

PRODUCTIONS

A person is walking through a dense field of bright, white, fiber-optic-like lines that create a complex, web-like pattern against a dark background. The lines are of varying lengths and directions, creating a sense of depth and movement. The person is seen from behind, walking away from the viewer into the field of light.

By: Xie Maggie Hill

Art from the Digital Art Museum: teamLab Borderless. Photo courtesy of teamLab.

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What is Productions?

PRODUCTIONS, like the projects and effects that inspire it, is often fuzzy, exploring, conceiving, and investigating contemporary methods and manifestations of effects in built and natural environments.

- How might such considerations impact our how we think about and design environments for people given today's (and the future's) social, environmental and health concerns?
- How do we think about narrative in relation to the virtual and the real today?
- How does the notion of visualization and augmentation affect our engagement with the physical world?
- Can we tell the story of effects and affects?
- How might we rethink (interior) design in this context, as one of developing subjective fictions, objective facts and ultimately some form of truth about the world we inhabit?

Productions can be understood:

1. as constructed artificialities
2. a range of ephemeral and subjective effects that extend beyond and through the objects, surfaces and materials that generate them.
3. immersive, environmental qualities and are para-theatrical / para-cinematic.

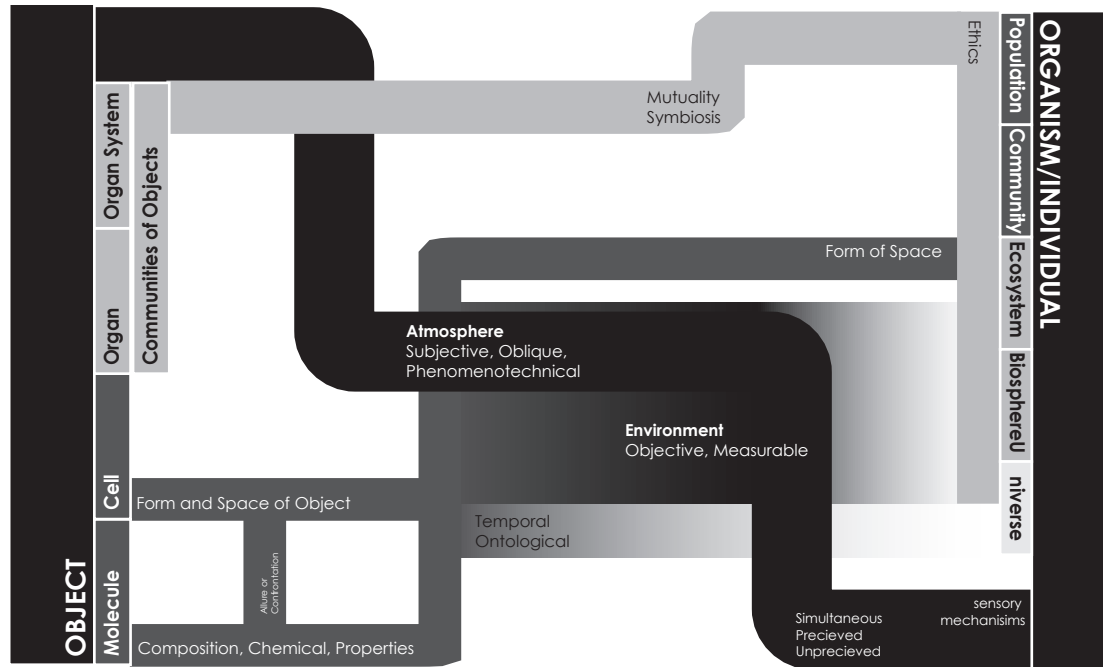


'Feelings Are Facts' by Olafur Eliasson. 2010

Class 01// 2020-08-28

Syllabus

A Constructed “Ecology” of Productions



Class 01// 2020-08-28

Diagram Mashup: Ecology Diagram + Odom's Atmosphere
Environment Diagram

Reading: Confounding Mediums

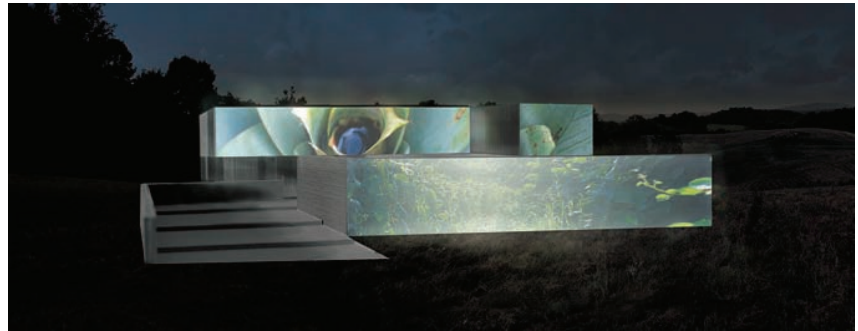
Contemporary contradictions: characterizes both the external environment in which architecture is produced and the internal logic of architectural thought itself. (22)

Architecture is an accomplice: increasingly feeling its disciplinary boundaries pressing up to and being superimposed. (22-23)

Kissable Architecture: Kissing stands for a theory of confounding mediums. (26)

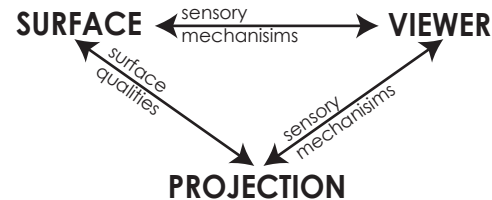
- Space is hard to get a hold of, how do we define these perceived grasps?...Surface. Surfaces turning into something else and becomes vulnerable and full of potential. (26)
- Kissing opens architecture to a means of expression founded in the touching of (at least) two surfaces, surfaces that in their twoness highlight either material or epistemological difference. (30)

Projections: The very presence of the images also distorts the perception of the building's exterior: these huge faces that aspire to the scale of an architectural facade impede the building's capacity to achieve facility. (46)



Doug Aitken, Lighthouse, 2012. Dutchess County Residence

“The viewer cannot choose to see only the material of a building surface or the image as in a gestalt figure/ground, but must see both simultaneously.” (47). How do you make surfaces to support this interaction. Does the surface always have to be flat, static, or minimalistic? What is the relationship between the surface, the viewer, and the projection?



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“Kissing Architecture: Confounding Mediums” Sylvia Lavin

Reading: Softspace

Nested capacities, gradient thresholds and modulated environments: What cannot be easily reproduced is the perception or experience of the environment that is always transient... Unique. (39)

- The surface as fluid and contingent rather than fixed and constituent.

Perceptual environments- those that determine what we feel hear and see, are all thermodynamic in that they are fundamentally about the motion of energy. (40)

- Simultaneity does not require the movement of the forms - kinetic architecture is still represented by a sequence of multiples. It does require, however, a shift in the frame of reference. (45)
- Even a tiny shift in the spectral distribution of light entering from the periphery of the eye rather than the center can completely reset the body's circadian rhythm. (46)

It is difficult for us to design what we can't see in order to determine what we do see, or to design for a tactility that is completely disconnected from an object. **What would we make, as architects, if we could design for subjective experience?** (47)

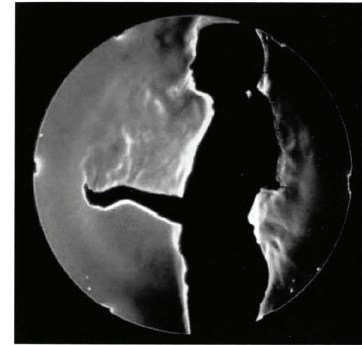
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"The Phenomena of the NonVisual" Michelle Addington

The actual sequence from objective phenomena to subjective perception can be understood as four distinct areas of knowledge, with two of these as operative:

1. Physical Phenomena - laws of heat transfer, mass transfer, electromagnetic radiation
2. Inducement of Phenomenological Behaviors - selective technological or environmental manipulation
3. Human Physiology - thermo-regulation, neurobiology
4. Human Perception - receptor fields (zero crossing), somatic sensations

How do we access or better understand how to design for subjectivity. How does time intersect with subjectivity and perception? Is there even an ideal moment in a space when all the elements have simultaneous synergy? How long does it last?



A.S. Schlieren image of the thermal boundary layer surrounding a girl

Schlieren image of the thermal boundary surrounding a girl

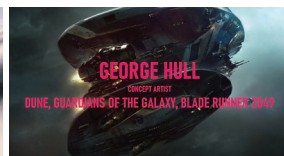
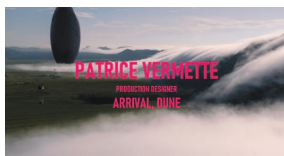
Reading: Remote Worlds

Liam Young: film director and speculative architect

“We often design fictions as a way of coming to terms with conditions that reality struggles to grasp. In films, games, and television, we’ve always imagined alternative worlds as a means of understanding our own world in new ways. So as our lives are clapping around us, we listen to stories of broken futures, and also narratives of possible escapes”

“In many ways 2020 is the year without outside, the year without places, without crowds, without the public. It’s the year without end.”

“and across the next two hours of ‘Other Worlds’ the tech billionaires Elon Musk and Jeff Bezos will each make or perhaps steal 20 billion dollars. Their net wealth is not being purposed to solve world hunger, or deliver their workers from the poverty line, but rather to divert our gaze to the dreams of extra planetary escape. So as Musk launches his mission to mars, and Trump announces the formation of the Space Force, the world is looking up again. And as the cities we inhabit begin to resemble a live action dystopia film, in many ways it’s easier to dream of escaping to distant planets, than it is to imagine how we might fix our everyday apocalypse.”



Class 01// 2020-08-28

‘other worlds’ symposium day 2 Liam Young interview with Patrice Vermette

Reading: Remote Worlds

PATRICE VERMETTE — Oscar-nominated production designer that has worked on Denis Villeneuve's *Arrival* and the forthcoming science fiction fantasy *Dune*

Arrival: There are central pillars of science fiction that have become comfortable and familiar to the audience. How did he overcome the dense history and tropes?

Shape of the ship: They thought about a skipping stone across the universe. They also put it vertically in terms of creating a sub story and a play of equilibrium. They asked a lot of questions.

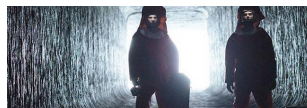
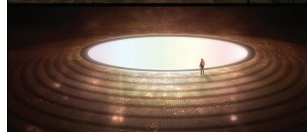
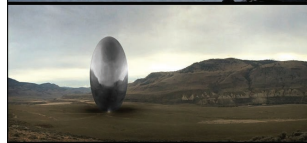
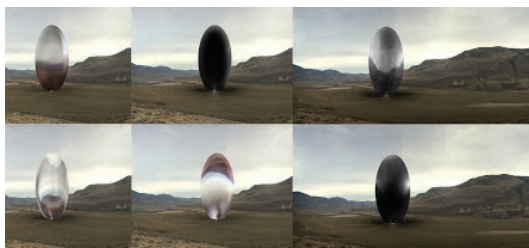
- What if the ship never lands? The aliens make this journey but stop 30 ft before meeting us. So it is up to us to now make the extra effort.
- The poetic idea of a leap of faith. How do we access such a ship? Would actually people do?
- What is the nature of humans? What would we actually have access to? People would not use specially designed facilities or props.

Colonialism and Power: There is no imprint of the alien presence. They leave us with ourselves. The leap of faith of humanity. Texture of the ship was like a sedimentary rock (layers of knowledge of this civilization).

In the other worldly we see ourselves reflected so clearly.

Class 01// 2020-08-28

'other worlds' symposium day 2 Liam Young interview with Patrice Vermette



Reading: Atmospheric

The aesthetics of atmospheres redefines the topics and objects of aesthetics and increases its relevance.

Atmosphere: atmosphere is meant to indicate something indeterminate, difficult to express, diffuse.

- It is only a concept if not accounted as an intermediary status between subject and object. (114)

New Aesthetics: Aesthetics approached from ecology. (114)

- Aesthetics is now the full range of aesthetic work (116)
- Regards the producer as a general theory of aesthetic work, understood as the production of atmospheres (116)

Benjamin's Aura: Aura as if atmosphere is the characterless envelope of its presence (117)

- The phenomenon of distance is the “appearance of distance” (117)

Hermann Schmitz: Atmosphere is used as an expression of something vague, this not mean the meaning of the expression is vague. (118)

- They are spatially without borders, disseminated, and not localizable. They affect powers of feeling and are spatial barriers of mood (119)



Nocturne (Nocturne: The Thames at Battersea) 1878

Atmospheres emerge from people things, or radiate from the object/subject. One could say masters of aesthetics are masters of atmosphere. The subject as a feeling and sensing entity is what creates the atmospheric experience.

Class 02// 2020-09-04

“Atmosphere as the Fundamental Concept of New Aesthetics” Gernot Bohme

Reading: Meteorological

Meteorological Architecture: in which the invisible takes precedence over the visible, and the atmospheric, conduction of heat, perspiration and shifting weather and climate conditions are foregrounded. (cover)

- stretch architecture between the infinitely small and the infinitely large, between the physiological and the meteorological. (32)
- These become spaces with no meaning, no narrative; interpretable spaces in which margins disappear, structures dissolve and limits vanish. (32).

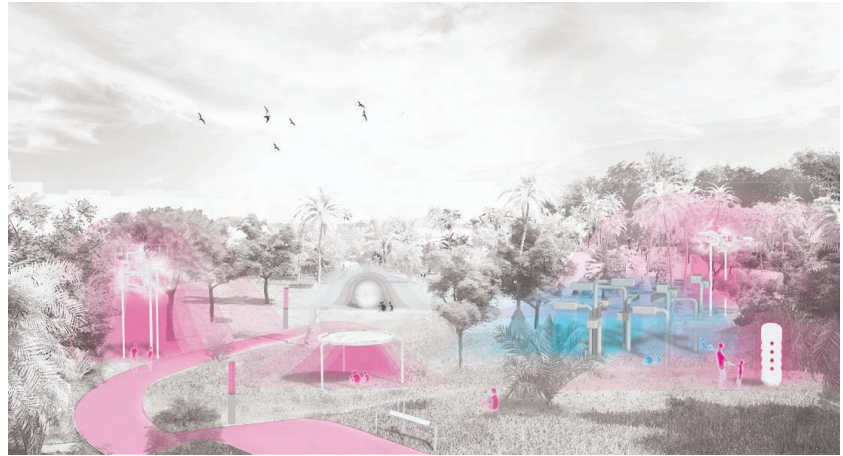
Architecture should no longer build spaces, but rather create temperatures and atmospheres. (33)

- here is the creation not of ...plastic, climatically dynamic activation of forces and polarities that generate a landscape of heat. (33)

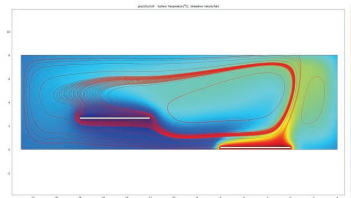
Architecture is a thermodynamic mediation between the macroscopic and the microscopic, between the body and space, between the visible and the invisible, between meteorological and physiological functions. (35).

Class 02// 2020-09-04

"Meteorological Architecture" Philippe Rahm



Jade Eco Park



Digestible Gulf Stream

Architecture becomes a new atmosphere and a second meteorology, no longer the 'subjective' closed place of social and political relationships, but instead an 'objective' open place where new social and political relationships can be invented. (41)

Reading: Blurs, Blots, Clouds

Blurs:

- “question conventions of representation and perception” (25). forms distinguish by shades and color (29).
- “attention to the variability of perception was further complicated by an awareness of the changeability of objects themselves.” (29)

Color:

- “color cannot be described or represented, color just is” (26)

Plastic

- “plastic abolishes the traditional hierarchy of substances because ‘the whole world can be plasticized’ – even life itself. Plastic, for Barthes, heralds the ultimate triumph of the artificial over the natural.” (26)

Blots:

- “determining link was made between the irregular and accidental, and the act of representation.” (30)
- “production of meaning from indistinct shapes, as a passage from obscurity to visibility, as bringing a blur into focus.” (30)
- “act of creation not in nature but in the artist’s mind.” (31)

Clouds:

- “clouds at atmosphere” (31)
- “tension between ephemerality and depiction, mobility and fixity, to centre stage.” (33)
- “ephemerality... emblematic of a modern condition of viewing. The modern viewer was a subject” (34)



(left images) Uta Barth's Ground #2 is the photograph of a landscape | Alexander Cozens, The Passage of Hannibal over the Alps

Since blurs are more distinguish by shades and color and color is subjective, then is the experience of a blur automatically subjective? How much does a persons experience relate to their perception of an image? What makes the blur distinguishable?

Class 03// 2020-09-11

“Blurs Blots and Clouds: Architecture and the Dissolution of the Surface” Vittoria Di Palma

Reading: Estranged Object

Harman's Object-Oriented Ontology: The observation of objects that interact without people.

- “every object has a dark core that cannot be accessed, and his metaphysics asks us to consider the real object-the thing itself-alongside its qualities.” (6)

Weird Realism: architecture that is completely devoted to the problem of the real, but one that is aware of its uncertainty.

- “late capitalism depends on constructed fantasies to distract attention away from what is instrumental.” (8)
- “the real is actually abstract” (8)

Cinema: “the real...is inherently formulated around a partial and incomplete view of the world” (10).

- No binding relationship between the narrative of the author or the perceived factual reality of the object. (11)

Speculative Objects: fusions and tensions produced by an object which has qualities that do not typically belong to it. (41) Pairing of confrontation and alluring components.

- “Nothing is able to be simply reduced to its parts.” (43)
- “Humans have no access to the real object; it is always withdrawn both conceptually and sensually.” (44)



su11 architecture+design, Corallines, 2012

Philosophical post-humanism: a philosophical direction which draws on cultural post-humanism, the philosophical strand examines the ethical implications of expanding the circle of moral concern and extending subjectivities beyond the human species.

If objects possess an inaccessible space, will we ever be able to understand them and interact with them properly? Are they measurable or topologically embedded? Can we understand it in one form but not another form? What does this say about us ethically and hierarchically?

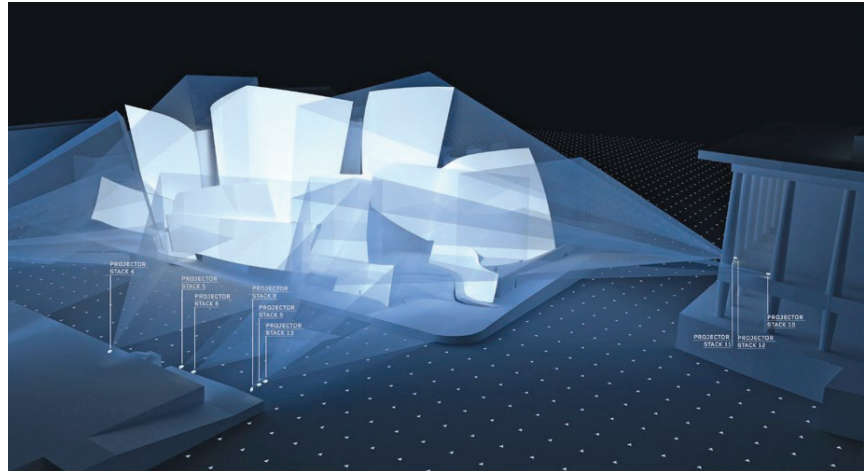
Class 03// 2020-09-11

“The Estranged Object” Young | Ayata

Reading: Synaesthetic

“The medium is beginning to expand beyond just physical materials and structure to consider the facade of a building as a canvas that can be augmented.”

- media facades fundamentally alter the perception of buildings and cities by permitting buildings to dynamically change their appearance (78)
 - a creative, computerized mind to mimic how humans dream, processing memories to generate new combinations of images and ideas (79)
 - design process developed back and forth between physical and digital surface models (80)
- ‘synaesthetic architecture’, a discipline which implies that architecture has the power to enable perception on a level beyond visibility by creating a spatial experience based on multisensory media. (81).
- intersections of social media culture, technology and virtual public space. (82)



To me this concept of synaesthetic architecture begins to touch on ways the built environment can relate back to time and history, and how buildings can look and reflect back at us as much as we look at them. At the same time the person behind the device remains the human hand, mind, and body. Looking back to “Kissing Architecture,” and the UTSOA lecture between Peter Eisenman and Mario Carpo, I continue to wonder how the digital can be leveraged to reveal the “reality” of the object or “building.” Additionally, what are the ethical considerations? Should humans feel responsible to use AR and technology to face reality and history or more so escape it? Does the integration of projections and augmentations make the “canvas” or building more or less relevant as a whole?

Class 04// 2020-09-18

“Synaesthetic Architecture” Refik Anadol

Reading: Continuity, Complexity, and Emergence

Reality versus Real: “reality will be about the world as perceived, whereas the real will designate the world envisaged independently from us, or as the original source of what appears to us” (147)

- “to be realistic usually means to be in accordance with ordinary reality” (147)
- “real, or rather what we assume it may be” (147)
- “The development of digital architecture is indeed inseparable from a number of fundamental assumptions regarding what constitutes the world” (148)
- “The real is not only supposed to be the foundation of reality; it also epitomizes reality’s capacity for change” (149)

Continuity: “Instead of rebelling against these forces and fields, one must accept their ineluctability, an acceptance that could eventually lead to their subversion from the inside. (154)

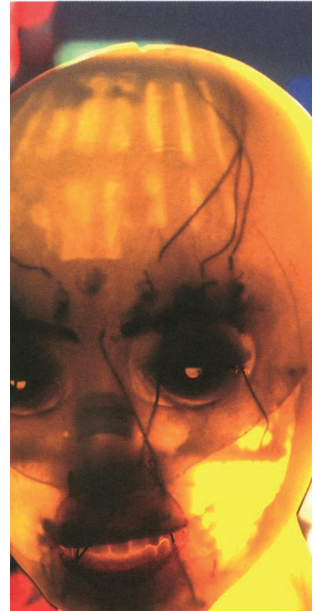
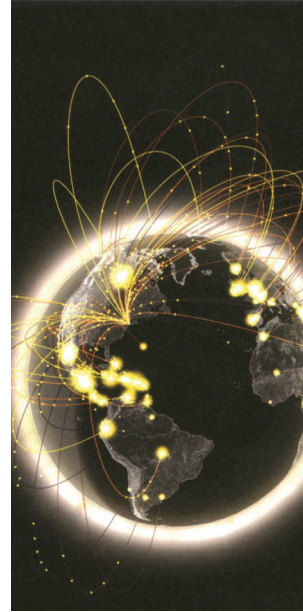
- “that it provides the foundation for phenomena like complexity and emergence” (155)

“Even if nature is ultimately composed of processes, we still live our everyday lives in a very substantial world” (155)

“the real is on the side of change- it puts forth an order of things that goes deeper than everyday customs.” (157)

Class 05// 2020-09-25

“Continuity, Complexity, and Emergence. What is the Real for Digital Designers?,” Antoine Picon



Reality, the real, and the digital must still also exist in the human frame of reference, however, we can still aim for that frame to be more. Is drawing conclusions on what is “real” limited by our human preconceptions? In what ways do we break out of this?

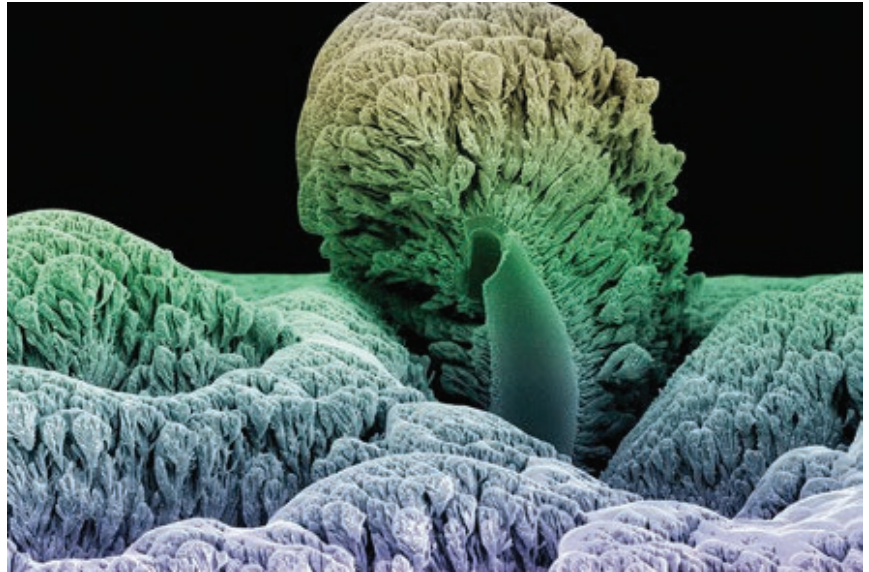
Reading: The New Materiality

“The first concept in the definition of the virtual is ‘structure’, and we can now be more specific about it: the structure in question is the structure of a possibility space.” (19)

“To explain the creative behavior of any material system we normally need both a description of a mechanism that explains how the system was produced, and a description of the structure of its possibility space that accounts for its preferred stable states, as well as its transitions from quantitative to qualitative change.” (20)

“linear causality and its necessary and unique outcomes give us a picture of matter as something incapable of giving birth to form by itself” (21)

“the fact that a virtual structure can be actualized by different material systems provides us with a way to think about recurring regularities in the birth of form without having to invoke eternal natural laws” (21)



The virtual is fully real in so far as it is virtual ... Indeed, the virtual must be defined as strictly a part of the real object – as though the object had one part of itself in the virtual into which it is plunged as though into an objective dimension ... The reality of the virtual consists of the differential elements and relations along with the singular points which correspond to them. The reality of the virtual is structure. (19)

Class 05// 2020-09-25

“The New Materiality,” Manuel DeLanda

Reading: Animate Form

ANIMATION: implies the evolution of a form and its shaping forces; it suggests animalism, animism, growth, actuation, vitality, and virtuality.

- Traditionally, in architecture, the abstract space of design is conceived as an ideal neutral space of Cartesian coordinates (10).
- An ethics of motion neither implies nor precludes literal motion. (10).
- VIRTUAL: refers to an abstract scheme that has the possibility of becoming actualized, often in a variety of possible configurations. (10).

ANIMATE DESIGN: is defined by the co-presence of motion and force at the moment of formal conception. (11).

- STASIS: is a concept which has been intimately linked with architecture in at least five important ways, including 1) permanence, 2) usefulness, 3) typology, 4) procession, and 5) verticality. (13).
- TOPOLOGY, TIME, PARAMETERS: Topology and splines and space as flows (22). Topological entities are based on vectors, and are capable of systematically incorporating time and motion (23).

“Designers must understand the patterns of topology as they unfold dynamically with varying performance, rather than understanding them merely as shapes.” (25).

Class 07// 2020-10-16

“Animate Form,” Greg Lynn and Therese Kelly



Figure 1:
Bucharest urban design competition study using particle animation flows to define variable densities across the site.

Figure 2:
Marcel Duchamp, *Nude Descending a Staircase, No. 2* (1912) Philadelphia Museum of Art, Louise and Walter Arensberg Collection.

Figure 3:
Umberto Boccioni, *Dynamism of a Soccer Player* (1913). Museum of Modern Art, New York, The Sidney and Harriet Janis Collection.

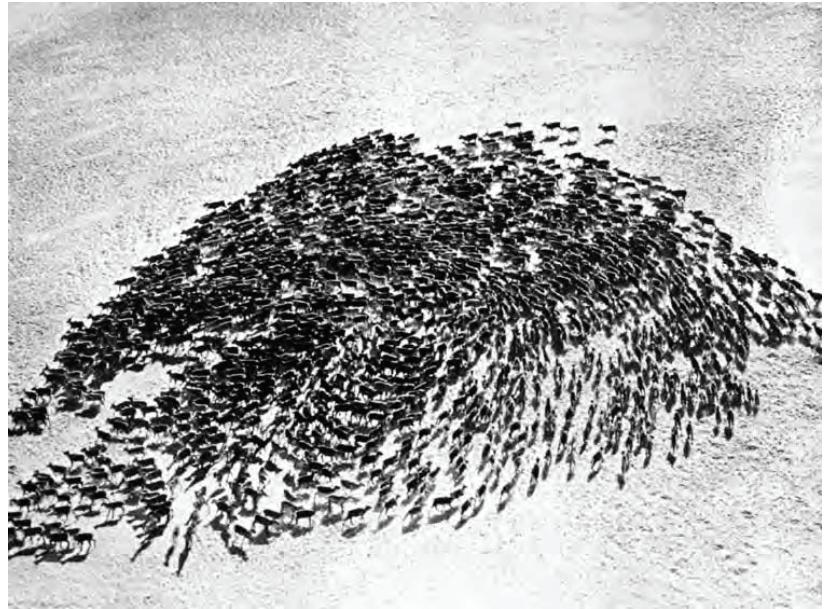
How has virtual work defined our limitations and also new horizons?
What are the built in limits based on the way extents and capacities of human thought?
How is design like a motion-picture? How can design be more simultaneous?
What does the superimposition of the 3D look like?

Reading: Field Conditions

Field Conditions: Negotiate a field in which the actual and the virtual assume ever more complex configurations

- Field is an aggregate of objects, building up of objects into while parts to larger systems
- interactions of individual pieces have a lot of potential to create new things
- emergent and computational relationships
- most people are talking about intensity flows between things

By looking for a precise and repeatable link between the operations of construction and the overall form produced by the aggregation of those parts, it becomes possible to begin to bridge the gap between building and form-making. (69).



Class 07// 2020-10-16

"Field Conditions," Stan Allen

Reading: Radical Technologies

AUGMENTED REALITY and INTERACTIVE OVERLAY: “AR blends its cues and graphic overlays with the ordinary world as we perceive it” (62).

- “aura of impotence, positioned as direct extensions of our own senses” (63).

“AR in this role is lovely...when technology is used to lower the barriers to socialization, and reduce or eliminate the social discomfort” (64).

- However, there are “too many articulated parts involved in this interaction” (64).
- “any attempt at augmenting the environment must therefore be actively and consciously invoked” (67).

“Most of the value in AR resides in the proposition that interacting with the world in this way will feel effortless” (69).

- “what does our immersion in the interface so to our sense of being in public” (73).
- “what happens to the unaugmented human under such circumstances?” (75).

“Maybe the emergence of these systems will spur us to some thought as to what it is we’re trying so hard to augment or escape from” (76).



How might AR one day extend to the other senses and not just the visual sense?
Who gets included and excluded in the world of AR?

AR is seemingly more connected to ethics than that of VR.

Class 10//2020-10-30

“Radical Technologies,” Adam Green-field

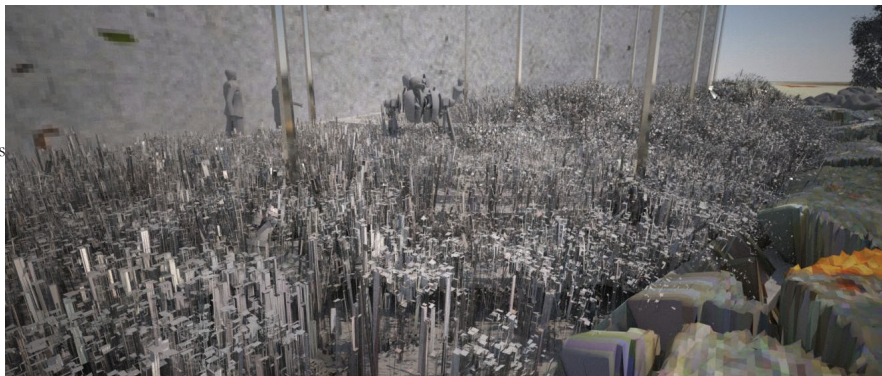
Reading: Hallucinating Machines

“Alan Turing posited the question, ‘Can machines do what we, as thinking entities, do?’”

- “Neural Networks have become ubiquitous across disciplines due to their ability to accurately mimic human behavior and capability to perform complex tasks and model the real world. At their most core level, neural networks are purely mathematical functions that are structured and trained to extract salient features from their input.” (2).
- “The way in which neurons are connected between layers controls how input information is transformed through the network. This connectivity structure varies based upon the application.” (9).

“The learning process for neural networks is conceptually the same: the network takes the inputs (images) and the desired outputs (labels) and updates its internal state/mental model of the world (i.e., its weights) according to the error in the network’s predicted label such that this prediction becomes as close as possible to the desired label.” (11).

“The opportunities are remarkable, and possibly will generate a completely new paradigm as of how to approach architecture design. In terms of disciplinary implementations, the project contributes to the discussion of style in the 21st century.” (19).



Class 10//2020-10-30

“Towards Hallucinating Machines,” International Journal of Architectural Computation

Reading: Models are Real

“Space does not simply exist in time; it is of time. The actions of its users continually recreate its structures.”

- “When surroundings are thought of as stable, we tend to lose a feeling of responsibility for the environments in which we move. Space becomes a background for interaction rather than a co-producer of interaction.”

DOUBLE MOVEMENT: “the user’s interaction with other people co-produces space which in turn is a co-producer of interaction. By focusing on our agency in this critical exchange, it is possible to bring our spatial responsibility to the fore.”

- “models are comprised of two fundamental qualities: structure and time, one way of drawing attention to our co-production of space is a close examination of models...As objects in general are not static”
- “the model was merely an image, a representation of reality without being real itself. What we are witnessing is a shift in the traditional relationship between reality and representation.”

“We need to acknowledge that all spaces are steeped in political and individual intentions, power relations, and desires that function as models of engagement with the world. No space is model-free.”

“As agents in the ceaseless modeling and remodeling of our surroundings and the ways in which we interact, we may advocate the idea of a spatial multiplicity and co-production.”



How might post-humanism relate to these notions? What other layers of moment are present, could “double movement” become triple, quadruple?

Class 11//2020-11-06

"Models are Real," Olafur Eliasson

Reading: Postproduction

INTERHUMAN SPHERE: “relationships between people, communities, individuals, groups, social networks, interactivity, and so on” (3).

RELATIONAL AESTHETICS: “Postproduction analyzes a set of modes of production, seeking to establish a typology of contemporary practices and to find commonalities” (4).

- “artists’ intuitive relationship with art history is now going beyond what we call ‘the art of appropriation’ which naturally infers an ideology of ownership, and moving toward a culture of the use of forms, a culture of constant activity of signs based on a collective ideal: sharing.” (4).
- “objects already informed by other objects” (6).
- “using society as a catalog of forms” (8).
- “how can we produce singularity and meaning from this chaotic mass of objects, names, and references that constitutes our daily life?” (8).

“To rewrite modernity is the historical task of this early twenty-first century: not to start at zero or find oneself encumbered by the storehouse of history, but to inventory and select, to use and download.” (15).



How might authorship change in the future? Will the individual author ever become irrelevant? Will our products one day just say “made by humans”? Will the computer become the new author and the human the ‘tool’ to that means of production? How might “postproduction” alter our relationship with ourselves and technology?

Class 11//2020-11-06

“Postproduction,” Nicolas Bourriaud

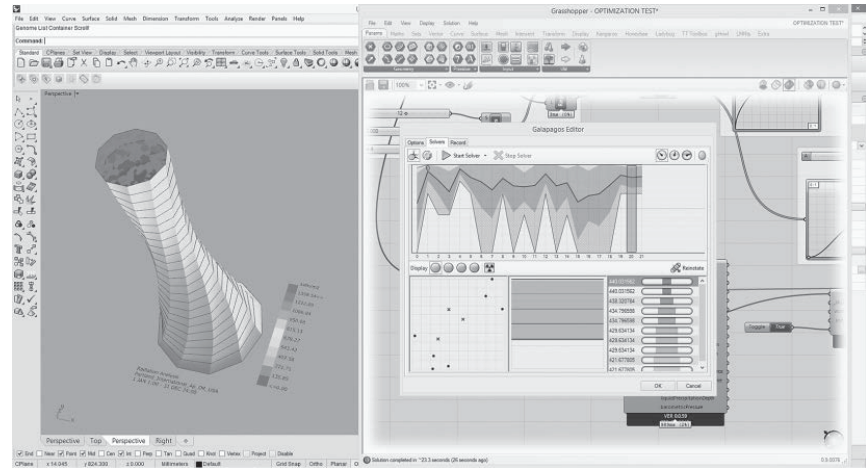
Reading: Afterword

“forms of visualization specific to technoscientific practices have come to dominate—and now literally precede—architecture’s own historically embedded forms of representation (viz., parallel and perspectival orthographics).” (220).

- “how have processes of technical imaging—scanning, sensing, modeling, rendering, repeating, positioning, specifying, etcetera—so rapidly and thoroughly displaced our entire internal history of representation as the primary site of reasoning and experimentation? And second, what are the effects and consequences of this rapid displacement, for our thought, and for our interventions in the world around us?” (220).

AXIOMS & FORMATS:

- A1: There are no pretechnical forms of thought
 - A2: Nothing technical is ever merely technical
 - A3: The specific conception of time embedded in a technical system is inseparable from the form of thought and imagination made it possible or impossible
1. Drawing: hand-mechanical, geometric storage format
 2. Photograph: chemical, mechanical storage, granular
 3. Image: statistical-electric storage, coincident with culture memory



How might the progression of digital tools impact architectural representation? Will the plan, section, elevation ever become irrelevant? How are we entangled with our tools and technology? How is this entanglement also a form of co-production such as the one Olafur Eliasson mentioned?

Class 11//2020-11-06

“Afterword: Architecture in Real Time,” John May

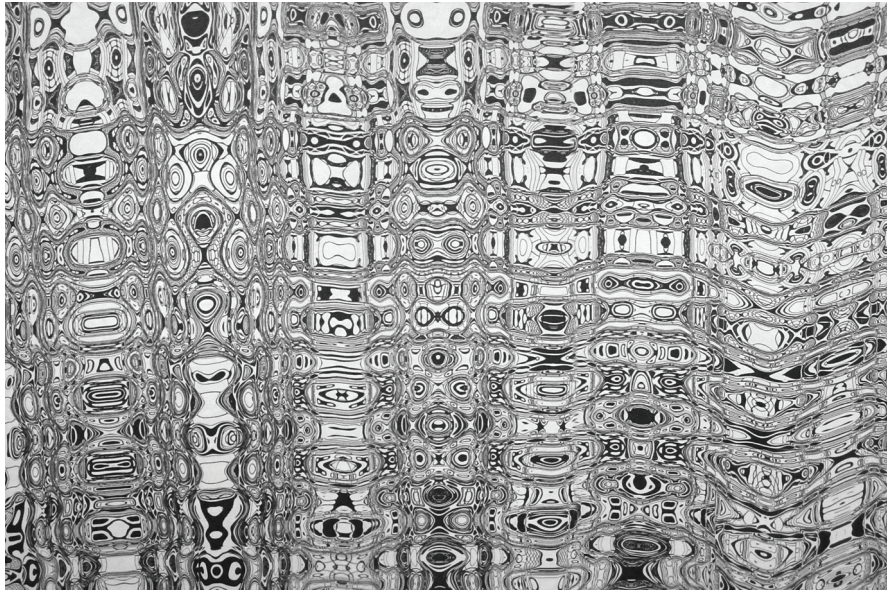
Reading: Interobjectivity

INTEROBJECTIVITY: “the abyss in front of things...though this between is not “in” spacetime—it is spacetime.” (81).

- Intersubjectivity: “a shared space in which human meaning resonates—is a small region of a much larger interobjective configuration space” (81).
- “all entities whatsoever are interconnected in an interobjective system that elsewhere I call the mesh... strange interconnectedness of things, an interconnectedness that does not allow for perfect, lossless transmission of information, but is instead full of gaps and absences” (83).
- “Interobjectivity provides a space that is ontologically ‘in front of’ objects, in which phenomena such as what is called mind can happen” (85).

“Hyperobjects have a history of their own, not simply insofar as they interact with humans...This history is strictly the time of hyperobjects” (88).

- “Causality and the aesthetic, the realm of signs and significance and sensation, are one and the same” (88).
 - “Every interobjective space implies at least one more object in the vicinity... $1 + n$ ” (89).
1. “Protagoras notwithstanding, objects are not made-to-measure for humans (89)
 2. Objects do not occur “in” time and space, but rather emit spacetime (90)
 3. (3) Causality... floats in front of them (90)
 4. (4) The causal dimension, in which things like explosions are taken to happen (90).



Class 12-13//2020-11-13

“Hyperobjects,” Morton Book

Reading: Age of Asymmetry

“There is an essence, and it’s right here, in the object resplendent with its sensual qualities yet withdrawn” (159).

- “This weirdness resides on the side of objects themselves, not our interpretation of them.” (159).

“Age of Asymmetry in which our cognitive powers become self-defeating” (160)

- “The asymmetry between action and reflection gives us a strong feeling of the uncanny” (160).
- “The Age of Asymmetry resembles the Symbolic phase, in that materials now gain a new “life.” But humans can’t unknow what they know” (172).
- “Object does not mean objectified. Rather it means totally incapable of objectification. It’s clear that we only ever see footprints of hyperobjects” (176).
- “Our very attempt to achieve escape velocity from our physical and biological being has resulted in being stuck to Earth” (180).
- “In the ears...music becomes a hyperobject, literally consisting of layers of beats and no-beats that offer dizzying perspectives of phasing, high-dimensional sound (and non-sound)” (187).
- “Hyperobjects profoundly change how we think about any object. In a strange way, every object is a hyperobject” (201).



Class 12-13//2020-11-13

“Hyperobjects,” Morton Book

Reading: Motivations of Animation

TERRITORY: “diagram is a representational form of some idea and some motivation toward that idea, nothing is unmediated” (3).

IDENTITIES: “no one is exempt from this condition of the translation between the diagram and the object” (3).

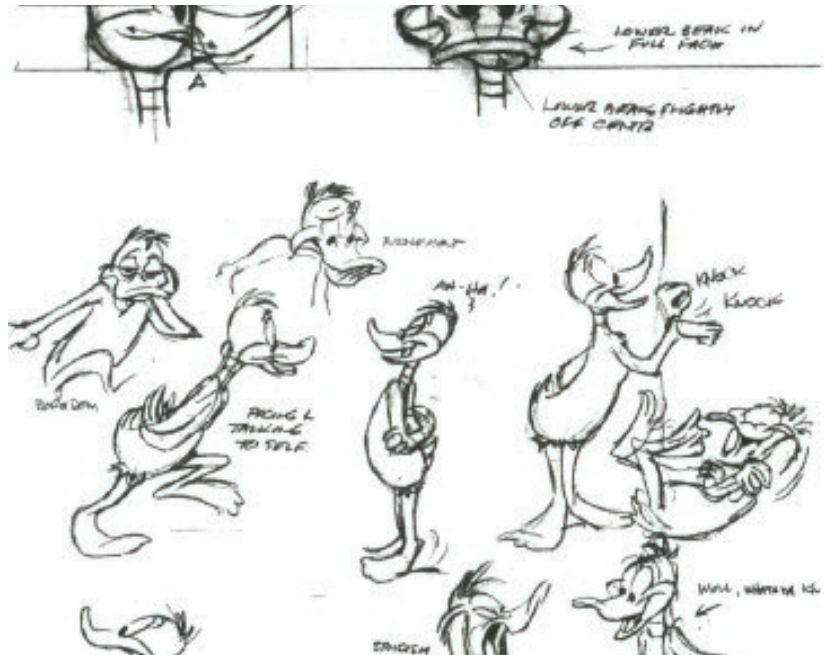
MAP: “an object is constructed through the refusal to believe either that the map and territory can be equated” (3).

ANIMATION:

1. Animation means to invoke life, not imitate it (Reducks, 268)
2. Animation is not the art of drawings that more, but the art of movements that are drawn (Amuck, 180)
3. Character always comes first before the physical representation (Amuck, 261)

Questions:

- What is the interaction of the animation and the diagram? What distinguishes them? At what point are they the other?
- At how many frames per second does the animation become unpredictable as frames? What is the relationship from frame to motion and simultaneous experience?
- Typically, frames are sub-sequential when showing moving and simultaneous when viewed still. When and how can these conditions be reversed?
- What is the role of animation and data creation? In this description animations offer images and frames as opposed to “photographs.”



Class 12//2020-11-13-20

“Motivations of Animation,” Rakatansky

Lecture: Architecture or Computation

PETER EISENMAN + MARIO CARPO:

Peter Eisenman: Lateness is agency of the formal as opposed to the idea of self-expression. It is a resistance between self-expression where the relationship of form and time can be rethought.

- In parametric design form is determined by numerical inputs. The idealization of technical progress clouds the realization of it's imposed formal limits. The digital does not transcend the dialectical frames of the 20th century.
- Lateness is an interruption of linear time. The invention of new form is not the goal, rather a relationship about form and time is sought where the parts look both forward and backward

Mario Carpo: The second digital age shows a radical shift in the language of digitality where the digital is an architectural language

- computers can do all things difficult, easy

Debate: Reading should deal with temporal complexity, flatten time into space

- How do we deal with temporal verses spatial complexity?
- Digital is not the problem rather how we flatten time into space



September 09, 2020

UTSOA 2020 Lecture Series

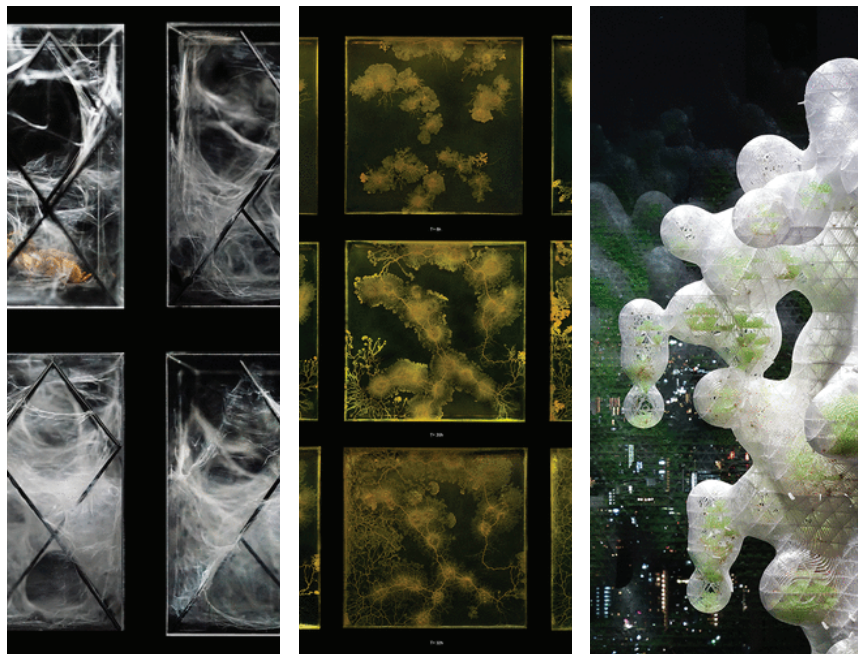
Lecture: Bio-digital Aesthetics

CLAUDIA PASQUERO:

BEAUTY= ecology of intelligence

“exploring the interdependence of digital and biological intelligence in design by working directly with non-human living organisms. The research focuses on the diagrammatic capacity of these organisms in the process of growing and becoming part of complex bio-digital architectures. A key remit is training architects’ sensibility at recognizing patterns of reasoning across disciplines, materiality’s and technological regimes, thus expanding the practice’s repertoire of aesthetic qualities. Recent developments in evolutionary psychology demonstrate that the human sense of beauty and pleasure is part of a co-evolutionary system of mind and surrounding environment. In these terms, human senses of beauty and pleasure have evolved as selection mechanisms. Cultivating and enhancing them compensate and integrate the functions of logical thinking to gain a systemic view on the planet Earth and the dramatic changes it is currently undergoing.”

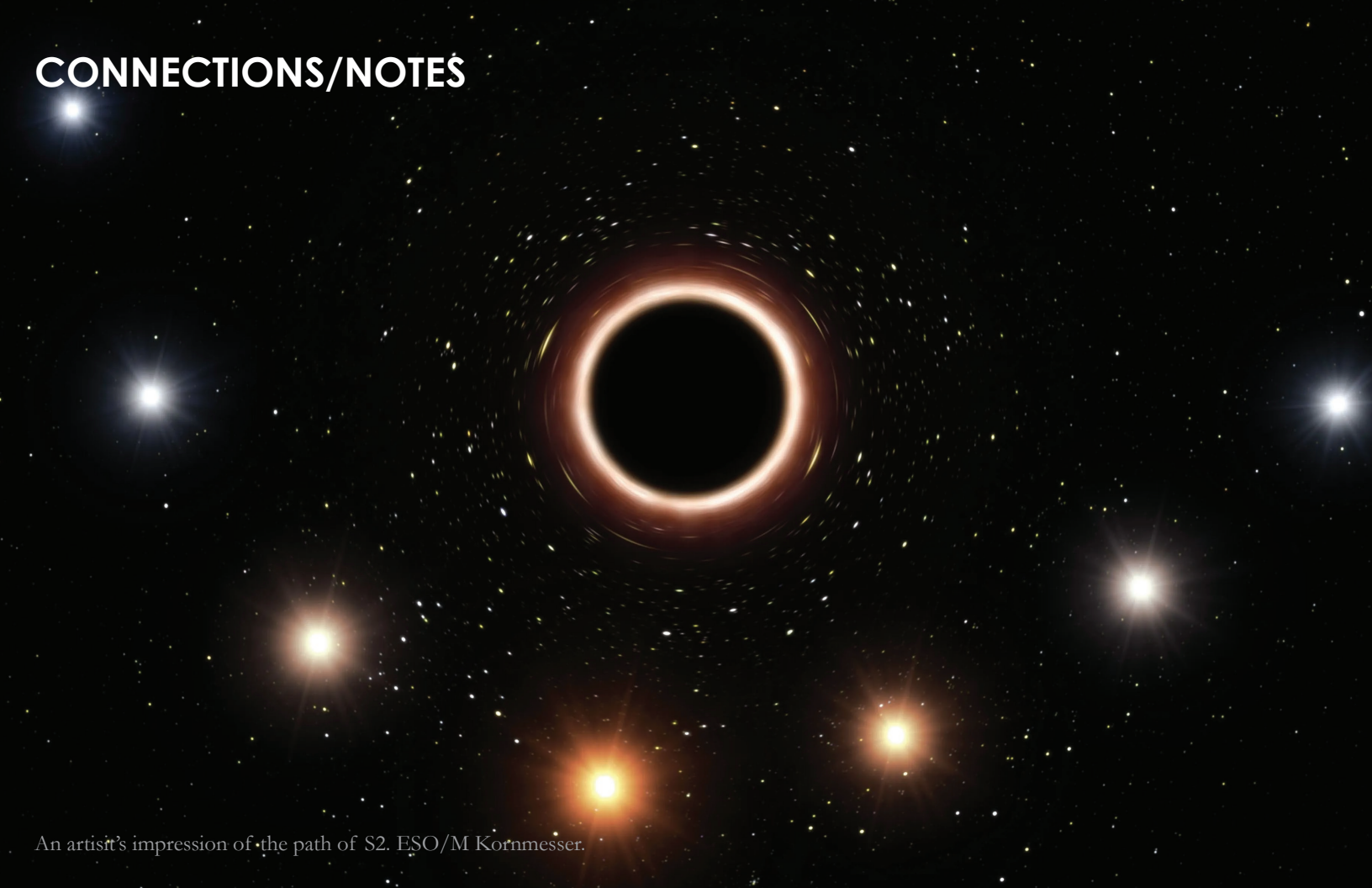
“This new aesthetic of nature projects the architectural discourse into the realm of microorganisms, such as bacteria and fungi, creatures endowed with exceptional properties that make them capable of turning waste and pollution into nutrients and raw material. These scalar and material domains unveil the missing links to redefine the contemporary urban metabolism.”



September 14, 2020

UTSOA 2020 Lecture Series

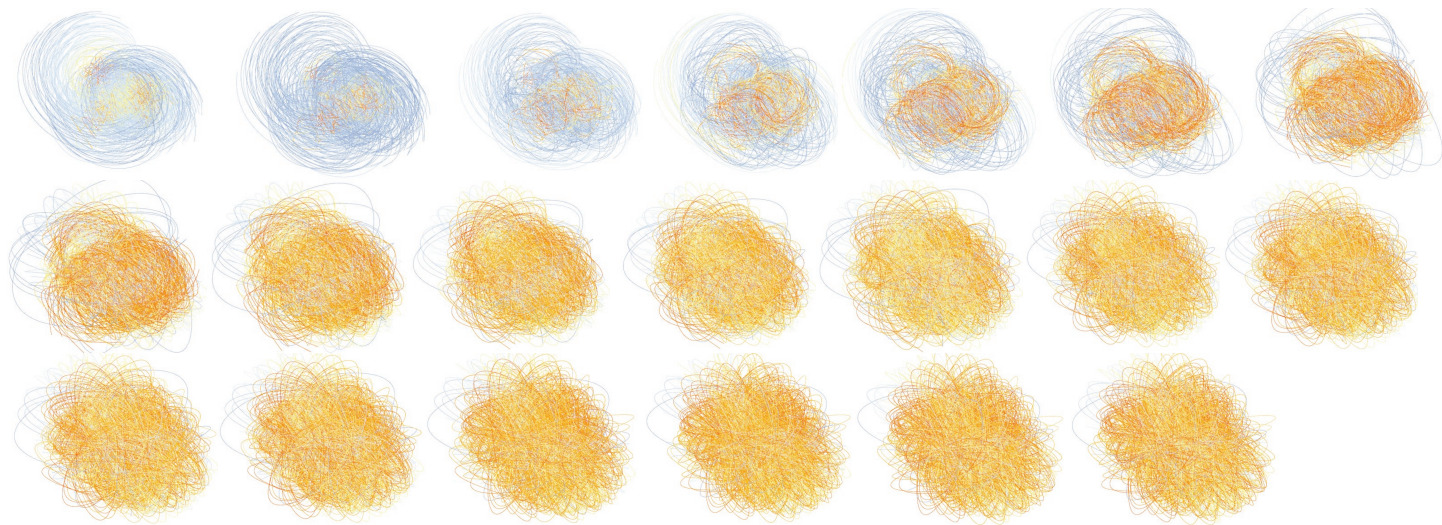
CONNECTIONS/NOTES



An artist's impression of the path of S2. ESO/M Kornmesser.

Connection: Entropy

Using Grasshopper Plugin to explore Entropy as a visualization.



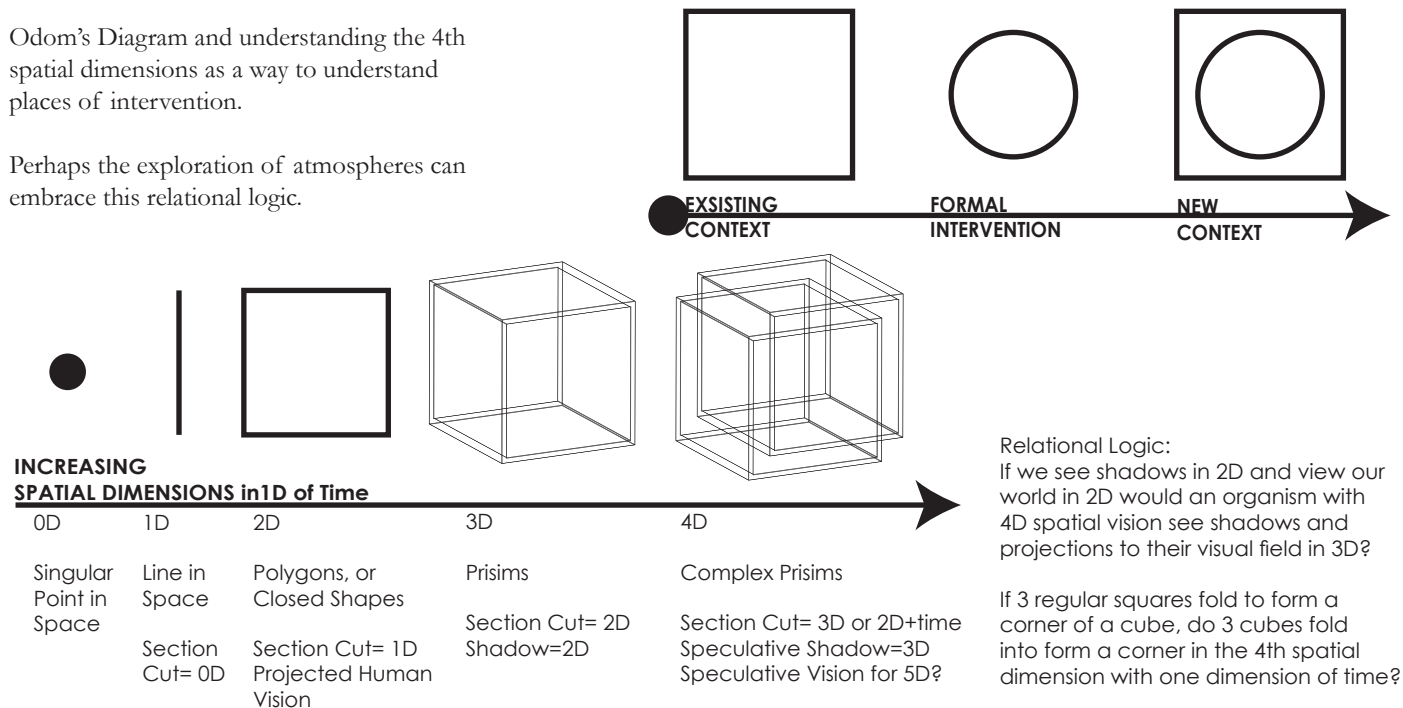
Class 04// 2020-09-18

Explorations: Visualizations [See Video]

Connection: Known and Unknown

Odom's Diagram and understanding the 4th spatial dimensions as a way to understand places of intervention.

Perhaps the exploration of atmospheres can embrace this relational logic.



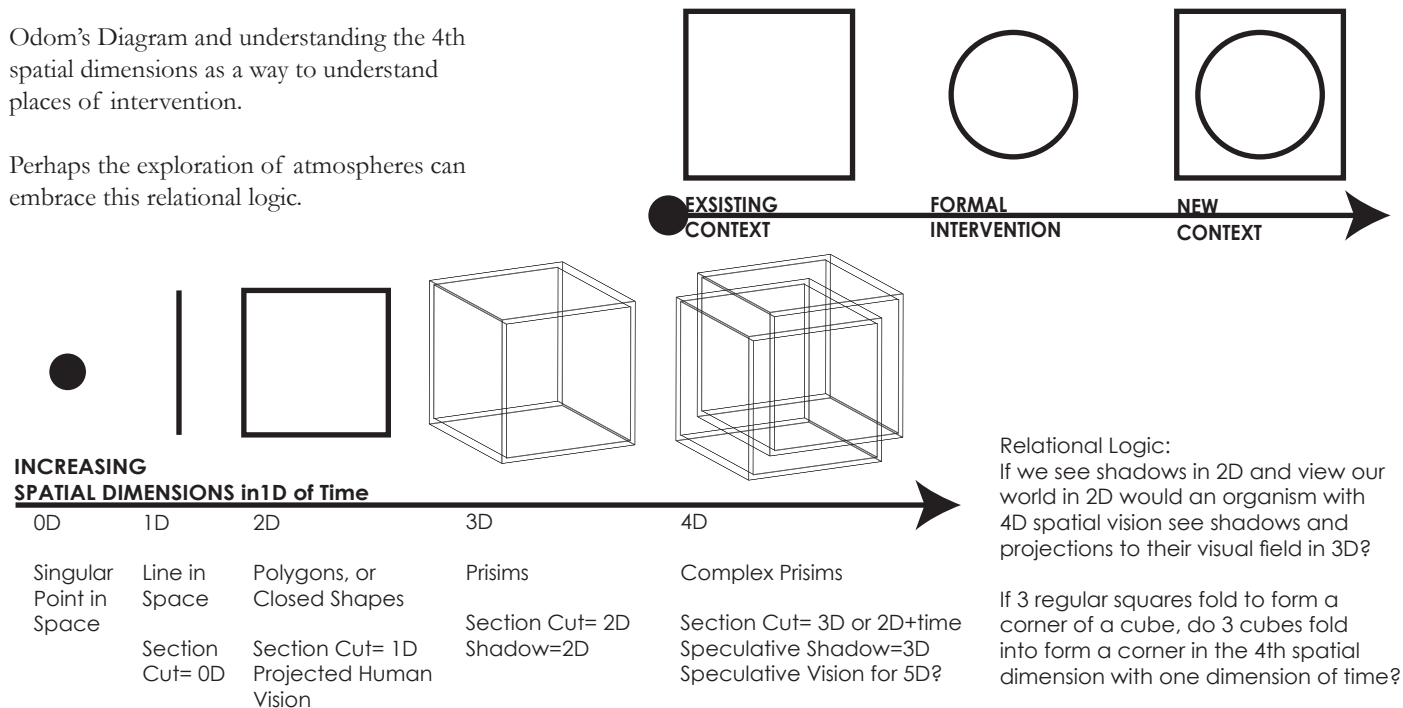
Class 04// 2020-09-18

Explorations: Diagram

Connection: Known and Unknown

Odom's Diagram and understanding the 4th spatial dimensions as a way to understand places of intervention.

Perhaps the exploration of atmospheres can embrace this relational logic.



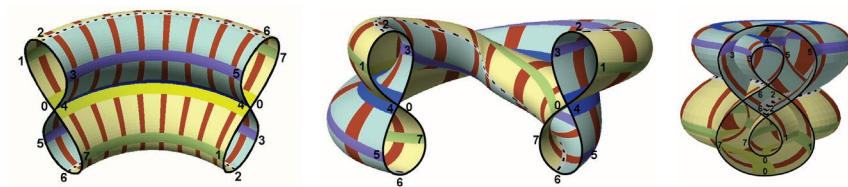
Class 04// 2020-09-18

Explorations: Diagram

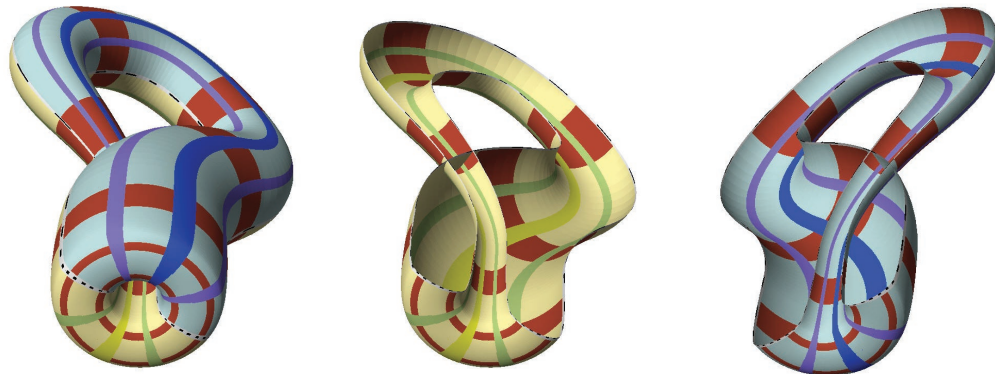
Connection: Topology

Topology is concerned with the properties of a geometric object that are preserved under continuous deformations, such as stretching, twisting, crumpling and bending, but not tearing or gluing.

The deformations that are considered in topology are homeomorphisms and homotopies.



Carlo H. Séquin Diagrams of Figure-8 Klein Bottle



Carlo H. Séquin Diagrams of Klein Bottle

Topology can be considered in Productions where, while an object might never reveal its “real” nature different forms and conditions of the same object yield different atmospheric understandings.

How far can an effect be pushed before it is another effect?
Can an effect appear to be something else but in fact still be “homeomorphic”?

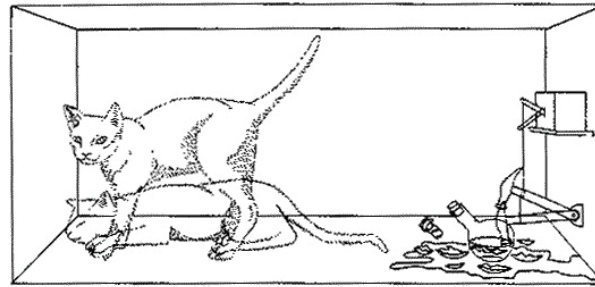
Class 04// 2020-09-18

Explorations: Diagrams

Connection: Schrödinger's Cat

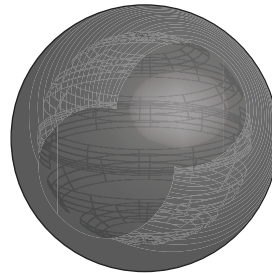
In summary, Schrödinger's Cat is a thought experiment by Austrian-Irish Physicist Ewin Schrödinger.

This thought experiment illustrates what he saw as the problem with the Copenhagen interpretation of quantum mechanics. Here the state of quantum superposition is described as a scenario where a hypothetical cat may be simultaneously dead and alive.

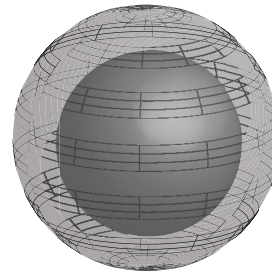


Questions arise when considering when the superposition ends and reality revolves into one possibility or the other.

A similar question occurs in Productions. Where does the effect begin and end? What is the definition of the edge of the effect? Does the effect have an edge? Do effects have to have edges? These questions are in many ways intangible (but explorable) and potentially have different answers for every condition.



**RIGID EFFECTS
CONTAINER**



**SEMI-RIGID EFFECTS
CONTAINER**

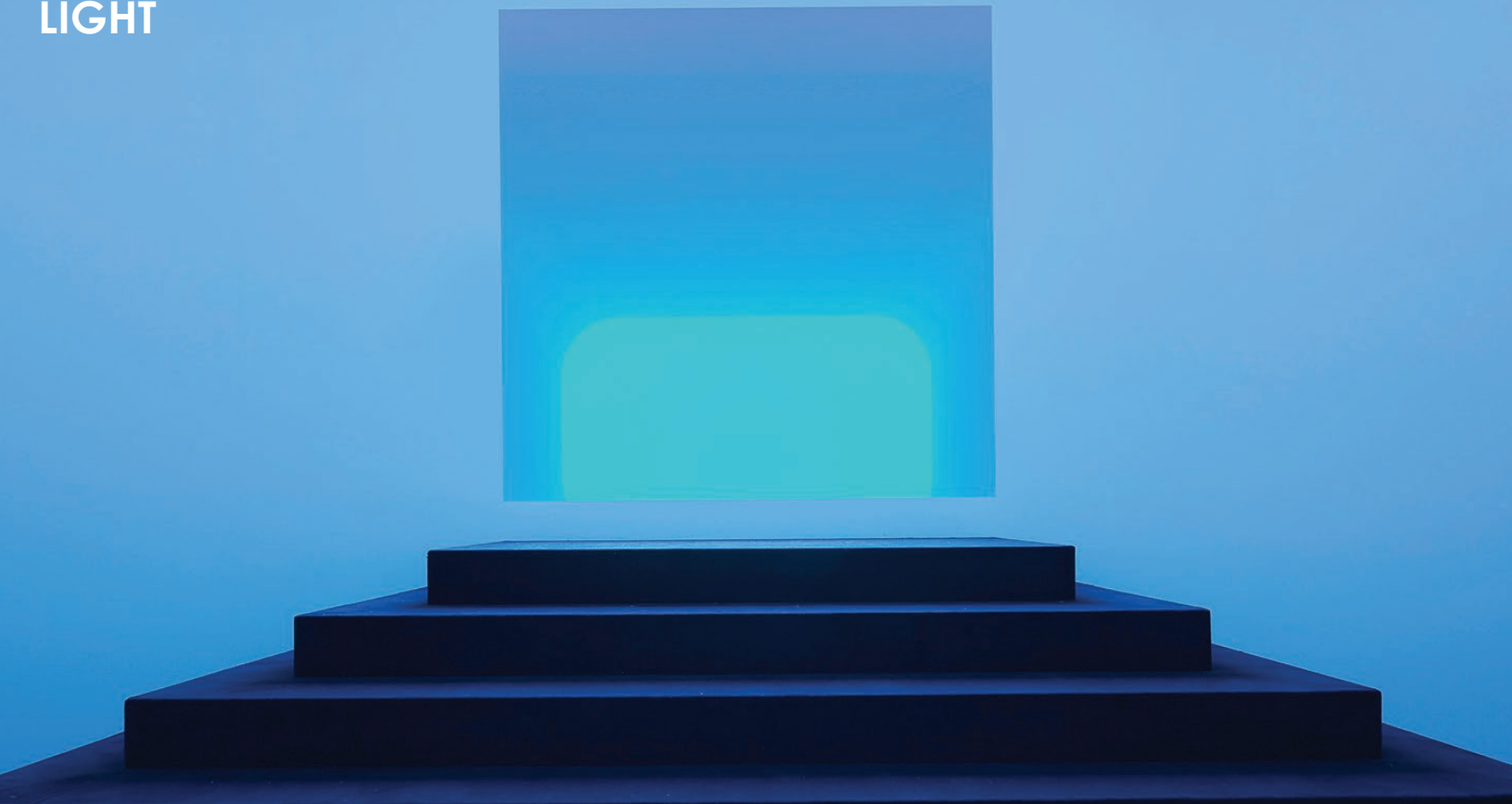


**UNDEFINED EFFECTS
CONTAINER**

Class 04// 2020-09-18

Explorations: Diagrams

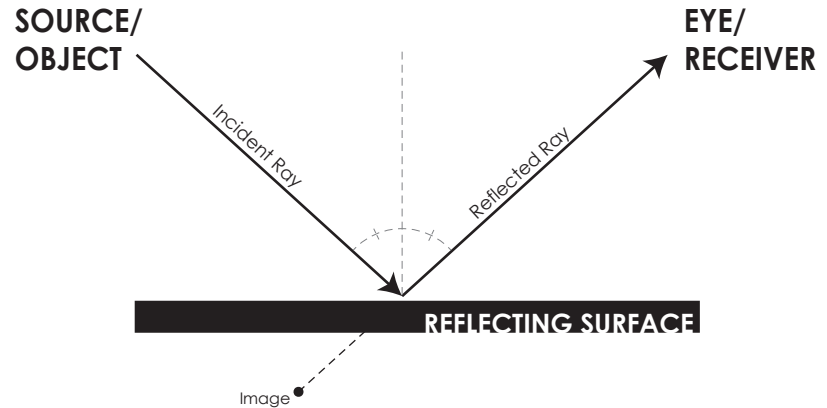
LIGHT



Apani, 2011, by James Turrell, from the series Ganzfeld. © James Turrell. Photography: Florian Holzherr

Light: Reflection

Reflection: the change in direction of a wavefront at an interface between two different media so that the wavefront returns into the medium from which it originated. The law of reflection states that when a ray of light reflects off a surface, the angle of incidence is equal to the angle of reflection.

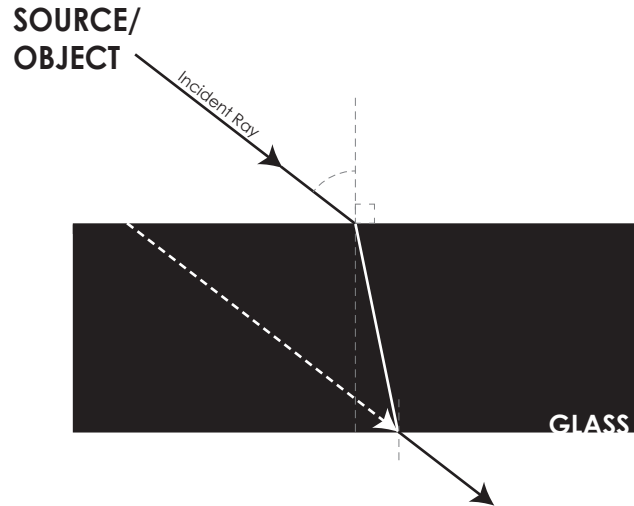
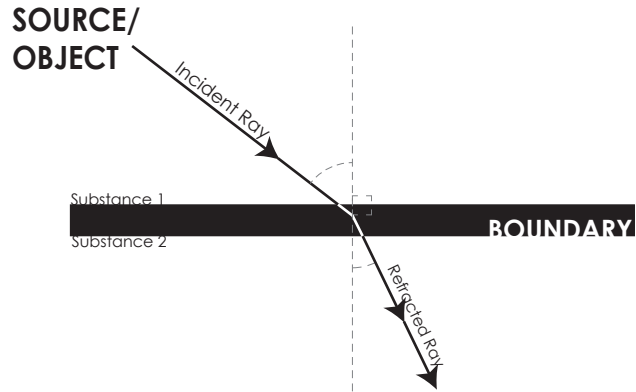


Class 01// 2020-08-28

Primary Effects of Light

Light: Refraction

Refraction: is the change in direction of a wave passing from one medium to another or from a gradual change in the medium.



Class 01// 2020-08-28

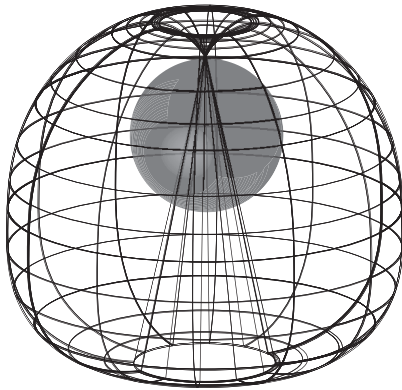
Primary Effects of Light

Light: Emanation & Absorption

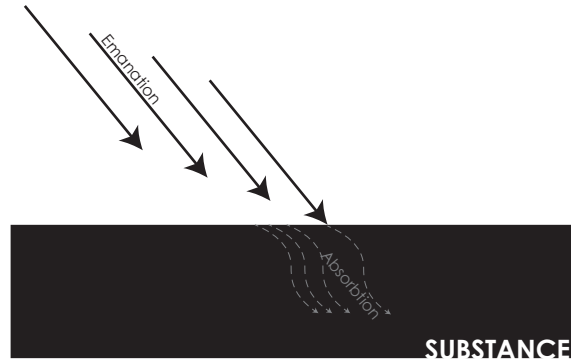
Emanation: light that comes from a specific source.

Absorption: a condition in which something takes in another substance.

Light from Bulb-like Source:



SOURCE/
OBJECT

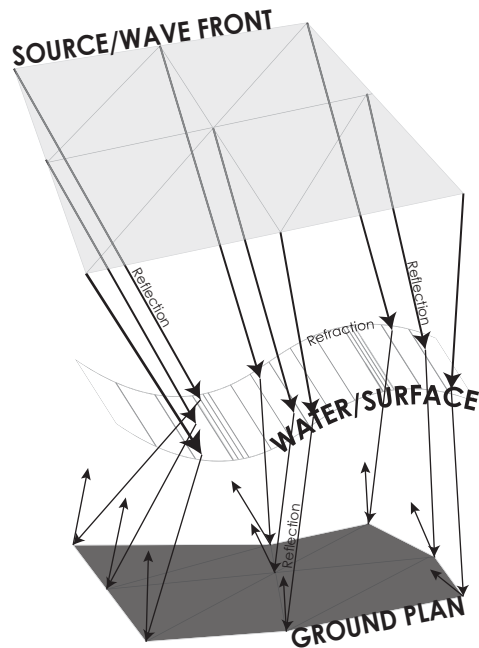
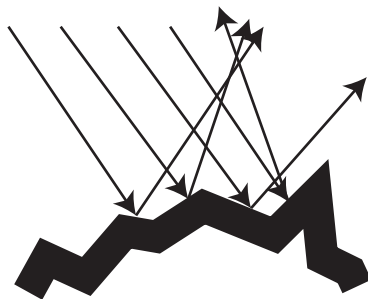
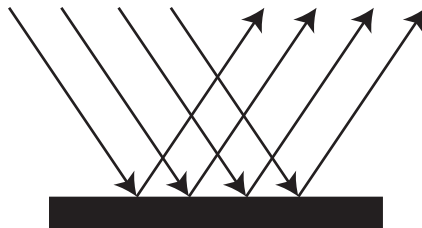
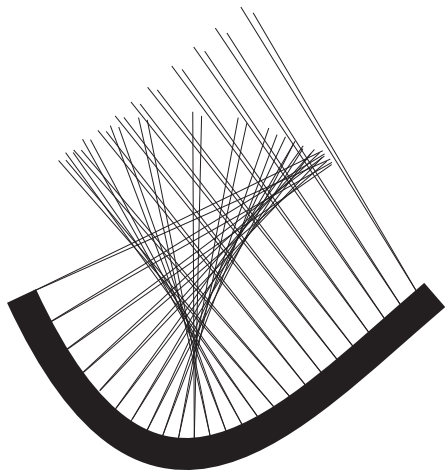


Class 01// 2020-08-28

Primary Effects of Light

Light: Effects- Secondary

Caustics: the envelope of light rays reflected or refracted by a curved surface or object, or the projection of that envelope of rays on another surface



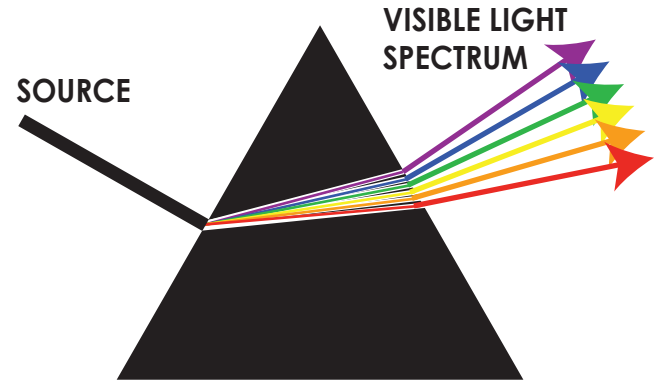
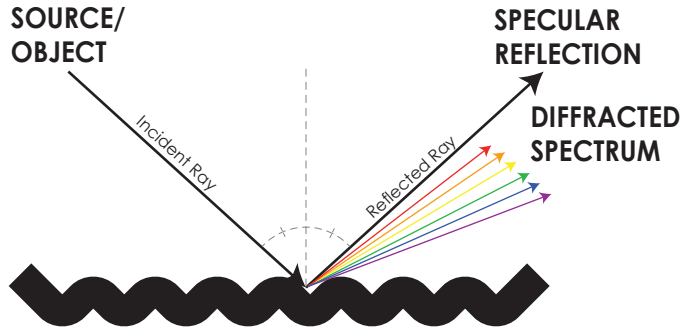
Class 01// 2020-08-28

Secondary Effects of Light

Light: Effects- Secondary

Prismatics: light formed, separated, or distributed by an optical prism or something acting as one

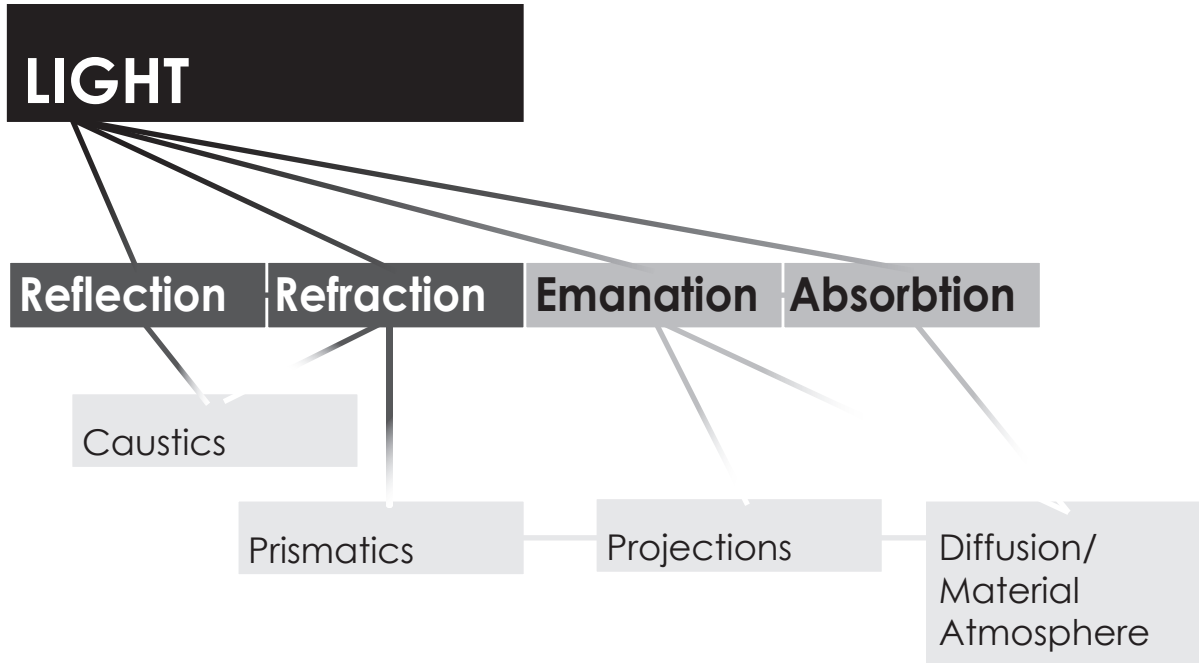
Diffusion: scattering of light by reflection or transmission



Class 01// 2020-08-28

Secondary Effects of Light

Phenomenotechnical- Light



Class 01// 2020-08-28

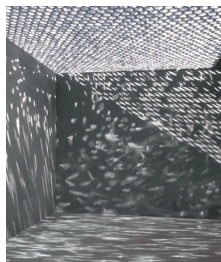
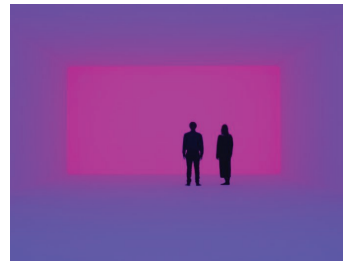
Relational Effects of Light

Light: Material Interaction

02A. LIGHT AND MATERIAL INTERACTION : AIR / SPACE

(Images left-right/top-bottom)

- Olafur Eliasson (Feelings Are Facts / The Weather Project)
- Tomas Saraceno (On Space Time Foam / Poetic Cosmos of the Breath)
- Antony Gormley (Blind Light)
- James Turrell (Ganzfelds)
- Philippe Bompas (Light Shredder)
- Abelardo Morrell (Camera Obscura Photos)
- Sou Fujimoto (Light Forest)
- Pneuhaus (Compound Camera)



Class 01// 2020-08-28

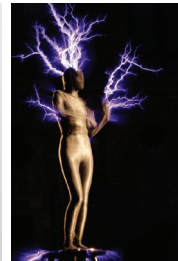
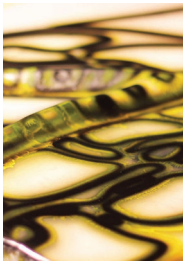
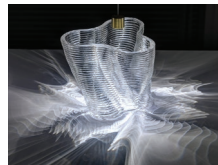
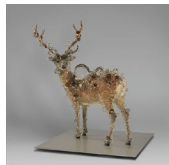
Precedents of Light

Light: Material Interaction

02B. LIGHT AND MATERIAL INTERACTION: SURFACE / FORM

(images left-right/top-bottom)

- Kohei Nawa (Pixcell series)
- Anish Kapoor (Cloud Gate)
- MIT Mediated Matter (3d Printed Glass)
- Alan Bennet (Triple Klein Bottles)
- Jolan Van der Wiel (Gravity Series)
- Tony Cragg (Visible Man, and Bust)
- Tom Wiscombe (Squished)
- Maiko Takeda (Atmospheric Reentry Series)
- Iris Van Herpen (Voltage Dress, Syntopia Collection)
- The Unseen (Air Collection)



Class 01// 2020-08-28

Precedents of Light

AIR



The “Scented Cloud” installation for Cartier’s new perfume in Paris. Photo by Quyen Mike, courtesy of Cartier.

Air: Atmosphere

Scientific: the envelope of gases surrounding the earth or another planet.

Earth's Atmosphere:

- 78% Nitrogen
- 21% Oxygen
- 0.93% Argon
- 0.04% Carbon dioxide
- Trace amounts of: neon, helium, methane, krypton and hydrogen, as well as water vapor

New Aesthetics: Atmosphere is used as an expression of something vague. They are spatially without borders, disseminated, and not localizable. They affect powers of feeling and are spatial barriers of mood which relate to the body or subject.

Other:

- Using effects to affect objects in space
- Materializing the ephemeral
- Between object and environment as void
- As and edge/point of interface

Class 02-03// 2020-09-(04,11)

Primary Effects of Air

Atmosphere:
point of interface/edge
ephemeral

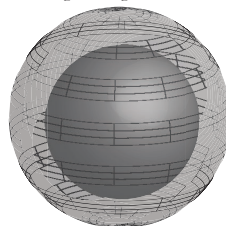
SUBJECT

SPACE

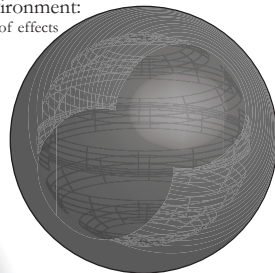
ATMOSPHERE

TIME

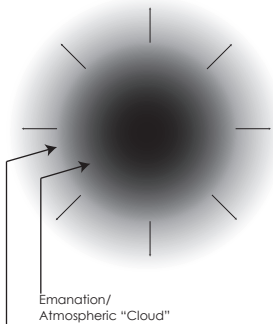
Object:
generating effects



Environment:
edge of effects

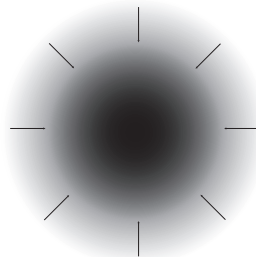


Atmosphere:
radiation from object
ephemeral from
materialization



Emanation/
Atmospheric "Cloud"
Edge of Atmosphere (not
always clearly defined)

Atmosphere:
materialization of ephemeral
object materializes effect

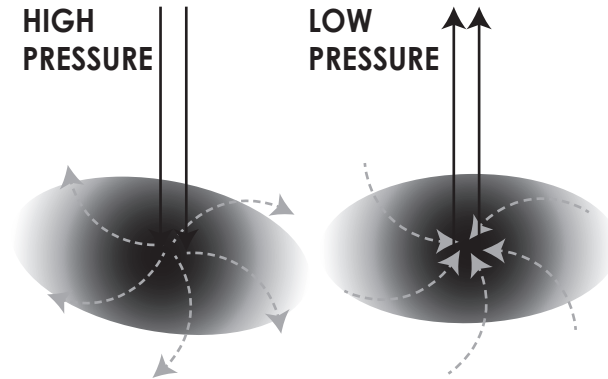


Air: Movement, Flow

Movement: a change or development

Movement of Air: Airflow, cause of by the existence of air. Air behaves in a wave like manner, where particles naturally flow from areas of higher pressure to those where the pressure is lower.

Flow: (of a fluid, gas, or electricity) move along or out steadily and continuously in a current or stream



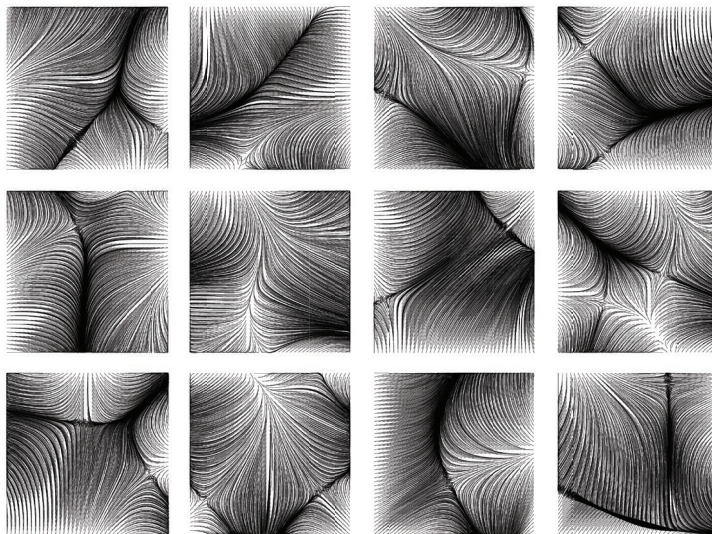
Class 02-03// 2020-09-(04,11)

Primary Effects of Air

Air: Current

Current: concentrated areas of winds due to differences in pressure or temperature

Experimenting with visualizing flow and current with Grasshopper:



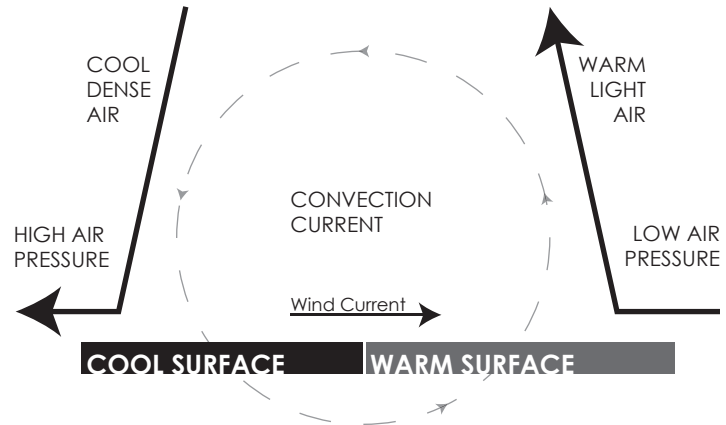
Class 02-03// 2020-09-(04,11)

Primary Effects of Air: Grasshopper

Air: Temperature/Convection

Temperature: Temperature is a physical quantity that expresses hot and cold and the manifestation of thermal energy, present in all matter.

Convection: movement caused by the tendency of hotter and therefore less dense material to rise, and colder, denser material to sink under the influence of gravity, which consequently results in transfer of heat



Class 02-03// 2020-09-(04,11)

Primary Effects of Air

Air: Humidity/Density+ Effects-Secondary

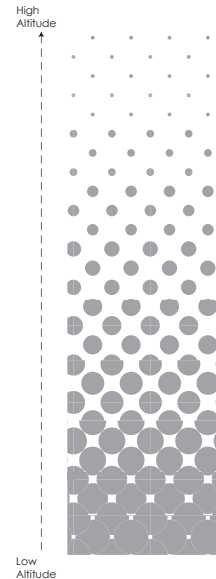
Humidity: the concentration of water vapor present in the air

Density: the mass per unit volume of Earth's atmosphere. Air density, decreases with increasing altitude and changes with variation in atmospheric pressure, temperature and humidity

Secondary Effects of Air

- **Refraction of Air/Atmospheric Refraction:** deviation of light or other electromagnetic wave from a straight line as it passes through the atmosphere due to the variation in air density as a function of height
- **Fog:** thick cloud of tiny water droplets suspended in the atmosphere
- **Breeze:** light movement of air
- **Clouds:** a visible mass of condensed water vapor floating in the atmosphere

Density in Relation to Atmosphere and Altitude



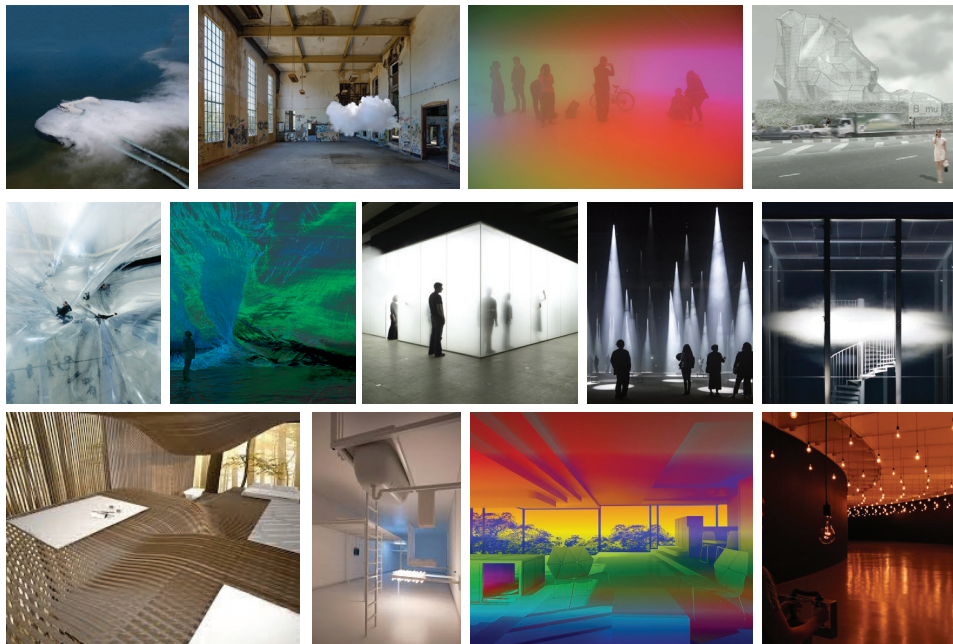
Class 02-03// 2020-09-(04,11)

Primary Effects of Air and Secondary Effects

Air: Material Interaction

02B. LIGHT AND MATERIAL INTERACTION: AIR / SPACE

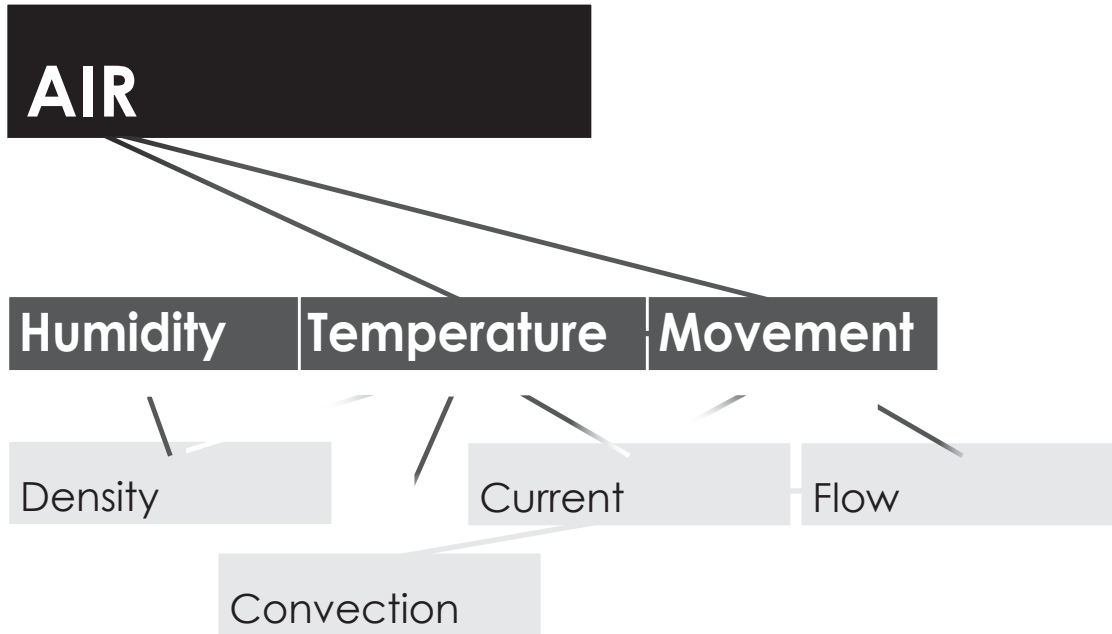
- Diller Scofidio (Blur Building, 2002)
- Berndnaut Smilde (Nimbus)
- Olafur Eliasson (Feelings Are Facts)
- R&Sic Architects (Bangkok Tower Proposal / catalyzing air pollution)
- Tomas Saraceno (On Space Time Foam / Poetic Cosmos of the Breath)
- Antony Gormley (Blind Light)
- Sou Fujimoto (Light Forest)
- Cartier (Scented Cloud, Palais de Tokio, Paris)
- Phillippe Rahm (3) (Air Flux, Convective Apartments, Interior Gulf Stream, Interior Weather, Domestic Astronomy)
- RAFAEL LOZANO-HEMMER (PULSE, Hirshorn museum)



Class 02-03// 2020-09-(04,11)

Precedents of Air

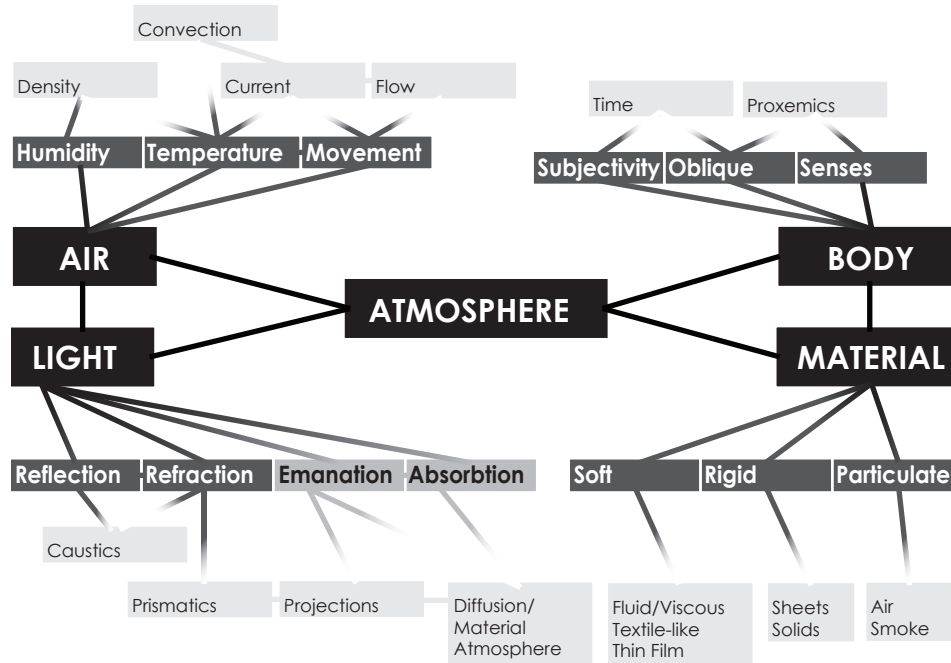
Phenomenotechnical- Air



Class 02-03// 2020-09-(04,11)

Relational Effects of Air

Phenomenotechnical- Air/Light



Class 03// 2020-09-11

OBJECT STUDIES



Properties: Qualitative and Quantitative

Description: Chemex Handblown Glass
Team Mug 10oz

Quantitative

- Capacity: 10 oz
- Height: 4"
- Diameter: 3.5"

Qualitative

- Neutral or Light
- Refraction and Reflection
- Transparency and Translucency
- Rigid to other Forms
- Lens Effect/Refraction



Class 04// 2020-09-18

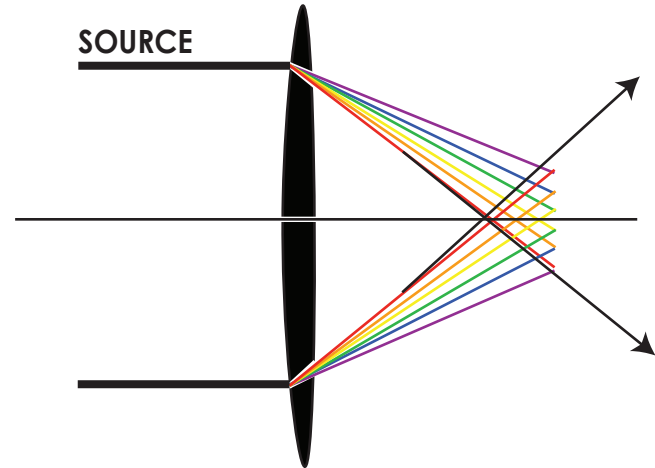
Object Properties

Properties: Qualitative and Quantitative



The object possesses several inherent light refraction properties as seen when using the object as a lens for viewing, when looking through the “contact surface” (base/surface that lies on the environmental plane).

Refraction and Chromatic Aberration: caused by dependence of len’s IOR on color/wavelength:

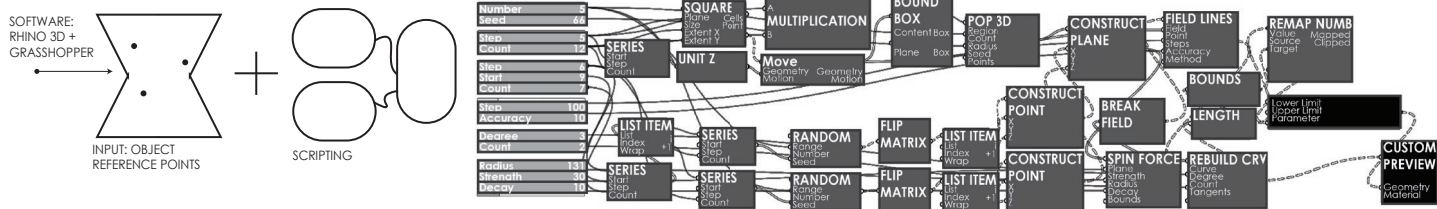


Class 04// 2020-09-18

[See Video]

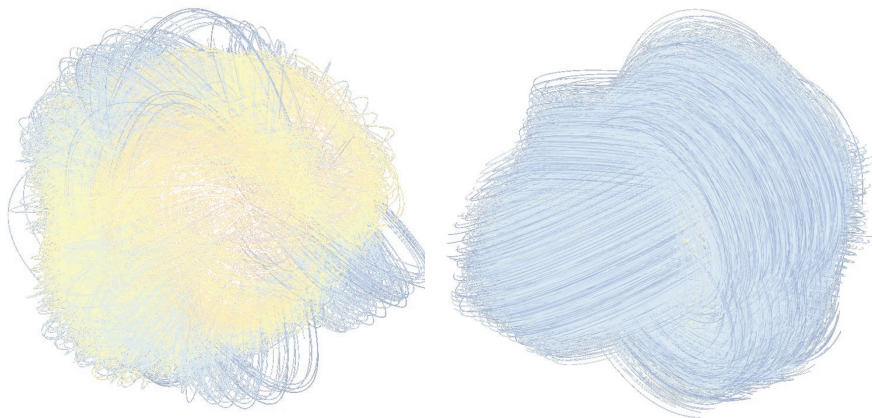
Explorations: Phenomological Topology Nest

VISUALIZATION PROCESS



Topology is concerned with the properties of a geometric object that are preserved under continuous deformations, such as stretching, twisting, crumpling and bending, but not tearing or gluing.

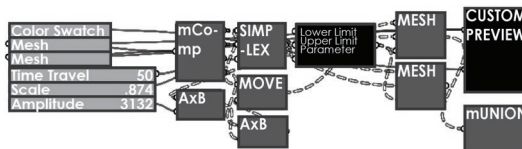
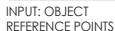
Here the exterior environment or “atmosphere” of the object is stretched and twisted creating a nest like structure, or it’s own atmospheric topological visualization.



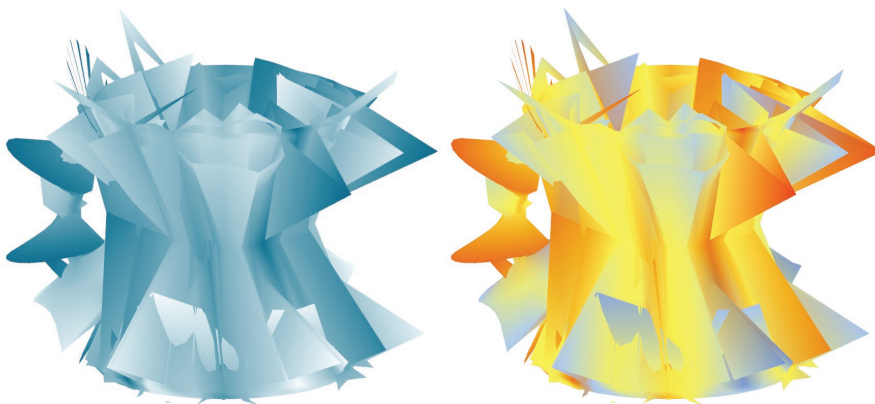
Class 05// 2020-09-25

Visualizations: Grasshopper

Explorations: Growth and Allure



The object was mapped using points the perlin grasshopper plugin resulting in this deformed and strange abstraction of color and growth from the original object. Perhaps this growth is one way in which the object reveals some of it's "sensuous" levels of perception or evokes allure.



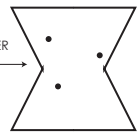
Class 05// 2020-09-25

Visualizations: Grasshopper

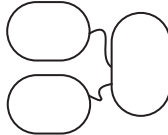
Explorations: Particle Cloud

VISUALIZATION PROCESS

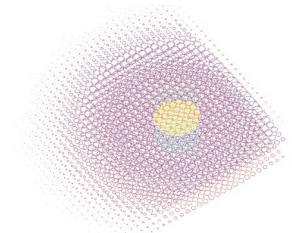
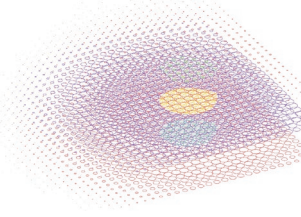
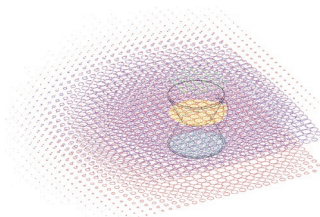
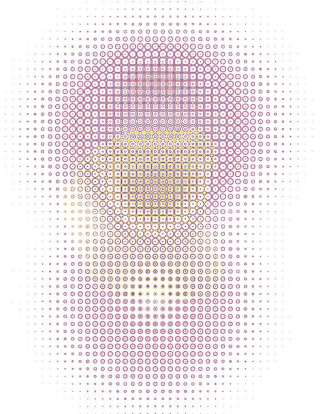
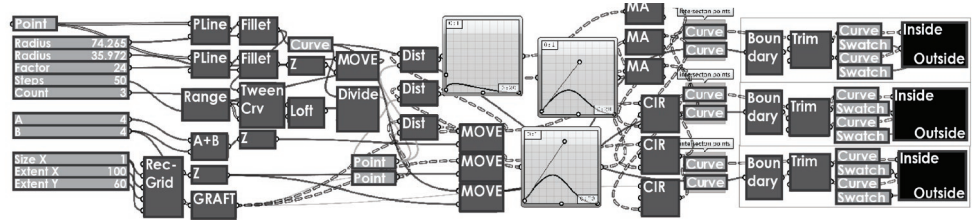
SOFTWARE:
RHINO 3D +
GRASSHOPPER



INPUT: OBJECT
REFERENCE POINTS



SCRIPTING



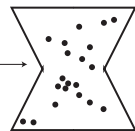
Class 05// 2020-09-25

Visualizations: Grasshopper

Explorations: Hair Emanation and Absorption

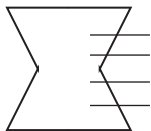
VISUALIZATION PROCESS

SOFTWARE:
BLENDER 2.8,
EEVEE



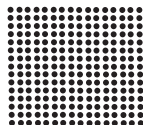
INPUT: OBJECT WITH
VERTEX GROUP

+

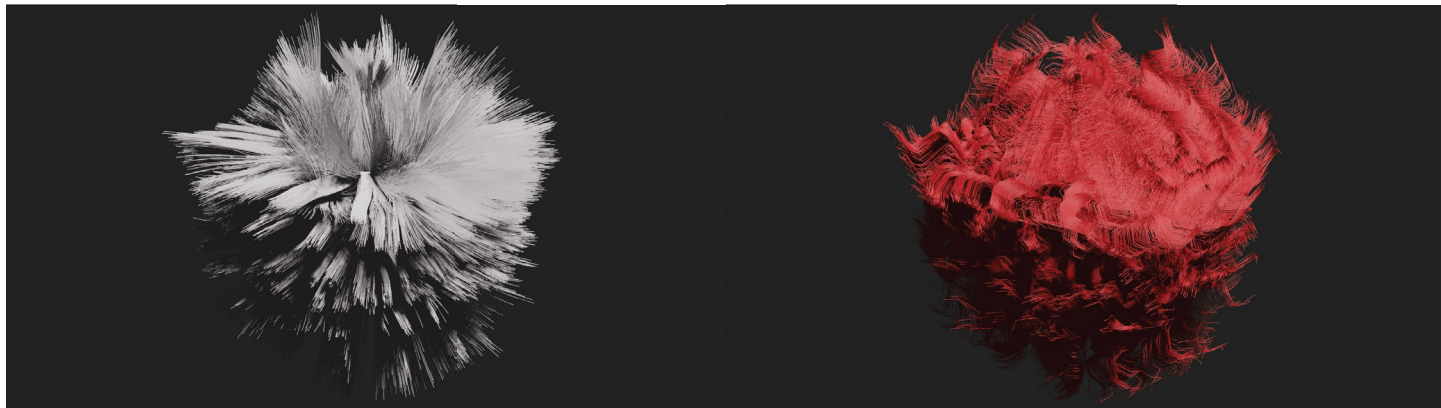


NORMAL MAPPING

+



HAIR PARTICLE SYSTEM



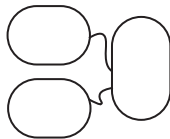
Class 05// 2020-09-25

Animations: Blender 2.8 eevee [See Video]

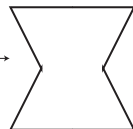
Explorations: “Machine Vision”

VISUALIZATION PROCESS

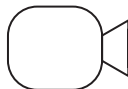
SOFTWARE:
RHINO 3D +
GRASSHOPPER



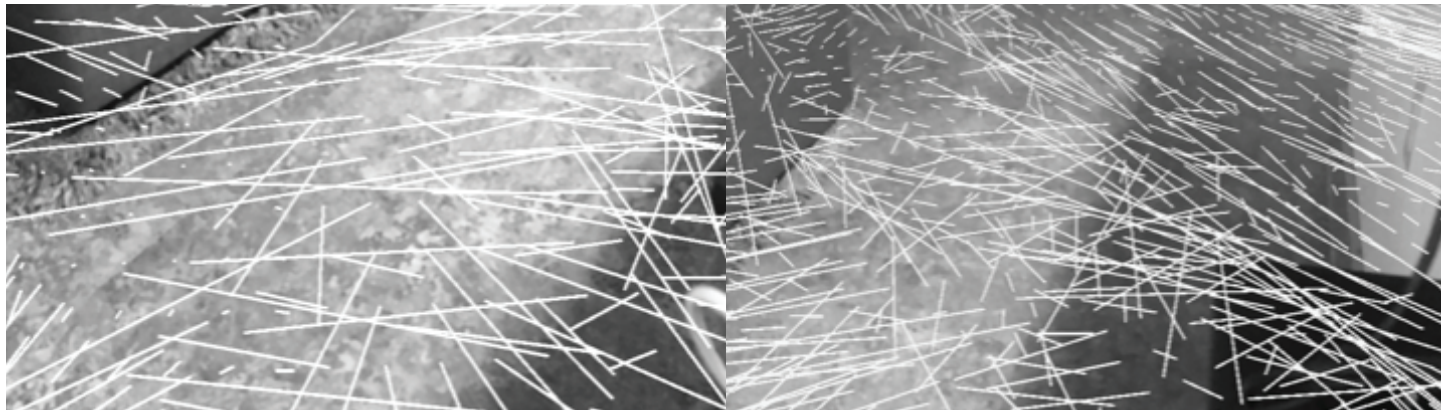
FIREFLY GRASSHOPPER
SCRIPT



OBJECT



CAMERA

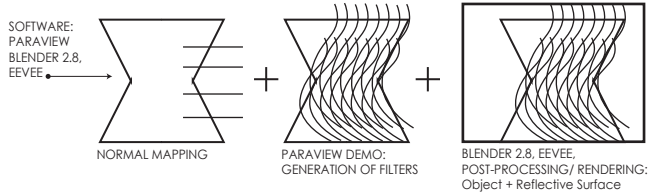


Class 05// 2020-09-25

Augmented Reality: Grasshopper and Follogram

Object Capacities: Glass, Caustics and Dispersion- “X-Ray”

VISUALIZATION PROCESS

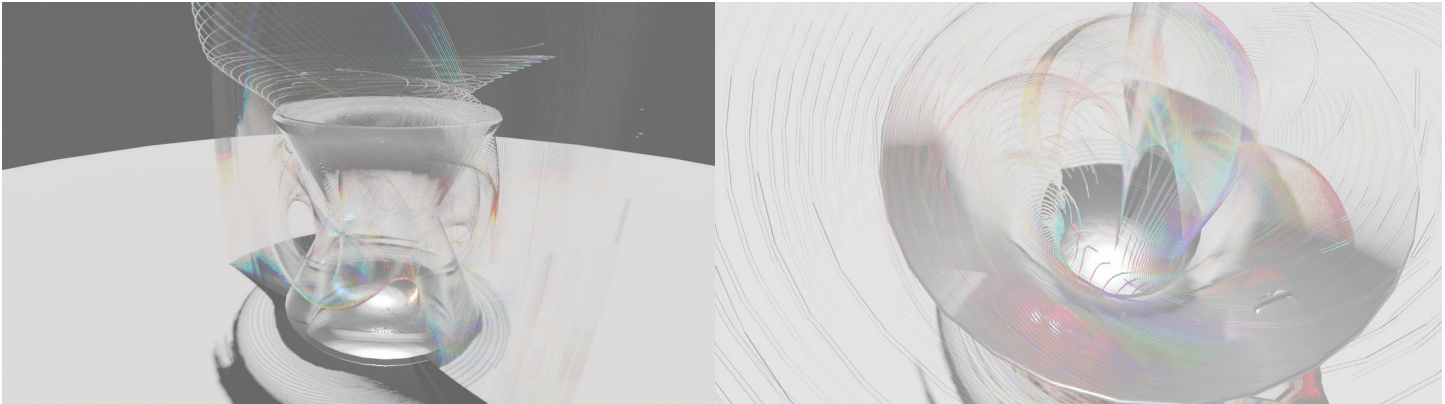
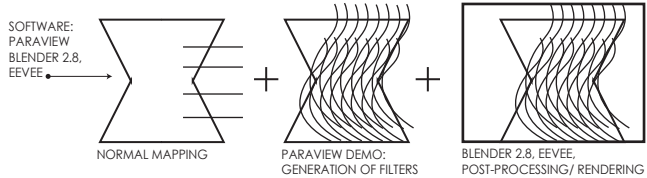


Class 06// 2020-10-02

Visualizations: Blender 2.8 eevee

Object Capacities: Glass, Caustics and Dispersion

VISUALIZATION PROCESS



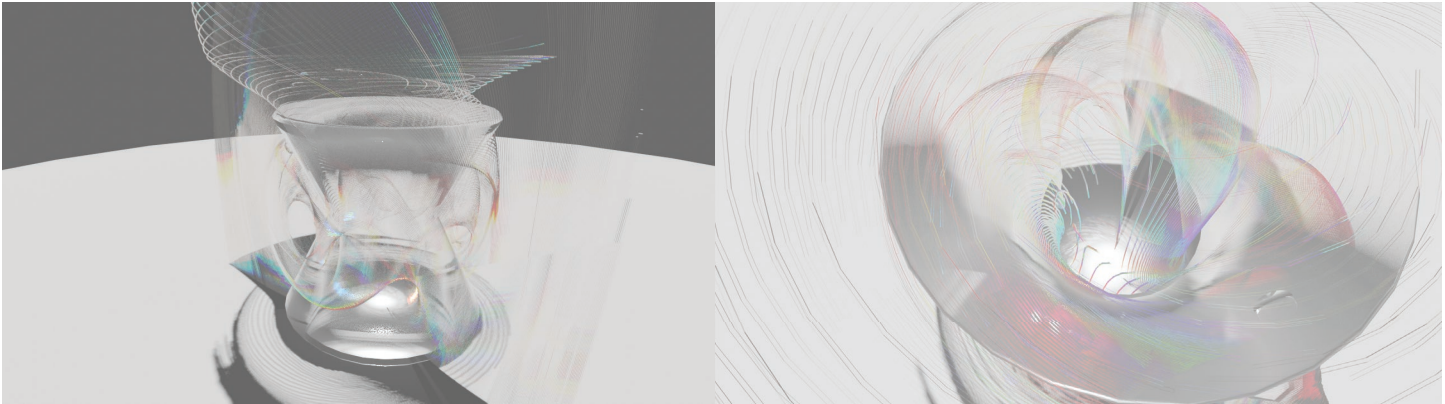
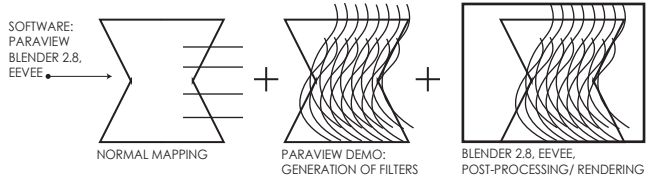
Class 06// 2020-10-02

Visualizations and Animations: Blender 2.8 eevee

[See Videos]

Object Capacities: Glass, Caustics and Dispersion

VISUALIZATION PROCESS



Class 06// 2020-10-02

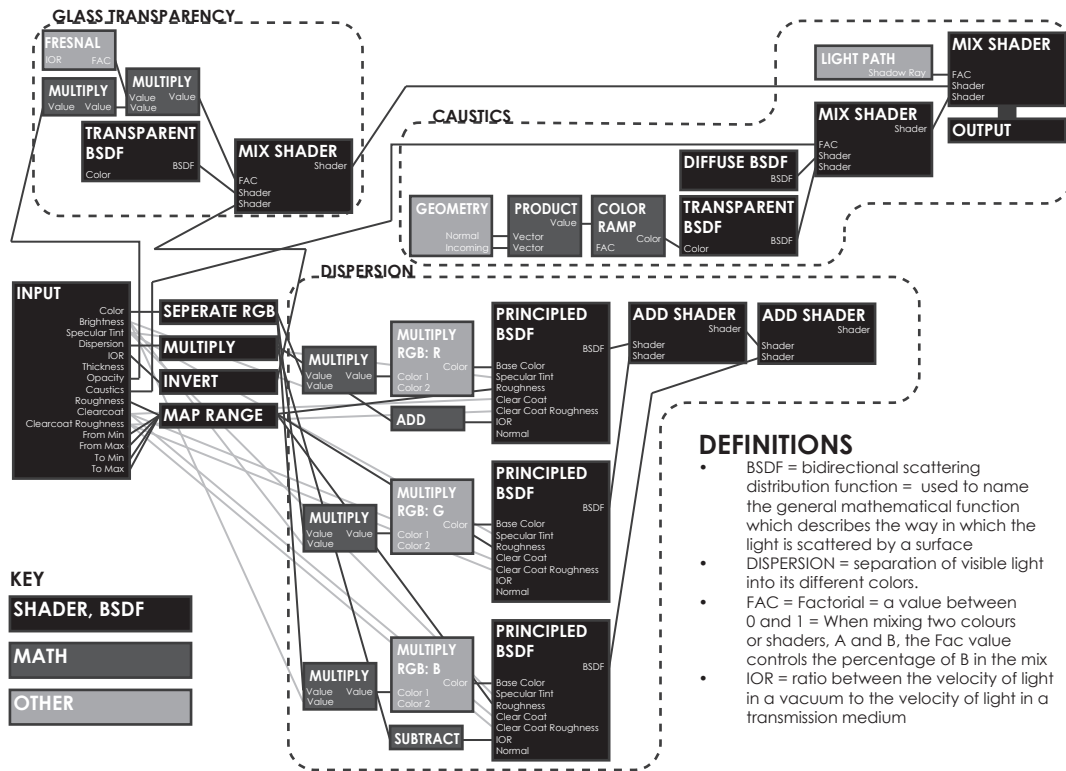
Visualizations and Animations: Blender 2.8 eevee

[See Videos]

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

The goal of this test was to use blender material nodes to try to get a visualization of caustics and dispersion.

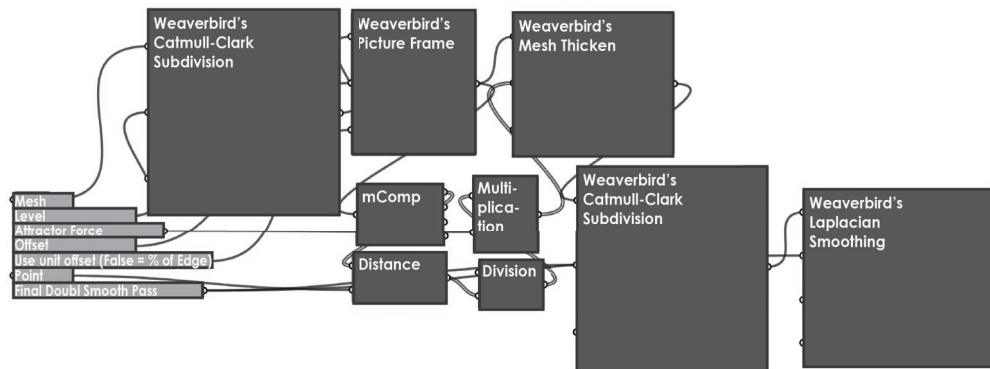
1. define glass shader in Eevee render engine
2. define color and dispersion with the guidance of CG Vertex tutorial. Using mathematics to offset IOR values for the red, green, and blue channels
3. define caustics using a custom color ramp and mixing the shaders



Class 06// 2020-10-02

Diagram: Blender 2.8 eevee

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)



The following series of explorations in “object capacities: layers of reflection and dispersion,” explores a system of layering meshes made with Weaverbird in Grasshopper for Rhino 6. These layers were then compiled, shaded, and rendered with Blender 2.8 with the Eevee engine. This layering is intended as the next step in explorations combining ideas from “Object Capacities: Caustics and Dispersion” from the previous pages, and “Hair Emanation and Absorption.” These studies also aim for and even further push away from the object and into the sphere of the in-between.

Class 07-08//2020-10-(09, 16)

*Grasshopper Weaverbird and Blender 2.8 Eevee Post
Processing*

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



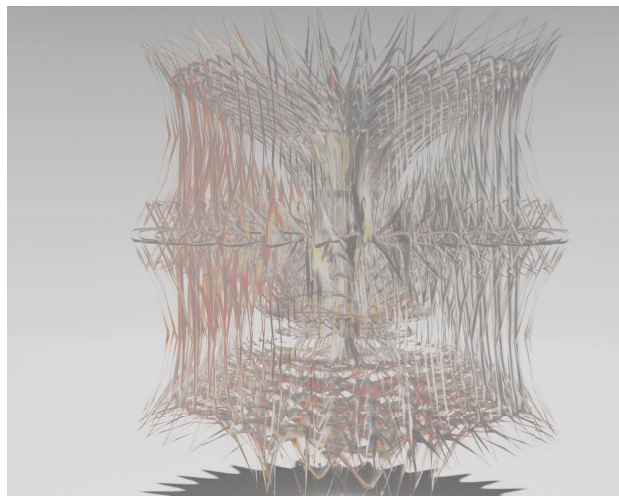
GRASSHOPPER
WEAVERBIRD SCRIPT



5 LAYERS OF MESH WITH
5 STEP ADJUSTMENT

+

BLENDER 2.8, EEEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader



Class 07-08//2020-10-(09, 16)

*Visualizations: Grasshopper Weaverbird and Blender 2.8
Eevee Post Processing*

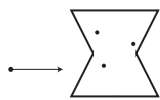
Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



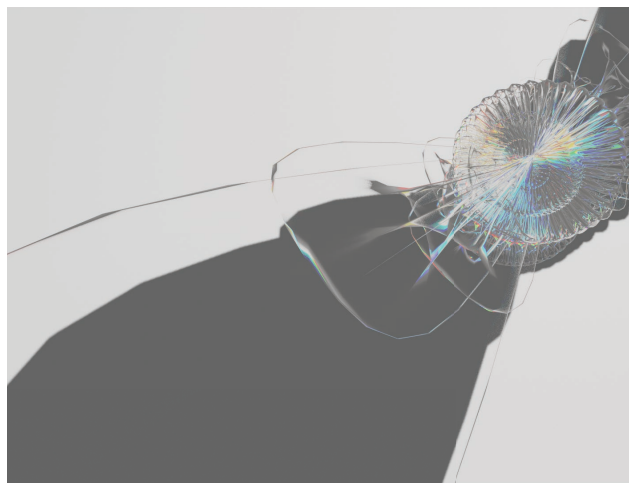
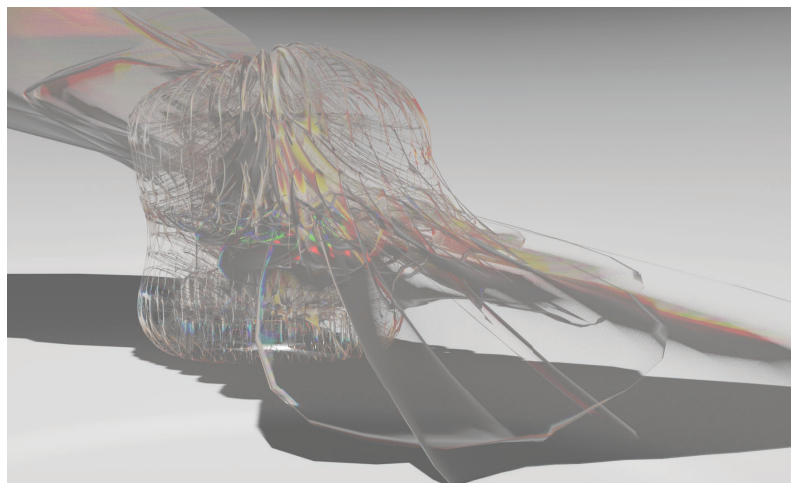
GRASSHOPPER
WEAVERBIRD SCRIPT



OBJECT ATTRACTOR POINTS:
Increased Attractor Intensity

+

BLENDER 2.8, EEEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader



Class 07-08//2020-10-(09, 16)

Visualizations: Grasshopper Weaverbird and Blender 2.8

Eevee Post Processing

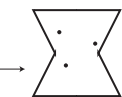
Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



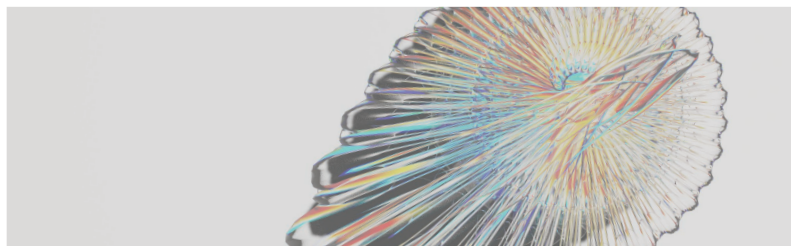
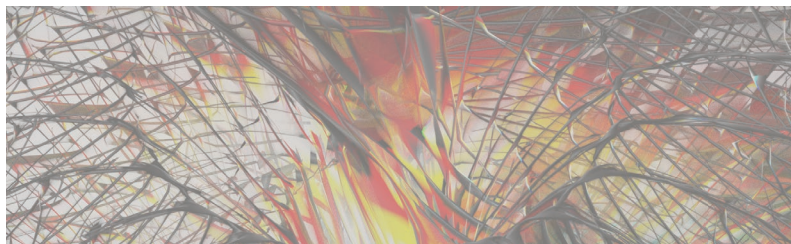
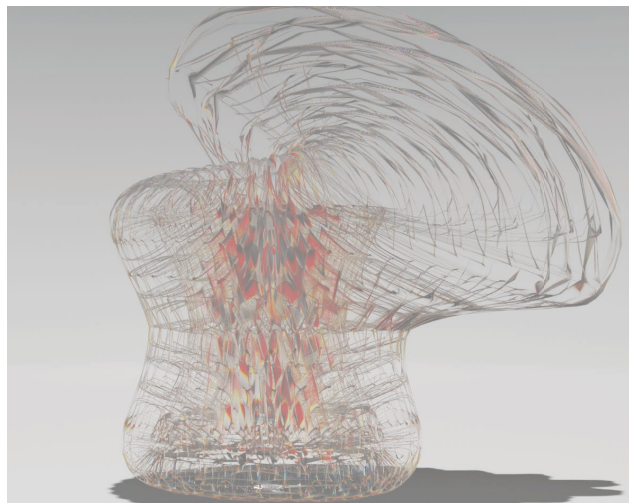
GRASSHOPPER
WEAVERBIRD SCRIPT



OBJECT ATTRACTOR POINTS:
Increased Attractor Intensity



BLENDER 2.8, EEEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader



Class 07-08//2020-10-(09, 16)

Visualizations: Grasshopper Weaverbird and Blender 2.8

Eevee Post Processing

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



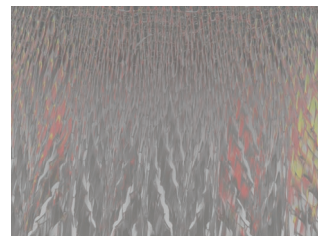
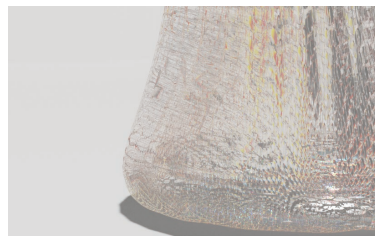
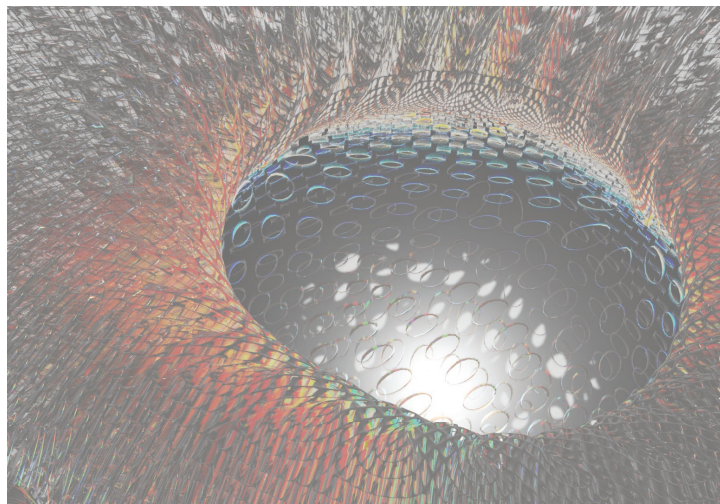
GRASSHOPPER
WEAVERBIRD SCRIPT



OBJECT:
Increased Mesh Density

+

BLENDER 2.8, EEEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader



Class 07-08//2020-10-(09, 16)

Visualizations: Grasshopper Weaverbird and Blender 2.8

Eevee Post Processing

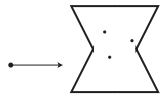
Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



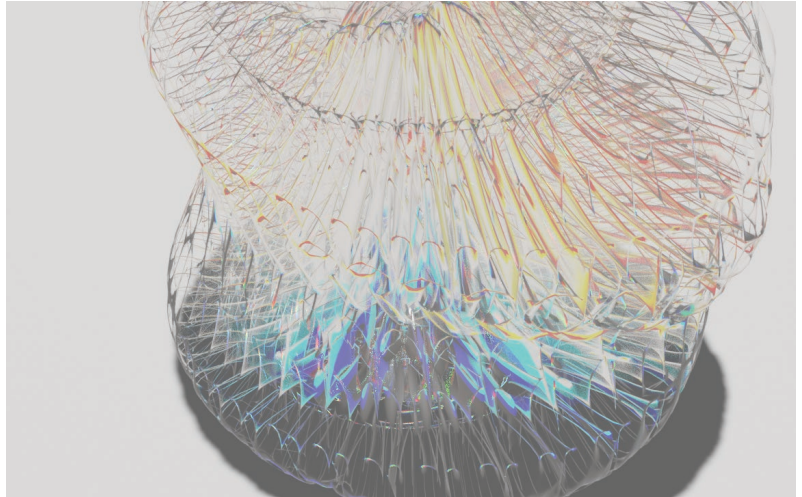
GRASSHOPPER
WEAVERBIRD SCRIPT



OBJECT: Mesh Extrusion with
Attractor Points

+

BLENDER 2.8, EEEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader

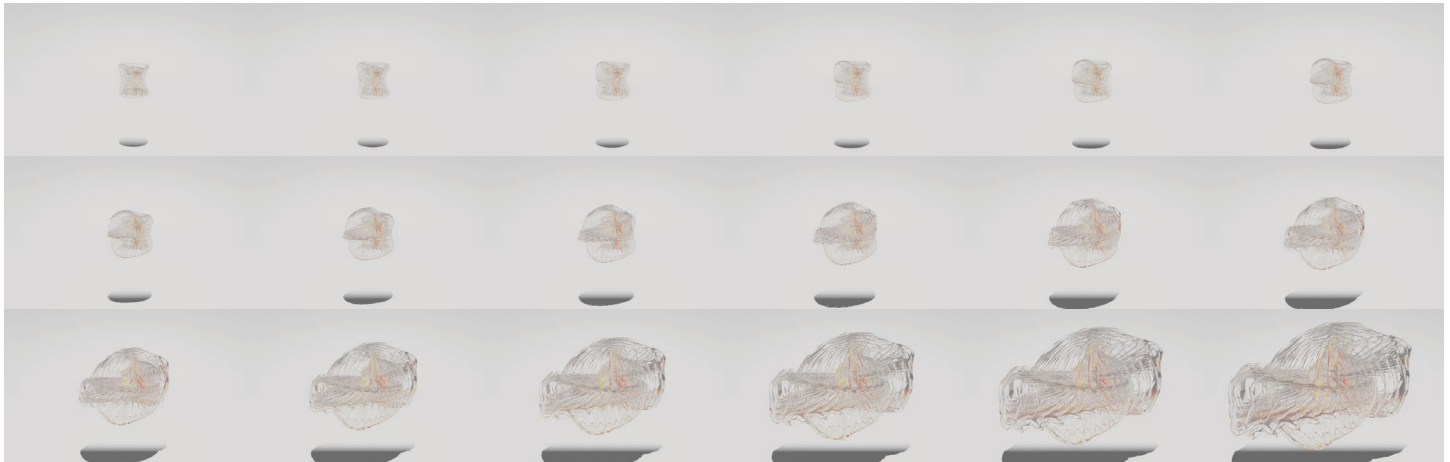
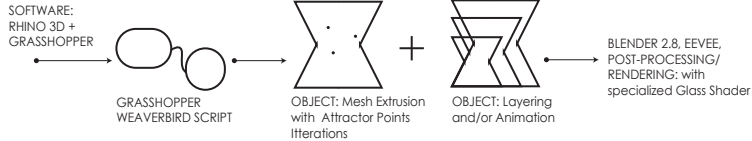


Class 07-08//2020-10-(09, 16)

*Visualizations: Grasshopper Weaverbird and Blender 2.8
Eevee Post Processing*

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

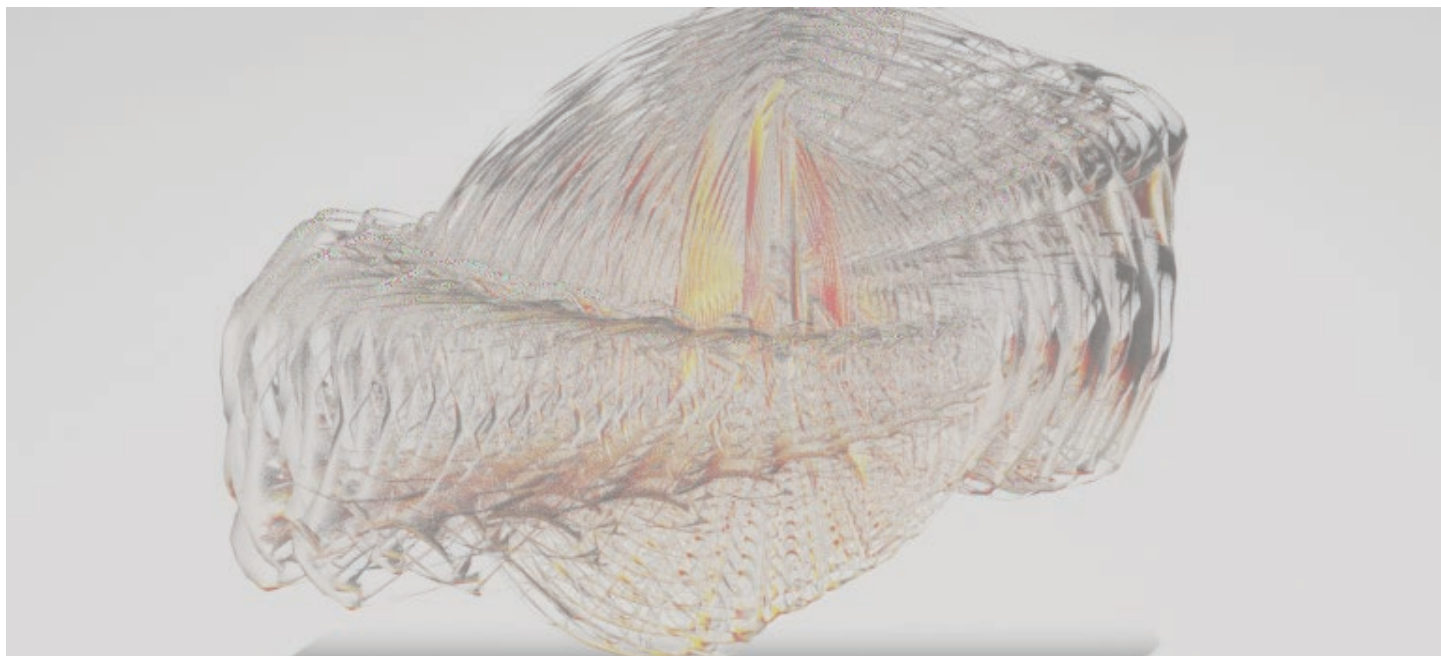
VISUALIZATION PROCESS



Class 09//2020-10-23

*Conceptual Visualizations: Grasshopper Weaverbird and
Blender 2.8 Eevee Post Processing*

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)



Class 09//2020-10-23

*Conceptual Visualizations: Grasshopper Weaverbird and
Blender 2.8 Eevee Post Processing [See Videos]*

Object Capacities: Glass, Caustics, Dispersion, Reflection (1)

VISUALIZATION PROCESS

SOFTWARE:
RHINO 3D +
GRASSHOPPER



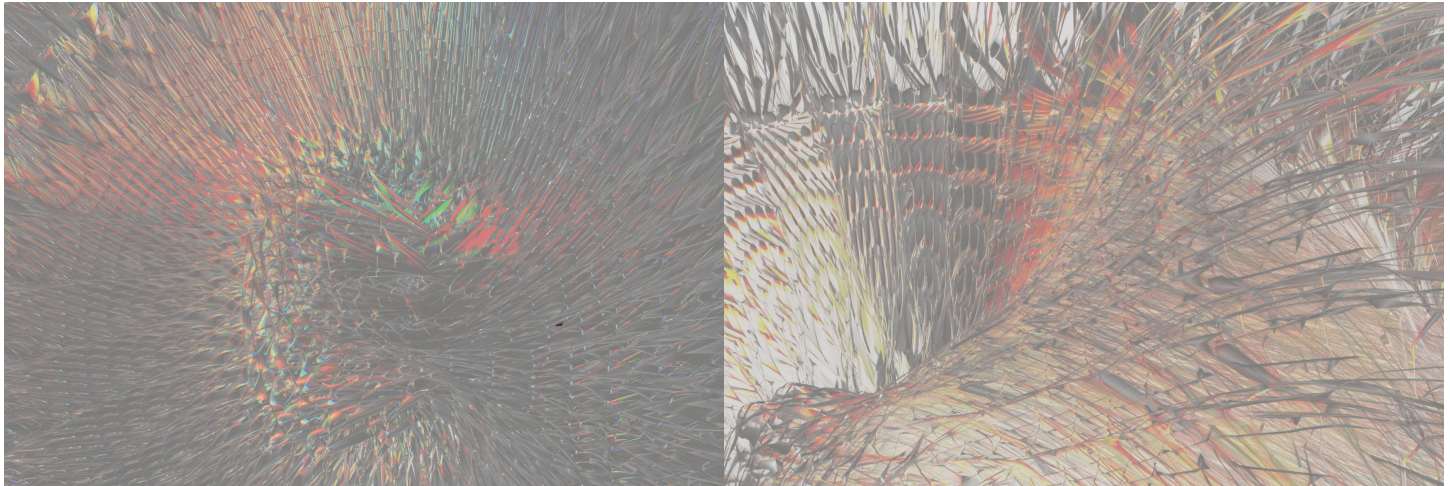
GRASSHOPPER
WEAVERBIRD SCRIPT



OBJECT:
Increased Mesh Density



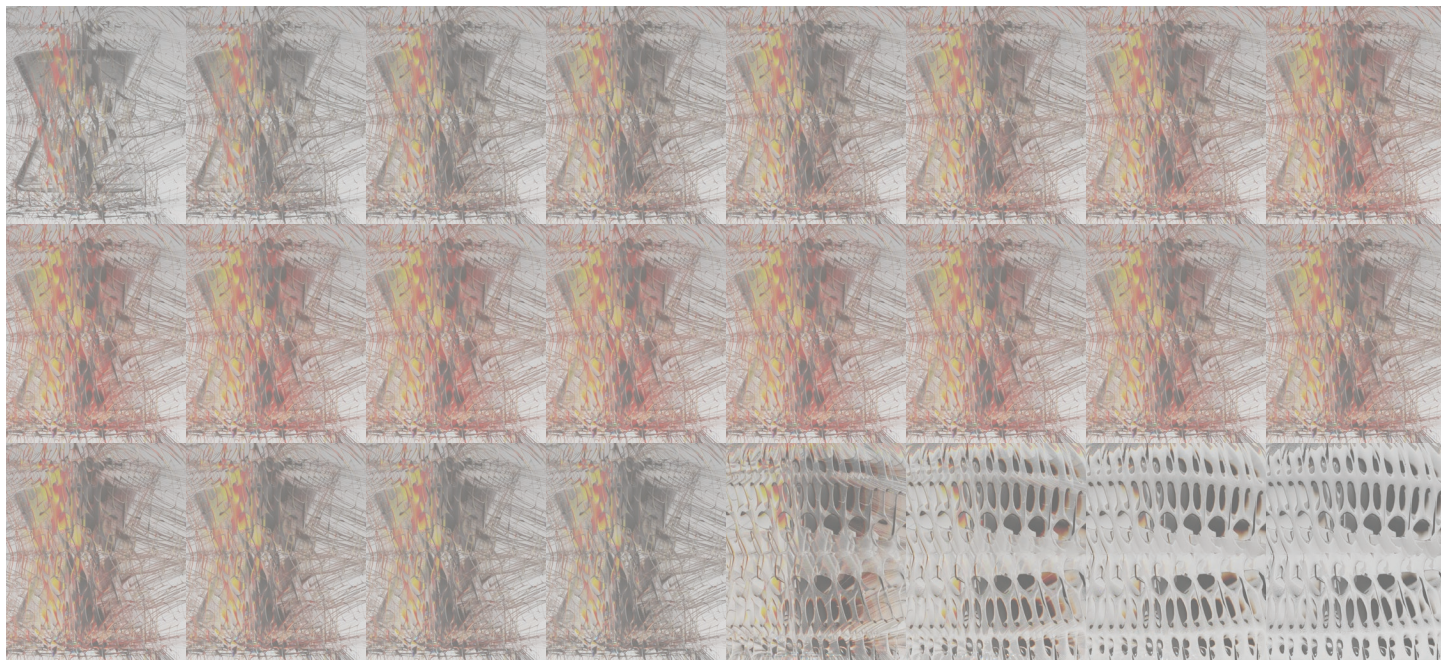
BLENDER 2.8, EEVEE,
POST-PROCESSING/
RENDERING: with
specialized Glass Shader



Class 09//2020-10-23

*Conceptual Visualizations: Grasshopper Weaverbird and
Blender 2.8 Eevee Post Processing*

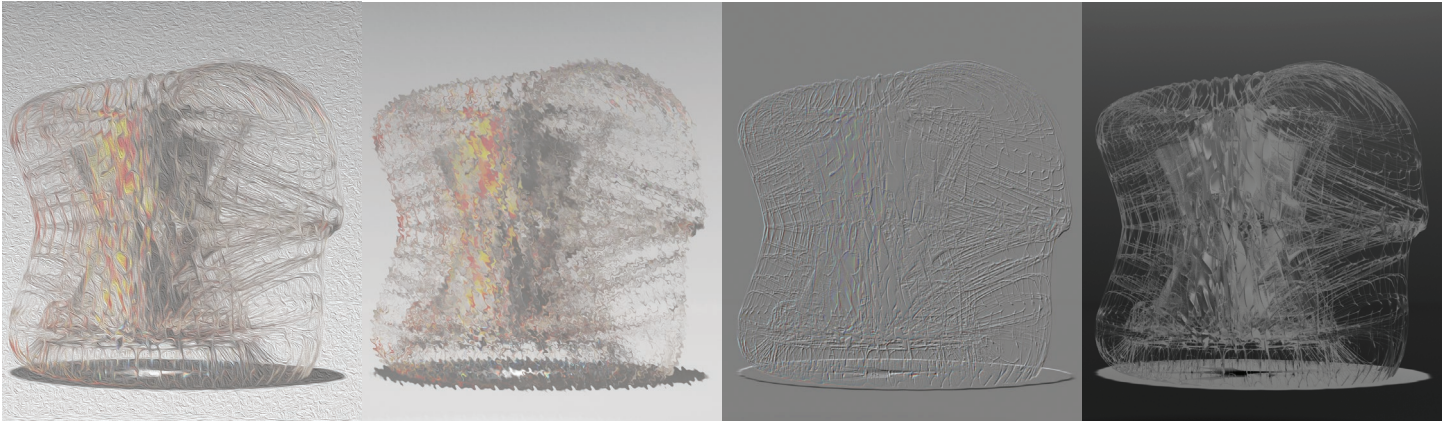
Object Capacities: Glass, Caustics, Dispersion, Reflection (1)



Class 10//2020-10-30

*Key Framing Material Properties: Grasshopper Weaverbird
and Blender 2.8 Eevee Post Processing [See Video]*

Object Filters & Machine Learning (2)

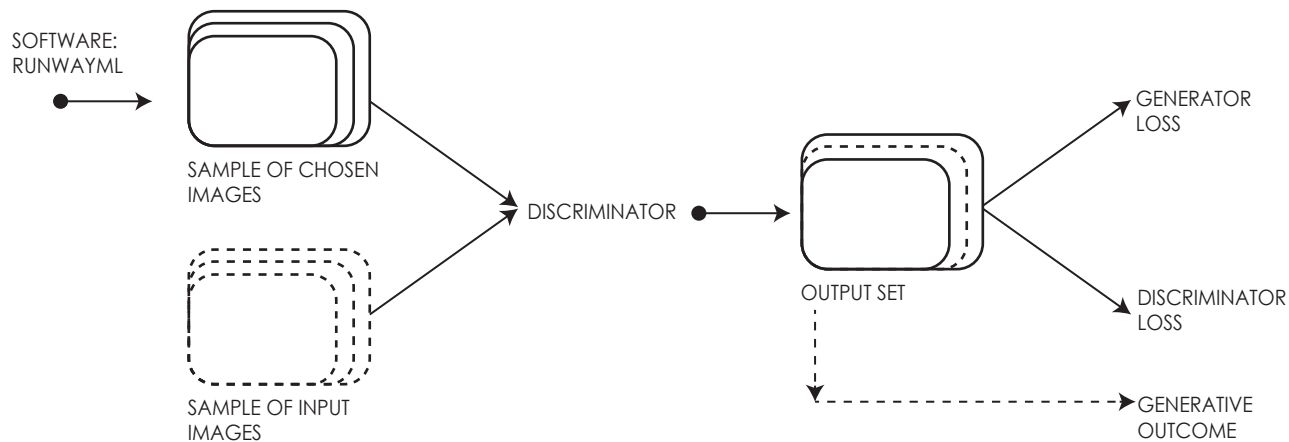


POSTPROCESSING: Objects can be reimagined or seen in new ways with the aid of filters and machine learning. Using Runwayml and training style gans the following are explorations of generative techniques for looking at this object through a machine’s “eyes.”

Class 10//2020-10-30

Object Filters & Machine Learning (2)

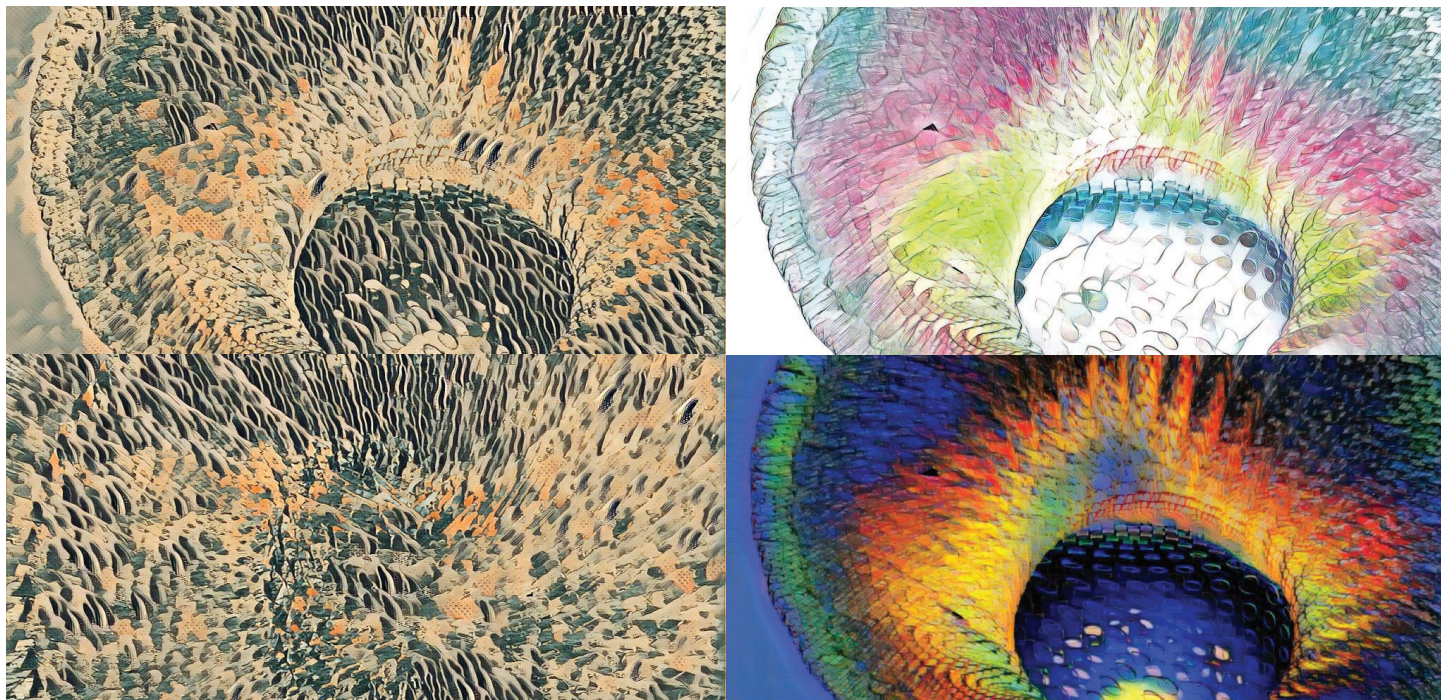
PROCESS OF STYLE GAN GENERATION: every system experiences the loss of recognizable imagery and the gain of generative outcomes.



Class 10//2020-10-30

Style GAN Diagram

Object Filters & Machine Learning (2)



Class 10//2020-10-30

runwayml pretrained StyleGAN

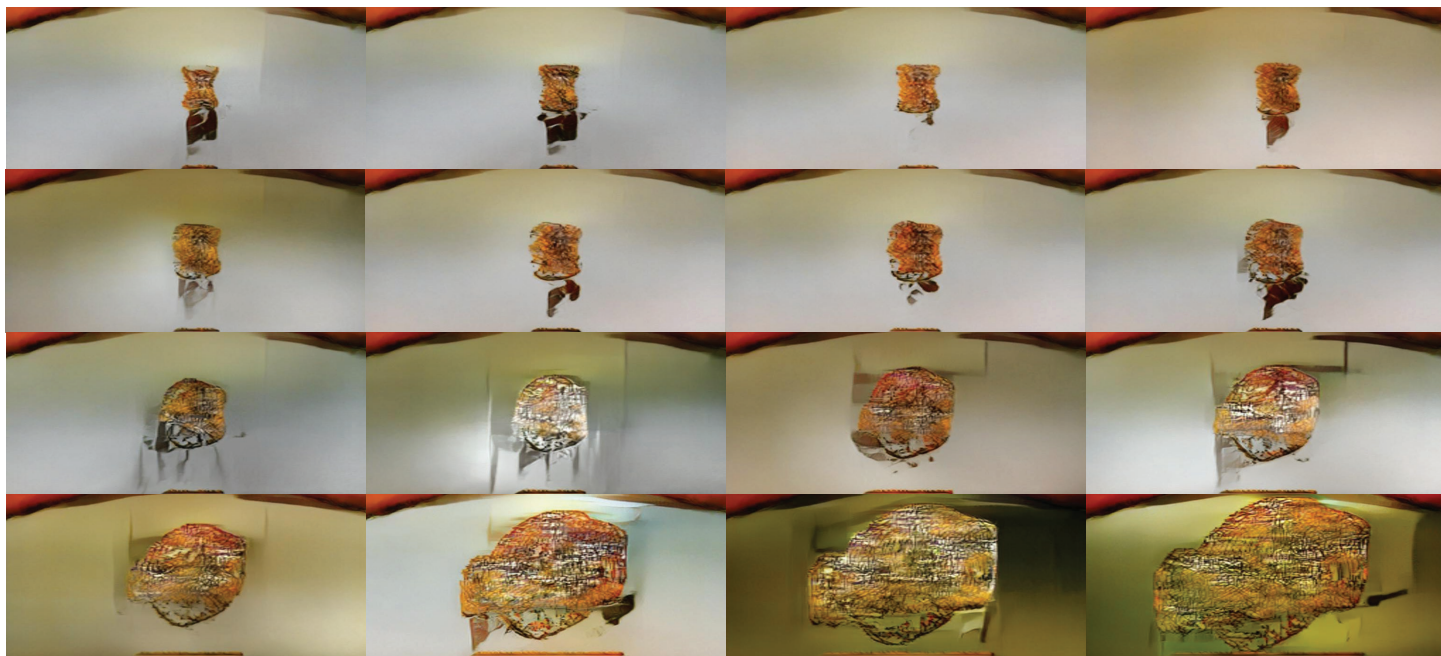
Initial Tests Preloaded StyleGANs

Object Filters & Machine Learning (2)



Class 10//2020-10-30
runwayml SPADE-COCO StyleGAN

Object Filters & Machine Learning (2)



Class 10//2020-10-30

runwayml SPADE-COCO StyleGAN [See Video]

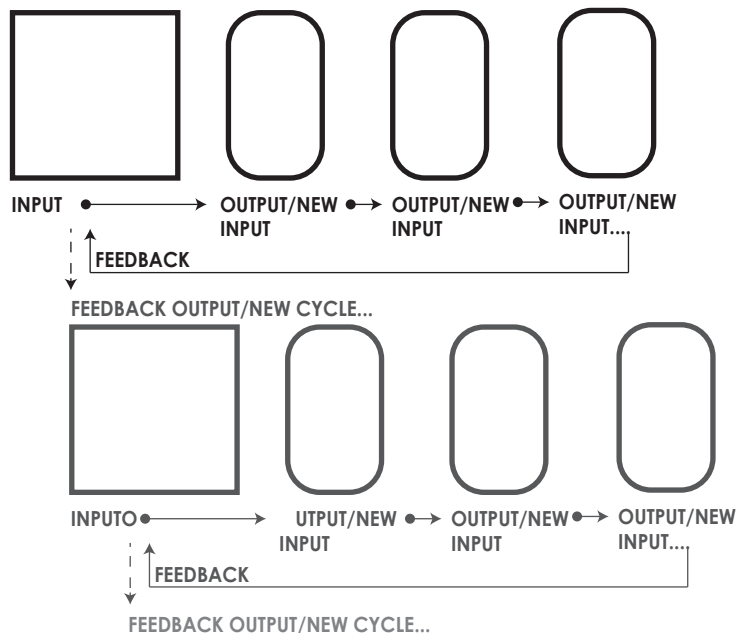
Object Filters & Machine Learning (2)

PROCESS OF STYLE GAN

GENERATION, LOOPING SYSTEM:

A generational workflow can be established by running the machine training and using the output as the new input.

In this diagram, a new output and input are iterated within the same system or technique. Then a new feedback cycle is created upon using a new tool, system, or technique on the result of the previous system.



Class 11//2020-11-06

runwayml

Object Filters & Machine Learning (2)

TRAINING TEST

STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”

STYLE INPUT: Flicker Faces HD

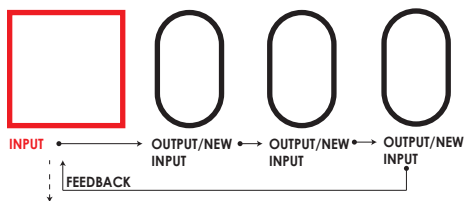
ITERATION 1: 3000 Steps, 2 hours of processing, FID 517.11



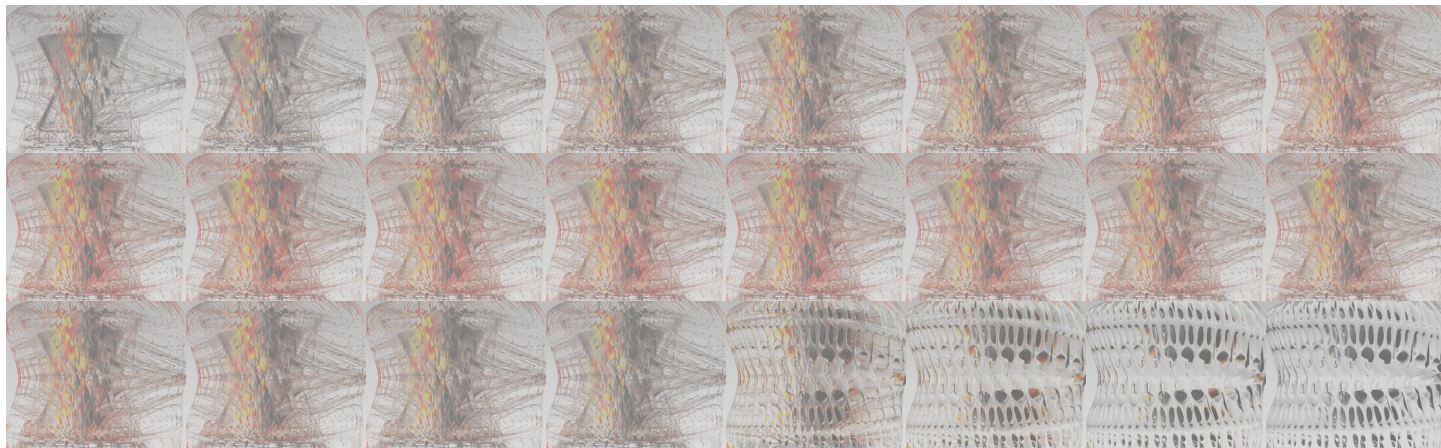
Class 11//2020-11-06

runwayml

Object Filters & Machine Learning (2)



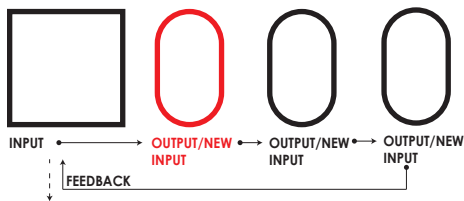
STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”



Class 11//2020-11-06

runwayml

Object Filters & Machine Learning (2)



STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”

STYLE INPUT: Botanical Birds

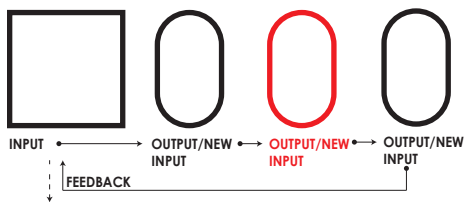
ITERATION 2: 1500 Steps, 2 hours of processing, FID 246.16



Class 11//2020-11-06

runwayml

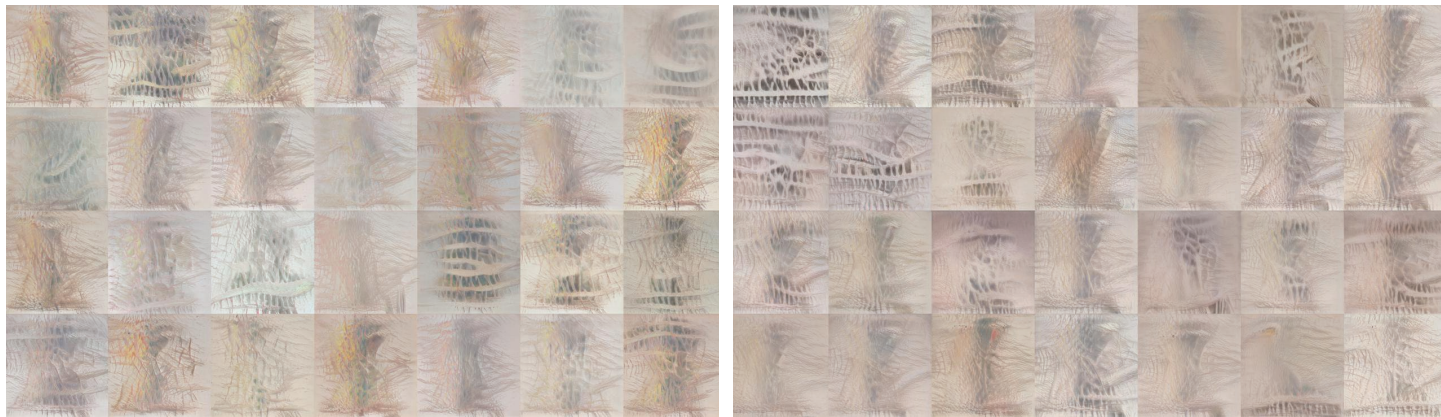
Object Filters & Machine Learning (2)



STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”

STYLE INPUT: Previous Set (see pervious page)

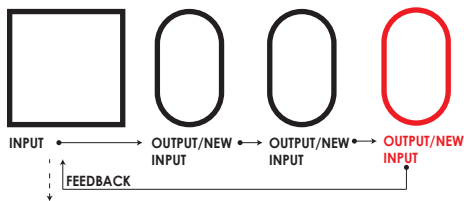
ITERATION 2: 1500 Steps, 2 hours of processing, FID 246.16



Class 11//2020-11-06

runwayml

Object Filters & Machine Learning (2)



STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”

STYLE INPUT: Previous Set (see pervious page)

ITERATION 2: 1000 Steps, 1 hours of processing, FID 90.74



Class 11//2020-11-06

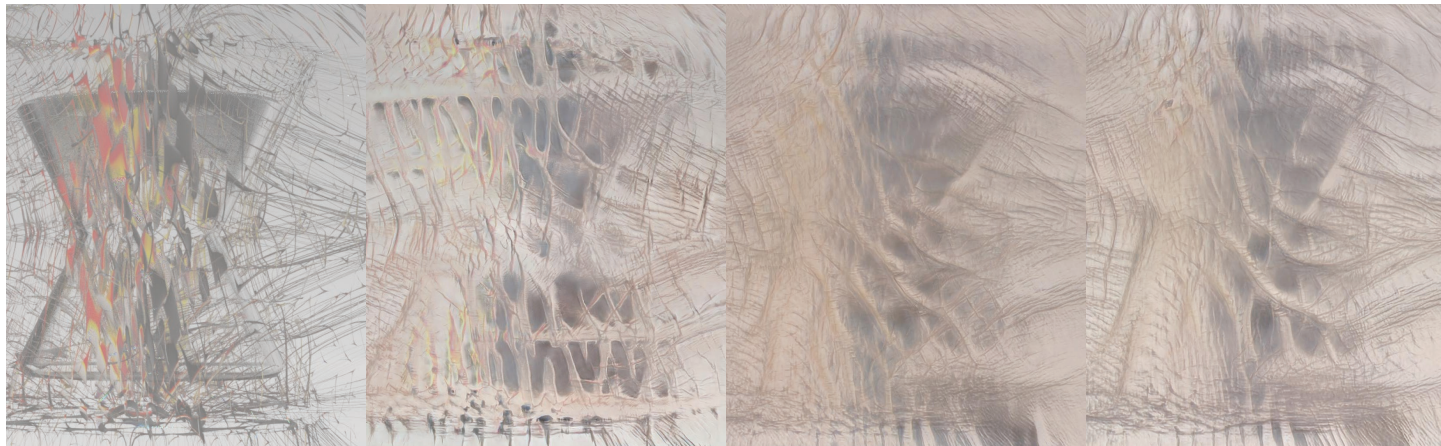
runwayml

Object Filters & Machine Learning (2)



STARTING INPUT: 241 frames from the “Changing Material Animation Based on Shader Node Keyframing”

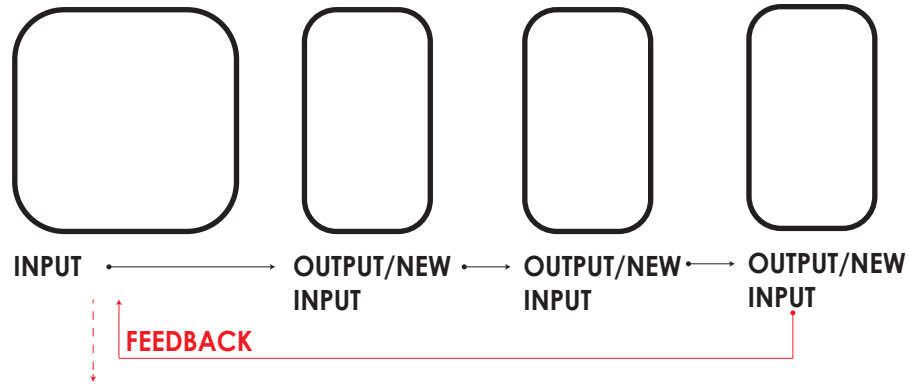
ITERATION 2 SUMMARY: First Image Comparison, Original to Resulting Output



Class 11//2020-11-06

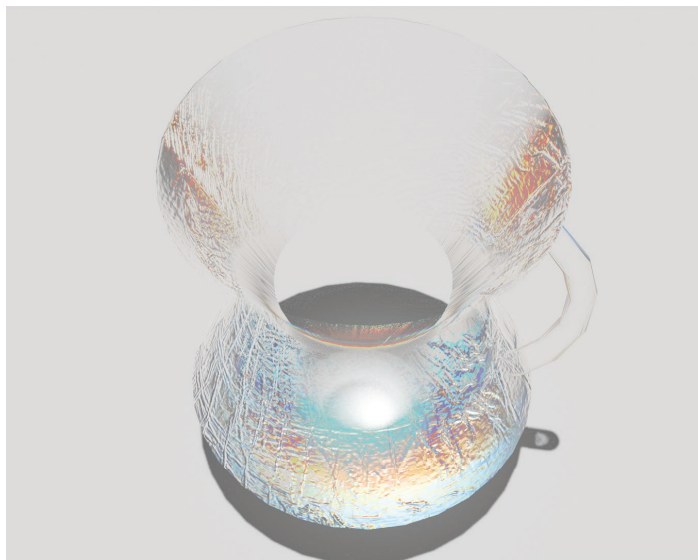
runwayml

Feedback Loop, Projection, AR (3)



This final series features a look into closing the feedback loop from the previous series and also looking back on ways the digital can be projected back into “real” space.

Feedback Loop, Projection, AR (3)

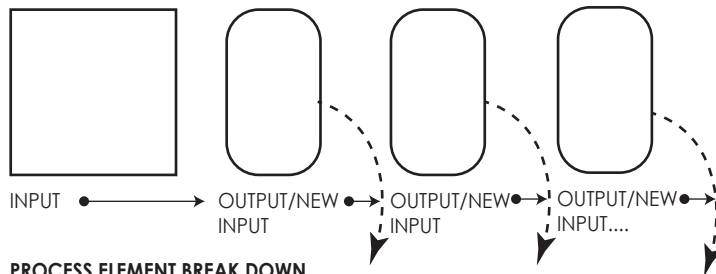


This page and the following pages show the re-projection of the generated images back onto the object.

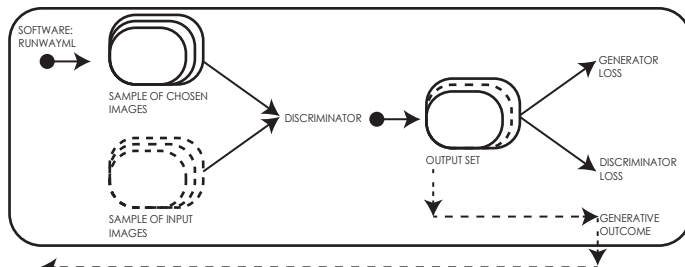
Class 12//2020-11-13

Runwayml Results into Blender 2.8 [see video]

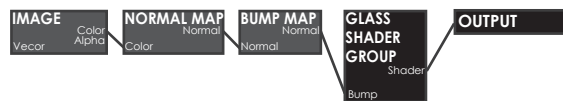
PROCESS OVERVIEW



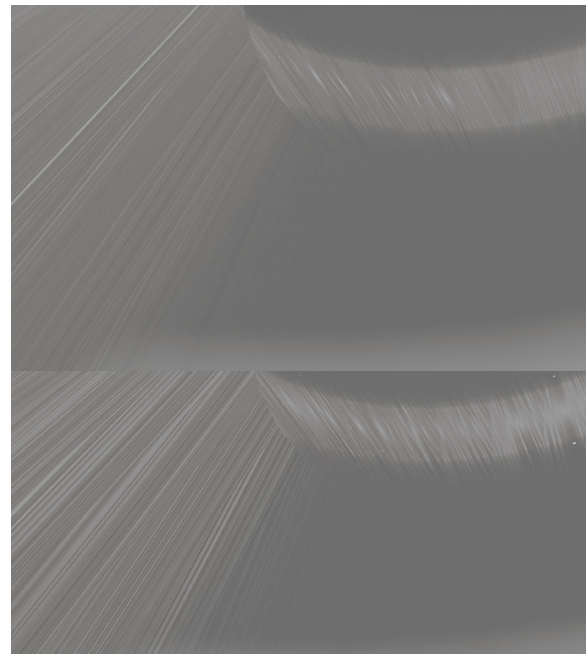
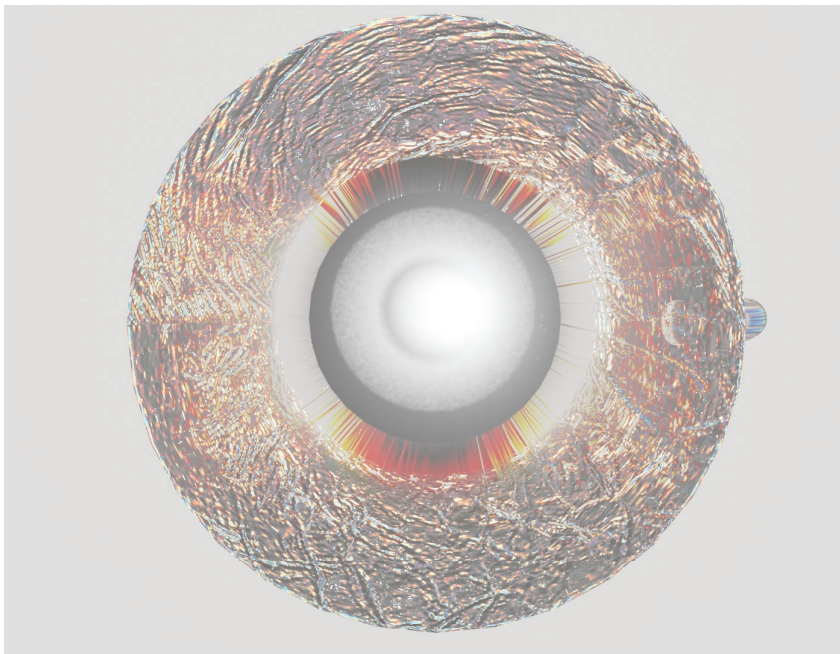
PROCESS ELEMENT BREAK DOWN



FEEDBACK: IMAGES BACK INTO OBJECT SHADER



Feedback Loop, Projection, AR (3)

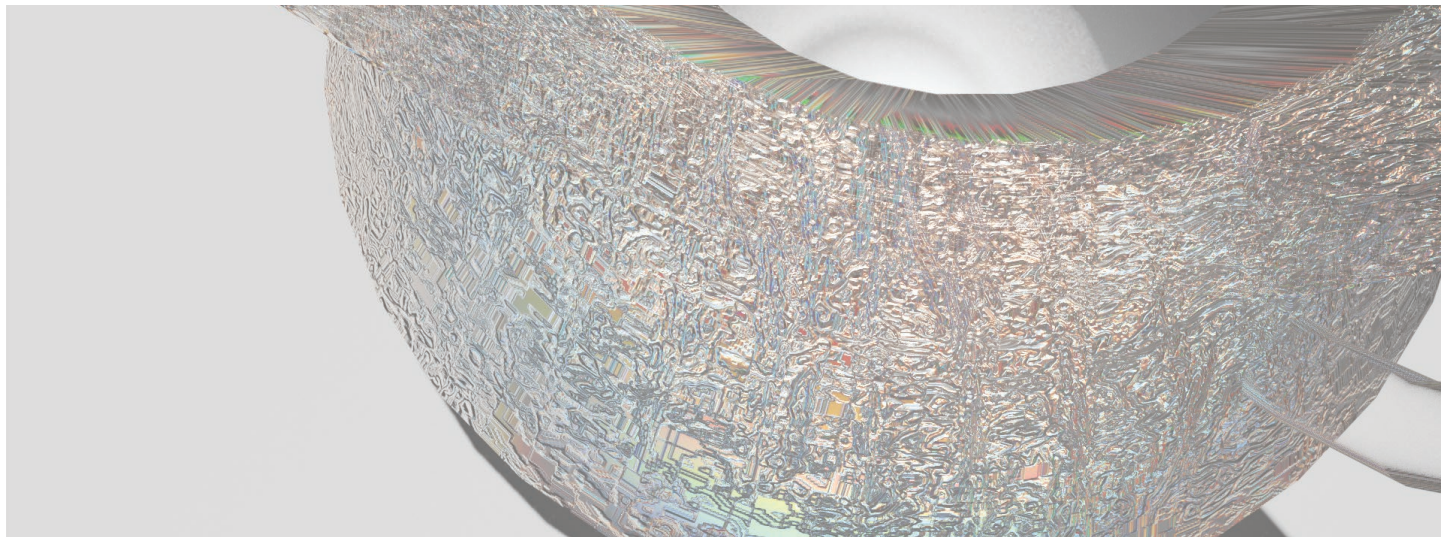
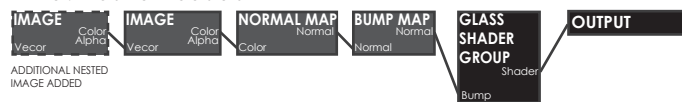


Projection/Feedback Cont. | Object Interior Wall View

Class 12//2020-11-13
Runwayml Results into Blender 2.8

Feedback Loop, Projection, AR (3)

FEEDBACK: IMAGES BACK INTO OBJECT SHADER

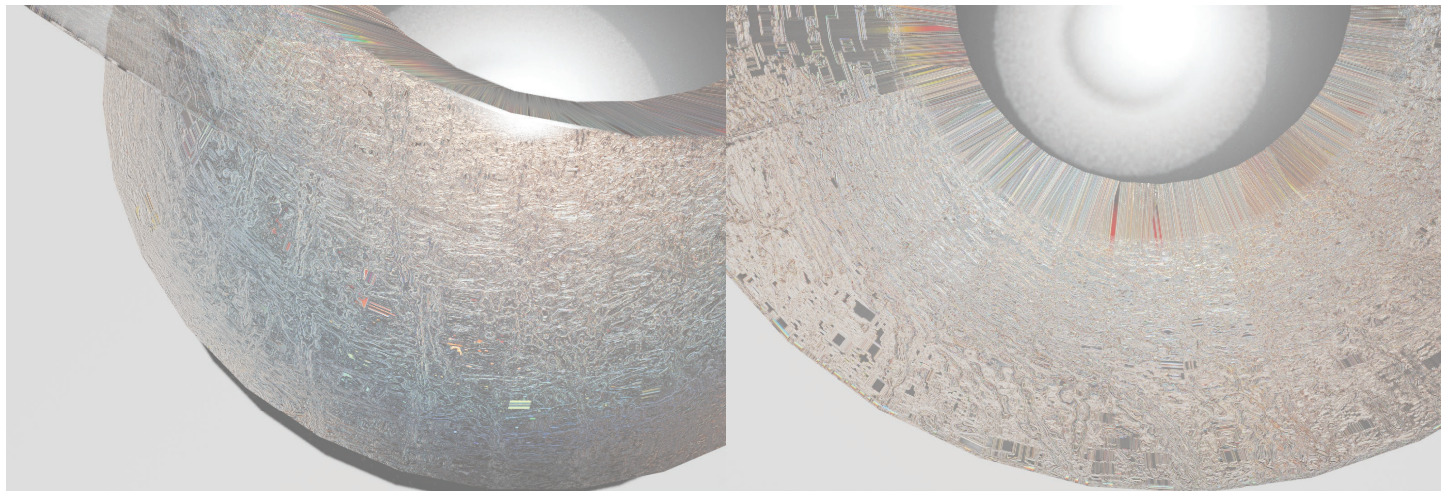


Class 12//2020-11-13

Runwayml Results into Blender 2.8

Feedback Loop, Projection, AR (3)

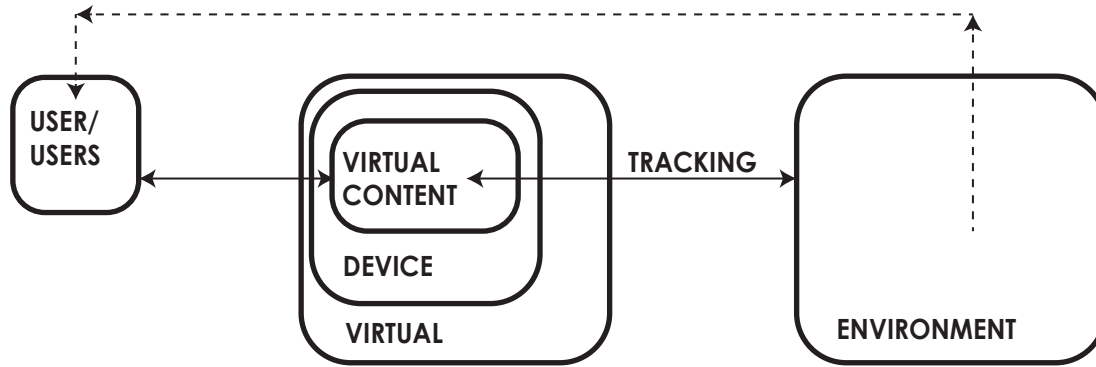
FEEDBACK: IMAGES BACK INTO OBJECT SHADER



Class 12//2020-11-13

Runwayml Results into Blender 2.8

Feedback Loop, Projection, AR (3)



AUGMENTED REALITY: is the superimposition of generated, virtual content on the real world creating a composite reality.

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AR: Adobe AERO | Adobe Dimensions for Materials

Feedback Loop, Projection, AR (3)



Experimentation in AR

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AR: Adobe AERO | Adobe Dimensions for Materials

[See Videos]

Productions Critical Analysis/Summary

A NEW UNDERSTANDING OF PRODUCTIONS:

- Productions is not only the spatial exploration of the ephemeral and atmospheric but seemingly the exploration, explosion, and expansion of dichotomies in order to accomplish a deeper understanding of the effects and conditions. It relies on the investigation of the broad and the granular, the physical and the aesthetic, the human and non-human, and various other dichotomies which are not only uncovered but expanded beyond two-ness. Included in this study is the examination of light, material, form, fabrication, and time that relies on generation and iteration.

OBJECTS AND PEOPLE:

- With the study of Productions, it has become clear that our objects can be understood as entities which see their own reality and which we and perhaps only access through inferencing, exploring, and imagining. These interactions existing at multiple scales raise questions of “how well do we really understand our environment?” This along with the rise of augmented reality and various pointed highlighted in the “in other worlds,” make it clear, humans spend a great deal of time trying to escape reality. However, I believe Productions is a study and recognition of the present reality and an attempt to access and understand typically ephemeral conditions.

ROLE OF THE DIGITAL | AR, “DESIGNER,” VIRTUAL PRODUCTION:

- I consider digital Productions a process of creating iterations of “oxymoron effects.” Essentially, the culturally opposing idea of the digital and reality are used in conjunction. The physical object is scanned, thus creating a digital replica which is iteration and projected back out into the “real reality.” In the end, it is understood the physical real we consider ourselves in, and the digital realm can be examined in similar ways. Even the model become a diagram and the digital diagram an animation or physical model. I believe with AR, soon these lines will be blurred even more. Will the designer become the coder? When does augmented reality simple meld into reality? The relationship of the designer and the digital/augmented/virtual will only grow.

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