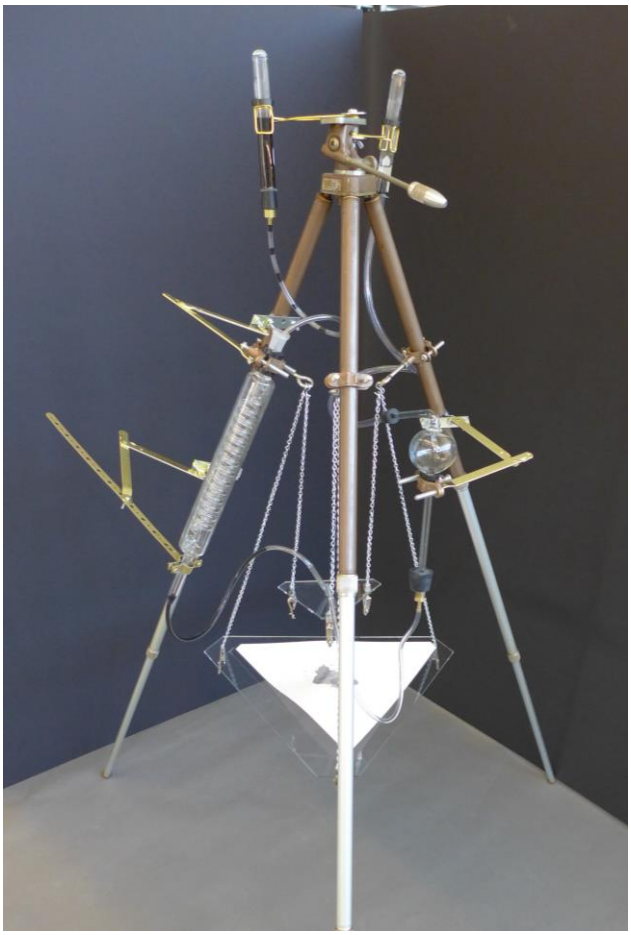


Figure 15

Figure 16

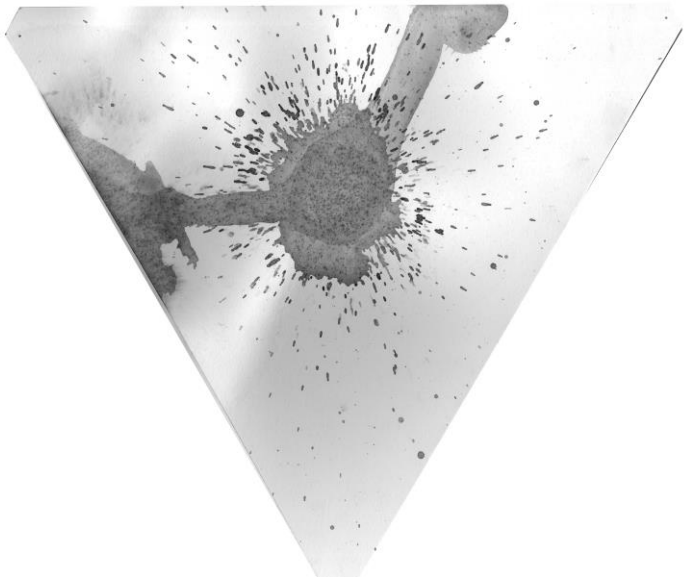


Figure 17

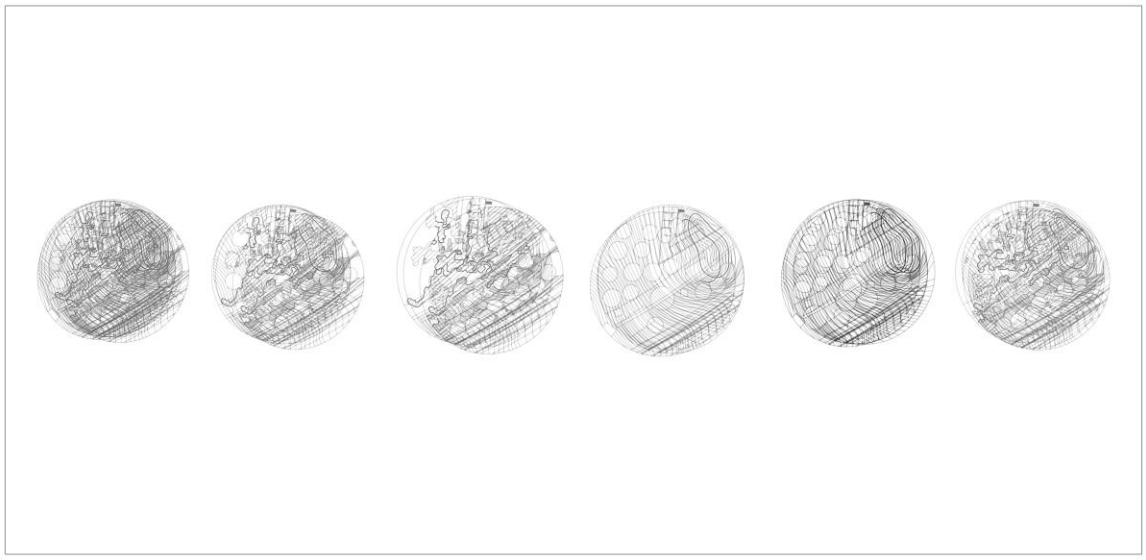


Figure 18

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