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Echoed Sites and the Unknowable Object

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Echoed Sites and the Unknowable Object

By
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A thesis presentation presented to the
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in partial fulfillment of the requirements for the degree of
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Introduction:

I'm a cross-disciplinary multimedia artist concerned with the complicated relationship between humans and geology, extraction, and the geologic history of site. I believe there is a fundamental connection between these, and a productive tension that puts them paradoxically in balance.

Through my sculptures, I reflect upon the intertwined relationship between geological forces and the built environment. By way of digital and analog processes, I draw connections between modern, rapid construction methods of extracting, gathering, and processing stone and the incredibly slow yet determined march of naturally occurring erosion. Expanding beyond traditional methods of making sculpture, I enthusiastically embrace emerging technologies, such as 3D printing, 3D modeling, and 3D scanning. These processes amplify my own understanding of geological sites, while the resulting work invites viewers to experience a sense of curiosity about the secrets of the geological world. Ultimately, I'm interested in the natural environment and the dynamic relationship between humans and geology, where the viewer is challenged to see an object as both an artifact and work of art.

My approach to investigating geology involves a conceptual space that capitalizes on digital technology while honoring the inherent nature of geological form, materiality, and time. I archive dozens of scans that I reconfigure, conglomerate, and manipulate. This commitment results in new forms that echo their original source while creating a new sensorial experience. I believe this echo is not a reiteration but an object or image reminiscent of the original. Through this echo, I bridge the gap between a geological site and sculpture, and what results, is what I have coined as *echoed sites*.

An *echoed site* is a structural space I have devised according to the logic of Rosalind Krauss' essay "Sculpture in the Expanded Field," published in the eight issue of October magazine (MIT Press, 1979). Here, Krauss discusses the history and evolution of sculpture between 2500 BC and the late 1970's. Her essay focuses on the postmodernist era and what came beforehand: modernism. Krauss directs our attention specifically to land or earthwork artists, many of whom pioneered the postmodernist movement, including Robert Smithson, Michael Heizer, Ana Mendieta, Walter De Maria, Dennis Oppenheim, & Nancy Holt. Land Art is a significant movement historically and personally, and many of the aforementioned land artists have informed the visual and conceptual language in my work. Within this movement, artists used natural materials as their medium as they investigated natural sites, uncommon modes of creating art, and ways to challenge the institutionalized gallery system. This led to monumental sculptures in deserts where these artists would create their own landscapes. Krauss calls the creations of land artists *marked sites*. *Marked sites* are when an artist creates with and without a landscape, or, as Krauss defines them, as both landscape and not-landscape.¹ She also defines sculpture as objects which are not-landscape and not-architecture.

In my work I focus on the connections between landscape, sculpture, and *marked sites*. *Echoed sites* are sculptures I create with and without a landscape. I mark sites by 3D scanning geological landscapes, and then emphasize the landscapes' original qualities through sculpture. These scans produce a digital model of the landscape that honors the inherent nature of its geological forms. In these *echoed sites*, I construct objects that connect to their place of origin, material composition, or geological process. This thesis will examine Land Art, digital technology, simulacra, architecture, the history of sculpture as introduced by Rosalind Krauss in

“Sculpture in the Expanded Field”, and the historical antecedents that have influenced my art practice.

During Prehistoric Times & Sculpture in the Expanded Field:



Fig. 1

During prehistoric times, there was a rise in monumental structures. Along with Rosalind Krauss, I feel that the timeline for sculpture begins with prehistoric monuments from our primordial times. They were the first representations of contemporary sculpture and captured the criteria we use to assess sculpture we view today. Looking back in history, ancient civilizations followed the ideals of sculpture but at that time they weren't seeing it as such. Monumental forms, such as Stonehenge (fig. 1), had other purposes that included spiritual, commemorative functions or sanctuaries that people praised and embellished. These initial examples continue to be reflected upon today. According to Krauss, one can't consider sculpture without considering the history of the monument. She gives further evidence that the logic of sculpture appears to be inextricably linked to the logic of the monument and that each era was influenced by the other.² Sculpture has evolved into something much more complicated that is difficult to describe because we can no longer exist in a time where there is a single set of criteria, where we judge sculpture. Rosalind Krauss' essay "Sculpture in the Expanded" Field helps clarify this obscurity.

Prehistoric monuments built by ancient civilizations such as Stonehenge (fig. 1), the Nazca lines, the Toltec ballcourts and North American mound building traditions where the first



Fig. 2

instances of both landscape and architecture, according to Krauss. These creations validated what potentially constituted sculpture at this point in time (2500 BC-500 BC) and set a precedent to what sculpture can potentially become.³ In my practice, I constantly reflect



Fig. 3

upon the history of their constructions and the processes that formed them. For example, *Three Parts of Delta*, 2019 (fig. 2) is the first sculpture I created that focuses on prehistoric shapes and monumental constructions while also considering a postmodern and contemporary understanding of negative space. This is where one works with the presence of absence. Michael Heizer's

Double Negative, 1969 (fig. 3) and Rachel Whiteread's *Untitled (Stairs)*, 2002 (fig. 4) are an example of this condition. In *Three Parts of Delta* I cut the trunk off a fallen tree and re-introduced the negative space of the tree as a monolithic structure. What I've produced is a visual paradox of two conjoined forms, that seem to be transmuting into one another. However, I show it as a homogenous form. Monoliths are solitary upright slabs of stone stones that were used as pillars or monuments in ancient times. Stonehenge, 2500 BC is an example of a



Fig. 4

collection of monoliths. This work relates with delta as a landform and a Greek symbol, which represents a change in something, in this case a tree.

Greek architecture (900 BC) and Roman architecture (509 BC) made an impact in our culture's views of designing and constructing sites and buildings. The Greeks focused on post-and-lintel architecture in their buildings. The Romans, on the other hand, emphasized circular shapes in their designs. They invented the first form of concrete which they employed in almost all of their buildings.⁴ The term "Roman concrete" refers to a mixture of volcanic ash, limestone, and rock fragments.⁵ In my work *Trace of Humanity; Concrete*, 2020 (fig. 5), a series of five discreet objects, I expose the historical origins of concrete and show a brick morphing incrementally into its original form, a rock.⁶ The materials used in this piece show a gradual compositional transition from modern-age concrete to roman concrete, which was widespread in



Fig. 5

Roman architecture. Each individual form emphasizes the connection between a brick and its geologic origins.

Similarly, in *Entropic Limestone*, 2022 (fig. 6), I consider the geologic history of stone while demonstrating its use as a building material. Limestone is formed over millions of years as a result of marine deposition, in which sediment is compacted by water pressure.⁷ As a result, these geological processes are analogous to machine processing. Limestone, is mined, broken down into sediment, and then heated to produce cement powder for concrete. In this monolithic sculpture I use gradients to make comparisons between sedimentation and the construction of concrete objects (fig. 6). I've added shells as fossils in the concrete, broken down at the center and becoming more whole as you gaze down. The conclusion⁸ at the base brings the sculpture back to its origin and ends as if the form is breaking



Fig. 6

down. The shape of this sculpture refers to the pedestal's use by the Romans and modernists, which I will discuss later in my thesis. In *Entropic Limestone I* demonstrate two opposing forces (humans & geology) coming into balance over a long period of time.

The Romans were among the first to utilize pedestals, which were an essential feature of their columns (fig. 7).⁹ These structures influenced the Baroque and Renaissance periods architecture (1500-1700), during which the pedestal was also quite important. Both Michelangelo and Bernini's statues of David (fig. 8) were presented on pedestals, and the physical and ceremonial state of those pedestals enhanced the viewer's interaction with the artwork. At this time, sculpture was frequently figurative and vertical, and the use of the pedestal aided in an evolution of sculpture moving away from monuments.¹⁰ The pedestal became a functional form that helped distinguish sculpture as important and it also helped elevate sculpture both physically and conceptually.

Artwork from the late 19th and early 20th century radically began to change the standard logic of sculpture, including the pedestal. According to Krauss,



Fig. 7



Fig. 8

it expanded from a monument to an art form and focused less on any kind of connection with a site. This transition away from the monument happened slowly. Artists such as Rodin and Brancusi are a marker of this shift.¹¹ Sculpture became autonomous, and sculptors felt comfortable to express themselves through their work.

Auguste Rodin's *Balzac*, 1892 (fig. 9), was intended to be a monument but it was never completed and instead became its own autonomous form. The manner in which *Balzac* was carved was diametrically opposed to how figures were normally shown, i.e.,



faithful representations of bodily proportions vs. stylized. The pedestal of the sculpture was affected by this stylized depiction because the lower part of the figure's body became one with the base, as if it consumed the pedestal. Krauss explains that this action causes a complete disconnection from the site, and the sculpture becomes autonomous. This action declares the monument now as pure base.¹² According to Krauss, the monument becomes abstract, and this transformation ushers sculpture into the modernist period. Constantin Brancusi exemplifies this, and he was a pivotal figure in establishing the autonomy of sculpture.

Brancusi's sculptures captured the essence of the subjects he dealt with, whether they were figurative, animal, or object-like, and his shapes were strongly simplified representations of subjects.¹³ *Endless Column*, 1918 (fig. 10), and *Adam and Eve*, 1938 (fig. 11), by Brancusi are

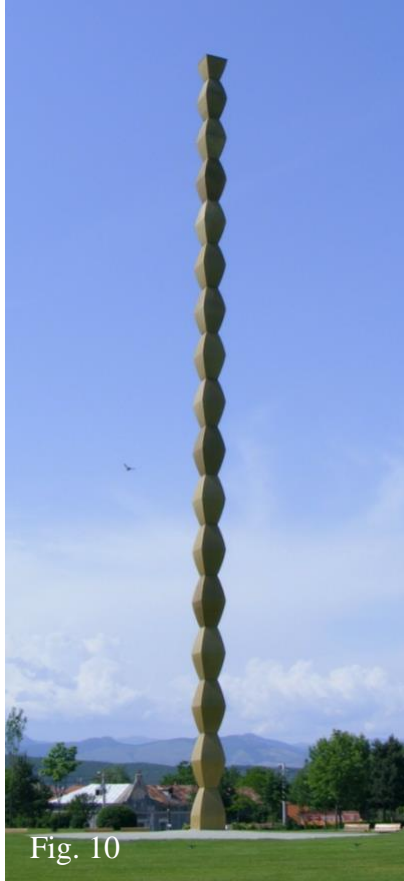


Fig. 10



Fig. 11

instances of such approach. These two sculptures display shapes that are conceptually and physically linked to the base. The pedestal is indeed the sculpture in *Adam and Eve*, that may be used as an example of sculpture being entirely autonomous and no longer needing to be put on a pedestal. Furthermore, in *Endless Column* (fig. 10), Brancusi considers the pedestal shape he frequently employs in his sculpture to be a sculpture in and of itself, and he builds the work to that idea. These works by Brancusi and Rodin made pedestal into a form integrated with the sculpture itself. That approach inspired me when I created monolithic forms in *Entropic Limestone* (fig. 6) and *Three Parts of Delta* (fig. 2).

Then came the 1960s, when sculpture became even harder to classify. According to Krauss, artwork moved away from the limits of the gallery into the landscape while retaining autonomy. Sculpture became intangible and absent of direct logic, and sculpture started to be

characterized by what it was not.¹⁴ *Green Gallery Installation*, 1964 (fig. 12), and *Untitled (Mirrored Boxes)*, 1965 (fig. 13), are two pieces by Robert Morris that Krauss questions. She brings up these works because the work in the *Green Gallery Installation* (fig. 13) provides objects that are both part of and not part of the space or what she calls architecture and not-architecture. Also, the mirrored boxes provide a reflection of the natural environment, giving it visual presence without actually being part of the landscape (landscape and not-landscape).¹⁵ I will address the notions of these two work in the next section.



Fig. 12



Fig. 13

What occurred during this minimalist shift, is sculpture became more primary and did not reflect any outside reality. In this case, Morris used a reflective object as tool to activate the structure within the surrounding environment. According to Krauss, at this time sculpture was defined by what it wasn't instead of by what it was. In keeping with this, Krauss concludes that sculpture is defined as not-landscape and not-architecture. This assertion is an important concept

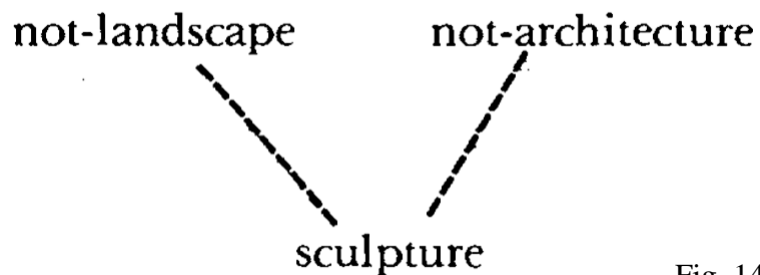


Fig. 14

in the evolution of postmodernism. *Balanced Rock Around & Below*, 2019 (fig. 15), is the first sculpture I made that begins to tackle Krauss' definition of sculpture and marks the beginning of the *echoed sites* in my art practice. Similar to Morris and Whiteread, I'm interested in creating

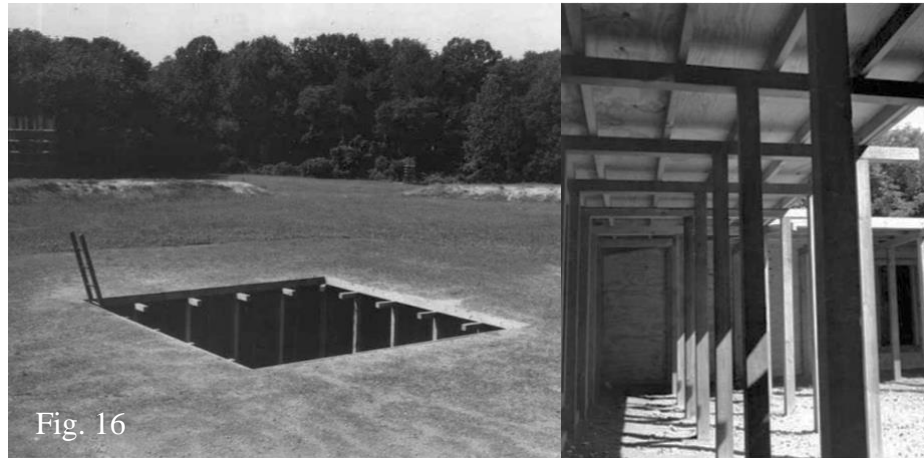


Fig. 15

physical objects with negative space, a feature that developed under the umbrella of postmodernism.

In 2018 I had the privilege of receiving funding to travel to Utah's Nationals Parks. I was able to study the geology and geography of Utah and purchase a 3D scanning program, which allows me to generate 3D models of rocks formations through photogrammetry. Experiencing the high elevations of Utah was a monumental moment for my art practice. Being able to bring all these rock formations back to my studio pushed my practice to new levels. *Balanced Rock Around & Below* (fig. 15), begins as a 3D scan generated through dozens of photos that were segmented and arranged in a grid. Then I expanded all the components of the grid outward from the center of the work, which created an inner negative space, an absence or void, which stretched into a three-dimensional grid. Grids are a system that humans are familiar with for bringing order to any image or situation.

In my sculpture and the assembled grid, the digital imprint of the geologic monument marks a specific location and echoes the minimalist aesthetic of engaging negative space. The logic of Morris's two works as described by Krauss' description of sculpture are comparable to *Balanced Rock Around and Below* (fig. 15). The grid is both a part of and not part of the original geologic form, thus the artwork has an architectural structure but is not considered architecture. (not-landscape and not-architecture) My work demonstrates the distinctions and links between landscape, architecture, sculpture, and postmodernism. Akin to both the postmodern and contemporary impulse to test the limits of architecture and sculpture, I question, through the lens of *Horror in Architecture* by Joshua Comaroff, whether there is a limit beyond which the amalgamation of effects that comes from combining sculptural forms are unknowable.¹⁶



Krauss' concept of sculpture is captured in the diagram below, in which structured oppositions are drawn between sculpture, Land art, and architecture. She describes the stark contrast between the natural and the built, as well as allusions to the absent presence by way of Mary Miss's work, *Perimeters/Pavilions/Decoys*, 1978 (fig. 16). Thus, Krauss creates the expanded field by exploding the definition of sculpture by dividing it into three other categories. These follow a similar logic while not resembling any conventional modernist definition. Krauss calls these three categories; *axiomatic structures*¹⁷, *site construction*¹⁸, and *marked sites* (which I will discuss later in this thesis).¹⁹

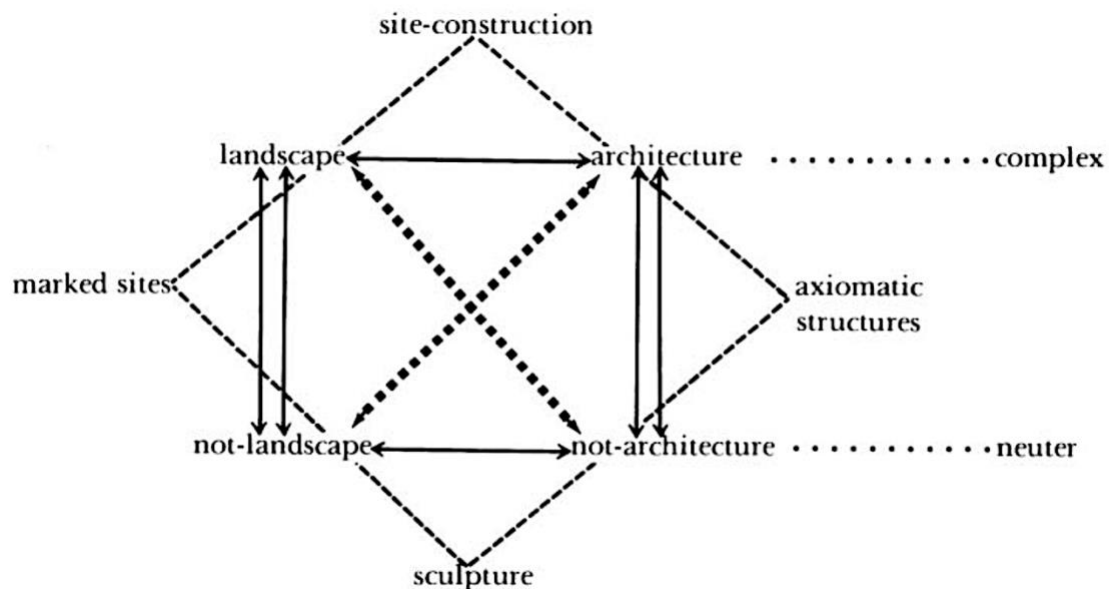


Fig. 17

Marked sites are both the landscape and not-landscape. Robert Smithson's *Spiral Jetty*, 1970, Dennis Oppenheim's *Branded Mountain and Branded Hillside*, 1978, Ana Mendieta's *Siluetas Series*, 1973-1986, and Maya Lin's *Wave Field*, 1995 are examples of marked sites.²⁰ The term "marked" is important to define because not only could physical manipulations of a site be considered as such, but also because impermanent marks that disappeared over time are related to the term.²¹ Mendieta's *Siluetas Series*, 1973 is an example of an ephemeral *marked site*.

In "Sculpture in the Expanded Field", Krauss creates the diagram above (fig. 17) that reveals when postmodernism occurs. It also details the logical operations that underlie sculpture as a field of infinite material and conceptual possibilities; one that isn't organized around the definition or perception of a medium but instead arranged around a set of terms and conditions.

Krauss States:

It follows, that within any one of the positions generated by the given logical space, many different mediums might be employed. It follows as well that any single artist might occupy, successively, any one of the positions. And it also seems the case that within the limited position of sculpture itself the organization and content of much of the strongest work will reflect the condition of the logical space.²²

I believe Krauss provides a catalyst for any artist working in any medium to find the strongest conditions in their work and find ways to define or create a logical structure through the idea of the expanded field. With an understanding of the history of sculpture, Krauss has guided me to create an addition to her diagram where there exists another structural space between *marked sites* and *sculpture*. I call these *echoed sites* (fig. 18).

I feel situated within the marked sites category. However, creating sculptures within the confines of a gallery, I also feel I produce work that directly marks the original site. Though my practice expands upon these notions by way of digital technology to interpret and revisualize geological sites, I also associate myself with land artists because of my intimate relationship with

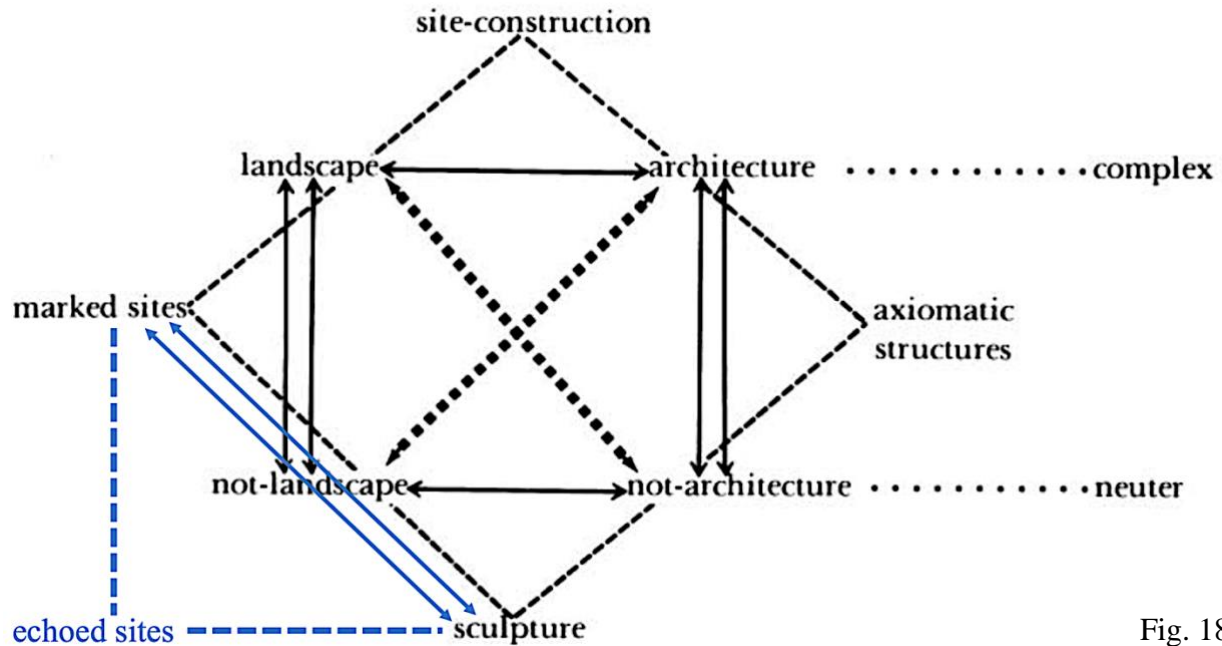


Fig. 18

geologic objects and the landscape. *Right Thinking, Right Doing*, 2019 (fig. 19) and *Right Speaking*, 2019 (fig. 20), are the first two artworks in my practice that mark a site and encapsulate the ideals of the *echoed site*.

In these two artworks, I use projections and sculpture to highlight the confluence of Brush Creek and Blue River in Kansas City, MO. In *Right Thinking, Right Doing* (fig. 19), I reveal a cluster of rocks butted up against a projection wall. I project an aerial shot of the confluence in the background of the work and a video recording of the rivers' water movements onto limestone in the foreground. By doing so, I am conveying the history and a re-valuation of this location, while understanding the geological processes of erosion that occur. *Right Speaking*, (fig. 20), consists of one digital fabricated rock, that sits in the middle of the installation. It is a hollow form that has been created using 3D scanning, 3D modeling, and 3D printing. However, from certain perspectives, the rock looks very solid and real. Then, by 3D scanning the terrain of the site, I created my own stream. This multi-component sculpture reveals a different type of

erosion and perception of the confluence area. With these two works, I emphasize their sites of origin while creating my own version of them. By Krauss' definition, these works reveal themselves as both *marked sites* and as *sculpture* (fig. 18).

Echoed sites are a space where I create sculpture with and without a natural environment. The term gives a logical structure to my art practice that helps me to define my practice. It should be noted that when thinking about the physicality of my free-standing sculptures, I reflect on the history of sculpture and also the history of the pedestal. Honoring the origin of a geologic material or site, I've devised a new structural space that echoes Krauss's essay and diagram, one that defines my use of digital technology in relation to the landscape.



Fig. 19



Echoed Sites & The Unknowable Object:

I achieve an *echoed site* through 3D scanning, 3D printing, 3D modeling, analog processes of manipulating stone, and making artificially fabricated objects look like stone. *Echoed sites* create objects that become an echo of their geologic history and/or physical characteristics. What I hope you experience when viewing my work is not a reiteration or representation but an object or image reminiscent of the original. When I transition from a 3D scan to a 3D print, I create direct formal replicas of geologic objects while adding my own digital geologic aesthetic to the work. This process connects to representation through one's own perspective. These digital tools provide the capability for more than just the representation of geologic objects. Rather, they function as an extension of the reality of those objects.

The logic behind *echoed sites* aligns with Jean Baudrillard's definition of simulacra. *Echoed sites* are another form of simulacra. I believe it's important to acknowledge this term before diving deeper into *echoed sites*. Simulacrum is defined as something that replaces reality with its representation.²³ It is something that has a likeness or similarity to an object, which it duplicates. In *Simulacra and Simulation* Baudrillard states that:

Simulation is no longer that of a territory, a referential being, or a substance. It is the generation by models of a real without origin or reality: a hyperreal.... It is no longer a question of imitation, nor duplication, nor even parody. It is a question of substituting the signs of the real for the real.²⁴

Baudrillard outlines the four stages of Simulacra as follows:

1. A true copy of something, where one believes it is the real thing.
2. An alteration of reality or an original that begins to obscure its original existence.
3. That which pretends to be its own reality, and which refers to a hidden original.
4. A simulation which appears authentic, in which the simulacrum has no relationship to any hidden original. (Hyperreal)²⁵

My work *25.1252° N, 80.4061° W & Topographic Map*, 2021 (fig. 21), is an example of a simulacrum. It consists of one discreet circular sculpture and a graphite drawing of the natural form. I've digitally fabricated this otherworldly object that is reminiscent of its original geologic form, an eroded coral stone in my own conjoined formation. Through the use of 3D scanning, 3D printing and a fabricated texture reminiscent of a naturally occurring geologic form, I consider the four stages of "Simulacra and Simulation" to create what appears to be an authentic original (something naturally occurring in the environment).



Fig. 21

Referencing Baudrillard's list, my process begins with Stage 1, which involves scanning multiple coral stones from Miami, FL, 3D printing them, and coating them in sand. In Stage 2; I conglomerate the 3D scans digitally into an unnatural circular shape, which emphasizes that it is a variant of the original. In Stage 3, the sculpture proposes its own internal logic and is an otherworldly representation of coral stones. The viewer might try to make sense of how this geologic object was formed and this thought only reinforces their belief that the object is naturally occurring. In Stage 4, *25.1252° N, 80.4061° W & Topographic Map*, I create an alternate reality that is obliquely related to the natural world. My decision to draw a topographic map of this geologic form deliberately enhances its truth value (fig. 21 & 22). This is in large part due to the veracity of topographic maps, which were historically produced to map the geomorphology of the natural terrain.

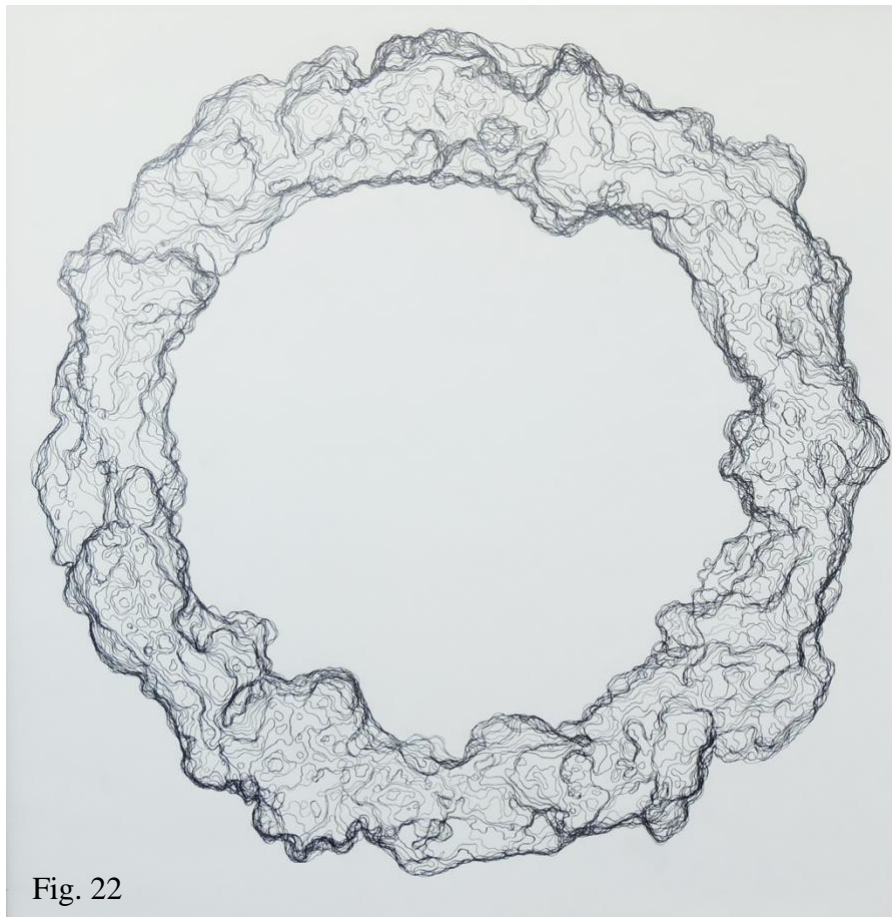




Fig. 23



Fig. 24

Namely, contemporary artist Chris Manzione creates objects that confuse the viewer into believing his creations are naturally formed. His work *Only as Beautiful as the Objects it Reflects*, 2016, (fig. 23 & 24) is a form of simulation similar to *25.1252° N, 80.4061° W & Topographic Map* (fig. 21). The simulation he creates is hard to identify as fake (with the exception that the log is mirrored). Manzione's object begins by 3D scanning a variety of natural structures, which he later 3D prints. In the digital software he adds a mirrored texture to the surface of the object (fig. 23). Manzione also scans the environment around each of the structures he scans and recreates, so he can create a 360° HDRI image of the site. He then places the spherical digital image of the environment around his sculpture, allowing the digital

environment to be reflected onto the surface of the object. He concludes the work by 3D printing the object in full color with some of the mirrored texture breaking through on the work's surface (fig. 24).²⁶ Thus, the viewer is able to witness the original texture of the natural form and the mirrored texture, which functions as a tool to access the objects original environment. In a way, *Only as Beautiful as the Objects it Reflects* (fig. 23 & 24) functions similarly to Morris's *Untitled (Mirrored Boxes)* (fig. 13). They are both sculptures that reflect their surrounding environment by way of a mirror.²⁷ Referring to Krauss's diagram, they are connected to a site but aren't directly part of any site. In this sense, they exist between worlds.

When thinking about Krauss's explanation of *marked* sites, both my coral stone sculpture and Manzione's reflective object investigate a natural environment but retain their status as sculpture. For that reason, they are simulacra and also a form of *echoed sites*. The topography and coordinates in the title of the coral stone sculpture associates the object with a location (Coral Reef State Park, FL). Similarly, the reflective mirrored texture of Manzione's work links it to the object's original environment. Although these aspects might help clarify that the works are both referential, they both nonetheless function as obscure objects. Whereas *Beautiful as the Objects it Reflects* (fig. 23) reinforces the object's handmade quality by way of intermittent mirrored surfaces, *25.1252° N, 80.4061° W & Topographic Map* (fig. 21) asserts an in-between state, whereby the viewer can never be sure whether or not the object's material form derives from nature. In other words, both of these works reference the uncanny as they are strangely familiar, yet impossible to fully understand. Similarly, Manzione describes this indeterminate state through his collaborative sculptures with Michael Rees, titled *Synthetic Cells*:

This new work examines layers of reality that both dissipate and reveal, shifting orientations that become incursions on our comfort while questioning the origin and presence of objects in our world of ubiquitous digital and network technologies.²⁸



Fig. 25

Both my coral stone sculpture and Manzione's reflective object exhibit elements that have been conglomerated by way of 3D modeling and 3D printing. I believe the conglomeration and/or repetition of forms are an important part of how uncanny objects are realized.



Fig. 26

An uncanny object is something that blurs the distinction between two states of being. For example, between the animate and the inanimate, natural and artificial, human and non-human, Meg Webster's *Volume for Lying Flat*, 2016



Fig. 27

(fig. 25), Robert Gober's *Untitled*, 1991 (fig. 26), and David Hammons' *Untitled (Rock Head)*, 1998 (fig. 27) suggest the phenomenon of the uncanny. Webster's human-sized bed, made of green moss evokes a sense of relaxation on this living material, while Gober's conveys an uncanny depiction of a realistic leg made of wax and human hair, protruding from a wall. In 1998, Hammons's attached human hair collected from black-owned barbershops onto stone, in order to display visual

tropes of black identity. Undoubtedly, all these works unsettle the viewers' relationship to their own bodies. I'm convinced that when Rodin made *Balzac*, 1897, onlookers felt a similar sense of the uncanny (fig. 9).

In all of these scenarios, including my coral stone sculpture and Manzione's reflective object, the uncanny follows criteria of conglomeration and infusion of forms. I'm interested in bringing together the natural and artificial, similar to *Volume for Lying Flat* (fig. 25). However, in my case, I am also revealing the complicated relationship between humans and geology. I suppose that by way of digital technology, the uncanny object becomes even more heightened and affective, resulting in what I describe in my practice as an *unknowable object*.

Unknowable objects are created mainly through 3D scanning and printing, integrated with traditional production processes. *Unknowable objects* fit in the realm of the uncanny. I use the notion of the uncanny and *unknowable object* as a way to describe *echoed sites*. The objects in these *echoed sites* lie on a demarcation line between fact and fiction challenging the limits of human understanding. In my series *The Unknowable Stones*, 2020-2021 (fig. 28 & 30) I embrace these divisions and make them into one object. I find stones that have weathered or eroded into multiple parts and



Fig. 28

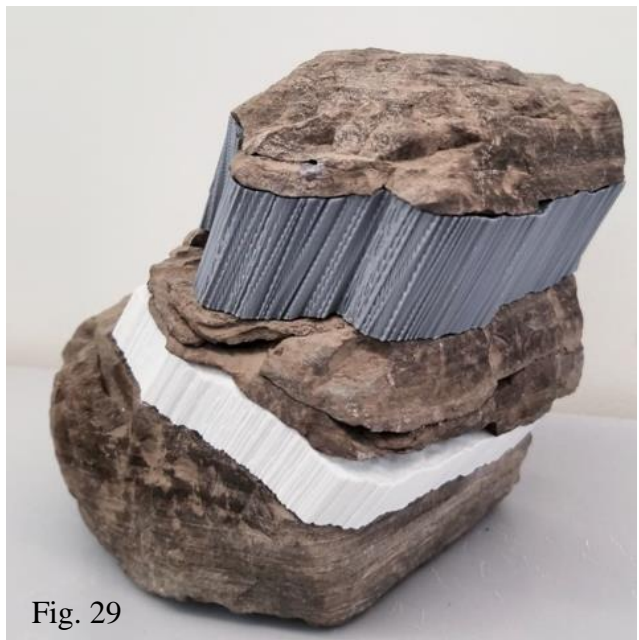


Fig. 29

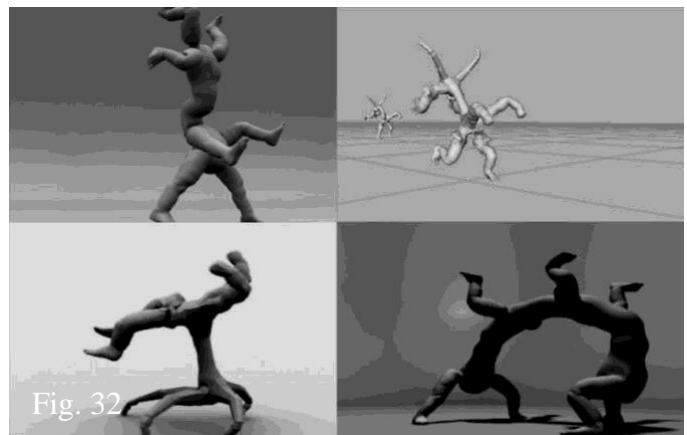
by adding material between each crack, I piece the stones back together. For example, in *Unknowable Stone 1*, 2020, I poured sand mixed with resin to fill in the gaps I created (fig. 27). On the other hand, *Unknowable Stone 2*, 2021, required a longer process (fig. 29). I 3D scanned each naturally occurring break in the stone to produce a digital model from which I created a 3-D printed layer (fig. 28), which was later cast in concrete. This newly exploded form could suggest the object's change of state, the conjoining of disparate parts, or filled and missing components of the form (fig. 29). Furthermore, *Balanced Rock Around and Below* (fig. 15), *Three Parts of Delta* (fig. 2), and *Entropic Limestone* (fig. 6), and Morris's *Green Gallery Installation*, (fig. 12) also propose the notion of an absence as a presence. With the exploded stone, the natural and the artificial components fit seamlessly together, just like the afro-hair texture and stone do in Hammons' *Untitled (Rock Head)*, 1998 (fig. 27). I believe what occurs is a visual paradox,



Fig. 30

where you can see the distinctions between the natural and artificial, yet it exists as a conjoined form.

Michael Rees, a pioneer of digital sculpture, whose work fits in the realm of the uncanny and the *unknowable object* inspires my practice. Rees's work is an example of the uncanny being achieved more thoroughly because he uses digital technology as his main process. In his work, he conglomerates body parts via 3D modeling and physically outputs them through 3D printing, and CNC milling. In addition, some of his works incorporate animation and augmented reality. In the case of *Putto8 2.2.2.2*, 2003 he takes baby legs, which references the Renaissance putti, and attaches them to a cylindrical form, suggestive of a human centipede



(fig. 31). What results is a grotesque, uncanny body that has no head.²⁹ When I saw the photo of the sculpture for the first time, I questioned where the beginning of the form was, because without a head, the creature could have no mind. Therefore, it's confusing gesture suggests that it functions autonomously and in all directions. Rees might have viewed it similarly since he produced an animation. In "A Diagram of Forces" the animation is described as:

[In] each pair of chubby legs seems to be under its own intelligence and must cooperate with the other parts in order to move along. As the creature flips over itself, the effect is more like a set of acrobats.³⁰

Rees's decision-making process related to *Putto*^{8 2.2.2.2}, fascinates me because he digitally created a strange anthropomorphic form that was physically output as a free-standing sculpture, but also output as an animation (fig. 31 & 32). Thus, it is both an animate and inanimate work, existing in the digital world as well as the physical world. In my practice, my sculptures always exist digitally before they are output physically. Similar to Rees's *Putto* sculpture, some exist as animations, whereby forms transmute into one another (fig. 33). *Eroded Limestone*, 2022 (fig. 34), is an instance of this, where two pre-selected objects metamorphosize, and exist as one form in the digital world; in this case, a rock turns into a pyramid mound (*Trace of Humanity; Concrete* (fig. 5) follows a similar narrative). In this work, I chose six increments in the animation, exported each increment, and 3D printed them. From there, I coated each 3D print in

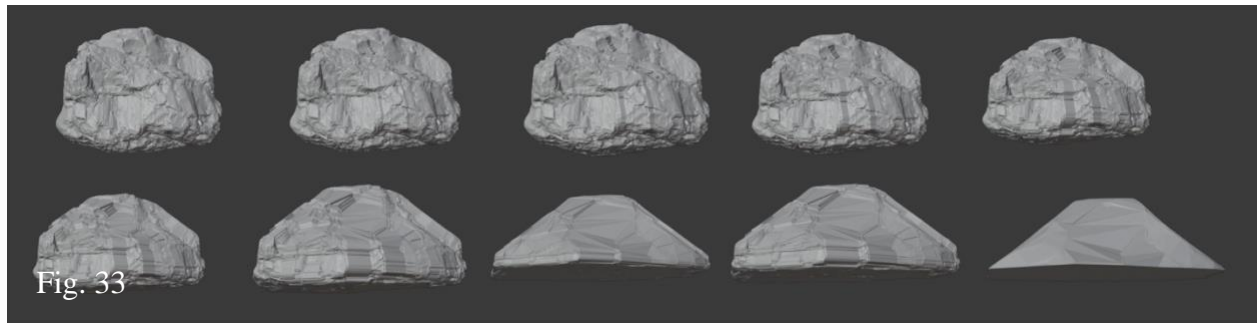




Fig. 35

crushed up limestone. There is a geologic and historical timeline that occurs, which can begin both ways. It shows a stone breaking down into a mass of sediment and connects to past of human construction.³¹ The final sculpture presents, what I describe as *digital weathering* (a digitally fabricated geologic process) and is a transmutation of two forms. It should be noted, that without digital technology, this sculpture, along with Manzione's and Rees' works, couldn't have been realized.

In continuation, my work *Digital Weathering*, 2021 is a prime example of a sculpture that would've have been difficult to create without 3D scanning and 3D printing (fig. 35). In this work I'm concerned with creating a simulated reality through the lens of a process, particularly of geologic descent (related to the scientific study of the origin, history, or structure of the earth). To illustrate this, I create what I describe as a digitally fabricated geologic process in which I frequently transmute one object into another. *Digital Weathering* consists of twenty three discrete objects made of biodegradable plastic (fig. 35). When 3D scanning an object, a very

minimal loss in detail occurs, but it isn't detrimental to sustaining the original form. In this work I've exaggerated this loss in detail through four steps:

1. 3D-scan a rock
2. 3D-print the 3D scan
3. 3D-scan the 3D printed rock
4. Repeat process beginning at step 2
till there are 23 3D printed rocks

What happens through this process is the original rock form becomes less detailed as it is continuously scanned and printed (fig. 36 & fig. 37). In

comparison, as soon as a real rock is exposed to wind or water for long periods of time, it can start breaking down through the process of weathering.

There are two main types of weathering: mechanical weathering, where physical forces from the terrain break down the rock, and chemical weathering, where the rock disintegrates or smooths out because it comes into contact with water. *Digital Weathering*

presents this process by way of digital technology (fig. 35). I've created a digital geologic timeline that displays the stages of the weathering process. In part, I've allowed the viewer to experience a geologic process that would be impossible to see in real time because it happens so slowly. Thus, this process offers something familiar to the viewer but also something strange,



Fig. 36



Fig. 37



Fig. 38

because the work is digitally fabricated. In my mind, the formal qualities of these objects can't be unseen without thinking of their visual relationship to *Putto8 2.2.2.2* (fig. 38). Without thinking of the animation, the visual language of both works gives me a similar feeling. Perhaps it's because of the similar matte grey tone but most likely, it's because of the visual textures that occur. The detail of the original rock, replete with surface detail is comparable to the putti legs and the softness of the torso is comparable to the smoothest rock.

Within the history of sculpture, we've reached a point in that timeline and in our current day where digital fabrication is key. Artists are able to achieve a myriad of unexpected outcomes, such as *Trace of Humanity; Concrete* (fig.5) and *Digital Weathering* (fig. 35) and *Putto8 2.2.2.2* (fig. 31). In alignment with this thinking, Michael Rees believes through digital modeling artists are able to visualize complex structures within structures because one is not limited by the material properties of an object.³² In the case of my work *Extruded Limestone Quarry* (Jefferson Barracks, MO), 2019, I'm able to visualize the negative space of a geologic site, that wouldn't be possible to see in reality (fig. 39).³³ The 3D scan program allows me to turn



Fig. 39



Fig. 40

and flip the site around and view the negative space as a positive space. By doing this, what was once viewed as a subtractive process of excavation, is now viewed as an additive process; an extruded form (fig. 40 & 39).³⁴

I want the viewer to feel a sense of awe and beauty, while also realize it's a terrible beauty, a magnificent yet haunting image. These limestone rocks which have taken millions of years to form, are being excavated at a rapid rate, a rate that goes against their inherent logic. This form will become higher and continuously be extruded, and I wonder at what point will this excavation stop. My work informs the viewer of the horror that humans have normalized. By way of digital technology, I'm able to visualize this complicated structure and manipulate without interfering with the original site and form. Whether I'm editing a 3D scan of a coffee mug or large geologic formations, within the digital world the limits of scale and materiality don't exist. As Michael Heizer once said:

Size is real. Scale is imagined size.³⁵

With 3-D modeling software, only the imagined size of an object exists. The modeler picks and chooses their preferences. From a 3D scan to 3D modeling, I'm able to manipulate the form of a pinecone in the same way as the form of a skyscraper. In other words, it's more accessible to manipulate form and visualize things that were once only imaginary. Rees describes this ability in 3D modeling through a fascinating lens, similar to how I'm visualizing the transmutation of two forms in my animations and sculpture. Rees states:

I can't put a tomato inside of a rock and see them both, I can only imagine it. In CAD, the tomato is the rock.³⁶

Comparably, in *Eroded Limestone* (fig. 34), with the transmuting of a rock to a pyramid mound, I see them as one and the same, both physically and conceptually connected. A pyramid is a descendant of a rock, and a rock is machine processed to form a pyramid or sand. In *echoed sites* by way of digital technology, I'm able to create visual paradoxes between geological and



Fig. 41

artificial structures. At the outset, the work suggests a visual illustration of naturally occurring geological processes. However, as in the case of my work *Trace of Humanity: Plastiglomerate*, 2021 (fig. 41),³⁷ which reveals the transformation of a water bottle into a plastic rock, the work paradoxically leaves us with more questions than answers. Therein lies the underlying tension and strength of my work.

Through this paradox, I question the future of our natural environment and in what state it will exist. This recalls Dennis Leon's *Untitled*, 1992-93, where he reconstructed geological formations out of wood on site and then integrated them into the landscape (fig. 42). His work predicts the future of geological formations, where they only exist as artificial constructions. In tangent, Erika Blumenfeld's *Astromaterials 3D*, 2020 where she

scans extraterrestrial rocks in collaboration with NASA and makes them visible to the public via the internet, reiterates a similar concern (fig. 43). These works reinforce the original, which only exists by way of the simulacrum and digital technology. I wonder, in the future, if there will be a deeper understanding of geologic materials or if all that exists become *echoed sites*.



Fig. 42

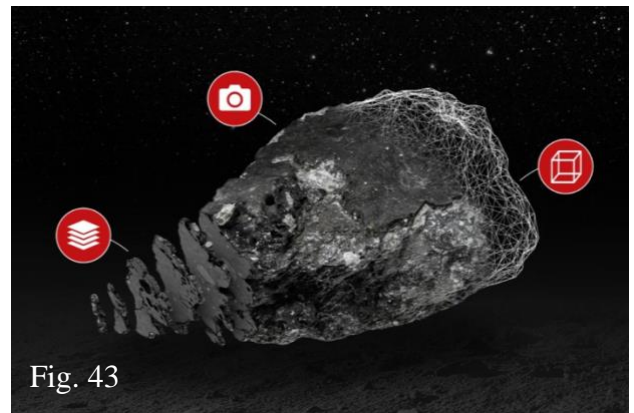


Fig. 43



Fig. 44

Conclusion:

Without a doubt, there is an inherent connection between simulacra and *echoed sites*. I am indeed replacing naturally occurring forms with something almost identical to the original. However, it's not with the intention of representation but with the idea of creating another version of the object's reality. What results, as part of *echoed sites*, is an uncanny object that's difficult to understand. I call this an *Unknowable object*. I am able to realize this state by way of digital technology, analog processes, and a broad array of materials that are associated with the geologic site or object. All of these in combination reinforce the dual reality of geological processes and the machine processing of stone. In other words, I see those mechanical crushers breaking down stone as a simulation of stone naturally eroding, but at a faster rate (*Extruded Limestone Quarry* (fig. 39) is an example where this is emphasized). My practice doesn't glorify excavation processes, rather, is a critique of it. Extraction is a timely and relevant topic for artists today as we enter the age of the Anthropocene. My work aligns with a larger international community of artists and cultural producers who share my concern for our deleterious impact on the environment.

Ultimately, I critique this standard we've created, where we extract material without understanding geologic processes that occurred over the course of a million years. I believe there is a disconnect between the mining of materials and what is produced, and the damage to the natural environment that occurs from the process of extraction. My goal is to create a visual language where you see and understand more deeply the origin of geologic materials and what occurs in the process of their extraction. So next time one sees a concrete slab or granite countertop, one may wonder about its geologic origin. *Entropic Limestone* exemplifies

this because tangentially, the work connects the viewer to the origin of the materials in contrast their present state (fig. 6).

Through *echoed sites* and the *unknowable object*, I give life to this geology and foreshadow a future of mainly constructed forms and digitally fabricated geologic formations. What will exist in our future will be a simulacrum of the natural world, replete with artificial representations of naturally occurring geological artifacts, transmuted rocks, and amalgamations of stone and plastic.



Fig. 44

Notes

¹ Krauss, Rosalind, "Sculpture in the Expanded Field," *October* 8 (1979): <https://doi.org/10.2307/778224>, 38.

² Ibid, 33.

³ Ibid.

⁴ "Pedestal," Encyclopedia Britannica (Encyclopedia Britannica, inc.), accessed March 1, 2022, <https://www.britannica.com/technology/pedestal>.

⁵ Alexandra Witze, "Rare Mineral Is the Key to Long-Lasting Ancient Concrete," Nature News (Nature Publishing Group, July 3, 2017), <https://www.nature.com/articles/nature.2017.22231>.

⁶ In this work I choose 5 increments in a digital transmutation, export each increment, and 3D printed them. From there, I made a rubber mold of each 3D print and cast them 2 different types of concrete as a gradient.

⁷ As organisms die in the ocean, their shells and bones are broken down by waves and that settles at the bottom of the seafloor. The shells are turned into calcite and the sedimentation of calcite makes limestone.

⁸ This powder at the base is the processed heated limestone (hydrated lime). Which was used by Romans to make Roman concrete.

⁹ "Pedestal," Encyclopedia Britannica (Encyclopedia Britannica, inc.), accessed March 1, 2022, <https://www.britannica.com/technology/pedestal>.

¹⁰ Krauss, Rosalind, "Sculpture in the Expanded Field," *October* 8 (1979): <https://doi.org/10.2307/778224>, 33.

¹¹ Krauss, Rosalind, "Sculpture in the Expanded Field," *October* 8 (1979): <https://doi.org/10.2307/778224>, 34.

¹² Ibid.

¹³ "Constantin Brâncuși Sculptures, Bio, Ideas," The Art Story, accessed April 11, 2022, <https://www.theartstory.org/artist/brancusi-constantin/>.

¹⁴ Krauss, Rosalind, "Sculpture in the Expanded Field," *October* 8 (1979): <https://doi.org/10.2307/778224>, 34.

¹⁵ Ibid, 36.

¹⁶ Joshua Comaroff and Ker-Shing Ong, *Horror in Architecture* (Novato, CA: ORO editions, 2018). Book Synopsis: “This book looks at the idea of horror and its analogues in architecture. In these, normal compositions become strange: extra limbs appear, holes open where they should not, individual objects are doubled or split or perversely occupied. Horrifying buildings re-imagine the possibilities of architectural language, shifting from “natural” norms to other, more rarified, and exciting options. They define an expanded aesthetic field that marries the beautiful to the distorted, the awkward, the manifold, and the indeterminate.”

¹⁷ *Axiomatic structures* are architecture and not-architecture, and deal with the abstract conceptions between openness and closure. Serra’s *Torqued Ellipse I*, 1996, Nauman’s *Stadium Piece*, 1979-80, and Sol LeWitt’s *One, Two, Three*, 1979, are examples of axiomatic structures.

¹⁸ *Site construction* is both the landscape and architecture. Nancy Holt’s *Up and Under*, 1998 and *Sun Tunnels*, 1973, as well as Michael Heizer’s *Complex One*, 1972, and Robert Morris’s *Observatory*, 1970 are examples of *site constructions*.

¹⁹ Ibid.

²⁰ Ana Mendieta’s *Siluetas Series*, 1973, and Maya Lin’s *Wave Field*, 1995 are not mentioned in “Sculpture in the Expanded Field,” however, they are artists I draw importance to, because historically, land art was predominately masculine. In the case of Ana Mendieta, she was a pioneer of the movement, and hasn’t received as much recognition like her male counterparts have.

²¹ Ibid, 41.

²² Krauss, Rosalind, “Sculpture in the Expanded Field,” *October* 8 (1979): <https://doi.org/10.2307/778224>, 43.

²³ Introduction to Jean Baudrillard, module on Simulacra and simulation, accessed April 17, 2022, <http://www.purdue.edu/guidetotheory/postmodernism/modules/ baudrillardsimulation.html>.

²⁴ Jean Baudrillard, *Simulacra and Simulation*, translated by Sheila Faria Glaser (Ann Arbor: The University of Michigan Press, 2020), 1-2.

²⁵ Jean Baudrillard, *Simulacra and Simulation*, translated by Sheila Faria Glaser (Ann Arbor: The University of Michigan Press, 2020), 6-12.
“Simulacra and Simulation,” Wikipedia (Wikimedia Foundation, April 1, 2022), https://en.wikipedia.org/wiki/Simulacra_and_Simulation.

²⁶ “Only as Beautiful as the Objects It Reflects,” Christopher Manzione, April 14, 2018, <http://www.christophermanzione.com/portfolio/sculpture/only-as-beautiful-as-the-objects-it-reflects-2/>.

²⁷ Likewise, my work *Right Thinking, Right Doing*, 2019 reflects the original environment (the Brush Creek and Blue River Confluence), however its by way of two projectors.

²⁸ Added on and Michael Rees., “2018 Synthetic Cells: Site and Para(Site),” ad hoc, October 28, 2018, <https://michaelrees.org/2018-synthetic-cells-site-and-parasite>.

²⁹ Fifield, George, "Michael Rees, A Diagram of Forces", vol. 23, no. 7 cover story, *Sculpture Magazine*, September. 2004, 35.

³⁰ Ibid.

³¹ Limestone is one the main materials humans use to excavate, to build concrete objects. I consider it as one of the original materials used for building because it dates back to the Egyptians, who made the Pyramids of Giza out of limestone. Considering all this, you’ll notice Limestone is a focus in this thesis. This is one of many materials, that can incorporate all the processes discussed.

³² Ibid, 38.

³³ In *Extruded Limestone Quarry (Jefferson Barracks St. Louis, MO)*, I went to a limestone quarry in St. Louis, Jefferson barracks and generated a 3D scan by taking photos with a drone and processing that data with photogrammetry.

³⁴ In 3D printing, plastic filament is extruded layer by layer to produce a digitally fabricated form. The use of the word extruded refers to this digital process.

³⁵ Michael Heizer et al., *Michael Heizer: Sculpture in Reverse* (Paris, France: Éditions Lutanie, 2014), 10.

³⁶ Ibid.

³⁷ In Hawaii’s Kamilla Beach, known as one of the dirtiest beaches in the world, plastic trash washed up from the ocean is being melted and mixed in with sediment and basaltic lava fragments producing a new type of rock material known as “Plastiglomerate” (Proposed by geologist Patricia Corcoran, oceanographer Charles J. Moore, and artist Kelly Jazvac). Plastiglomerate is a material of both human and geological processes and has been considered a marker of the Anthropocene. We are living in an age where single-use plastic is becoming part of our geologic record. It isn’t just water pollution occurring, but this plastic is becoming part of our natural terrain. *Trace of Humanity; Plastiglomerate* raises awareness of this issue. Gunseli Yalcinkaya |21 April 2019, “Kelly Jazvac Presents ‘Beautiful and Horrific’ Plastiglomerate Objects at Milan Triennale,” *Dezeen*, April 29, 2021, <https://www.dezeen.com/2019/04/21/kelly-jazvac-plastiglomerate-milan-triennale/>.

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Joseph Canizales, *Entropic Limestone*, 2021, limestone, seashells, 5.2 x 1.6 x 1.1 in. Courtesy of the artist

Bibliography

- Krauss, Rosalind. "Sculpture in the Expanded Field." *October* 8 (1979): 30.
<https://doi.org/10.2307/778224>.
- "Pedestal." Encyclopædia Britannica. Encyclopædia Britannica, inc. Accessed March 1, 2022.
<https://www.britannica.com/technology/pedestal>.
- Witze, Alexandra. "Rare Mineral Is the Key to Long-Lasting Ancient Concrete." *Nature News*.
Nature Publishing Group, July 3, 2017.
<https://www.nature.com/articles/nature.2017.22231>.
- "Constantin Brâncuși Sculptures, Bio, Ideas." *The Art Story*. Accessed April 11, 2022.
<https://www.theartstory.org/artist/brancusi-constantin/>.
- Comaroff, Joshua, and Ong Ker-Shing. *Horror in Architecture*. s.l.: ORO, 2013.
- Introduction to Jean Baudrillard, module on Simulacra and simulation. Accessed April 17, 2022.
<http://www.purdue.edu/guidetotheory/postmodernism/modules/ baudrillardsimulation.html>.
- Baudrillard, Jean. 1994. *Simulacra and Simulation*. Translated by Sheila Glaser. *The Body in Theory: Histories of Cultural Materialism*. Ann Arbor, MI: University of Michigan Press.
- "Simulacra and Simulation." Wikipedia. Wikimedia Foundation, April 22, 2022.
https://en.wikipedia.org/wiki/Simulacra_and_Simulation.
- "Only as Beautiful as the Objects It Reflects." Christopher Manzione, April 14, 2018.
<http://www.christophermanzione.com/portfolio/sculpture/only-as-beautiful-as-the-objects-it-reflects-2/>.
- Rees, Michael. "2018 Synthetic Cells: Site and Para(Site)." *ad hoc*, October 28, 2018.
<https://michaelrees.org/2018-synthetic-cells-site-and-parasite>.
- Rees, Michael. "Converge: Ghraib Bag 2008." *ad hoc*, November 6, 2013.
<https://michaelrees.org/new-blog>.
- Fifield, George, "Michael Rees, A Diagram of Forces", vol. 23, no. 7 cover story, *Sculpture Magazine*, September. 2004.
- Heizer, Michael, Julia Brown Turrell, Raphaëlle Brin, and Manon Lutanie. *Michael Heizer: Sculpture in Reverse*. Paris, France: Éditions Lutanie, 2014.
- "Pedestal." Encyclopædia Britannica. Encyclopædia Britannica, inc. Accessed March 1, 2022.
<https://www.britannica.com/technology/pedestal>.

Gunseli Yalcinkaya | 21 April 2019 | Leave a comment. “Kelly Jazvac Presents ‘Beautiful and Horrific’ Plastiglomerate Objects at Milan Triennale.” Dezeen, April 29, 2021. <https://www.dezeen.com/2019/04/21/kelly-jazvac-plastiglomerate-milan-triennale/>.

“NASA Astromaterials 3D.” Erika Blumenfeld, January 17, 2021. <https://erikablumenfeld.com/works/nasa-astromaterials-3d/>.

“Astromaterials 3D.” NASA. NASA. Accessed April 25, 2022. <https://ares.jsc.nasa.gov/astromaterials3d/>.

“Dennis Leon.” Oliver Ranch Foundation. Accessed April 26, 2022. <https://oliverranchfoundation.org/artists/dennis-leon/>.

Gober, Robert. “Robert Gober: Untitled.” Robert Gober | Untitled | Whitney Museum of American Art. Accessed April 20, 2022. <https://whitney.org/collection/works/7987>.

“David Hammons.” Hair is For Pulling. Accessed April 26, 2022. <https://hairisforpulling.blogspot.com/2016/07/david-hammons.html>.

“An Untitled Installation Conceived by Robert Gober.” Aspen Art Museum. Accessed April 25, 2022. <https://www.aspenartmuseum.org/exhibitions/130-an-untitled-installation-conceived-by-robert-gober>.

“Meg Webster.” Paula Cooper Gallery. Accessed April 25, 2022. <https://www.paulacoopergallery.com/exhibitions/meg-webster#tab:slideshow;tab-1:thumbnails>.

Alyn Griffiths | 16 October 2013 | 2 comments. “Out of Hand: Materializing the Postdigital Exhibition at Mad.” Dezeen, May 7, 2015. <https://www.dezeen.com/2013/10/16/out-of-hand-materializing-the-postdigital-at-mad/>.

“Out of Hand: Materializing the Postdigital.” header-logo. Accessed April 17, 2022. <https://madmuseum.org/exhibition/out-hand>.