

# CLIMATORIUM

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PROJECTS FOR NATURAL HISTORY MUSEUMS: BERLIN & NEW YORK  
+ MATERIAL STUDIES + CITY-BODY-ACTION WORKSHOP

## embodied imaginaries

[ARCHITECTURAL DESIGN III | FALL 2019 | BERLIN + NEW YORK]

[ B + C | A ]

[ Barnard + Columbia Architecture ]

# CLIMATORIUM

/ˌoʊʃəˈnetəriəm/

**oceanatorium:** a climatorium that uses spectacle and monumentality to spur discussions on water and climate

/'mänədər/

**monitor:** a climatorium that sheds light on the series of extinctions caused and boosted by human activities

/əˈmərʒhən/

**emersion:** a climatorium that dissolves gaps between the accessible and inaccessible climate change knowledge

/'dæmɪdʒ/

**damage:** a climatorium that is a forum for mediation of climate issues, protest and action

/'di-ˌs-kɔrs/kɔrd/

**dis-course/cord:** a climatorium that could devolve from a place for equitable discourse to one of chaotic discord

/'sensəriəm/

**sensorium:** a climatorium that invokes different senses to experience extinction in the anthropocene

/'enərjē/

**energy:** a climatorium that examines a large-scale issue through the perspective of one of the smallest organisms

/'ɑːˌkaɪv/

**living archive:** a climatorium that archives and explores 1137 Birds

/ɪˈmɜːrʃ(ə)n/

**immersion:** a climatorium that creates immersive and multi-directional views on biomes

/'jʌstəs/

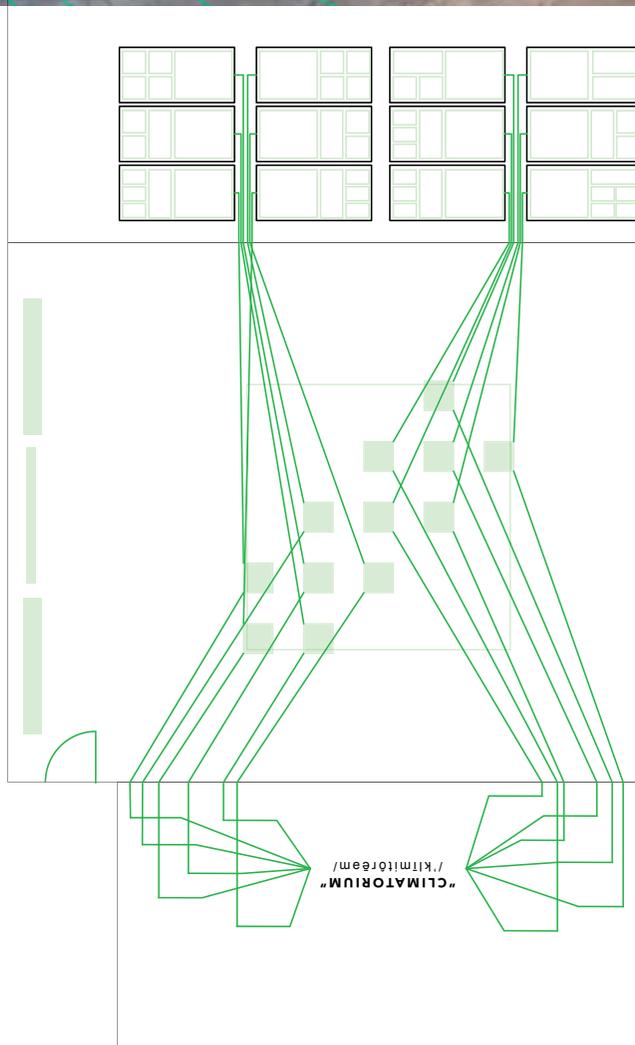
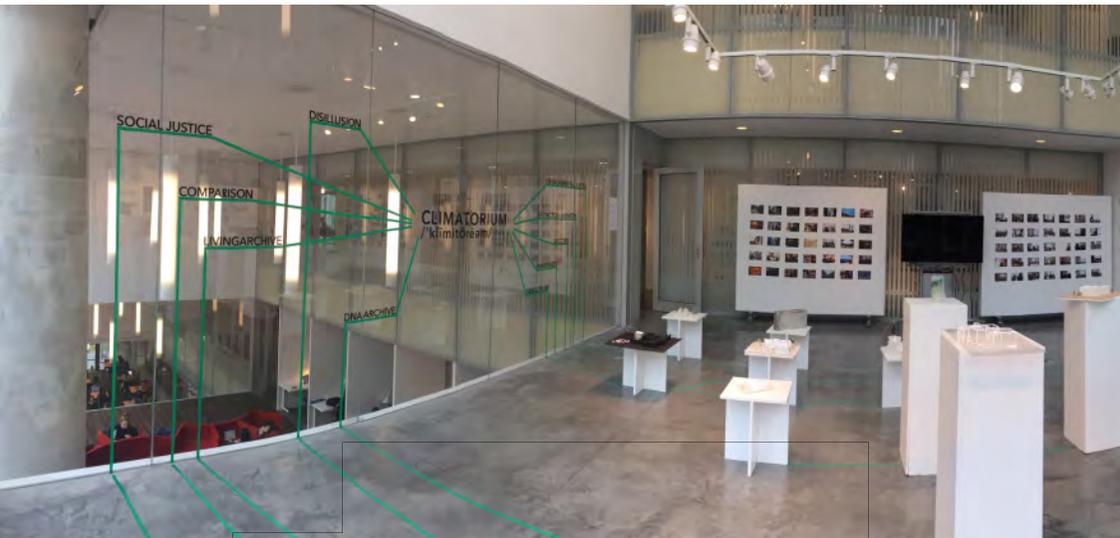
**justice:** a climatorium that highlights justice using public-private-individual interactive exhibits

/'frægmənt/

**fragment:** a climatorium that aids decomposition

/'ɑːˌkaɪv/

**dna archive:** a climatorium that makes public and speeds up the process of digitization DNA information



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ARCHITECTURAL DESIGN III STUDIO  
Fall 2019

STUDENTS

Madison Canby  
Eno Chen  
Kurt Huckleberry  
Constantino Khoury  
Kevin Ledee  
Victor Ohene  
Rebecca Siqueros  
Bella Tincher  
Cemre Tokat  
Tamara Yakubova

TEACHING ASSISTANT

Kachun Alex Wong

STUDIO FACULTY

Kadambari Baxi

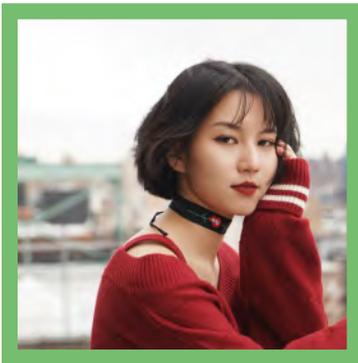
VISITING FACULTY

Ralph Ghoche

Barnard and Columbia Colleges Architecture Department

# Editors' note

[BY ENO CHEN + VICTOR OHENE]



On September 20, approximately 300 Barnard and Columbia students marched in the climate protest, demanding action be taken to address climate change. From Low Steps to Foley Square, they joined more than 250,000 other protesters around New York in the Youth Climate Strike.

Never has environmental activism been more relevant than now, when there has been a proposed shift in governmental policy towards a proactive, green trajectory. The world is changing at a rapid pace that requires us to engage critically with the present in order to construct future imaginaries. This course has offered us the very opportunity to be in close conversation with pressing social, cultural, political, and environmental issues, where architecture has the potential to make an immense difference.



Since researching the not-so-transparent reality of traditional architectural materials, we have started to look at our glass-enclosed classroom constructed in concrete and steel differently. After analyzing the curatorial decisions at the Museum of Natural History, we began to problematize the over-linearized, western-centric narrative presented by devising alternative ways to capture “natural histories” adequately and authentically through design. In our visit to Berlin, we were challenged to rethink borders, cultures, histories and environments in relation to bodies with UdK students. Through studying the specimen and collection organization at the Museum für Naturkunde, we propounded on what it means to live as archives, and how they should live on.

The course approaches architecture not as a mere object, but an apparatus for change. Led by faculty who

share faith in architecture’s agency yet do not lose sight of our existing realities, we are challenged to unpack and articulate architecture’s complexity through a variety of mediums. From plans, sections, perspectives, to collages, videos, animations, the works produced from this course is not only a reflection of our skills but also our awareness and activism as mindful global citizens. As editors of this publication, we have to confess that it is simply impossible to fully capture that spirit with ink on paper. But we hope that we have captured its essence.

For many of us, this course was our last in-person studio in the major for our undergraduate studies. As we move onto jobs, graduate school or wherever our paths take us, our roles in engaging with the climate crisis have not ended. If anything, they have been elevated.

# foreword

[BY KADAMBARI BAXI]

I write this note a day after celebrating the graduating (architecture) class with a virtual toast. Unlike other years, students and faculty are no longer on campus but are dispersed around the country, around the world. The COVID-19 pandemic has disrupted all normal activities at our university.

In the midst of a lock-down in New York, I joined our department's Zoom-toast event yesterday. I congratulated students and thanked them, above all else, for always being ready to share their provocative ideas, drawings, texts, and thoughts. Their openness and willingness to experiment, to knowledge production and to architecture and design



has been an inspiration for us all. This folio documents excerpts from the imaginative work of ten students from this extraordinary class of 2020.

From researching building materials, carbon impacts, labor practices, and sustainable alternatives; to designing installations at two Natural History Museums reinterpreting ecological histories and climate-changed futures; to proposing activist spatial acts; their studio work was robust. In two dynamic cities, New York and Berlin, we explored how not just to passively consume cities, but how to actively engage their public spaces and cultural institutions.

In studio, we often worked in unconventional ways: we made up words: starting with “climatorium” and branching to “oceanatorium” and “sensorium;” we reconstructed new archives: “extinction archive” to “DNA archive” to “living archive;” we

curated unusual experiences: “damage” to “immersion” to “energy” to “dis-course/cord;” we activated micro/macro agents: “planktons” to “birds” to “extinct sounds” to “glaciers” to “biomes;” and we designed multi-scalar environments: vitrines, exhibits, forums, monuments, chambers, archives and data centers. With all these acts, we attempted to make sense of this world, as is, and as yet to come.

A special thanks to all students for engaging in collaborations and for individual contributions to the project briefs: your conceptual design approaches, teamwork, disagreements, obsessions, hesitations, and (most importantly) open mindedness, are highly commendable.

At graduations, I often think about how every class seems exceptional. This class of 2020, however, is like no other. You are the

first to confront a worldwide pandemic. We know that imminent is a world that cannot really be the same as before. But how will it be different? And perhaps more importantly, we need to ask: will it be different enough? I will look to you, once again, dear students, as I know you will not only be ready to share your ideas, but you will continue to work steadfastly as independent thinkers, creative collaborators, and ethical world citizens. I cannot wait to see what your (architectural) imagination brings next... And I wonder: will it include a truly different world?

# activism by design

[BY ALEX KACHUN WONG]

When I first entered the studio space on the fifth floor of the Milstein Center, I was pleasantly surprised by the panoramic view of the UWS neighborhood, afforded by glass panes on three of the four sides of the classroom. The space works seamlessly with our studio brief by Professor Kadambari Baxi, which defines the environment as encapsulating, omnipresent, and impossible to turn away from. The urgency of the climate crisis today demands not only technical know-how, but heartfelt

activism and prompt action. In essence, we want to convey that architects are not different from activists, always advocating for some cause, someone, or some idea. In the future, it may not be so different designing a protest campaign from designing a building.

Throughout the semester, we had the great pleasure to peruse the many resources and facilities operating in New York

City and Berlin on the topic of environmentalism. Both cities are amazing windows to global environmental issues. From our site visit to the American Museum of Natural History in New York, to the Naturkundemuseum in Berlin, we began designing both around the politics of environmentalism and the politics of the curation of these ideas.

Let us not forget that the two cities in themselves are large exhibitions, from the street-gridded Central Park to former-hunting-ground Tiergarten; from the United Nations building for holding the Climate Change Summit to the transparency-boasting Reichstag parliament where important discussions are held between world leaders and the public. These places offer major inspirations for us to not only design for the environment, but also the ways that it is viewed from.

We not only work with places, but also scholars, educators, artists, and authors on these ideas. We worked from a wide variety of literature written on

the environmentalism discourse: Embodied Energy and Design by David Benjamin talks about the many ways carbon emissions can be exhibited on a page, the #ShowYourStripes hashtag initiated by Edward Hawkins to raise awareness on global warming, Log 47 edited by Elisa Iturbe discuss overcoming carbon form, and the Buell Center at GSAPP publishes on the Green New Deal, which is an ambitious resolution proposed by Alexandria Ocasio-Cortez and Ed Markey in the US Congress. The scope of topics is intended to be as wide as possible, in order to accommodate different interests students bring to the table.

Topics tackled include sand-mining in parts of India, cross-laminated timber business booming in Europe and eastern US, concrete production and worker unionization in New York City, etc. In Berlin, we are fortunate to join a workshop at Universität der Künste Berlin, where beautiful performance art pieces come into fruition, all acutely critiquing how the environment is viewed. For example, one of our student teams encountered the Brandenburg gate in overalls printed with slogans and

on scooters. Fortunately, the antics of our fellow homegrown “activists” did not raise too many eyebrows from the Berlin police!

We ask students not to design with the status-quo, but to identify and invent new opportunities, like an activist whether fighting for democracy on the streets of Hong Kong, or a fabricator of PPE helping out for local hospital workers. A true activist doesn’t shy away from politics just because it is difficult, but confronts it in any way possible, sometimes also in ways impossible. The role of activism by design is to manipulate our skill-set as designers and architects, work with senses, perceptions, spaces, and materials, to redefine words, scales of operation, and imaginaries. From a microbe as small as plankton, to disasters as big as Hurricane Sandy, students are able to utilize their liberal art backgrounds in synthesizing between microscopic optics, human perception, and planetary awareness, through the deployment of activism by design.



# 00 on book

Embodied Imaginaries captures a selection of student work produced by Design III in 2019. While collecting and documenting the final products of this studio, it is hard for the editors to ignore the eclectic stance each project takes in envisioning a “climatorium.” Whether designed as spaces, approaches, or platforms, these projects all nevertheless emerge from construing architecture’s agency within our climate realities.

Inspired by this process, we designed this book as a working dictionary that archives the terms students employed - some invented, some redefined - in describing and assembling

their “climatoriums.” Our objective is manifested through the organization of content for this publication. Organized thematically, each project is presented as a sub-entry that expands on and complements its section topic. Instead of using paragraphs of texts to describe each project, the editors chose to partition them into key terms that best capture each project.

From pages 41 to 112, each odd numbered page consists of two columns of terms, one in black, the other in green. The column in black catalogs terms as defined by the students when they address specific aspects of their projects. The column in green relates these concepts to

other words that the editors believe would ground them in wider discourse and context for ease of comprehension. These selected terms’ definitions are sourced from Google dictionary, Merriam Webster Dictionary and the Oxford English Dictionary. This process leads to enlightening moments in which the recomposed definitions expand on the conventional understandings of these related words. The dialogue between the columns becomes even more compelling when proposed definitions are in contention with its preexisting rhetorical contexts.

A challenge in creating this glossary under this remote condition during this

difficult time meant that the projects had to be actively redefined yet again by editors in the making of this book, in addition to sourcing directly from submitted documentations. Embodied Imaginaries represents both a design process and product.

# 01 on studio

## [BRIEF]

Green (New) Imaginaries, the Design III senior studio title evokes the recent forceful yet schematic resolution known as the Green New Deal, proposed by Representative Alexandria Ocasio-Cortez and Senator Ed Markey in the US congress. Tackling climate change, inequality, and social injustice at the same time, this resolution offers a framework for re-imagining futures. In alignment with the goals of the GND, and rethinking the roles of museums of natural history in the context of the climate crises, the project for a CLIMATORIUM is conceived as a kind of a GND “visitors center” that is combined with an “anthropocene observatory.” The Natural History museums contain world views at thresholds of pasts, presents and futures; their collections make visible deep space and deep time while offering glimpses into the natural and cultural geographies, and into earth, oceans and atmospheres. In this intensely visual experience that constructs expansive yet condensed world views, our project will insert what remains unseen: what is perhaps barely or only tentatively acknowledged. In this sense, a CLIMATORIUM might be a new proposition for these museums. How might it begin to shape imaginaries of other worlds—worlds not fully recognized, or are possibly yet to come?

## [PEOPLE]

FROM LEFT TO RIGHT

ASSISTANT PROFESSOR  
PROFESSOR of PROFESSIONAL PRACTICE  
TEACHING ASSISTANT (photo credit)

### STUDENTS

Ralph Ghoche  
Kadambari Baxi  
Kachun Alex Wong

Tamara Yakubova  
Cemre Tokat  
Kurt Huckleberry  
Kevin Ledee  
Constantino Khoury  
Victor Ohene  
Bella Tincher  
Rebecca Siqueros  
Madison Canby  
Eno Chen



# 02 on material

## [BRIEF]

The first project asked students to conduct research on selected materials. Using Lindsey Wikstrom's "Material Stories" as a reference, the research was to use graphic modes of representation to address the climate impacts, labor, environmental and climate justice and future alternatives.

## [PROCESS]

- Research Topic: One Material  
Select a material for your project focus:  
Concrete/Steel/Glass/Masonry/Plastics/Data/Wood
- Research Lens: 1. Carbon Footprints [Climate Impacts]  
2. Justice [Labor, Environmental and Climate Justice]  
3. Future [Alternatives]
- Final Project: Relational Drawing
- Drawings that work across scales, connect dispersed sites and highlight unseen problematics
  - Drawings that reframe past-present-future relationships
  - Drawings that combine multimedia techniques: architectural representations, images, videos, or sound
  - Drawings that are not neutral. They must take critical, cultural or activist propositions.

## [GROUPS]

1. Constantino Koury + Bella Tincher [Concrete]
2. Kevin Ledee + Kurt Huckleberry [Cross Laminated Timber]
3. Eno Chen + Victor Ohene [Glass]

## [GROUP 1: Concrete / 'kän.krēt / noun.]

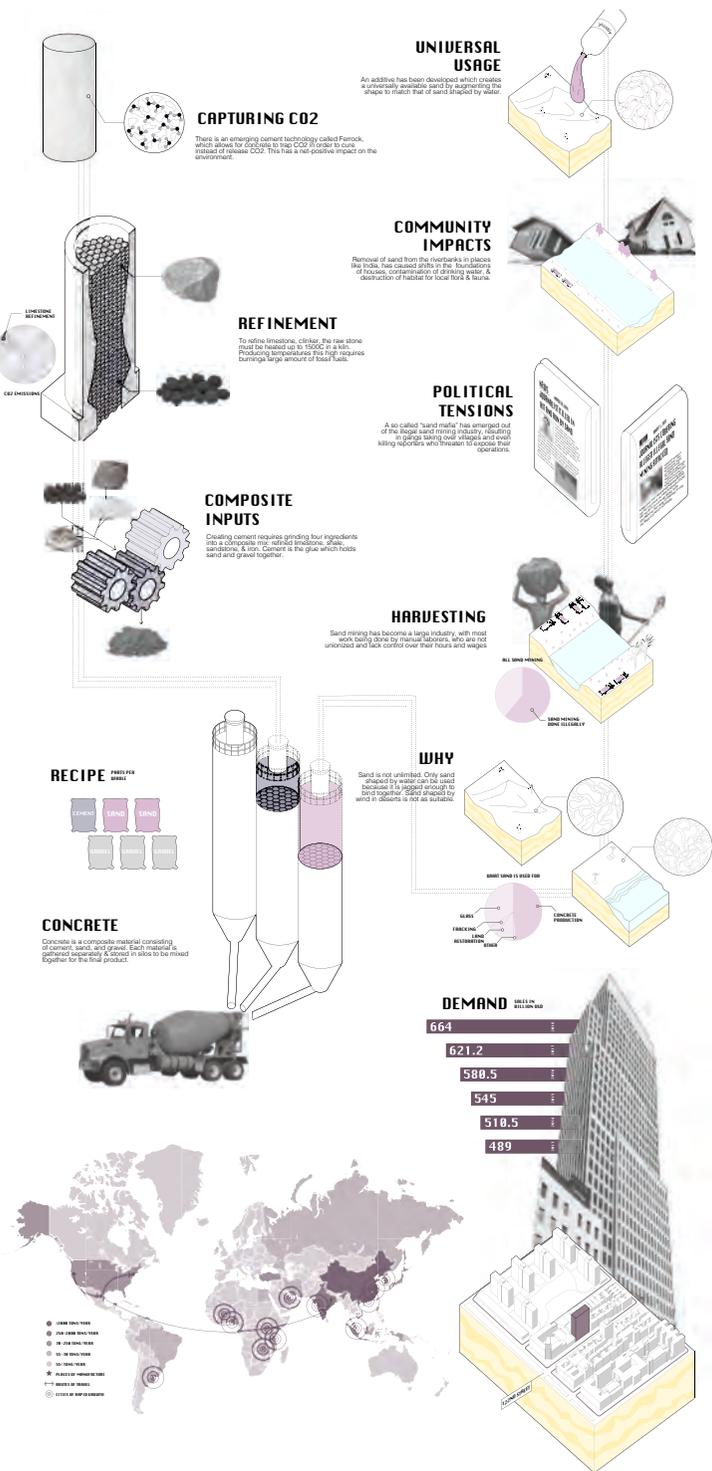
Concrete was chosen in order to explore the environmental effects that it has on the earth as a building material. Through extensive research, lenses of carbon footprint, the labor/environmental/climate justice and alternative that have been developed to replace the material were to be explored and represented in the final drawing.

## [GROUP 2: Cross Laminated Timber / 'timbər / noun.]

Cross Laminated Timber (CLT) is studied as a renewable alternative to most building materials. The research is to raise awareness to this quality as well as exercise caution against its overconsumption. From deforestation to sequestering carbon, CLT is analyzed for its contributions in increasing and reducing pollution.

## [GROUP 3: Glass / glas / noun.]

As the use of glass in buildings has increased over the years, we have to analyze what the environmental effects of this shifting trend. These effects are analyzed from the stages of extraction, production, distribution, implementation and recycling. This timeline for glass is juxtaposed to the timeline for human life.

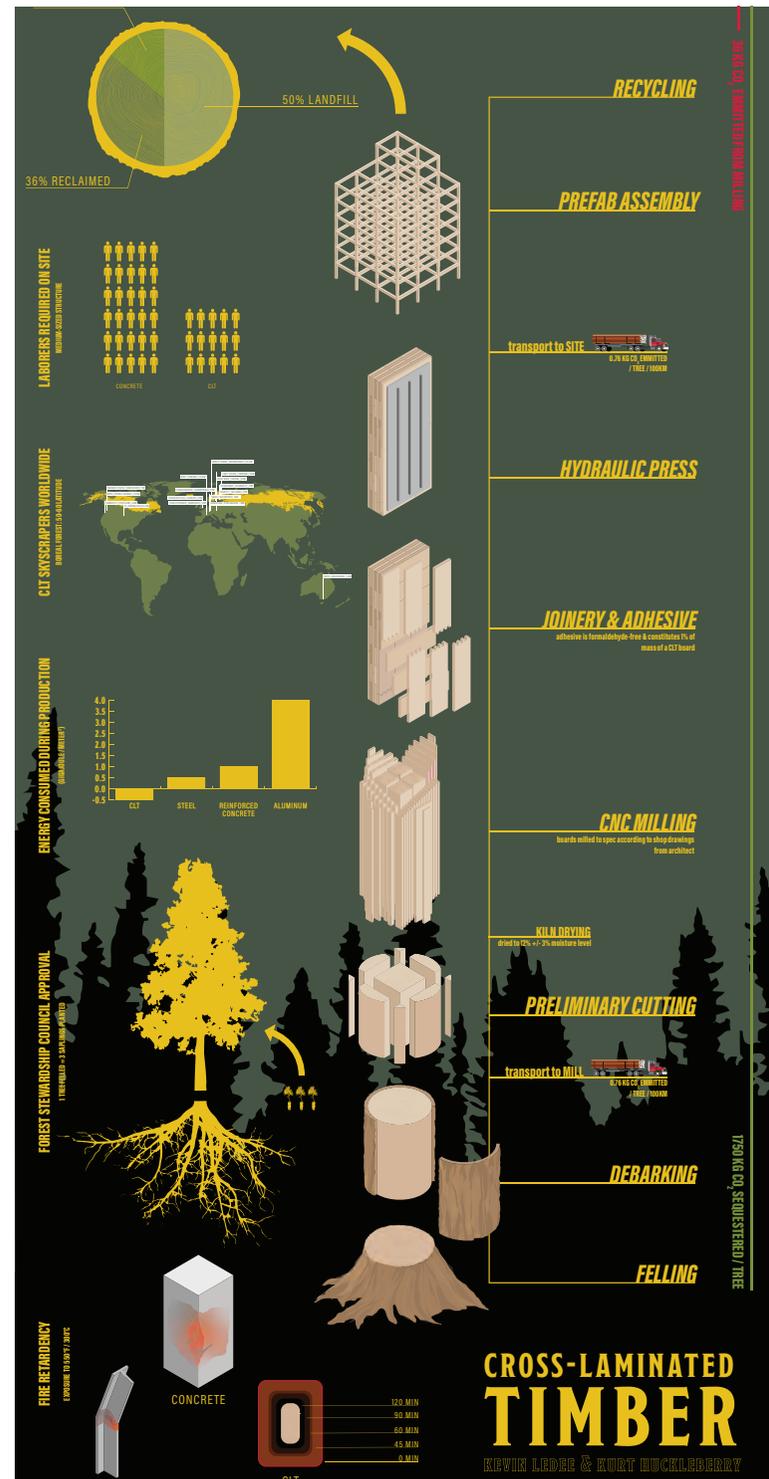


## CONCRETE

**Carbon Footprint**  
Concrete's footprint is from both the sand and cement, not just cement. When compared to other construction materials, concrete has more environmental impacts than any other. One of which is a depletion of sand - considering that not all sand can be used in its production. This contributes to sea level rise and environmental effects.

**Social Justice**  
Sand mining has grown into a large industry with most work done by manual laborers who are not unionized and lack control over their hours and benefits. Existence of a "sand mafia" in the illegal sand mining industry has resulted in forceful occupations villages. Reports exist of deaths from these occupations who try to expose these illegal practices.

**Future Alternatives**  
Use of other materials such as hempcrete and ash cement.

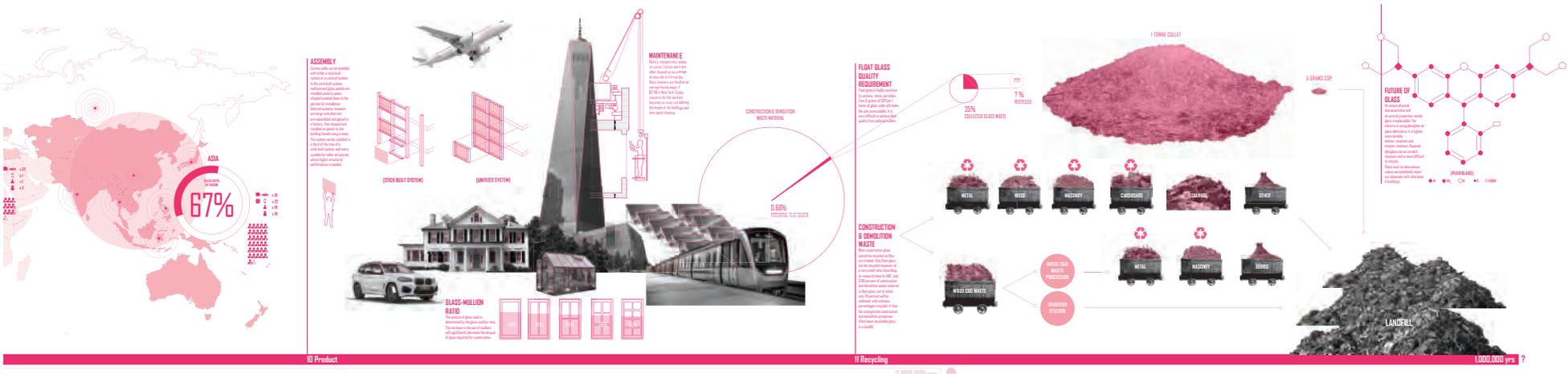
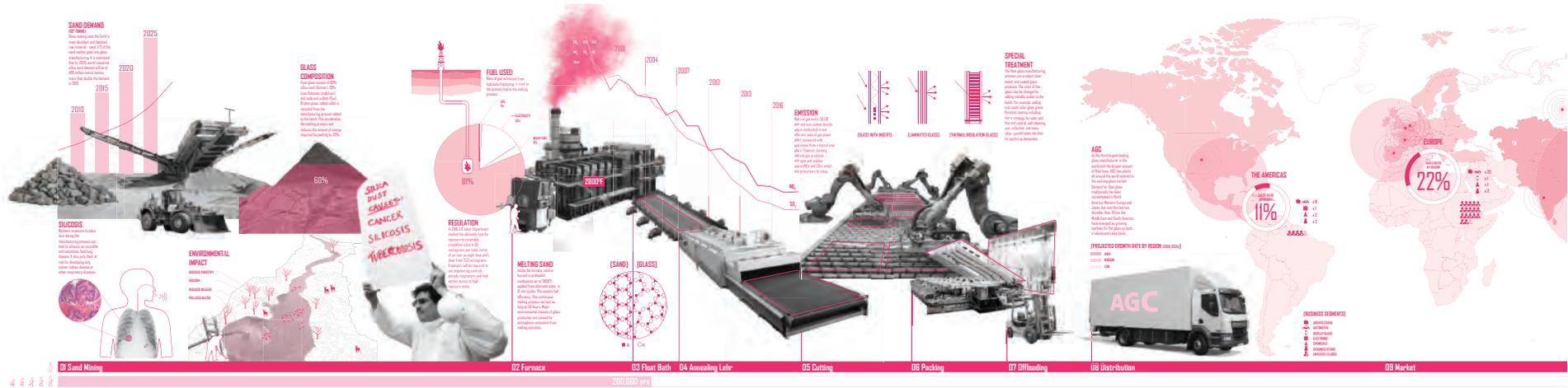


## CROSS LAMINATED TIMBER

**Carbon Footprint**  
Cross-laminated timber is a viable and renewable alternative to traditional building methods such as concrete, masonry, or steel due to its structural qualities and ability to sequester carbon.

**Social Justice**  
Although CLT is the most renewable resource amongst all the groups, we must be cautious of overconsumption, which can lead to deforestation and consequent destruction of vital forest ecosystems. (retraining of workers as we transition from "traditional building materials" to CLT).

**Future Alternatives**  
Mass timber is a strong contender as a building material for the twenty-first century, with many architectural theorists claiming that we are seeing a reemergence of the "age of timber."



## GLASS

### Carbon Footprint

Glass is composed of 99.056% silica sand and makes up 1/3 of the silica sand market. Over exploitation of sand for industrial use leads to sand depletion. Major environmental impact of glass production is caused by atmospheric emissions from melting activities.

There is a recent shift from coal to natural gas as the major fuel source, which leads to decrease in CO2 emissions and increase in NOx (acidification/formation of smog). Most treated glass (tinted, laminated, tempered) cannot be recycled.

### Social Justice

Safety during the manufacturing process (silicosis + exposure to extreme heat). Workers have had difficulty forming unions in these plants. The growing demand and emerging glass plants in Asia have caused an uneven distribution of climate consequences.

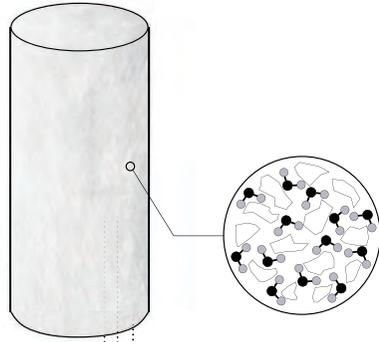
### Future Alternatives

The unique physical characteristic of glass makes it virtually the material irreplaceable. Plexiglass is a possible alternative, but causes more pollution.

# CONCRETE

## CAPTURING CO2

There is an emerging cement technology called Ferrock, which allows for concrete to trap CO2 in order to cure instead of release CO2. This has a net-positive impact on the environment.



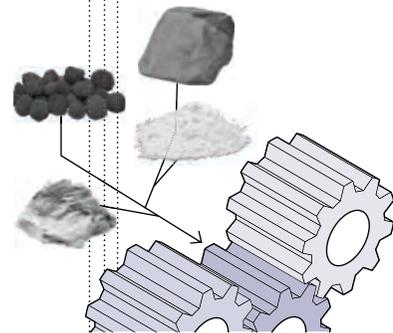
## REFINEMENT

To refine limestone, clinker, the raw stone must be heated up to 1500C in a kiln. Producing temperatures this high requires burning a large amount of fossil fuels.



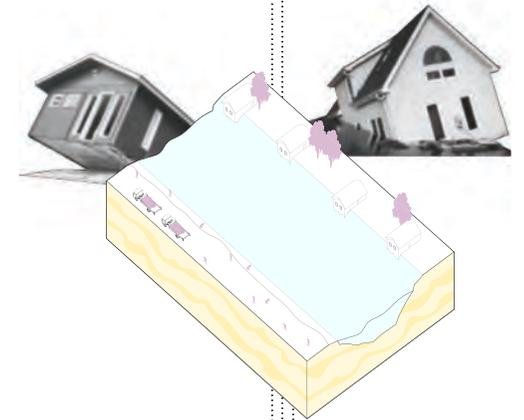
## COMPOSITE INPUTS

Creating cement requires grinding four ingredients into a composite mix: refined limestone, shale, sandstone, & iron. Cement is the glue which holds sand and gravel together.



## COMMUNITY IMPACTS

Removal of sand from the riverbanks in places like India, has caused shifts in the foundations of houses, contamination of drinking water, & destruction of habitat for local flora & fauna.



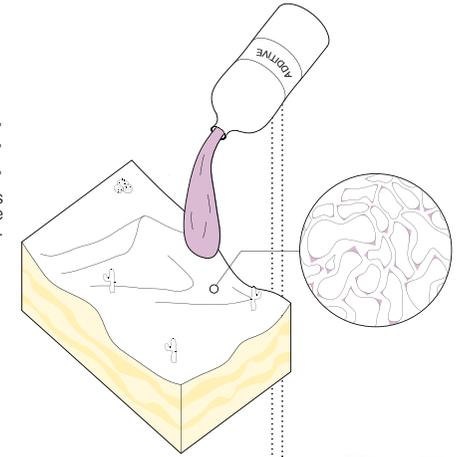
## POLITICAL TENSIONS

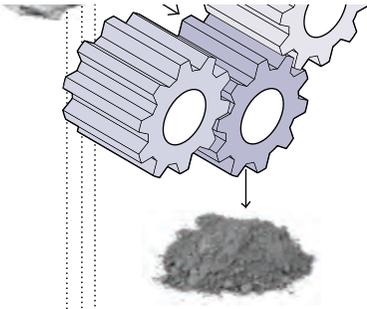
A so called "sand mafia" has emerged out of the illegal sand mining industry, resulting in gangs taking over villages and even killing reporters who threaten to expose their operations.



## UNIVERSAL USAGE

An additive has been developed which creates a universally available sand by augmenting the shape to match that of sand shaped by water.



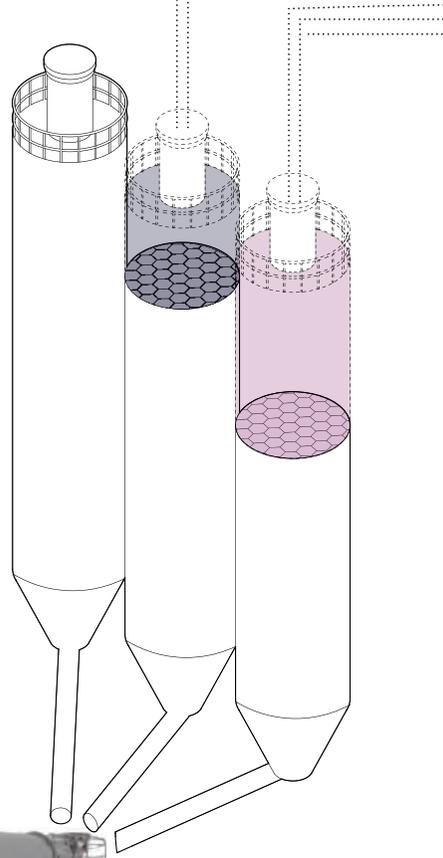


## RECIPE



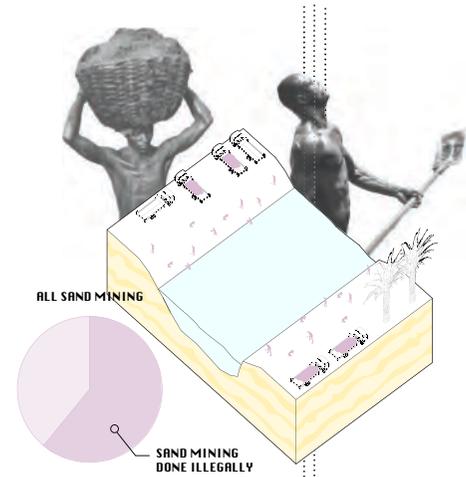
## CONCRETE

Concrete is a composite material consisting of cement, sand, and gravel. Each material is gathered separately & stored in silos to be mixed together for the final product.



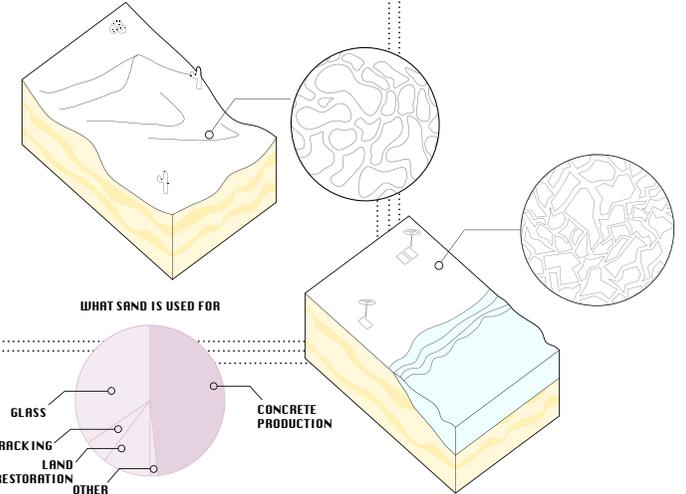
## HARVESTING

Sand mining has become a large industry, with most work being done by manual laborers, who are not unionized and lack control over their hours and wages



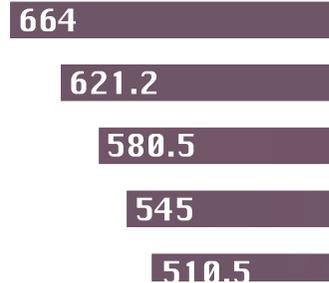
## WHY

Sand is not unlimited. Only sand shaped by water can be used because it is jagged enough to bind together. Sand shaped by wind in deserts is not as suitable.

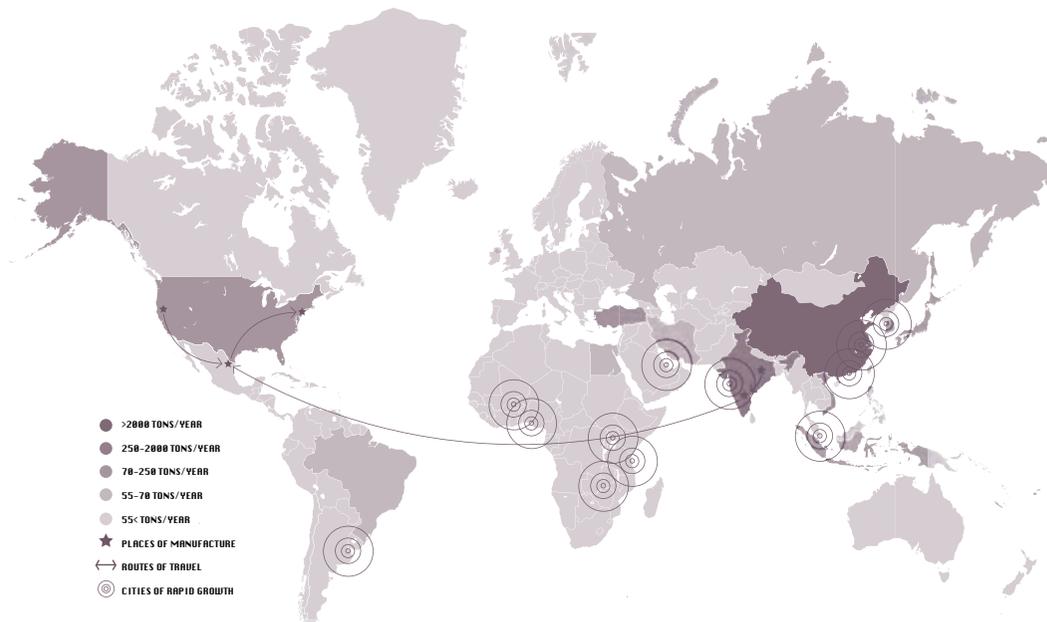


## DEMAND

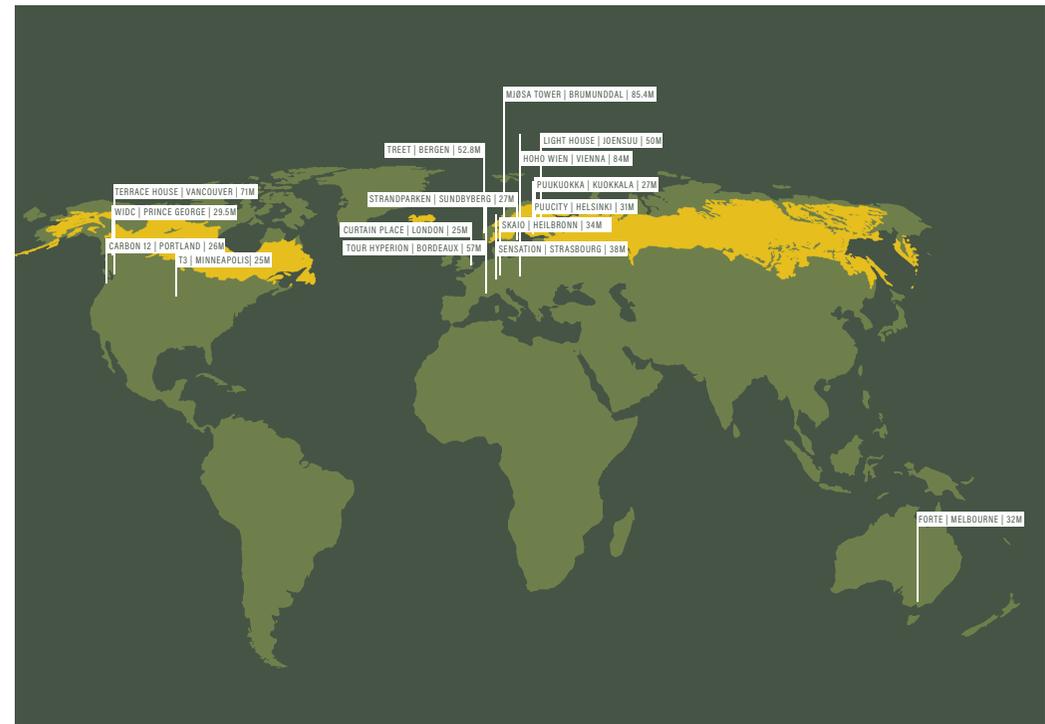
SALES IN BILLION USD



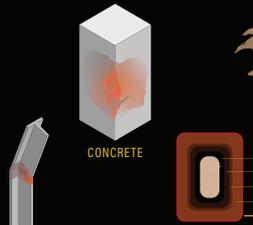
# CONCRETE



# CROSS LAMINATED TIMBER



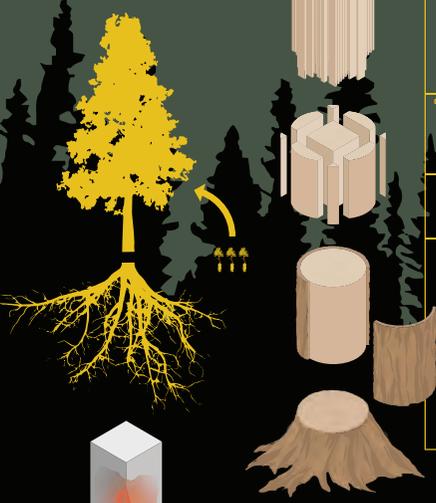
**FIRE RETARDENCY**  
EXPOSED TO 1000 °C



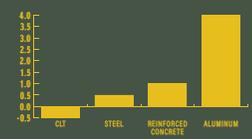
# CROSS-LAMINATED TIMBER

KEVIN LEEB & KURT HUCKLEBERRY

**FOREST STEWARDSHIP COUNCIL APPROVAL**  
FSC C0C0 - 100% RECYCLED



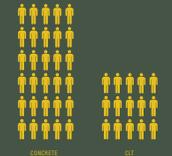
**ENERGY CONSUMED DURING PRODUCTION**  
(KWH/BOARD/INCH)



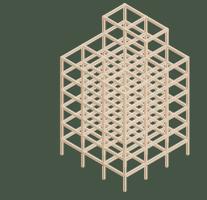
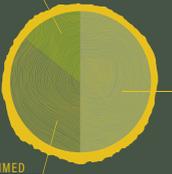
**CLT SKYSCRAPERS WORLDWIDE**  
GLOBAL MARKET FOR QUALITY



**LABORERS REQUIRED ON SITE**  
MEDIUM-SIZED STRUCTURE



36% RECLAIMED



**RECYCLING**

**PREFAB ASSEMBLY**

**transport to SITE**  
0.76 KG CO<sub>2</sub> EMITTED / TREE / 100KM

**HYDRAULIC PRESS**

**JOINERY & ADHESIVE**  
adhesive is formaldehyde-free & constitutes 1% of mass of a CLT board

**CNC MILLING**  
boards milled to spec according to shop drawings from architect

**KILN DRYING**  
dried to 20% +/- 2% moisture level

**PRELIMINARY CUTTING**

**transport to MILL**  
0.76 KG CO<sub>2</sub> EMITTED / TREE / 100KM

**DEBARKING**

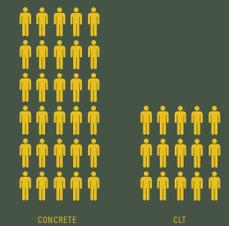
**FELLING**

36% CO<sub>2</sub> EMITTED FROM THE CLT

1750 KG CO<sub>2</sub> SEQUESTERED / TREE

# CROSS LAMINATED TIMBER

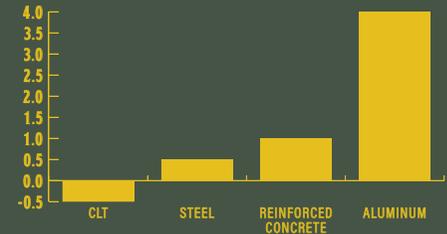
**LABORERS REQUIRED ON SITE**  
MEDIUM-SIZED STRUCTURE



**transport to SITE**



**ENERGY CONSUMED DURING PRODUCTION**  
(GIGAJOULE/METER)

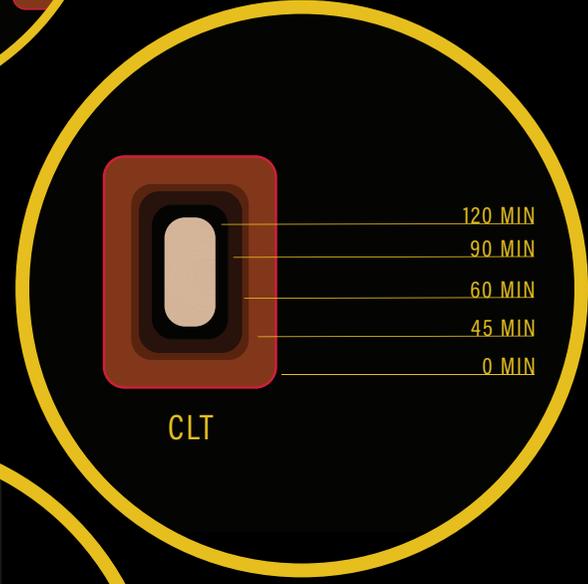
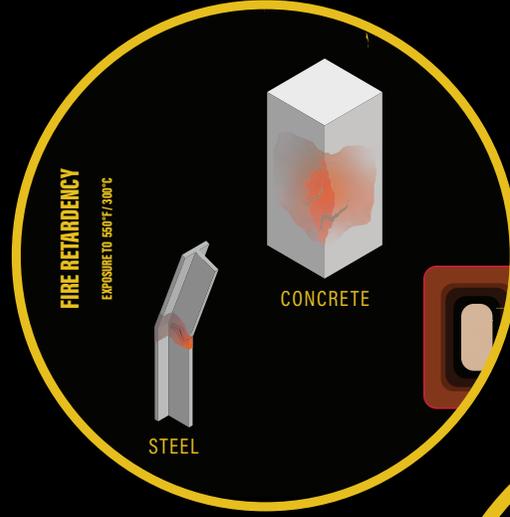


**JOINERY & ADHESIVE**

adhesive is formaldehyde-free & constitutes 1% of mass of a CLT board

**CNC MILLING**

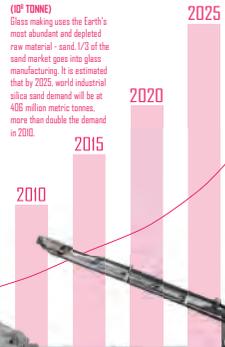
boards milled to spec according to shop drawings from architect



# GLASS

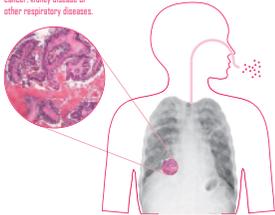
## SAND DEMAND (10<sup>6</sup> TONNE)

Glass making uses the Earth's most abundant and depleted raw material - sand. 1/3 of the sand market goes into glass manufacturing. It is estimated that by 2025, world industrial silica sand demand will be at 405 million metric tonnes, more than double the demand in 2010.



## SILICOSIS

Workers' exposure to silica dust during the manufacturing process can lead to silicosis, an incurable and sometimes fatal lung disease. It also puts them at risk for developing lung cancer, kidney disease or other respiratory diseases.



## GLASS COMPOSITION

Float glass consist of 60% silica sand (former), 20% Lime Oxide (stabilizer), and soda and sulfate (flux). Broken glass, called cullet is recycled from the manufacturing process added to the batch. This accelerates the melting process and reduces the amount of energy required for melting by 20%.



**SILICA DUST CAUSES: CANCER, SILICOSIS, TUBERCULOSIS**



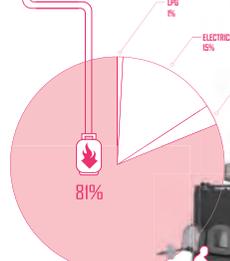
## ENVIRONMENTAL IMPACT

- REDUCED FORESTRY
- EROSION
- REDUCED WILDLIFE
- POLLUTED WATER



## FUEL USED

Natural gas, extracted from hydraulic fracturing, is used as the primary fuel in the melting process.

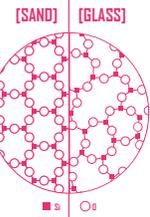
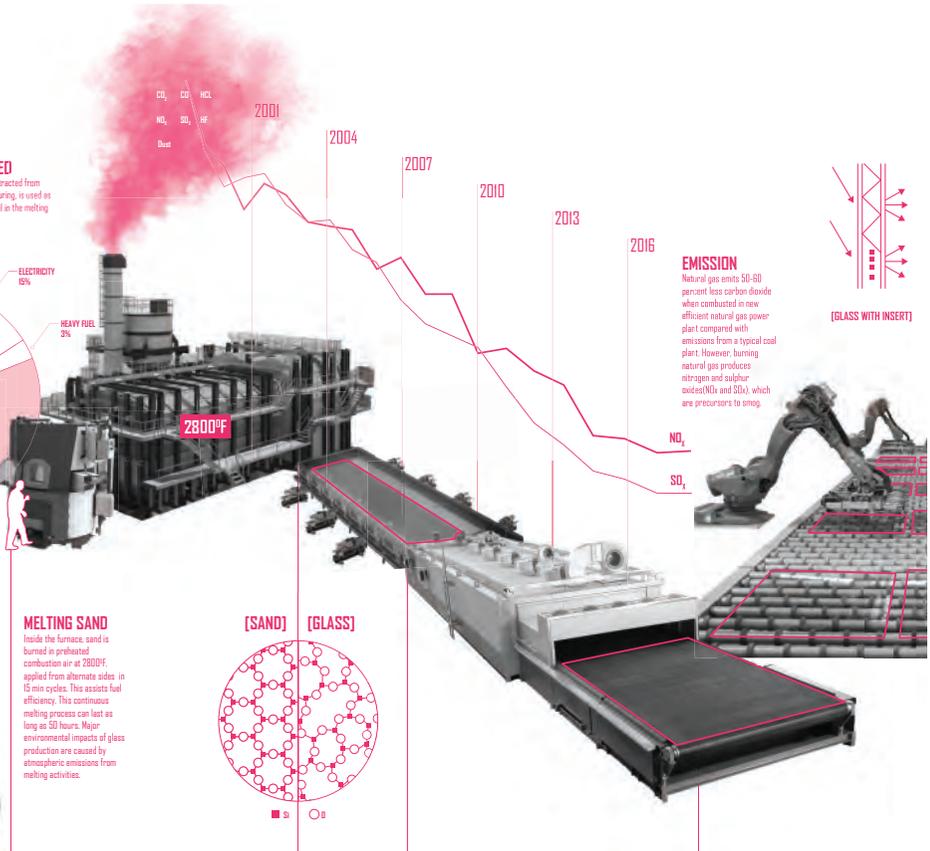


## REGULATION

In 2010, US Labor Department slashed the allowable limit for exposure to respirable crystalline silica to 50 micrograms per cubic meter of air over an eight-hour shift, down from 250 micrograms. Employers will be required to use engineering controls, provide respirators, and limit worker access to high exposure areas.

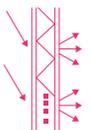
## MELTING SAND

Inside the furnace, sand is burned in preheated combustion air at 2800°F, applied from alternate sides in 15 min cycles. This assists fuel efficiency. The continuous melting process can last as long as 50 hours. Major environmental impacts of glass production are caused by atmospheric emissions from melting activities.



## EMISSION

Natural gas emits 50-50 percent less carbon dioxide when combusted in new efficient natural gas power plant compared with emissions from a typical coal plant. However, burning natural gas produces nitrogen and sulphur oxides (NOx and SOx), which are precursors to smog.



[GLASS WITH INSERT]

### 01 Sand Mining

### 02 Furnace

### 03 Float Bath

### 04 Annealing Lehr

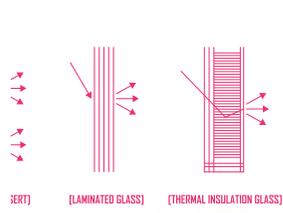
### 05 Cutting

200,000 yrs



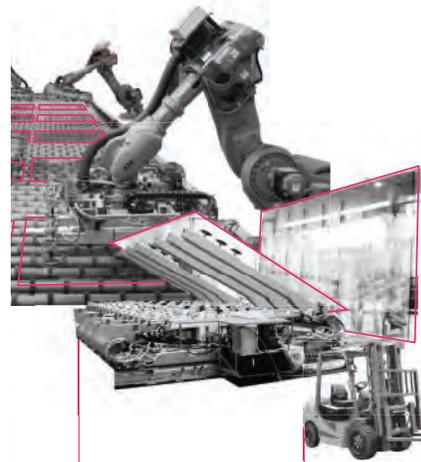
[028] [01. on material.]

# GLASS



## SPECIAL TREATMENT

The float glass manufacturing process can produce clear, tinted, and coated glass products. The color of the glass may be changed by adding metallic oxides to the batch. For example, adding iron could color glass green. Pyrolytic coating including low-e coatings for solar and thermal control, self-cleaning, anti-reflective, and many other special types can also be applied as demanded.



**AGC**  
As the third largest leading glass manufacturer in the world with the largest amount of float lines, AGC has plants all around the world tailored to the evolving glass market. Demand for float glass traditionally has been concentrated in North America, Western Europe and Japan, but over the last two decades, Asia, Africa, the Middle East and South America have emerged as growing markets for flat glass on both a volume and value basis.

### (PROJECTED GROWTH RATE BY REGION (2019-2024))

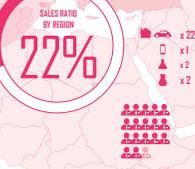
- HIGH
- MEDIUM
- LOW



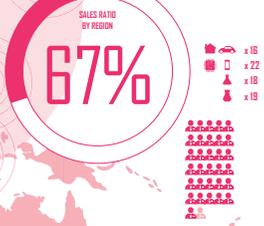
## THE AMERICAS



## EUROPE



## ASIA



### (BUSINESS SEGMENTS)

- ARCHITECTURAL
- AUTOMOTIVE
- DISPLAY GLASS
- ELECTRONIC
- CHEMICALS
- CERAMICS / OTHER
- EMPLOYEE (1000)

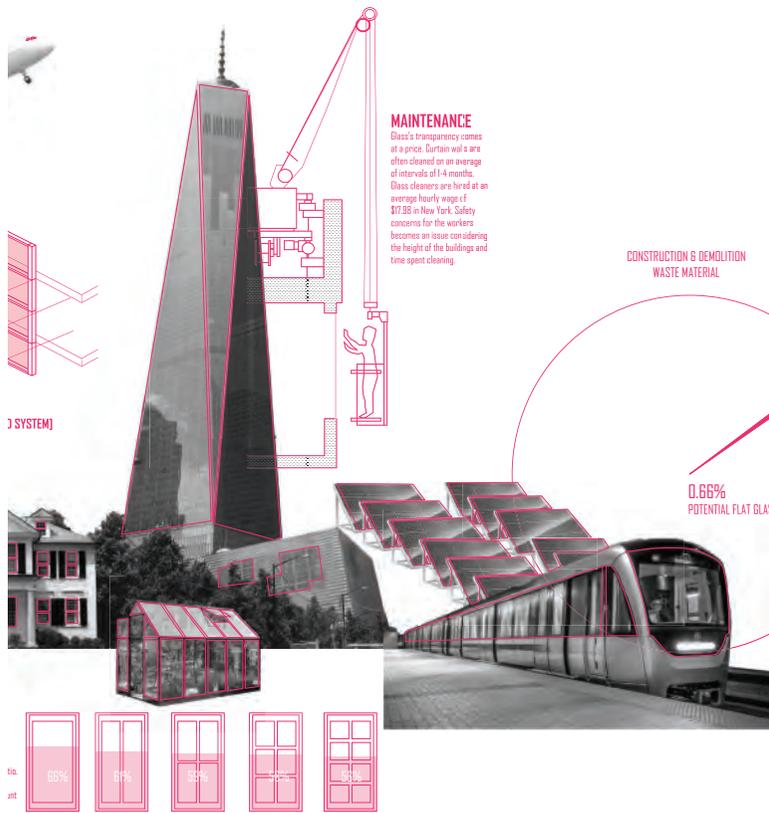
06 Packing

07 Offloading

08 Distribution

09 Market

# GLASS



### MAINTENANCE

Glass's transparency comes at a price. Curtain walls are often cleaned on an average of intervals of 1-4 months. Glass cleaners are hired at an average hourly wage of \$17.56 in New York. Safety concerns for the workers becomes an issue considering the height of the buildings and time spent cleaning.

CONSTRUCTION & DEMOLITION WASTE MATERIAL

0.66% POTENTIAL FLAT GLASS

### FLOAT GLASS QUALITY REQUIREMENT

Float glass is highly sensitive to ceramic, stone, porcelain. Even 5 grams of CSP per 1 tonne of glass cullet will make the pile unrecyclable. It is very difficult to achieve float quality from polluted cullets.

25% COLLECTED GLASS WASTE

???  
% RECYCLED

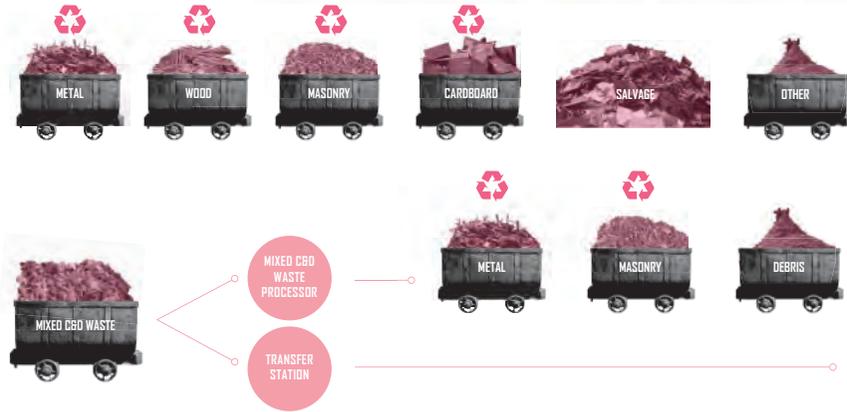
### CONSTRUCTION & DEMOLITION WASTE

Most construction glass cannot be recycled as they are treated. Only float glass can be recycled, however, at a very small ratio. According to research done by AGC, only 0.66 percent of construction and demolition waste material is float glass, out of which only 25 percent will be collected, with unknown percentages recycled. In fact, the unorganized construction and demolition processes often leave recyclable glass in a landfill.

1 TONNE CULLET



5 GRAMS CSP



## II Recycling

7,800,000 yrs



# 03 on city-body-actions

## [BRIEF]

Multisensorial Communication in Public Space Visual / Performative  
Actions by a collective of Five Students

## [QUESTIONS]

1. How to make a statement using the city and its monumental (iconic? central? public spaces?)
2. How to use the body / clothes / signs / objects, or something that is attached or carried on the body, or something that “speaks” from the body?
3. How to create a spatial moment and visibility where individuals start to form a collective? How to engage multiple publics: collaborators, activists, visitors, strangers, workers, etc.? Including those physically present or elsewhere?
4. How to reimagine city / citizenship at local, regional, national and planetary scales? How to visually engage spatial hard and soft infrastructures of a city? Or make visible invisible and/or apparent social, political, historical forces that make a city, or matter, particularly at this moment in time?

## [SITE OPTIONS]

Sites and Situations around Institutional Buildings, Civic Buildings, Corporation, Infrastructure or Consumption around Pariser Platz and Platz des 18. März, such as the U.S. Embassy, French Embassy or sites nearby, such as Platz der Republik, German Parliament etc.

## [METHODOLOGIES]

Type | Typography | Language Insertions Graphic | Signage Clothing Interventions | Body and/or Spatial Structures  
Mediatic Devices | Displays

## [SCHEDULE]

NOV	03	<b><u>DRINKS OR DINNER, 19 H</u></b> with all students and faculty Kreuzberger Himmel, Yorckstr. 89, 10965 Berlin-Kreuzberg
	04	<b><u>GENERAL INTRODUCTION OF STUDIOS / CLASSES, 10 H</u></b> Morning, 10 - 12 h Faculty Work Presentation Kadambari Baxi Gabi Schillig Student Studio Work Quick Review Mapping Pariser Platz (UdK) Climatorium (Barnard + Columbia) Workshop assignment brief, student groups 10 NY students, 21 Berlin Students - 6 groups Afternoon, 12 - 13 h Lunch at UDK Cafeteria Afternoon, from 13 h Site visit: first experiments on site Students project work at site  Evening, 18 - 20h and after Individual Group Crits Students continue project work in groups
	05	<b><u>FINALIZING THE PROJECT &amp; PRESENTATION. 10 - 20 H</u></b> Morning & Afternoon, 10 - 15.30 h Students finalize project, eventually on site Lunch Late Afternoon: 16 - 18.30 h Student Projects Presentation (10min per group, 10min discussion) Workshop conclusion: group discussion, Drinks & Pizza

# mirrors

/'mirər/

## PERFORMANCE

1

Mobilize the reflectivity of mirrors to blur the rigid boundary between bodies and environments.

BY Constantino + Madison + Tamara and Mascha + Paulina + Sandra

## [BRIEF]

The performance experiments with the body's relationship to two types of environments - permanent and temporal. For each type of the environment, students use glass to explore the potential of body to body, body to environment, and environment to environment boundaries.



**Architecture** /die Architektur/ n.  
Permanent environments in which  
bodies occupy.

**Body:Body**  
/Körper: Körper/



**Body:Environment**  
/Körper: Umgebung/



**Environment:Environment**  
/Umgebung:Umgebung/



**Installation** /die Kunst/ n.  
Temporary conditions in which  
bodies inhabit.

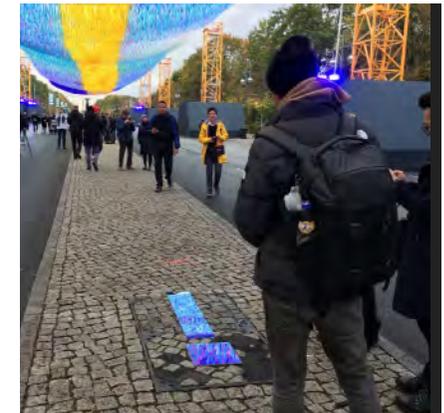
**Body:Body**  
/Körper: Körper/



**Body:Environment**  
/Körper: Umgebung/



**Environment:Environment**  
/Umgebung:Umgebung/



where  
do  
you  
look  
at

/anschauen/

PERFORMANCE

1

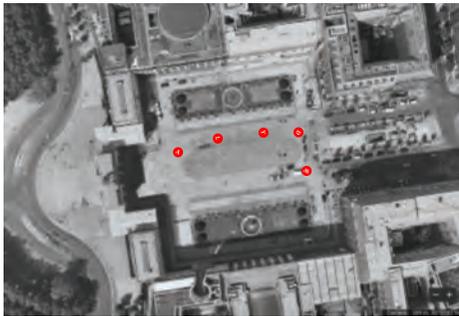
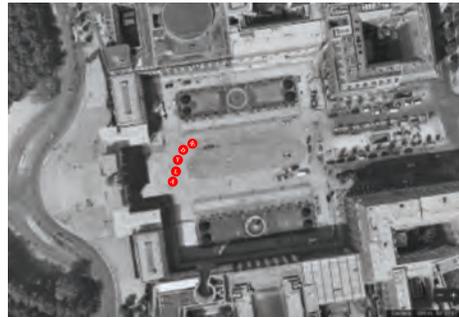
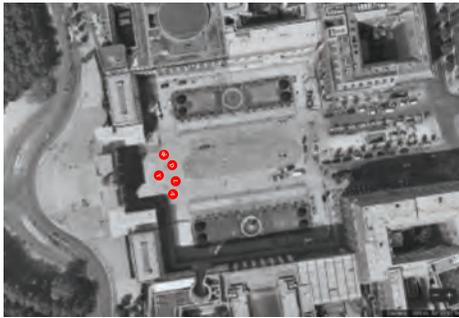
Interrupting the construction of a monument

BY Bella + Kevin + Kurt and Lukas + Melissa + Meret + Moritz + Zora

[BRIEF]

By personifying the inquiry “Where do you look at,” the project intends to question people’s practices of looking, posing and remembering while experiencing Pariser Platz. Imitating the posture of the Quadriga statue on top of Brandenburg Gate using selfie sticks and scooters, the performance calls into question the statue’s constructed political significance.

Where at do you look  
do you look at Where  
you do look at Where  
look at Where you do  
at Where do you look



**Analysis**

/ə'naləsəs/ n.

It is observed that on Pariser Platz, there is an abundant use of selfie sticks and scooters by tourists to memorialize and experience the monument.

**Performance**

/pər'fôrməns/ n.

In the performance, the students want to appropriate the Quadriga statue on top of the Brandenburg Gate and use its symbolic power to question its current context - how did a symbol of Prussian imperialism become a monument of Berlin's unity? What kind of monument would we like people visiting Berlin to see?

**Interrupt**

/,in(t)ə'rept/ v.

The goal of the performance is to interrupt a systemized way of experiencing Pariser Platz. Instead of staging a new one, the students wanted to challenge one by using everyday means like electric scooters and selfie sticks.

**Choreography**

/,kôrē'äggrəfē/ n.

The path of the student's interruption is carefully choreographed as they each have a word attached to their back. The choreography generates different combinations of the words in an attempt to elicit people's reflection on the agency of their gaze.

# recreating invisible boundaries

/'bound(ə)rēs/

## PERFORMANCE

1

Examine how individual and collective corporeal borders evolve, interact, and negotiate with the changing urban environment

BY Cemre + Rebecca and Alexandra + Elisa + Maxime + Raiko

## [BRIEF]

The performance transforms bodies into borders through occupying public spaces, leading into the blurring of boundaries between where body ends and where the city begins. The edited video documentation records captures the visibility permitted by the moving borders through crowds and through space.





### Reference

*/ˈref(ə)rəns/ n.*

By referring to different examples, such as the invisible border of the US embassy and the separation of east and west Berlin, the students want to make visible the general concept of borders. By connecting their bodies through movement, a dynamic border is constructed.

### Experiment

*/ɪkˈspɛrəmənt/ n.*

Multiple movements are explored ranging from, how different systems of organization and movement translate into different shapes of border. The experiment emphasizes bodies' individual potentials and how they join to form a collective in space.



### Affect

*/əˈfekt/ v.*

Using forced interaction as a driving force in dictating their body movements, the students explore how bodies can shape invisible borders, and how the constructed borders in turn shape bodies' movement through space. The performance interrupts the pattern of behaviors occurring in the plaza.

*/kənˈstrɑːn/ v.*

By hampering social formations and obstructing access to the built environment, the performance divides elements that comprise a city. As the "recreated border" approaches the US Embassy, the performance was interrupted by the police staff from the embassy due to the friction emerging between the performed border by the members and established borders of the consulate due to proximity.

### Constrain

# Living monuments

/'mänyəmənts/

## PROPOSAL

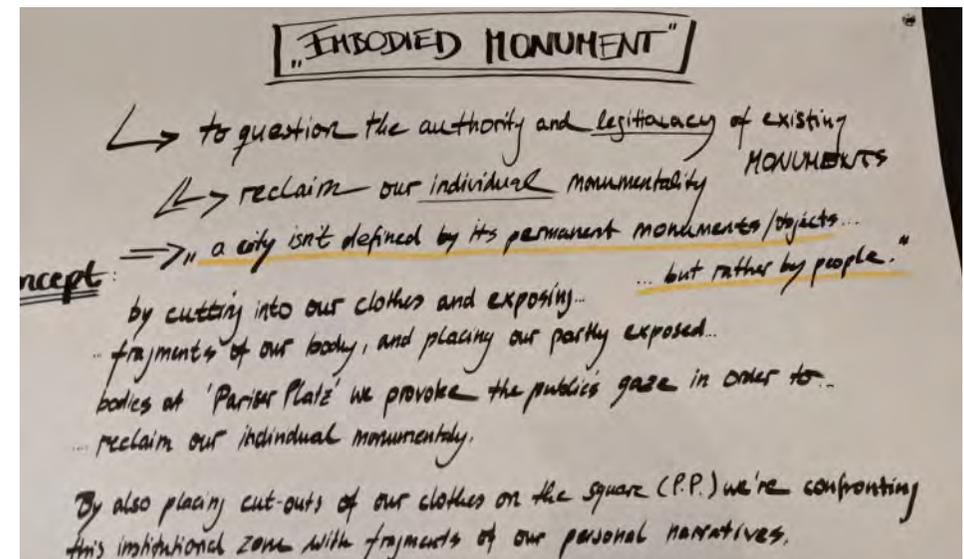
1

To question the authority and legitimacy of existing monuments by inserting individual's personal monumentality

BY Eno + Victor and Wiebke + Julian + Monai + Jason + Timur

## [BRIEF]

A city is not defined by its permanent monuments and objects but by the people that inhabit it. The proposal calls into question the status of Pariser Platz as a monumental symbol of Berlin. It invites individuals to reclaim their ownership of the city by imposing a piece of their personal narrative through the installing pieces of their clothing on monuments around Pariser Platz.



## CONCEPT

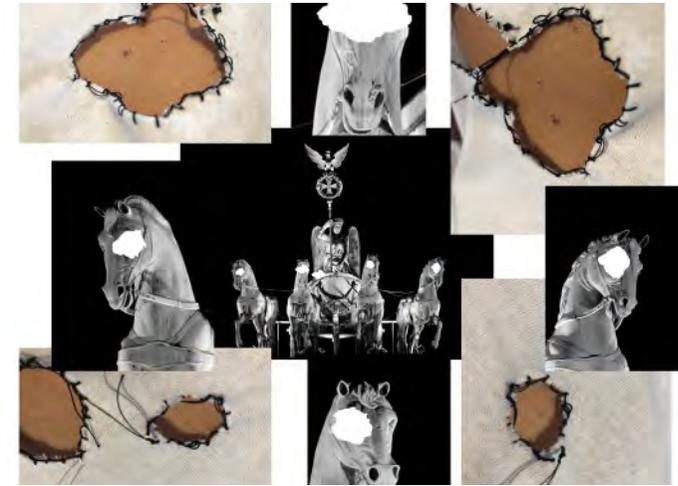
/'kän,sept/ n.

"By cutting into our clothes, exposing fragments of our body, and placing our partly exposed bodies at Pariser Platz, we provoke the public gaze in order to

reclaim our individual monumentality. By also placing cut-outs of our clothes on the square, we are confronting and redefining the institutionalized monuments with fragments of our personal narrative."



By Victor Ohene



By Monai de Paula Antunes



By Julian Loscher



By Wiebke Marie von Bremen



By Jason Kittner



By Timur Tokdemir



By Eno Chen

# 04 on climatorium

## [BRIEF]

Extending the definitions of a planetarium to a CLIMATORIUM with the goal of imagining interventions where climate crisis issues are framed in relations to ideas of promoting decarbonization and justice.

## [DESIGN PROCESS]

Proposed Program:

1. An Anthropocene Observatory
2. A Global Summit
3. Public Assembly
4. Program X (other programs based on project emphasis)

Considerations:

The term "Climatorium" is derived from "Planetarium" and defined as:

Merriam-Webster Dictionary:

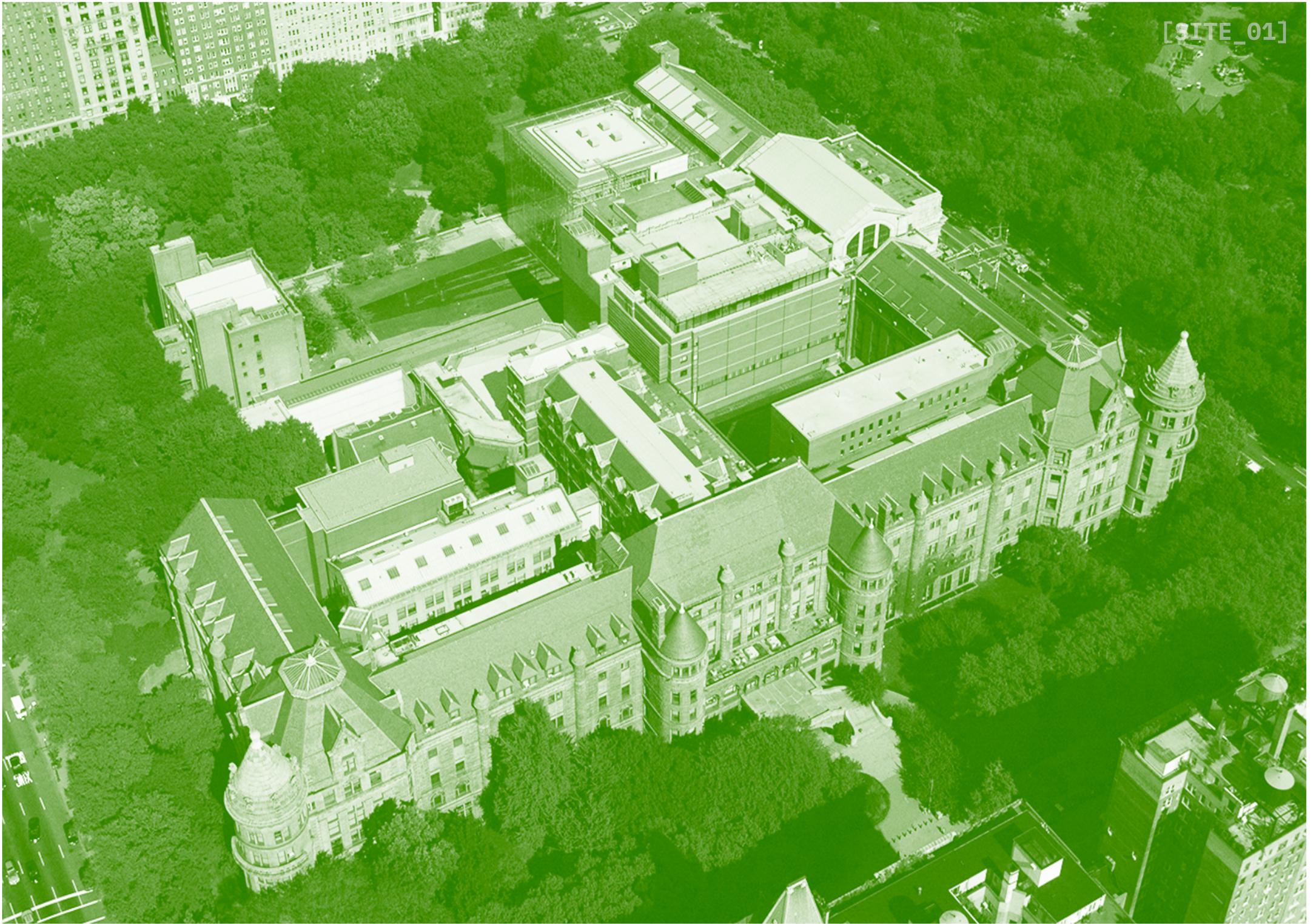
- 1: A model or representation of the solar system
- 2a: An optical device for projecting various celestial images and effects
- 2b: A building or a room housing such a projector

Oxford English Dictionary:

1. An orrery or similar mechanical model illustrating the movements of the planets around the sun.
2. A graphical or structural representation of the planetary system.
3. A device for projecting images of planets, constellations, etc., onto the interior of a darkened dome for public viewing; a building housing such a device.

Sites:

1. New York City: American Museum for Natural History.
2. Berlin: Museum für Naturkunde.



[SITE\_01]

[054]

[01. on climatorium]

AMNH (American Museum for Natural History), New York City

# [SITE\_01] AMERICAN MUSEUM OF NATURAL HISTORY

## [LOCATION]

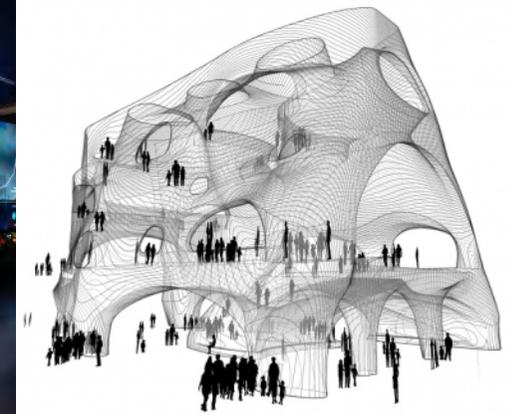
AMNH currently has a climate change exhibit in the David S. and Ruth L. Gottesman Hall of the Planet Earth. However, as the issue of climate change arises, there will be a need for a larger section devoted to its study. Studio Gang's Richard Gilder Center for Science, Education, and Innovation served as a reference for considering both the expansion of the museum and furthering the mission of research, science education and exhibition for the AMNH. Student's projects considered both the challenges and progress with this project.

## [SCHEDULE]

SEP 23 MON	AMNH Site Visit
SEP 25 WED	AMNH Slides: Class Discussion
SEPT 30 MON	Guest Talk: Buell Center, GSAPP Project Abstract DUE
OCT 02 WED	Desk Crits
OCT 07 MON	Desk Crits
OCT 09 WED	Guest Talk: The Climate Museum
OCT 14 MON	Pin Up Project Progress DUE
OCT 16 WED	Desk Crits
OCT 21 MON	Desk Crits
OCT 23 WED	MIDTERM PROJECT 1A+1B: Final Presentation

## [DELIVERABLES]

- |                  |  |
|------------------|--|
| Project Abstract | - Collages, Diagrams, Drawings: Min (3) 11x17 sheets<br>- Project Proposal: 1 page written abstract                    |
| Project Progress | - Architectural drawings and collages<br>- Physical models (as needed)<br>- Multimedia visualizations or documentation |



Source: Studio Gang

# oceanatorium

/,oʊʃə'netɔːriəm/

NOUN

1

Creating civic engagement through a fruitful conversation in the designated rooms of the conference and summit

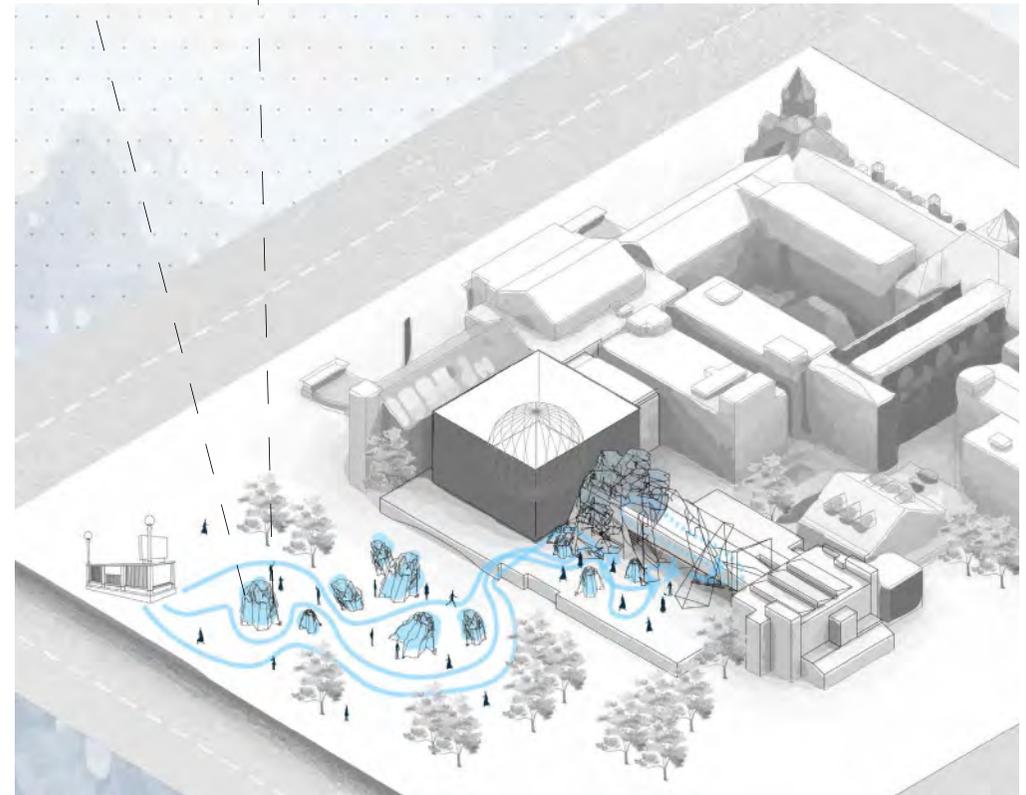
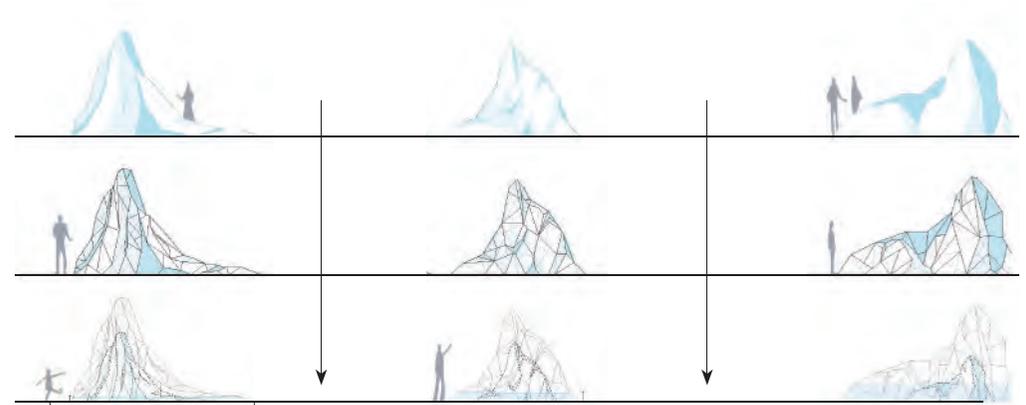
A design initiative that can be interpreted as an exploration of the destructive and transformative quality of water in climate change discussions.

A climatorium using spectacle and monumentality to raise the stakes in the effects of climate change.

[ BY Cemre Tokat + Rebecca Siqueiros ]

[BRIEF]

The project uses monumentality as a tool to bring attention to the melting of the glaciers caused by global warming. This phenomenon is often occurring out of the experience of people which feeds the lack of information surrounding it. By immersing visitors into exhibition spaces that dramatize the melting of glaciers, public awareness is heightened through personal experience.



[058]

[01. on climatorium]

**Decarbonization** /dē'kərbə,nīz/ v.  
 This climatorium serves as a model to frame climate issues in matters of decarbonization and justice. The Anthropocene observatory and a global summit room to serve as a diplomatic space for climate negotiations.

**Awareness** /ə'wernəs/ n.  
 Knowledge of a situation or fact. Concern about and well-informed interest in a particular situation or development.

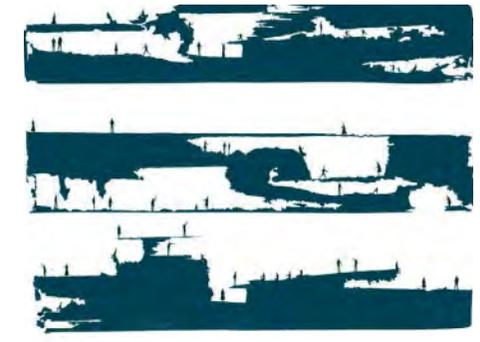
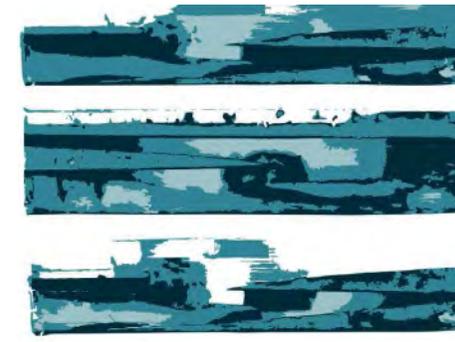
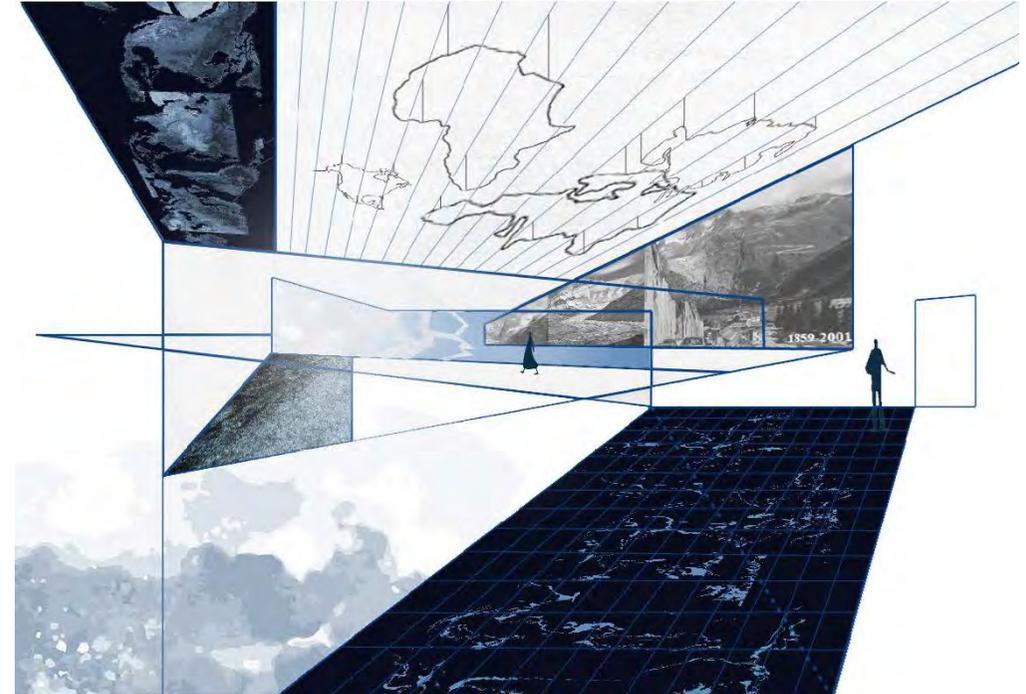
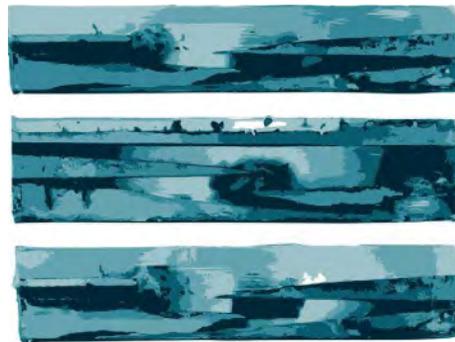
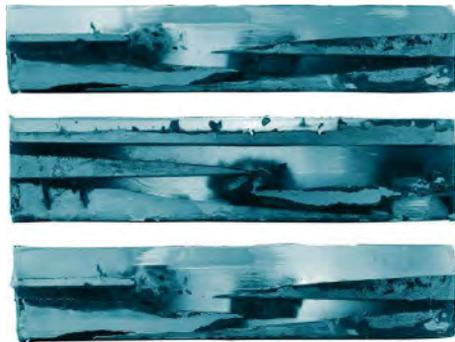
**Decarbonize** /,(, )dē-'kār-bə-,nīz/ v.  
 To remove carbon form.



**Glacier** /glāSHər/ n.  
 Melting glaciers are an issue and have the potential to alter not just the form of the planet but lives of individuals worldwide. Should all the glacier melt, a significant portion of the land would be claimed as depicted in the topographical image below.

**Flood** /'fləd/ n. v.  
 A rising and overflowing of a body of water especially onto normally dry land.

**Glacier** /'glā-shər/ n.  
 A large body of ice moving slowly down a slope or valley or spreading outward on a land surface.

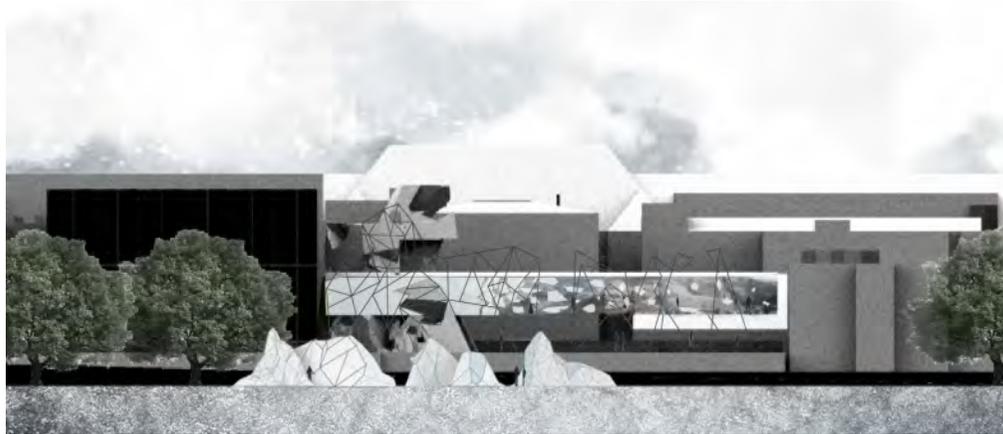


**Remolding** /rē' mād/ v.

The project reconstructs the island of NYC through shifting and melting glaciers and the forms they produced. The casting model, lined at the bottom of the page, investigates the movement of people through positive and negative spaces.

**Global Warming** /'glōbəl 'wōrmiNG/ n.

An increase in the earth's atmospheric and oceanic temperatures widely predicted to occur due to an increase in the greenhouse effect resulting especially from pollution.



**Glaciers** /glāSHər/ n.

The glaciers dispersed around the museum are designed to melt over time to reveal a wire frame structure underneath the ice. The water from the melted ice is collected to emphasize the volume of water contained in these samples yet alone the actual glaciers. This will hopefully inspire a dire need to conserve the existing glaciers and tackle climate change.

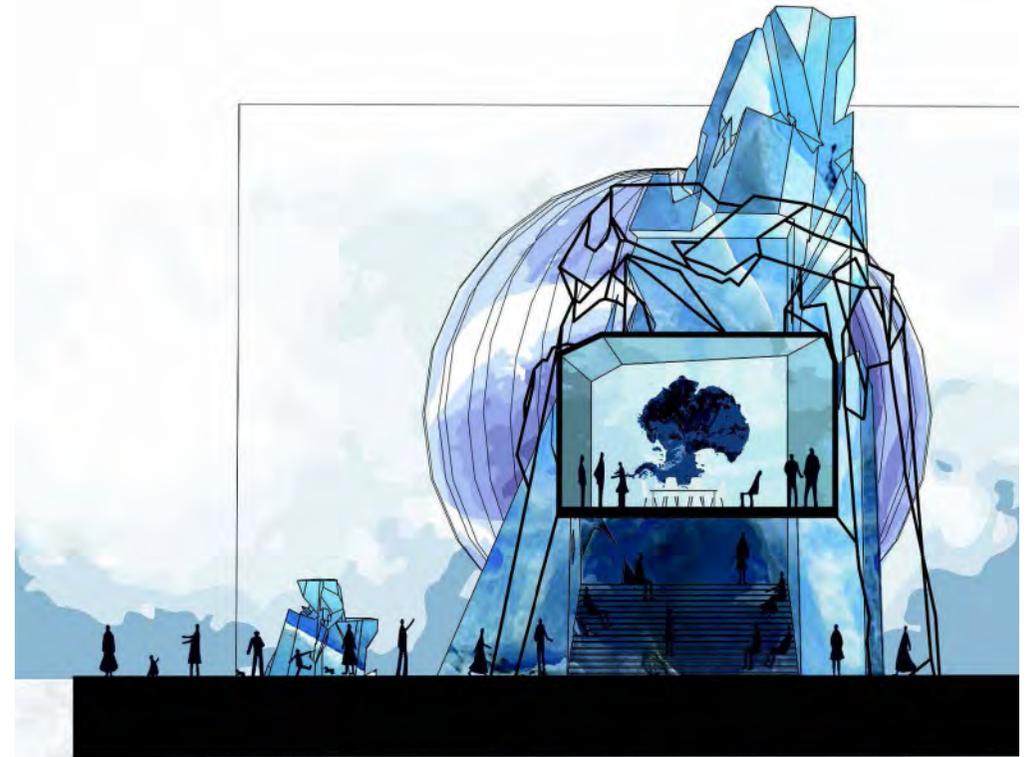
**Monument** /'mān-yə-mənt/ n.

A lasting evidence, reminder, or example of someone or something notable or great.  
A memorable structure, stone or building erected in remembrance of a person or event.

**Transparent** /tran(t)s-'per-ənt/ adj. Characterized by visibility or accessibility of information especially concerning business practices.  
n. Free from pretense or deceit.

**Summit** /'səmət/ n.

In the oceanatorium will be two summit spaces – lower level and in the structure. They connect through a translucent floor to dissolve the divide between diplomatic discussions and public inclusion. The floor is to spark a discourse on transparency in discussions and discourses on climate action and justice.



# extinction monitor

/'mänədər/

NOUN

1

A climatorium created to shed light on the series of extinctions caused and boosted by human activities.

A project that unravels and extends the “Cosmic Pathway” in the Hayden Planetarium through an underground tunnel framed on the previous “Big Five” extinctions.

Four extinction chambers that centered around issues causing extinction today: Ocean Acidification, Introduction of Invasive Species, Overconsumption, and Habitat Loss.

[ BY Kurt Huckleberry ]

[BRIEF]

Extinction Archive aims to inform visitors about the current global climate crisis through extinction. Using Elizabeth Kolbert’s research book, *The Sixth Mass Extinction*, as a framing guide, the exhibition tells the story of the current extinction phenomenon in a series of underground chambers buried beneath the museum’s north lawn.



[064]

[01. on climatorium]

### Chambers

/ˈCHāmbər/ n.

Six inset alcoves in each chamber are dedicated to showcase reasons for extinction. These displays will use digital screens and holographic images in order to visualize the animal, giving a physical form to the lost species. Displays will be updated as more species go extinct allowing for 24 species to be shown at a single time in the exhibition.

### Burial mounds

/ˈberēəl mound/ n.

The shape of the chambers is based on the design of ancient burial mounds – a vernacular form found in many regions around the globe. A large portion of the “mounds” will remain buried with protrusions on the surface. These will terraform the land to suggest that something lies buried and spark curiosity.

### Circumambulate

/sur-kuh m-am-byuh-leyt / v.

To walk all the way around something.

### Cenotaph

/se-nə-ˈtɑf, -ˈtɑf/ n.  
A tomb or a monument erected in honor of a person or group of persons whose remains are elsewhere.

### Mass Extinction

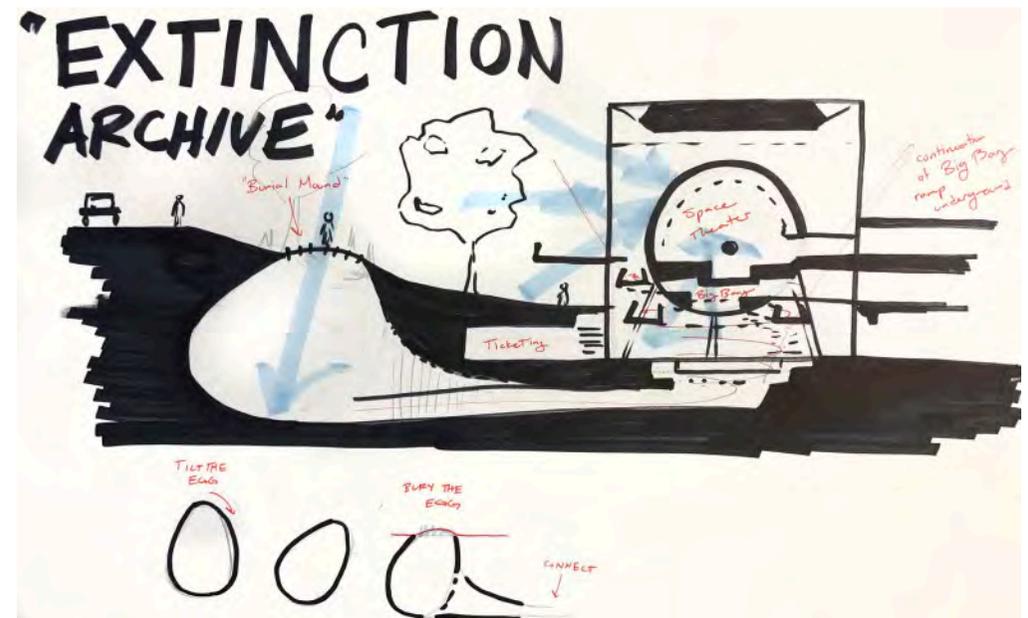
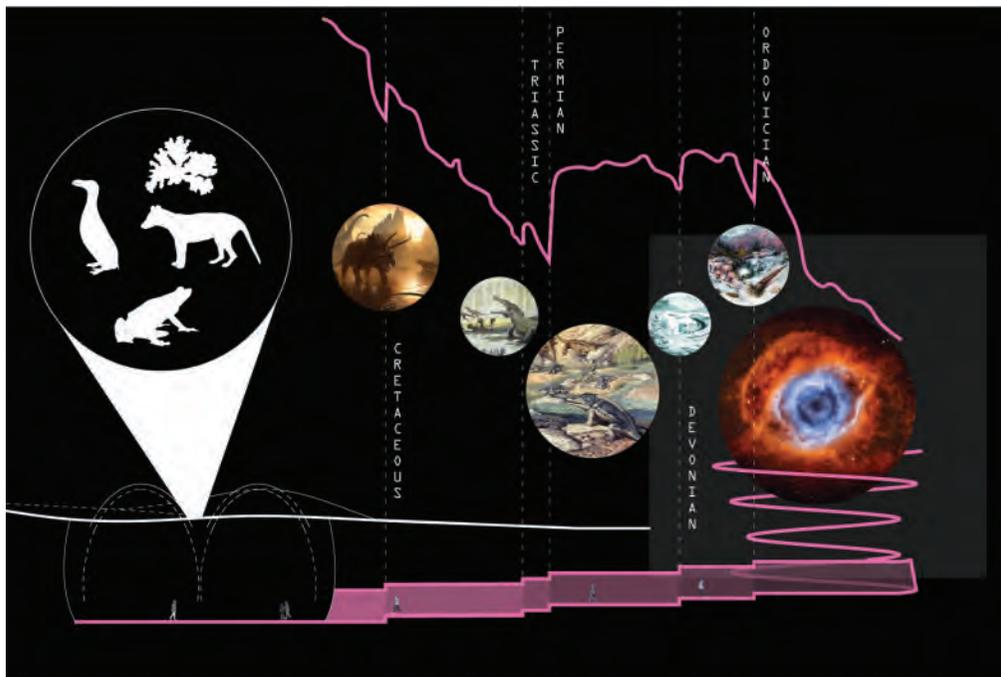
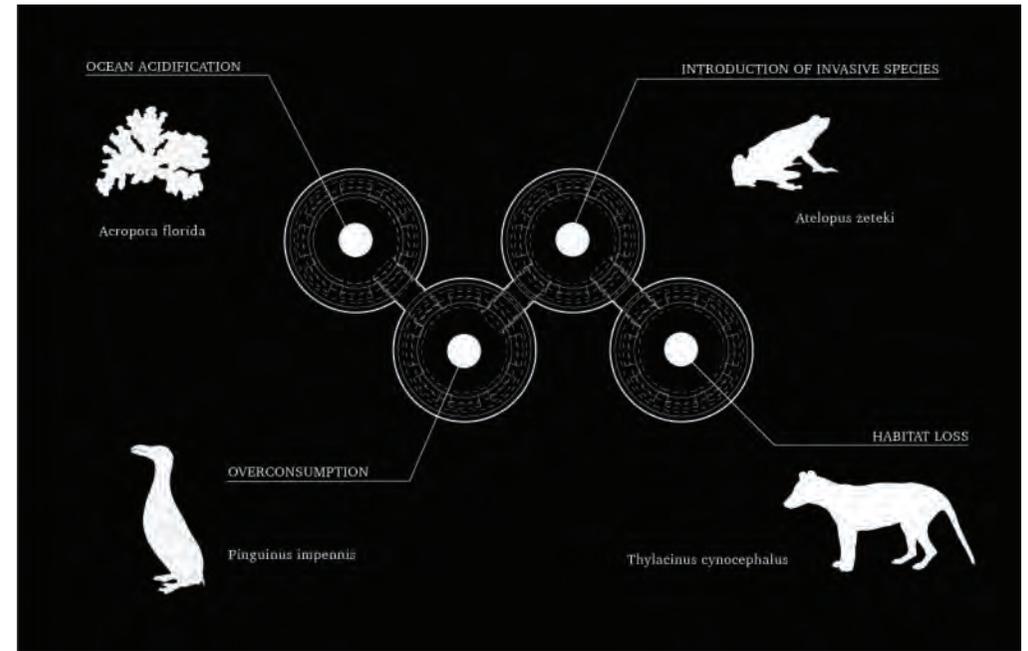
/ikˈstiŋg(k)SH(ə)n/ n.

The extinction of a large number of species within a relatively short period of geological time, thought to be due to factors such as a catastrophic global event or widespread environmental change that occurs too rapidly for most species to adapt.

### Remembrance

/ri-ˈmem-brən(t)s/ n.

Something that serves to keep in or bring to mind.



**Circulation** /ˌsɜrkyəˈlæʃ(ə)n/ n.

An underground tunnel connects the Extinction Archive to the Hayden Planetarium. Visitors will have to descend from the proposed Cosmic Path to access this path. Along the tunnel will be placards presenting information about the previous five (5) mass extinctions that we have witnessed. This will effectively extend the Pathway to “slow-down” time to include these extinctions as part of the cosmic timeline.

**Stupa** /stōopə/ n.

A dome-shaped structure erected as a Buddhist shrine.

The dual chamber design references Buddhist stupas, allowing for a circumambulation of the Extinction Chamber; balancing information with reflection.

**Subterranean** /səb-tə-ˈrā-nē-ən/ adj.

Being, lying, or operating under the surface of the earth.





# emersion

/ ə'mərʒən/

NOUN

1

A series of exhibitions to engage its audience to gain a wider perspective on the true consequences of climate change.

The inclusion of a new space in the AMNH to dissolve the regions between the accessible and inaccessible.

[ BY Isabella Tincher + Constantino Khoury ]

[BRIEF]

This intervention brings to light the potential causes for the demise of the human species. Placed in the hall of advanced mammals, the exhibition questions whether mankind is the next "advanced mammal" to go extinct. The proposed new exhibition critiques the myriad blanket statements made by climate activists which leave much of the general public confused and unable to comprehend the damage that these issues have.



### Transparency

/,trænˈspɪərənsē/ adj.

The intervention will be placed on the fifth floor which is usually completely closed off to guests. This new level of access is aimed to generate a dialogue between the general public and experts in their fields, inducing an element of transparency. This tactic of transparency is continued with the addition with long horizontal windows stretching across the form in order to make the interior space visible from the street, a visual shift from the very traditional and imposing museum.

### Accountability

/əˌkaʊn(t)əˈbɪlədə/ n.

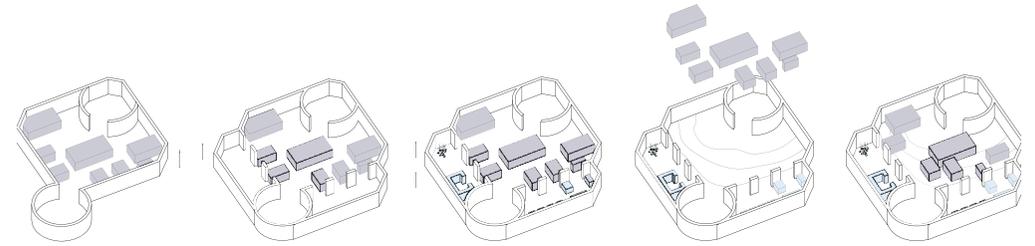
The quality of being accountable; liability to account for and answer for one's conduct, performance of duties, etc. (in modern use often with regard to parliamentary, corporate, or financial liability to the public, shareholders, etc.); Responsibility.

### Activist

/ˈæktɪvɪst/ n.

A person who campaigns to bring about political or social change.

adj. Campaigning to bring about political or social change.



**Waste management** /wāst/ n.

An installation that has suspended waste. The suspension will be complemented with a projection of the world to correlate the waste in relation to places in the world where dumping of garbage is more frequent.

**Sea Level Rise** /'sē ,level rāz/ n.

This piece is to help visitors understand the severity of sea level rise in the coming years. It seeks to give form to numbers from climate scientists for effects in Lower Manhattan which may seem minuscule but are severe if materialized.



**Natural disasters**

/'naCH(ə)rəl də'zastər/ n.

This hopes to convey the devastation caused by disasters. Visitors' senses are overwhelmed with the sights of debris and smell of rots caused by water damage. Exposure to these factors conveys the extent of these tragedies that could affect many communities.



**Increased CO2**

/'kərbən/ n.

CO2 rise is conveyed through an experiment that shows the effects on corn with different levels of CO2 concentrations in the air. This concrete experiment shows the drastic effects that can be caused by small changes in the atmosphere.

**Awareness** /ə'wernəs/ n.

Concern about and well-informed interest in a particular situation or development.

**Carbon emissions**

/'kərbən ə'miSH(ə)n/ n.

Mission of carbon, esp. into the atmosphere in the form of carbon dioxide as a contributor to global warming.

**Extinction**

/ik'stiNG(k)SH(ə)n/ n.

The state or process of a species, family, or larger group being or becoming extinct.

**Disaster**

/də'zastər/ n.

a sudden event, such as an accident or a natural catastrophe, that causes great damage or loss of life.

**Phenomenology**

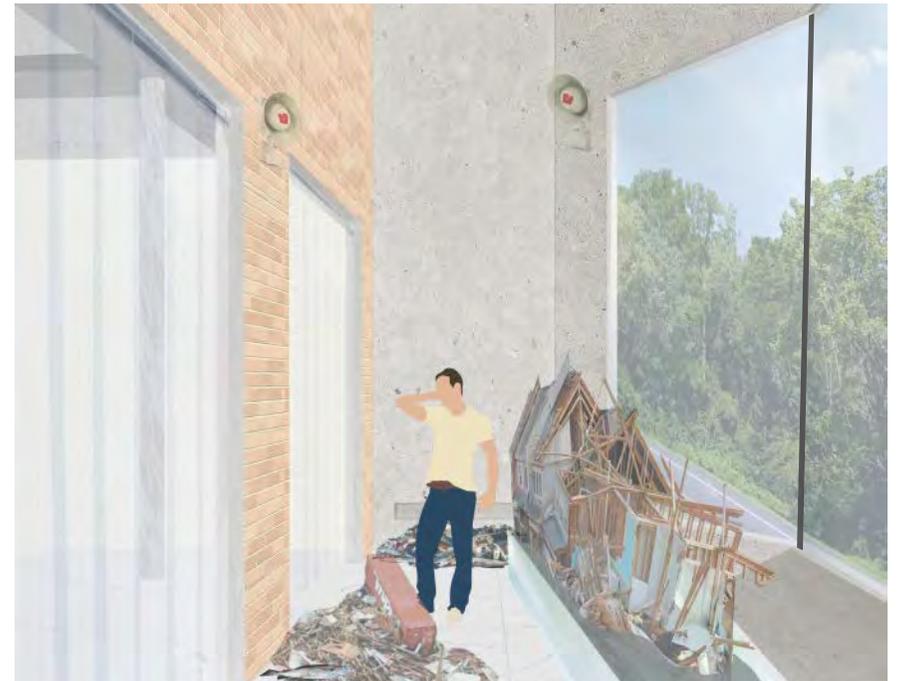
/fə,nāmə'näləjē/ n.

An approach that concentrates on the study of consciousness and the objects of direct experience.

**Pollution**

/pə'lōoSH(ə)n/ n.

The presence in or introduction into the environment of a substance or thing that has harmful or poisonous effects





**Live Feed Building** /ˌlaɪv ˈfiːd/ n.

The Live Feed Building is located next to the corner of Columbus Avenue and W 81st street is the live feed room. It is to serve as a site for broadcasting living news and footage in relation to the climate crisis all over the world.

**Globe** /glɒb/ n.

Shaped like a sphere with the world's borders outlining the building just like a regular globe. The projected broadcasts in the LFB will be correlated to the regions within the borders to reference the part of the world being affected.

**Accountability**

/əˌkaʊn(t)əˈbɪlədə/ n.

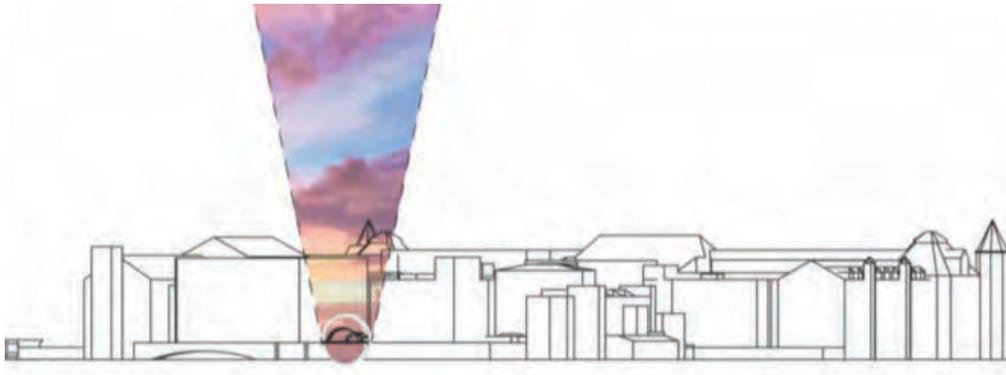
The quality of being accountable; liability to account for and answer for one's conduct, performance of duties, etc. (in modern use often with regard to parliamentary, corporate, or financial liability to the public, shareholders, etc.); Responsibility.

**Collective** /kəˈlektɪv/ adj.

Denoting a number of persons or things considered as one group or whole.

**Emissions** /iˈmiːʃən/ n.

Substances discharged into the air.





**CO2 Building** /'kɑrbən dī'æksɪd/ n.  
 This is located in between the LFB and the main exhibition building. The CO2 building focuses on the issue of CO2 emissions and how they affect the atmosphere.

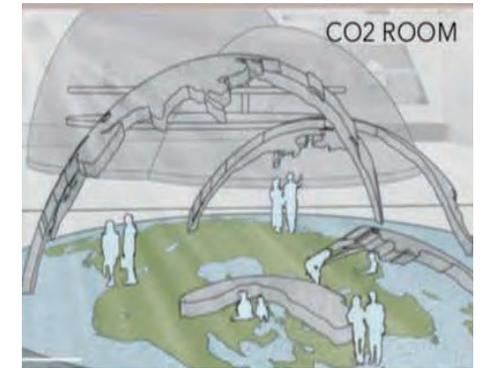
**Global Summit Building** /'səmət/ n.  
 Last of the intervention spaces is located near the main entrance of the AMNH on W77th street. The building will serve as a space for conferences and large meetings in regards to the climate crises to be held. A unique feature of the Global Summit is that the building opens up and doubles as a space for large public gatherings such as protests.

**Protest** /'prɒ-,tɛst/ n.  
 a complaint, objection, or display of unwillingness usually to an idea or a course of action.

**Summit** /'sə-mət/ n.  
 a conference of highest-level officials (such as heads of government).

**Territories** /'ter-ə-,tɔr-ē/ n.  
 Geographic area belonging to or under the jurisdiction of a governmental authority.

**Visualization** /vi-zhə-wə-lə-'zā-shən/ n.  
 the act or process of interpreting in visual terms or of putting into visible form.



# dis-course/cord

/'di- ,s-kɔrs/kɔrd/

NOUN

1

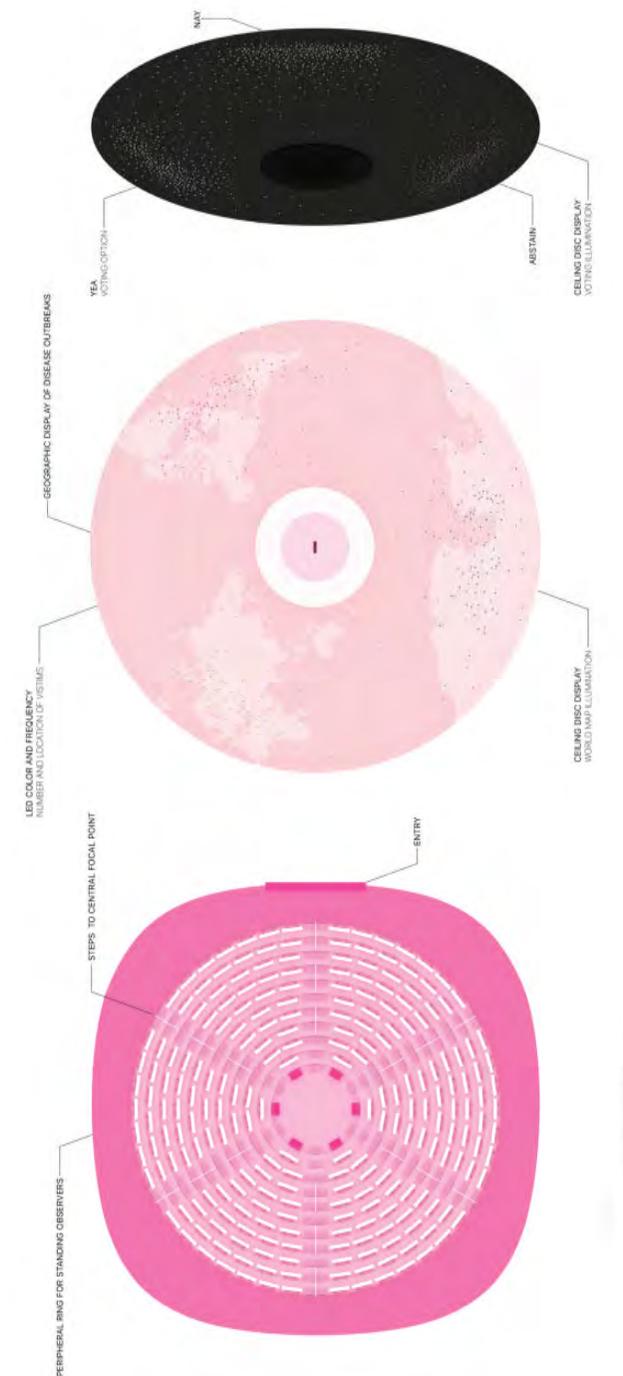
A new satellite space to the AMNH that could devolve from a place for equitable discourse to one of chaotic discord.

A dynamic ceiling system filled with LED lights to aid in the voting process during conferences and also serve as a means to visualize geographically the global effects of climate change.

[ BY Kevin Ledee ]

[BRIEF]

The forum aims at easing the severe power disparity between high-level policy makers and the climate scientists and civilian activists. These groups are often not in the best forms of conversation amongst each other when decisions are being made often leading to many policies and climate actions to be lacking in some form.



### Ceiling Disc Display

/ 'sē-līj disk di-'splā/ n.

The ceiling of the forum serves two purposes: to illustrate voting tallies as well as to illuminate victims of climate disasters. (See diagram on page 84). Each instance uses a variance in the colors and density of the LEDs to signify accord/opposition/refrain or geographical dispersion of pollution, disease and other climate effects. Visualizing these two premises creates an active awareness of the eclectic opinions and views during forums as well as highlighting the pressing effects of climate change.

### Discord / 'dis-,kórd/ n.

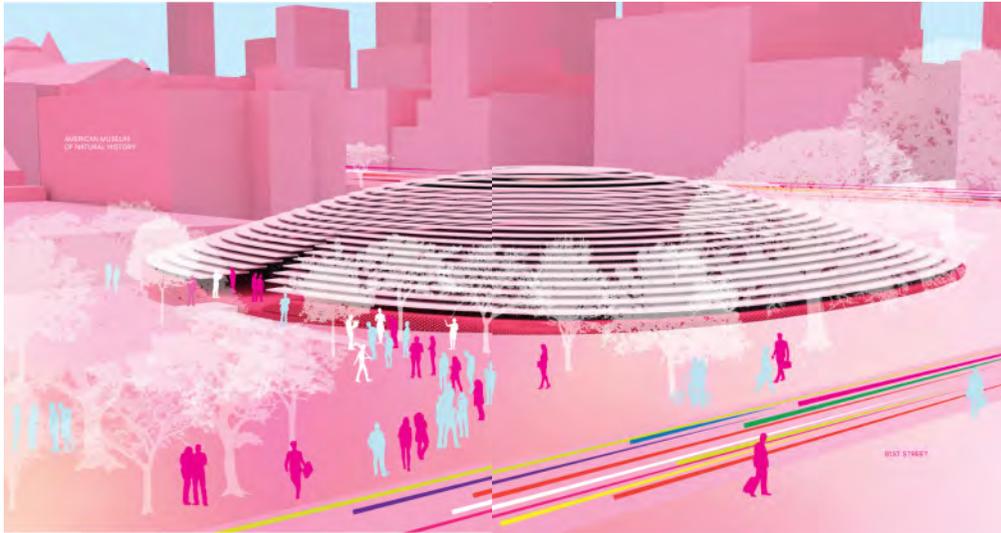
Lack of agreement or harmony (as between persons, things, or ideas).

### Discourse / 'di-,skórs/ n.

A mode of organizing knowledge, ideas, or experience that is rooted in language and its concrete contexts (such as history or institutions).

### Hierarchy / 'hī-(ə-),rār-kē/ n.

the classification of a group of people according to ability or to economic, social, or professional standing.

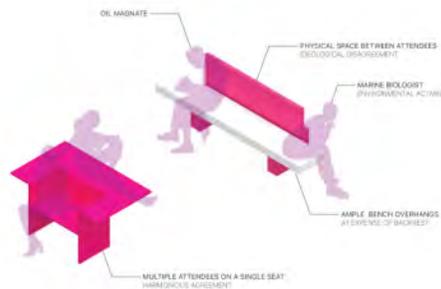


### Layout / 'lā-,aút/ n.

In order to eliminate the constant divide between involved parties, the space is laid out in a concentric manner leading to a central focal point.. The outer ring hosts the general public and visitors. Inner rings will be populated by activists, high-level policy makers and other stakeholders. The space incorporates a unique seating configuration using specialized benches to encourage meetings between opposing parties.

### Mediation / ,mē-dē-'ā-shən/ n.

Intervention between conflicting parties to promote reconciliation, settlement, or compromise



**Benches** /ben(t)SH/ n.

The benches are shaped to signify harmonious agreement or ideological disagreement. As multiple personalities and demographics come into a singular space, there are bound to be points of tension or agreement. Architecture serves not just as an object but a field of service in constructing relationships amongst people. It structures small conversations within the context of global meetings.

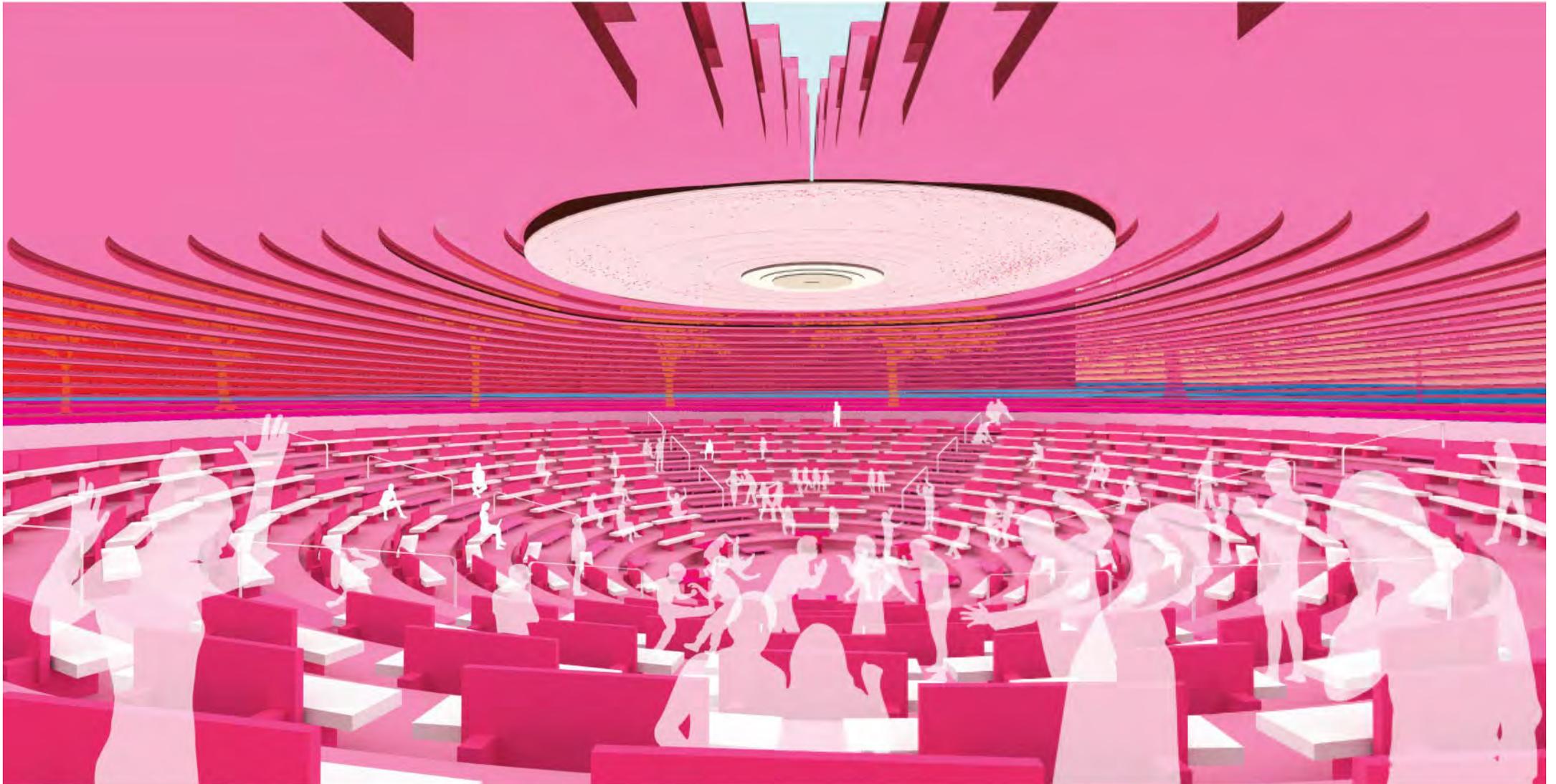
**Proximity** /prāk'simədē/ n.

nearness in space, time, or relationship.

**Veto** /'vē-(,)tō/ n.

A power of one department or branch of a government to forbid or prohibit finally or provisionally the carrying out of projects attempted by another department.

v. To refuse to admit or approve



# sensorium

/'sensəriəm/

NOUN

1

A climatorium created through invoking other senses besides visual ones to create new experiences for users

An environment created to raise awareness of the anthropocene and its role in extinction and climate change through the use of sound and a praxis of phenomenology.

Ad-hoc combination of the words SENSE and CLIMATORIUM as the auditory nerves of users are actively engaged as they progress through regions of varying sound levels and effects

[ BY Eno Chen + Victor Ohene ]

[BRIEF]

This climatorium sought to address issues of the Anthropocene and the 6th mass extinction. The structure of plant cells was extracted and used as the underlying geometry in the design. These cell resembled voronoi shapes which were tessellated and scaled to match the required programming.



[090]

[01. on climatorium]

**Capsule** /'kapsəl/ noun.

The Planetarium's facade will house a storage center for DNA capsules from extinct species. Voronoi massing will grow as more species become extinct. As the world loses life, this facade gains its own. As a performative space, images of the animals whose DNA is stored in each capsule will be projected onto the internal sphere on a predetermined schedule.

**Soundscape** /'soun(d)skāp/ noun.

Populated in the lawns of the museum are umbrella-like structures which will serve as venues for sound enhancement. Each structure will echo the sounds of extinct animals to create an artificial forest in which these creatures can live again. Users transition from the noisy street of NYC into this soundscape invoking the presence of life now lost.

**Experience**

/,ik'spirēəns/ n.

An event or occurrence that leaves an impression on someone.

v. Encounter or undergo (an event or occurrence).

**Extinction**

/ik'stiŋ(k)SH(ə)n/ n.

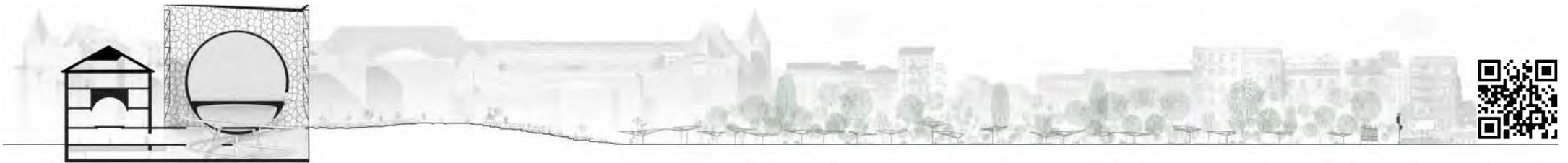
The state or process of a species, family, or larger group being or becoming extinct.

**Phenomenology** /fə,nāmə'näləjē/ n.

An approach that concentrates on the study of consciousness and the objects of direct experience.

**Protest** /'prō,tɛst/ v.

A statement or action expressing disapproval of or objection to something.



**Tectonic**

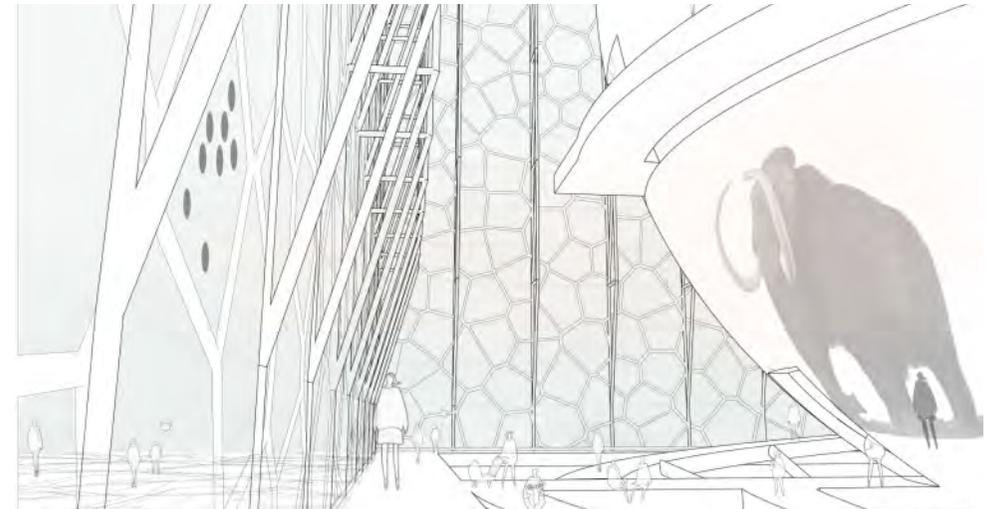
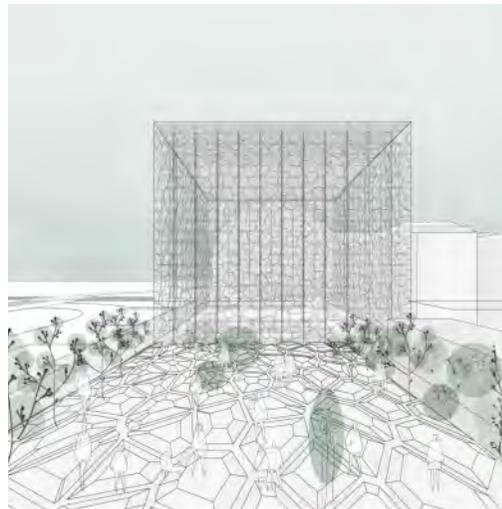
/tek'tānik/ n.

Region in the project created through the extracted voronoi onto the exterior terrace of the AMNH. This platform is suggested to serve both as a play-scape and a venue for protests and climate action.

**Video**

/'vidēō/ n.

A video was created plotting the path of users from the busy streets to the silent void within the planetarium. Scan the QR code provided to view the video and immerse yourself in the sensorium



**Model** /'mädl/ n.

Scaled 3D printed model of the intervention on the American Museum of Natural History. The contrast was used to differentiate between the proposal and the existing facade.

**Plan** /plan/ n.

Circulation through the soundscape, tectonic and capsule was envisioned to be in the form of an organic form. Imagining it in this form suggests that the paths will keep growing and flowing. By re-introducing the sounds of extinct animals and the DNA sample, the entire project is also assumed to be living.

**Background** /'bak,ground/ n.

The area or scenery behind the main object of contemplation, especially when perceived as a framework for it.

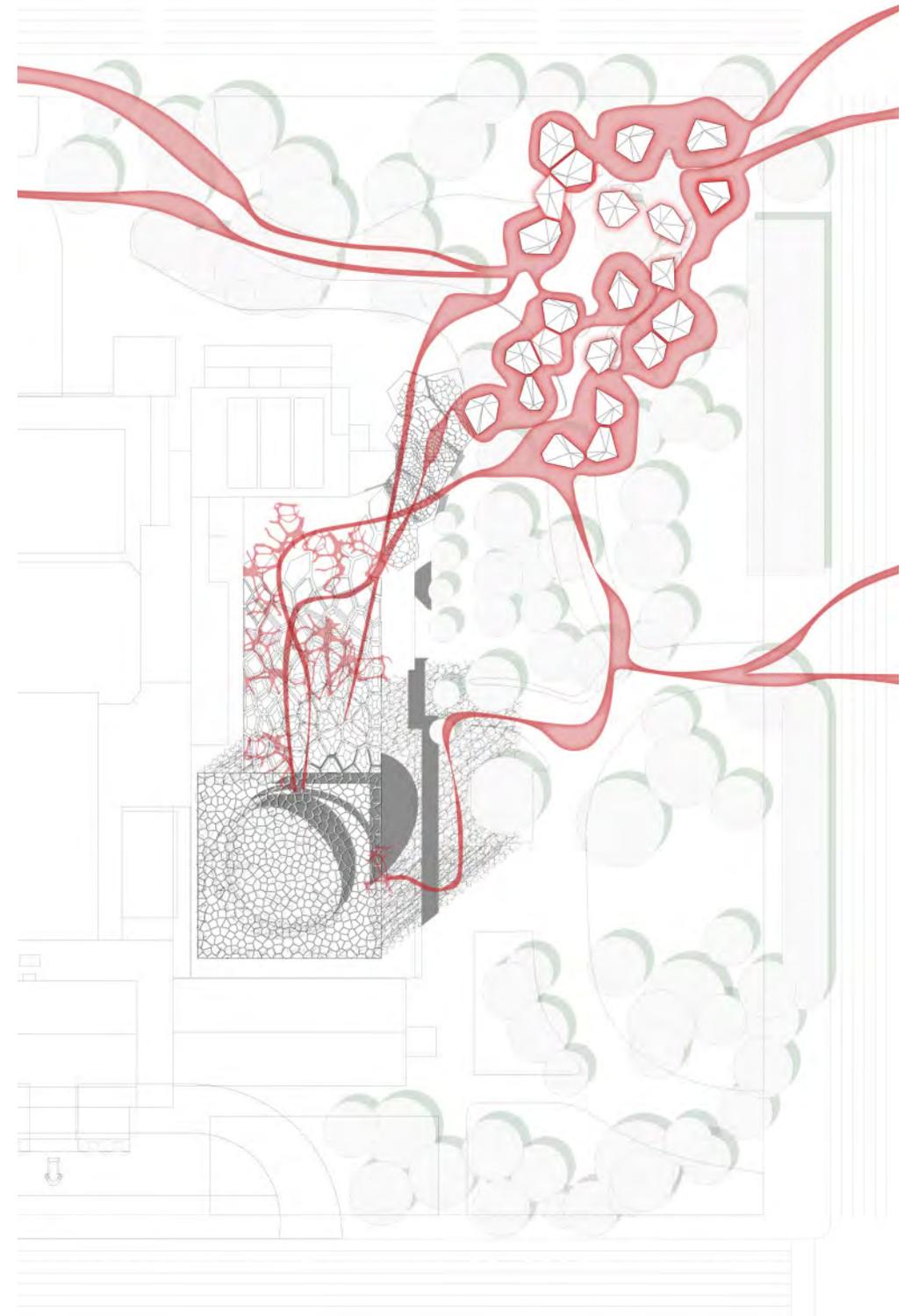
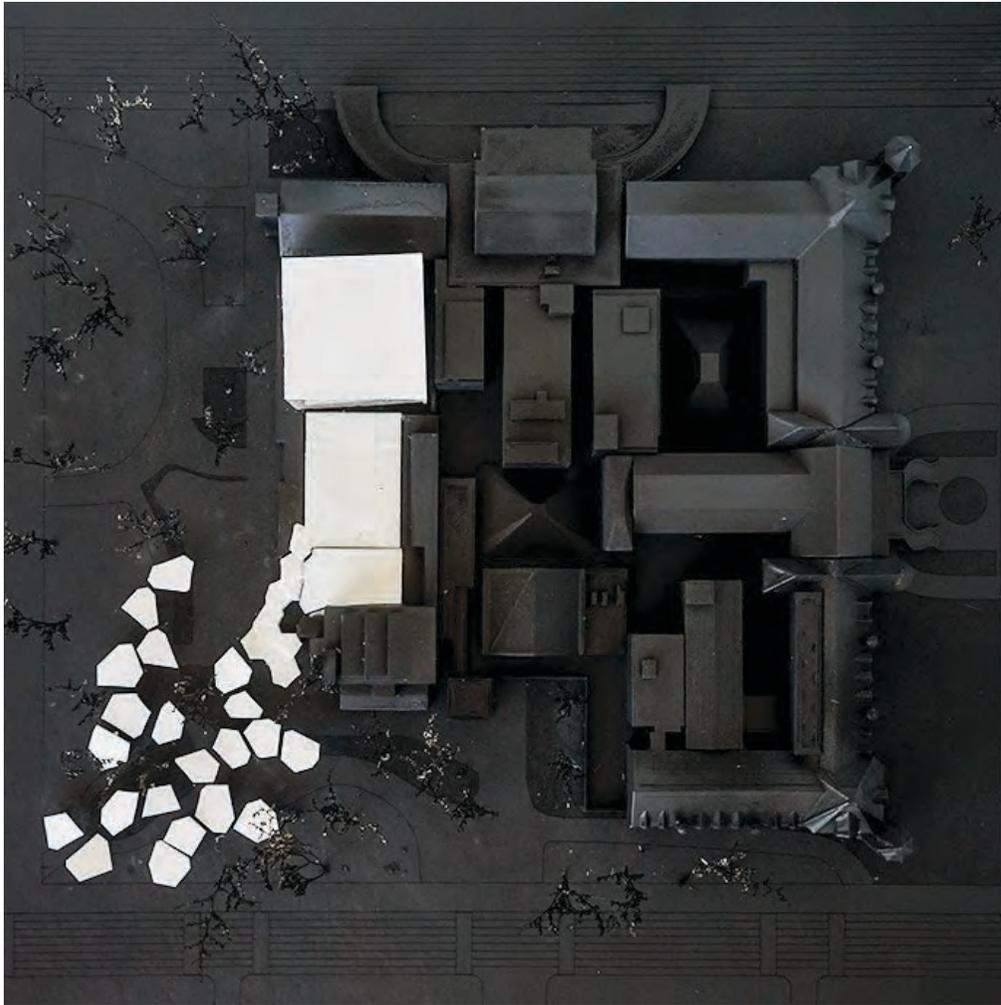
**Blood vessel** /bləd 'vesəl/ n.

Any of the vessels, as arteries, veins, or capillaries, through which the blood circulates.

**Contrast** /'kän,trast/ n.

The state of being strikingly different from something else in juxtaposition or close association.

v. Compare in such a way as to emphasize differences.



[094]

[01. on climatorium]



[SITE\_02]

[096]

[01. on climatorium]

# [SITE\_02] MUSEUM FÜR NATURKUNDE

## [LOCATION]

The Museum für Naturkunde is an important research institution worldwide in the fields of biological and geological evolution and biodiversity. The museum also hosts educational programs and exhibitions to engage the public and influence scientific and societal discourse about the future of the planet. Damage to the building during the Second World War led to a massive renovation plan for the museum. The work done on its East Wing now hosts the Wet Collection which serves not just as a prominent research database, but a popular exhibition. These and further planned extensions reflect the museum's goal to expand research while keeping the public engaged.

## [SCHEDULE]

OCT 28 MON	Desk Crits
OCT 30 WED	Desk Crits
NOV 01-09	Berlin Trip
NOV 04 MON	Workshop UDK
NOV 06 WED	Workshop UDK
NOV 11 MON	Desk Crits Project 2B CLIMATORIUM (Berlin)
NOV 13 WED	Desk Crits
NOV 18 MON	Desk Crits
NOV 20 WED	Desk Crits
NOV 25 MON	Pin Up
DEC 02 MON	Desk Crits
DEC 04 WED	Desk Crits
DEC 09 MON	Last Class
DEC 11 WED	FINAL: Project Presentation 2A + 2B



# curating energy

/'enərjē/

NOUN

1

Examining a large-scale global issue through the perspective of one of the smallest organisms.

An “energy garden” consisting of columns that carry photosynthesizing algae to produce sustainable energy for the museum.

Using exhibitions and energy production as a catalyst for increasing the public's engagement in climate activism.

[ BY Cemre Tokat + Rebecca Siqueiros ]

[BRIEF]

Using the lens of phytoplankton, the intervention addresses how climate change affects organisms on different scales. The planktons are in danger of extinction due to the climate crisis, however they play an important role not just in marine and global ecosystem. By enlarging the plankton, their sizes are made to match their effect and role.



**Research** /'rē, səRCH/ n. v.

The museum houses extensive research and documentation on how climate change affects phytoplankton on cellular and global levels.

**Plankton** /'plāNGktən/ n.

Although microscopic, plankton play a significant role in small and large scales. The plankton have integral roles in the marine food chain and supply a majority of the ocean's oxygen. These phytoplankton are in danger of dying out as a result of climate change. Having these plankton die out would cause drastic changes to the global ecosystem.

**Energy garden** /'enəRjē garden/ n.

To aid the museum in sustainable practices, the energy garden will serve a site for the production of power through the algae's exposure to sunlight. Finding the right placement for the garden was carried out to find the prime area which had the most exposure to sunlight. This placement was inspired by the original plans for the museum which included extensive gardens. Instead of using flat panels, the torus shape provides the largest surface area for the production of energy.

**Algae** /'al-(.)jē/ n.

A plant or plantlike organism of any of several phyla, divisions, or classes of chiefly aquatic usually chlorophyll-containing nonvascular organisms of polyphyletic origin.

**Carbon neutral**

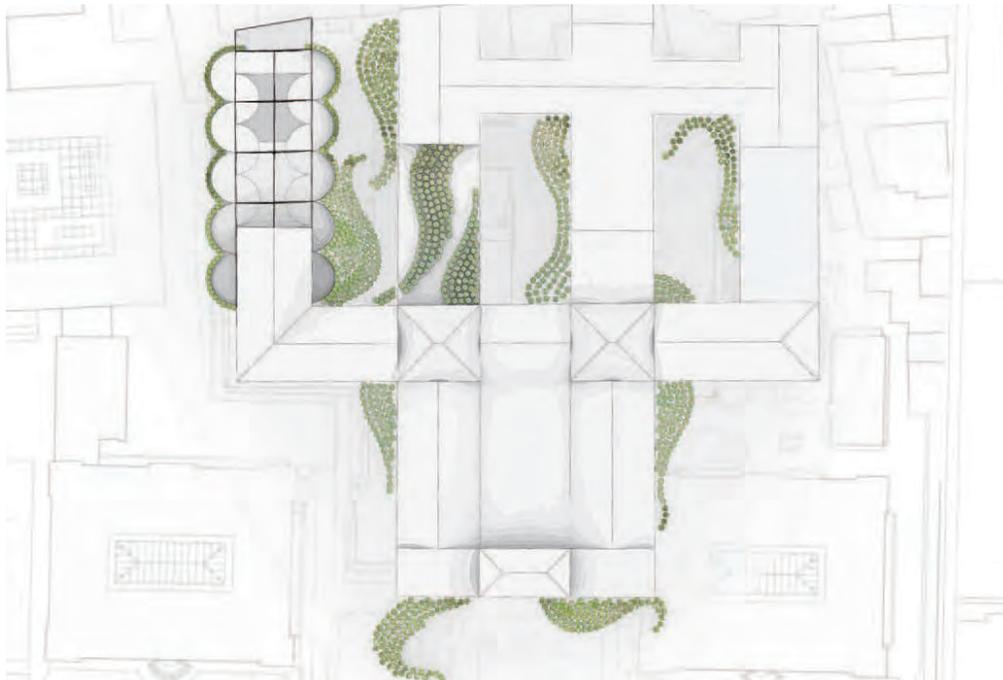
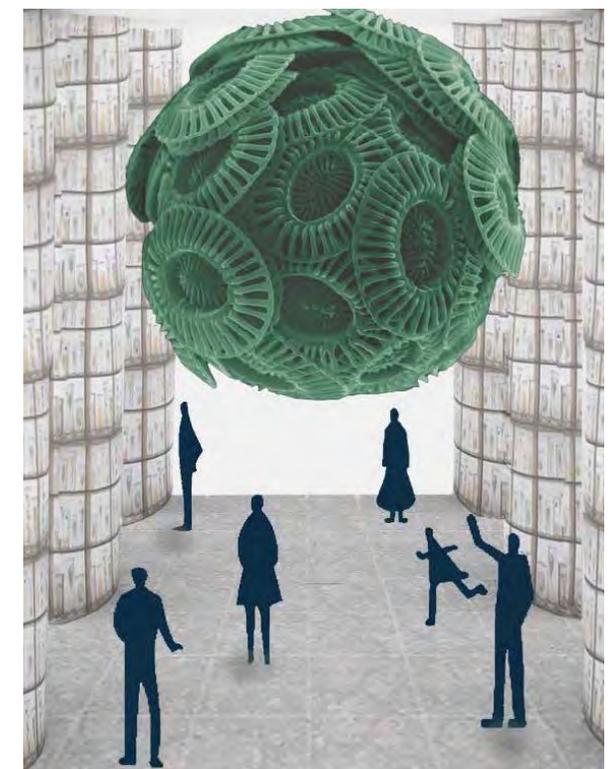
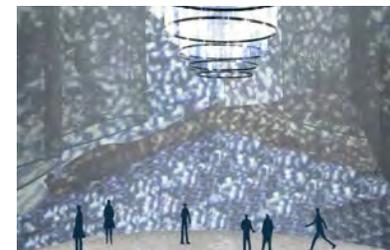
/'kərbən 'n(y)ōōtrəl/ adj.  
Having or resulting in no net addition of carbon dioxide to the atmosphere.

**Emission**

/ē-'mi-shən/ n.  
An act or instance of emitting  
The production and discharge of something, especially gas or radiation.

**Energy**

/'enəRjē/ n.  
Power derived from the utilization of the physical or chemical resources, especially to provide light and heat or to work machines.



**Neutrality** /n(y)ōō' tralədē/ n.

The garden aids in the advancement towards carbon neutrality and creates an observatory for these organisms that serve as building blocks for the oceanic food chain. The combination of the summit and the garden creates a space that allows not only for discussions on climate change, but also brings to light the consequences climate change has on organisms of all scales.

**Production** /prə'dəkSH(ə)n/ n.

A circulatory system pushes water, phosphorous, and nitrogen through bioreactors. CO2 produced is used by the algae for food, reducing carbon emissions from the cycle. Reproduction in algae

**Microscopic** /,mīkrə'skāpik/ n.

Invisible or indistinguishable without the use of a microscope  
n. very small or fine or precise.

**Micro-organism**

/,mī-krō-'ōr-gə-,ni-zəm/ n.  
An organism (such as a bacterium or protozoan) of microscopic or ultramicroscopic size.

**Photocatalysis**

/fōt-ō-kə-'tal-ə-səs/ n.  
The acceleration of a chemical reaction by radiant energy (such as sunlight) acting either directly or by exciting a substance that in turn catalyzes the main reaction.

**Photosynthesis**

/,fō-tō-'sin(t)-thə-səs/ n.  
Synthesis of chemical compounds with the aid of radiant energy and especially light especially-formation of carbohydrates from carbon dioxide and a source of hydrogen (such as water) in the chlorophyll-containing cells (as of green plants) exposed to light.

**Summit** /'sə-mət/ n.

A conference of highest-level officials (such as heads of government). The highest level of officials. Especially: diplomatic level of heads of government.

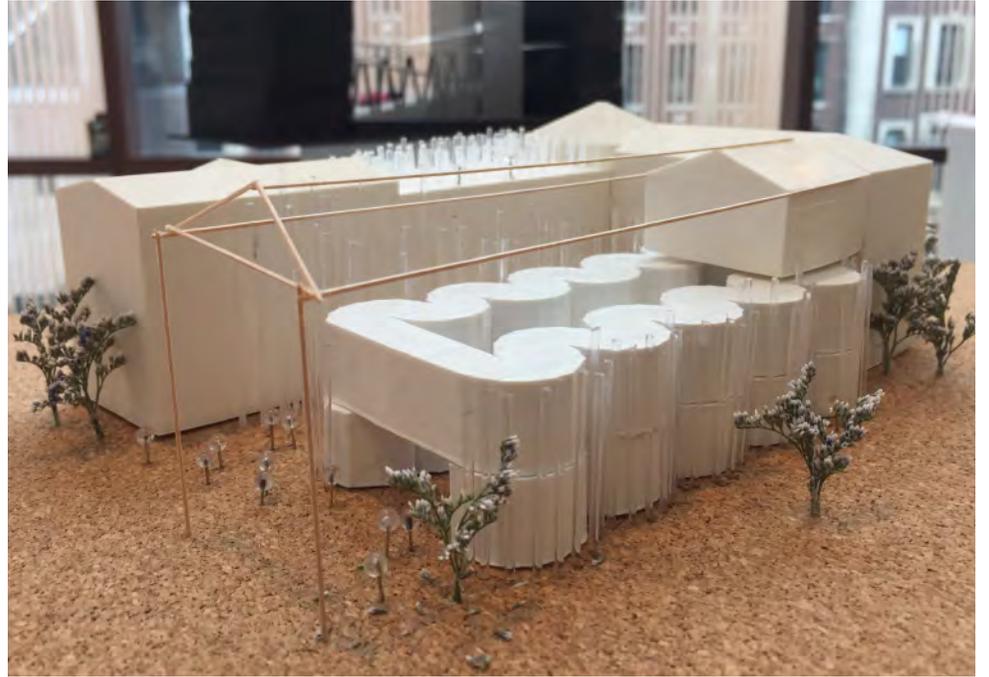
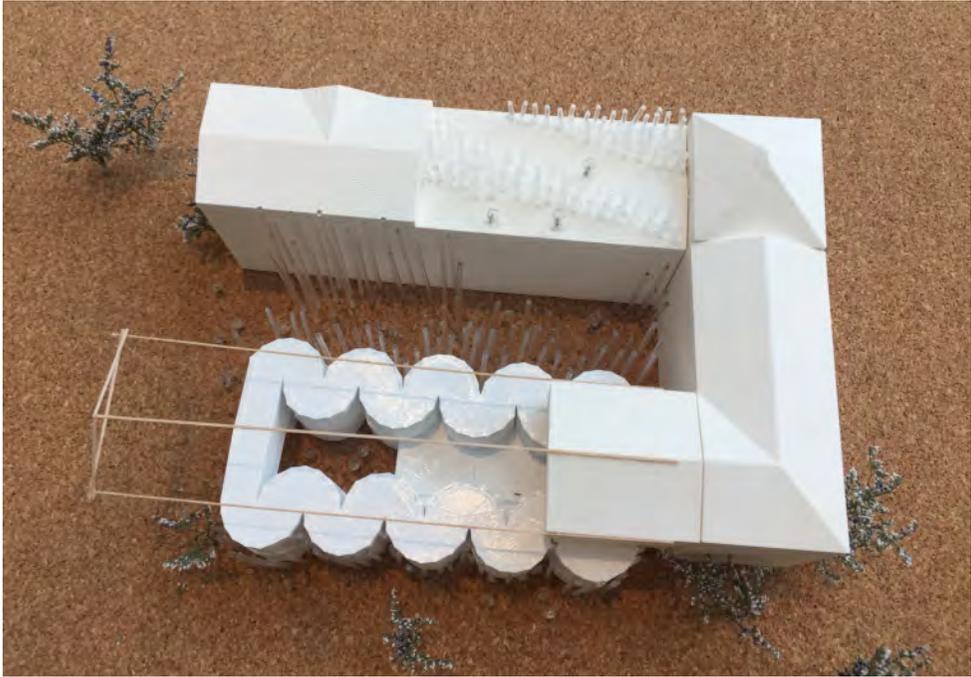


produces heat which is absorbed and converted into energy.

**Exhibition** /,ekse'biSH(ə)n/ n.

Exhibitions will further the emphasis on scale and the role of plankton. Large scale projection allows visitor's personal scale to shift to a microscopic whereas the ocean topography provides a top-down satellite view. The large-scale plankton room shows both scales, plankton overhead and in jars that dot the walls.





# living archive

/'ar,kaɪv/

NOUN

1

An intervention addressing the problem of circulation in Museum fur Naturkunde by providing a central space for that doubles as a new, working exhibition.

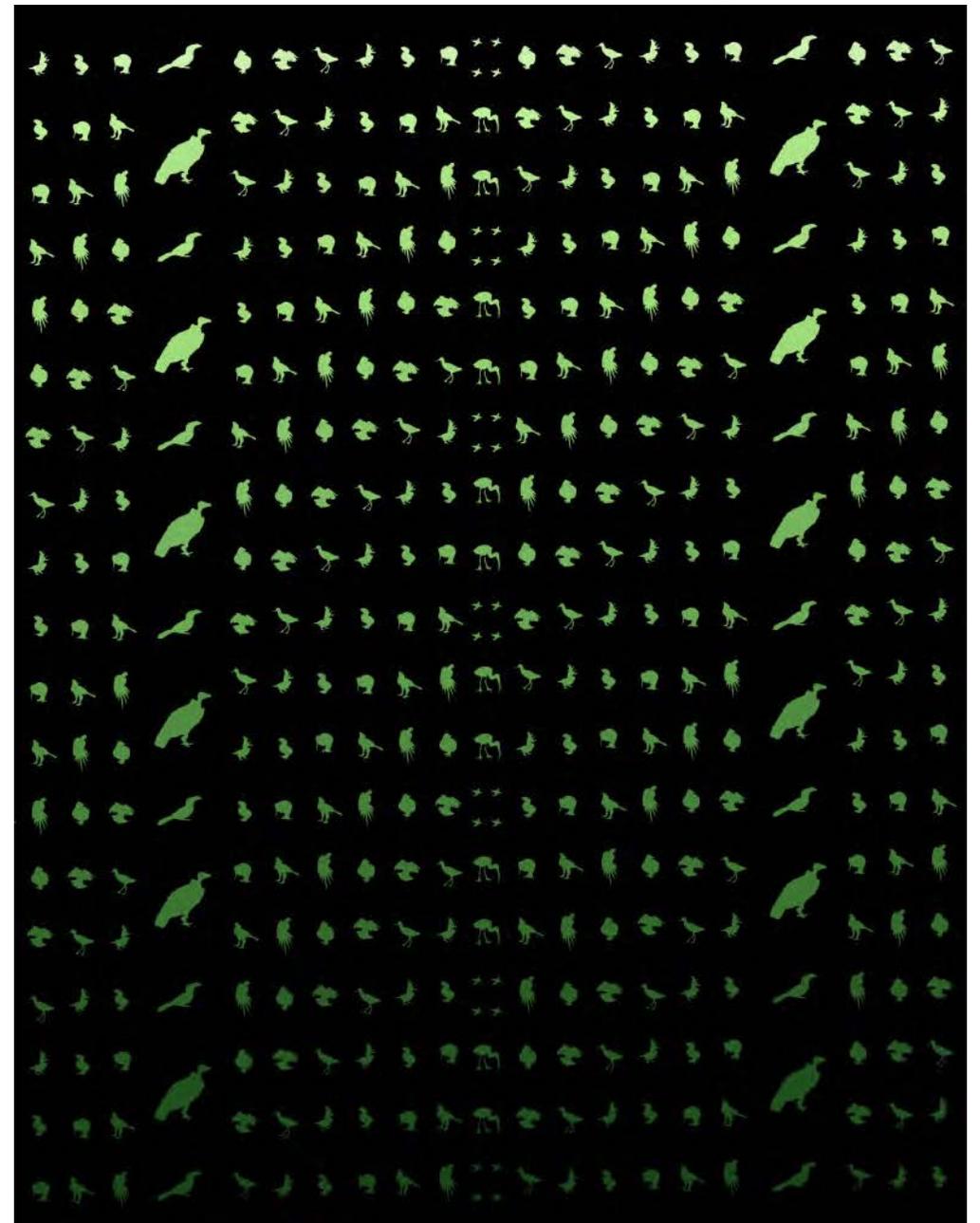
A space maintaining the scientific programming of the museum while introducing a meeting ground where the scientific community and general public could meet and interact.

1137 BIRDS would aim to educate the public about the history of MFN's curatorial practices while still providing scientists and researchers new platforms to interact with visitors.

[ BY Kurt Huckleberry ]

[BRIEF]

1137 BIRDS tackles the issues of circulation and experience within the museum by proposing a new exhibition for the unused northeastern courtyard. The Wet Collection Exhibition by Diener & Diener Architekten serves as a precedent for this installation which brings the taxidermy bird collection, which is usually only available to a select few, to the general public.



### Existing Condition

/ɪgˈzɪstɪŋ kənˈdiʃ(ə)n/ n.

Due to two phases of construction, the museum has a north and south wing with four floors and six floors respectively. This causes awkward and constrained circulation as the floor plates between both wings do not align as shown in Fig. 1.

### Implementation

/,ɪmpləmənˈtəʃ(ə)n/ n.

First stage will involve a creation of the bird wall which makes use of the unused courtyard to make a space for both visual and scientific interest. (Fig. 2)

Second stage (Fig. 3) will connect the ground and second floor through a grand staircase. Underneath the staircase will be a screening room for displaying videos about the museum's curatorial history and host video lectures.

The next stage (Fig. 4) brings in a "zigzag" structure to match the existing floor plates and connect them. With the use of ramps, visitors' experience is driven up and allows for a closer viewing of the specimen which are higher up the wall structure.

### Avian /ˈæ-vē-ən/ n.

Of, relating to, or derived from birds.

### Cenotaph /se-nəˌtɑf, -ˌtɑf/ n.

A tomb or a monument erected in honor of a person or group of persons whose remains are elsewhere.

### Catwalk /kætˈwɔk/ n.

A narrow walkway or open bridge, especially in an industrial installation.

### Curation /kyəˈræʃən/ n.

The action or process of selecting, organizing, and looking after the items in a collection or exhibition.

### Extinction /ɪkˈstɪŋ(k)-ʃən/ n.

The condition or fact of being extinct or extinguished.

### Gothic /ˈgə-thɪk/ adj.

Of, relating to, or having the characteristics of a style of architecture developed in northern France and spreading through western Europe from the middle of the 12th century to the early 16th century that is characterized by the converging of weights and strains at isolated points upon slender vertical piers and counterbalancing buttresses and by pointed arches and vaulting.



1



4



2



5



3



6



[110]

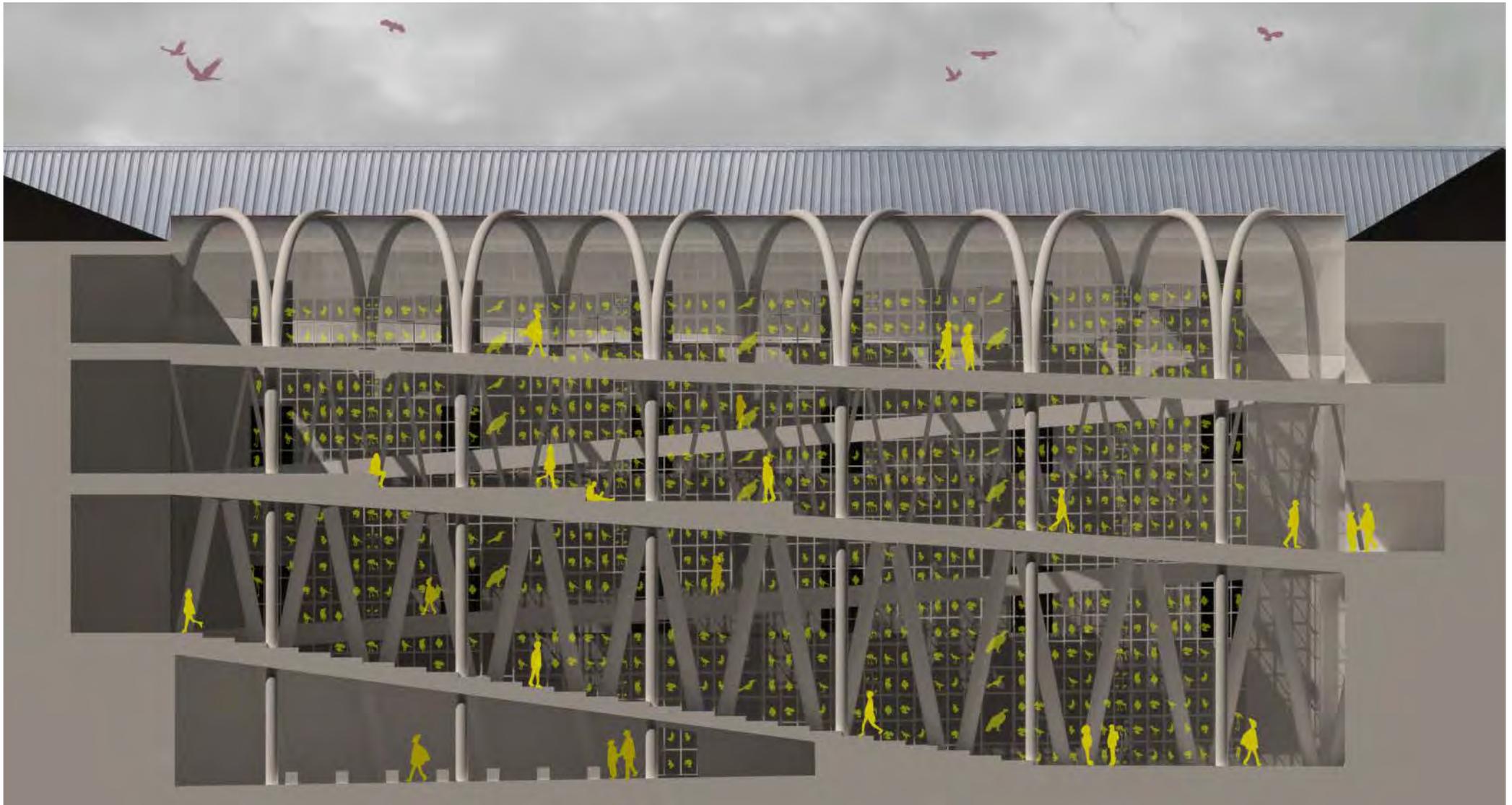
[01. on climatorium]

The fourth step will place catwalks behind the window to allow scientists, ornithologists, to access and remove specimen for study and research. Empty spaces in the grid of the wall signify to visitors the species under study, creating a workable archive. (Fig. 5, pg 110)

The final step places a steel canopy inspired by branching Gothic vaulting supports glass paneling to protect the courtyard from the elements while evoking aviary structure. (Fig. 6, pg 110)

**Spectacle** /spek-ti-kəl/ n.  
Something exhibited to view as unusual, notable, or entertaining.

**Taxidermy** /tak-sə-dər-mē/ n.  
The art of preparing, stuffing, and mounting the skins of animals and especially vertebrates.



# immersion

/ɪˈmɜːrʃ(ə)n/

NOUN

1

An immersive space created through the use of suspended vitrines to create several viewing angles and positions through which biomes are experienced.

An included greenhouse roof to reflect the idea of many environments existing in one building and being affected by climate change.

Two pathways to juxtapose a vision of the biomes as they exist today - in a degraded state- and the “ideal” or “historical” biome as it should be. In this way, the viewers will become immersed in what is right and what is wrong in the environment and evoke a sense of ownership in the environment.

[ BY Isabella Tincher + Constantino Khoury ]

[BRIEF]

Intervention removes people from their everyday environment in the metropolis and deposits them into the natural world. By creating a 3D viewing space of earth's seven different biomes. Both earth's historical representation and present-day representation was curated for comparison. This is achieved through a grid system that seeks to compare along the axis of time and space on earth.



**Site**

/sīt/ n.

The Museum Für Naturkunde history of zoology makes it an epicenter for the collection of specimens across a variety of locations of earth due to the recognition of the museum, as well as past colonialism.

**Biome** / 'bī,ōm/ n.

A large naturally occurring community of flora and fauna occupying a major habitat. Currently, we have 7 biomes of which are:

**Chaparral** / ,SHapə'ral/ n.

Vegetation consisting chiefly of tangled shrubs and thorny bushes.

**Desert** /də'zərt/ n.

Arid land with usually sparse vegetation.

**Rainforest** /'rān,fōrəst/ n.

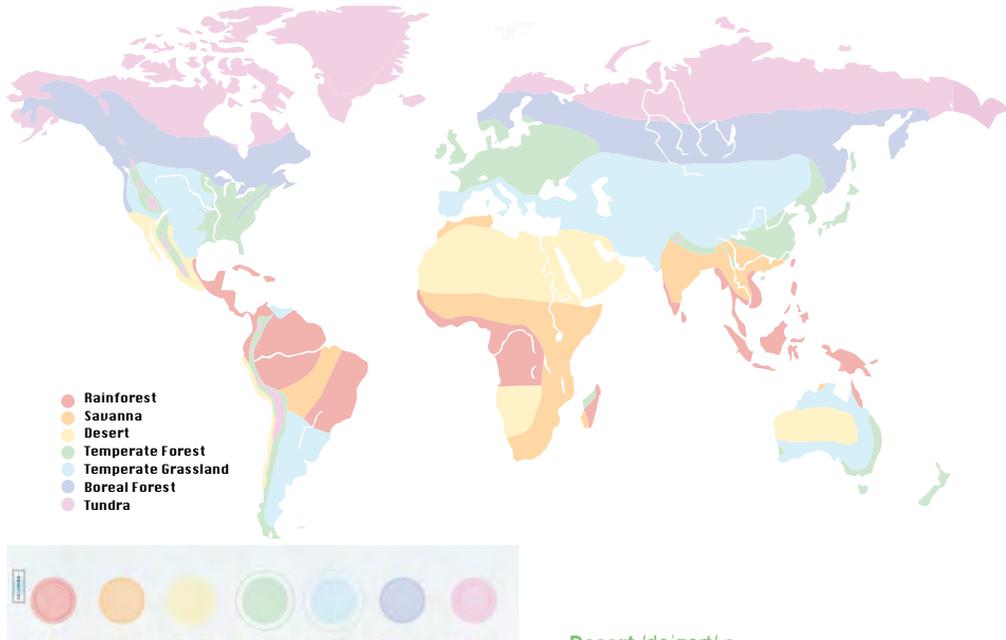
A luxuriant, dense forest rich in biodiversity, found typically in tropical areas with consistently heavy rainfall.

**Taiga** /'tīgə/ n.

The sometimes swampy coniferous forest of high northern latitudes, especially that between the tundra and steppes of Siberia and North America.

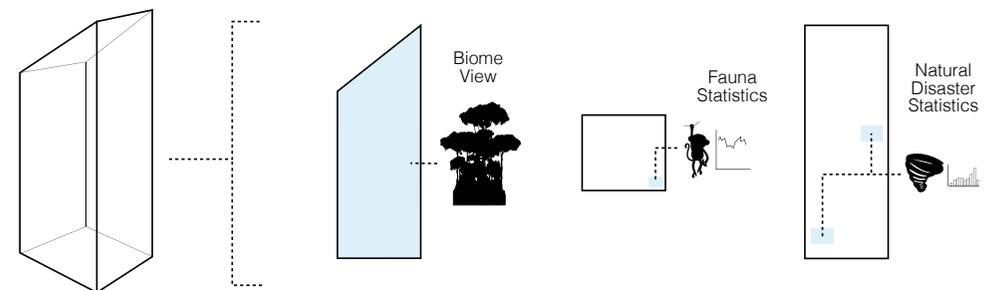
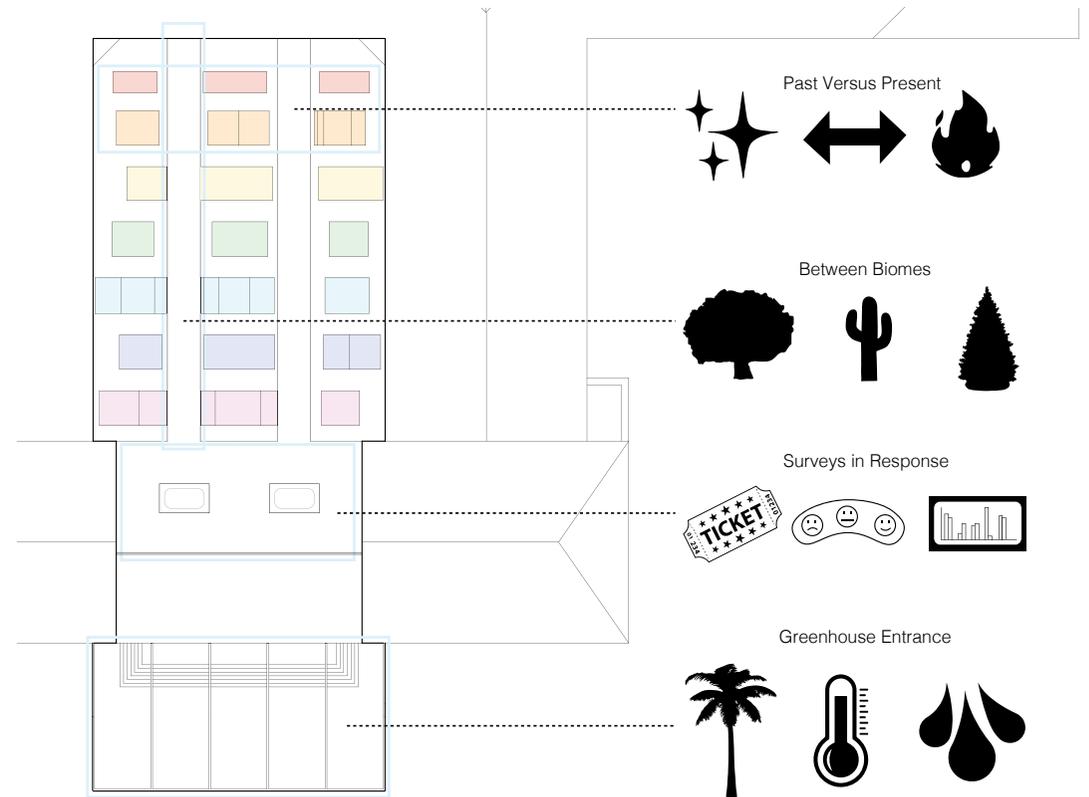
**Temperate Forest** /'fōrəst/ n.

Woodland of a usually rather mild climatic area within the temperate zone that receives heavy rainfall, usually includes numerous kinds of trees, and is distinguished from a tropical rain forest especially by the presence of a dominant tree.



**Biomes** / 'bī,ōm/ n.

Tracing the seven terrestrial biomes on earth, a pattern of organization was developed and the change in area of each biome was researched, and it was recognized that the biomes that exist in the more extreme of temperatures were reducing in size, while biomes in more moderate climates were growing. This finding proves the comparison between biomes and time, as no two areas are experiencing the same effects of climate change. Each color represents a different biome, the concept above illustrates the changes that are happening with time. The ring on each bubble shows what exists now as a result of climate change while the solid areas show what used to exist.



[116]

[01. on climatorium]



**Program** /'prō,gram/ n.

A path allowing access to view the biomes as they are now  
 A path allowing access to view the biomes in their idealized forms.  
 An interactive zone using technology to keep the audience engaged and educated with the exhibition.  
 A green housing replacing the entrance of the museum.

**Vitrines** /və-'trēn/ n.

Instead of placing the vitrines on the ground, the intervention has them as suspended units in the atrium space (Dinosaurier). This enables greater possibilities in constructing how visitors to the museum view each biome. Different perspective would allow for a greater way of disseminating information.

**Temperate Grassland**

**/'gras.land/ n.**  
 A large open area of the country covered with grass, especially one used for grazing.

**Tundra**

**/'təndrə/ n.**  
 A vast, flat, treeless Arctic region of Europe, Asia, and North America in which the subsoil is permanently frozen.

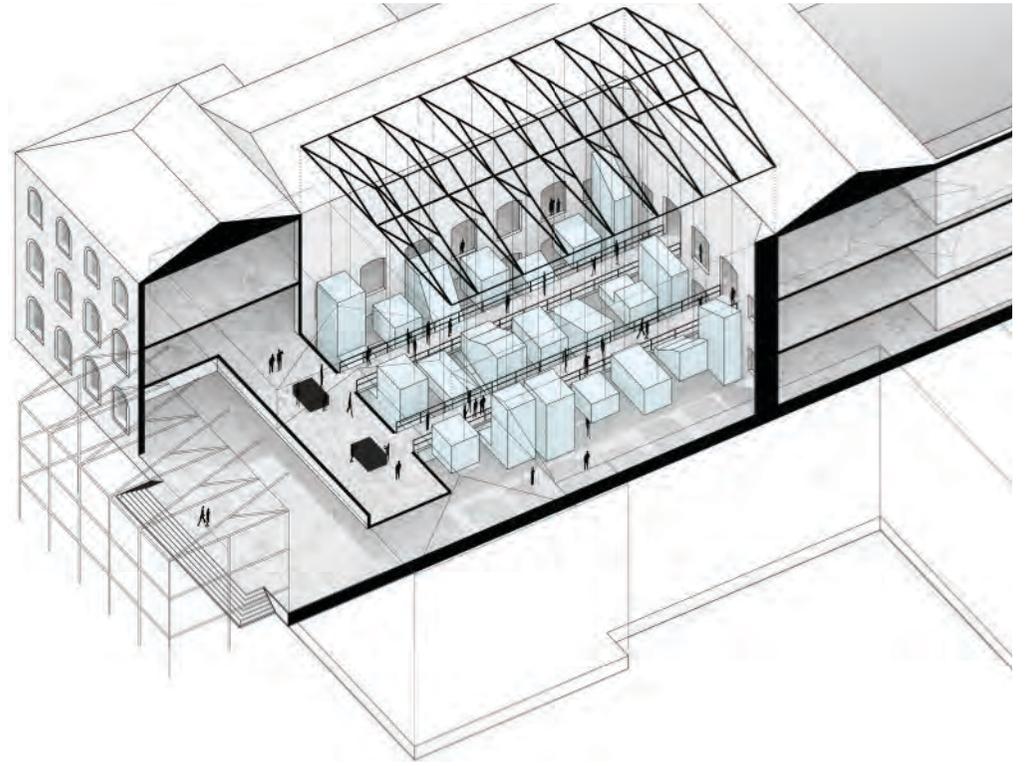
**Pristine**

**/'pris.tēn/ adj.**  
 In its original condition; unspoiled.

**Vitrine**

**/və-'trēn/ n.**  
 A glass showcase or cabinet especially for displaying fine wares or specimens.





# justice

/'jʌstəs/

NOUN

1

Two interactive exhibit spaces that are next to each other and address different issues of the climate crisis.

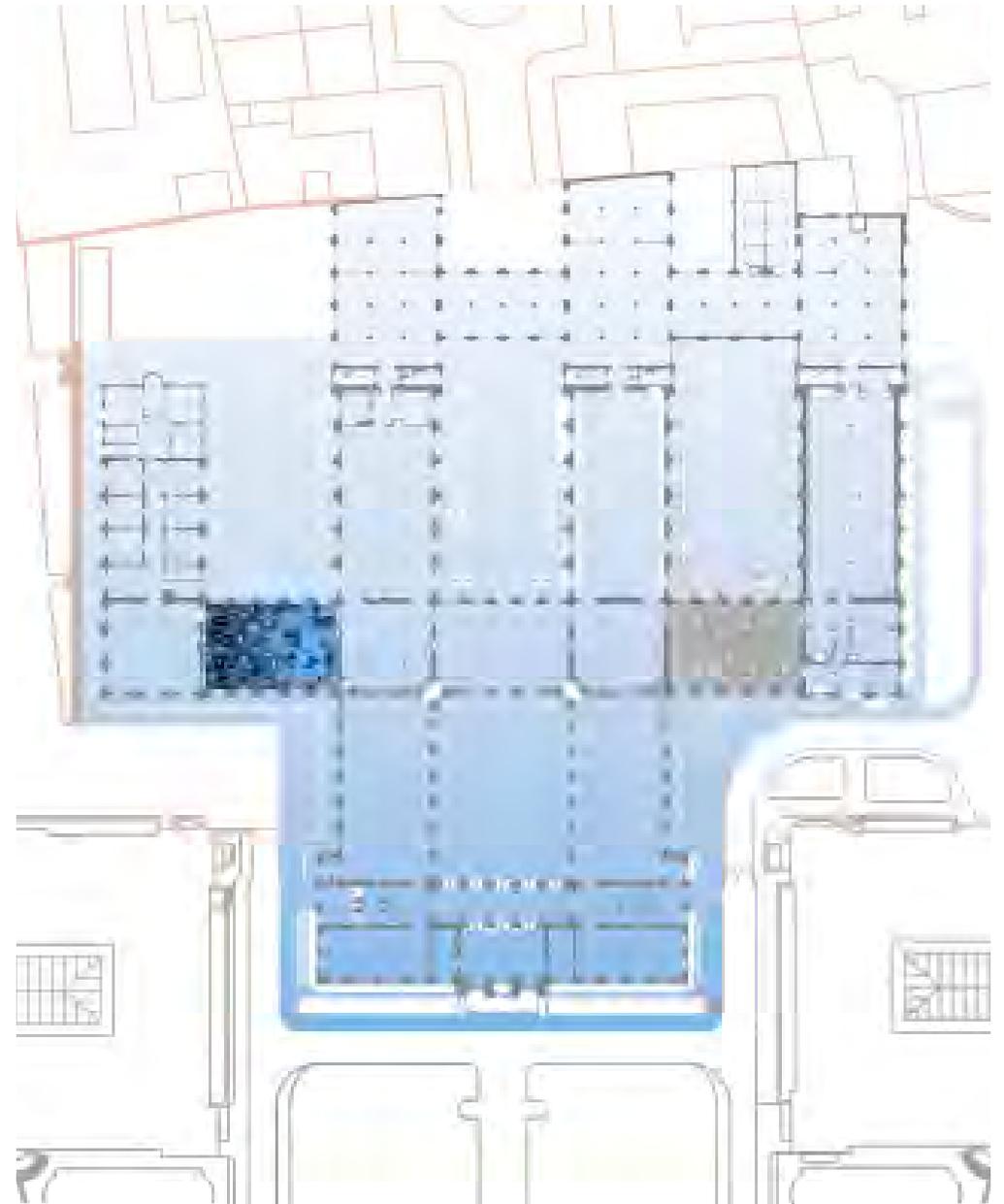
A sea level room that emphasizes the distinction between the effects of the climate crisis within private spaces versus public spaces.

An extinct species room that brings to light the drastic consequences of human interference with the natural world.

[ BY Madison Canby + Tamara Yakubova ]

[BRIEF]

The project combines both social and environmental injustices through a Sea Level Room and an Extinct Species Room. The Sea Level Room is designed to tackle social injustices of the climate crisis, with the main focus on sea-level rise in coastal cities. The Extinct Species Room is designed to exhibit the extinction crisis we are currently experiencing.



[122]

[01. on climatorium]

**Environmental justice exhibit**

/inˌvɪrən'men(t)l/ n.

This exhibition tackles the issue of both the historic and future timeline of animal extinctions, and also the causes of these extinctions. The rooms consist of a pathway that goes past many jars, inspired by the fish room in the museum. However, these jars will contain a different species that has gone extinct.

**Organization** /ˌɔrgənə'zāSH(ə)n/ n.

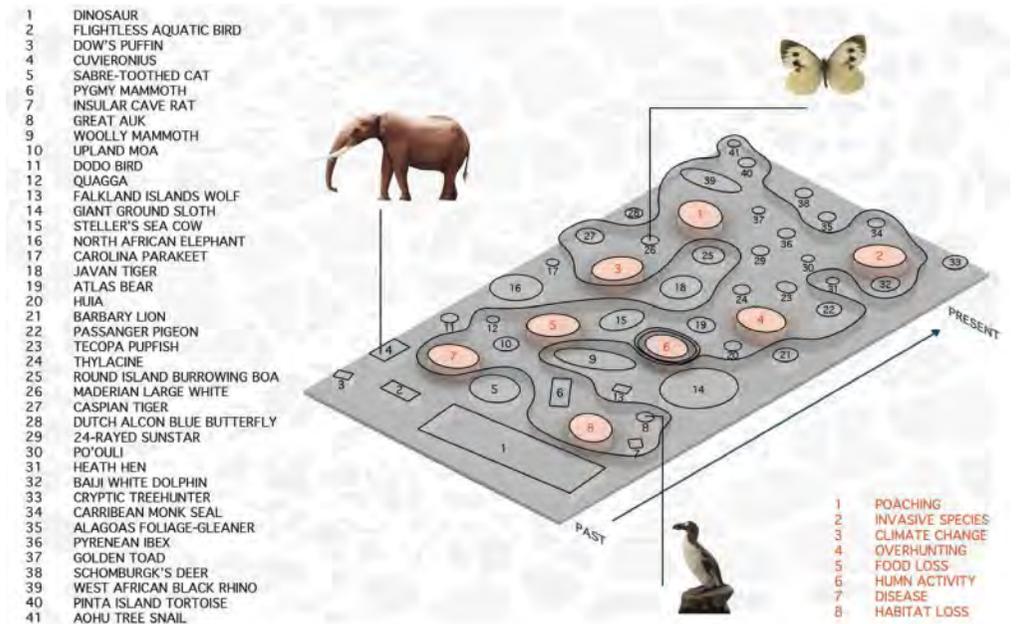
The Environmental Justice room will be organized according to the time of extinction. The unique feature of each jar is that the animals inside will be holograms, emphasizing the fact that extinction of these species is not only of the past but continues to happen and is part of our Earth's future.

**Equity** /e-kwə-tē/ n.

Offering varying levels of support depending upon need to achieve greater fairness of outcomes.

**Equality** /i-'kwā-lə-tē/ n.

Offering equal opportunity and the same levels of support for all segments of society.



**Social justice** /'sōSHəl/ n.

The room focuses on how sea level rises disproportionately affects marginalized communities all over the world. Using a geometric groundscape, the space mimics the ocean's surface and intensifies as one walks through the room. This gradual intensification links up with the issues surrounding the global south versus the global north.



As one walks into the exhibit, the displays cover social climate crisis issues starting at the northernmost locations. The more south visitors walk, the groundscape intensifies and the displays increase. This is to place an emphasis on the fact that the global south faces more social implications due to the climate crisis than communities in the global north.

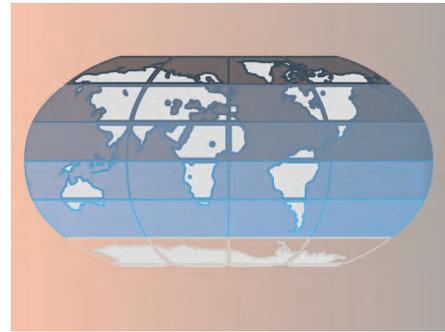


**Marginalized** /mā'rijənə'lizd/ adj.

(Of a person, group, or concept) treated as insignificant or peripheral.

**Global North** /'glōbəl nōrTH/ n.

Usually developed societies of Europe and North America, which are characterised by established democracy, wealth, technological advancement, political stability, aging population, zero population



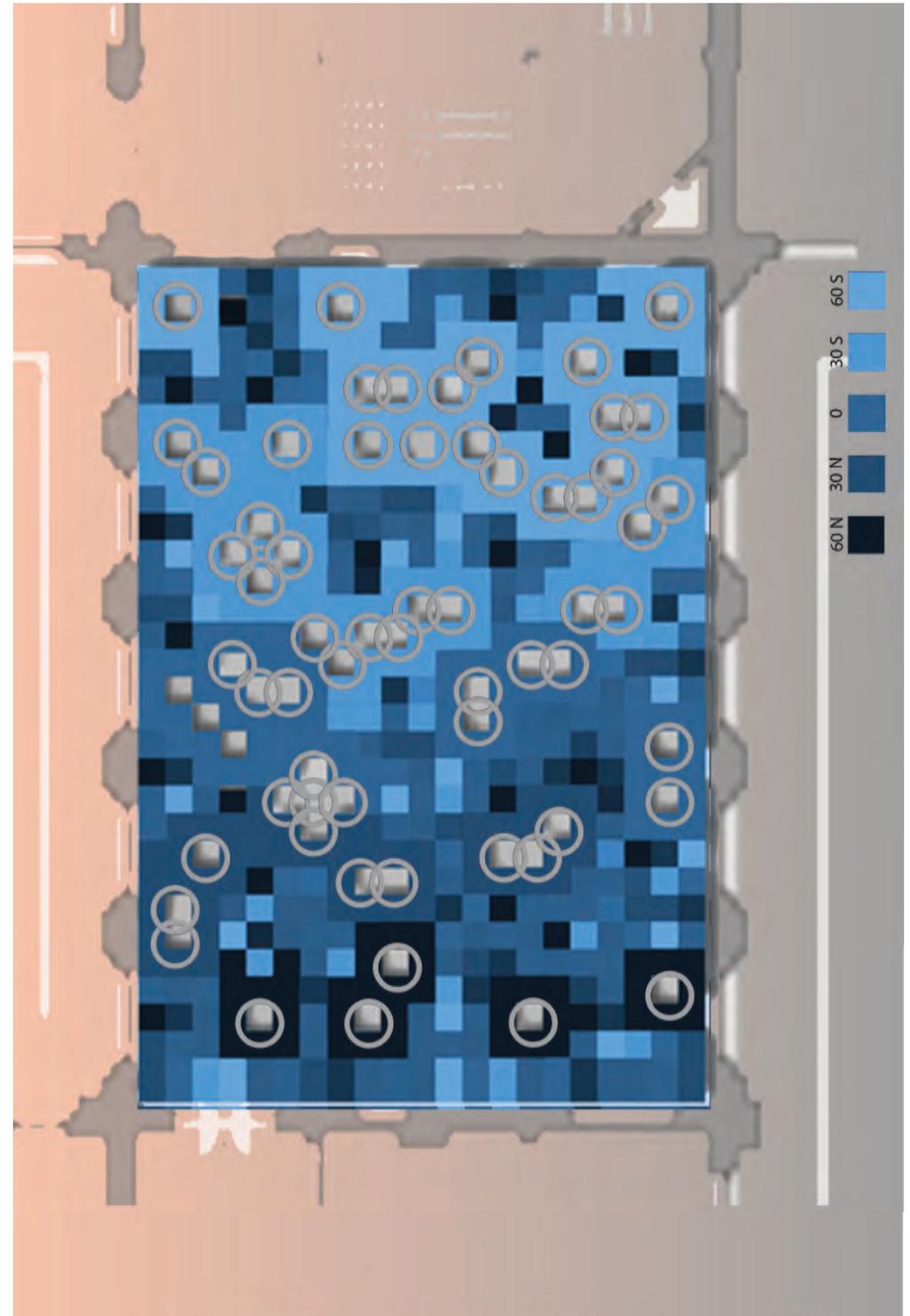
growth, and dominance of world trade and politics.

**Global South** /'glōbəl souTH/ n.

Usually agrarian based societies, dependent economically and politically on the Global North.

**Virtual** /vər'chə-wəl/ adj.

Being on or simulated on a computer.



# fragment

/'frægmənt/

NOUN

1

A climatorium based on aiding in decomposition of taxonomy collections which have be deprived of the ability to partake in this natural process.

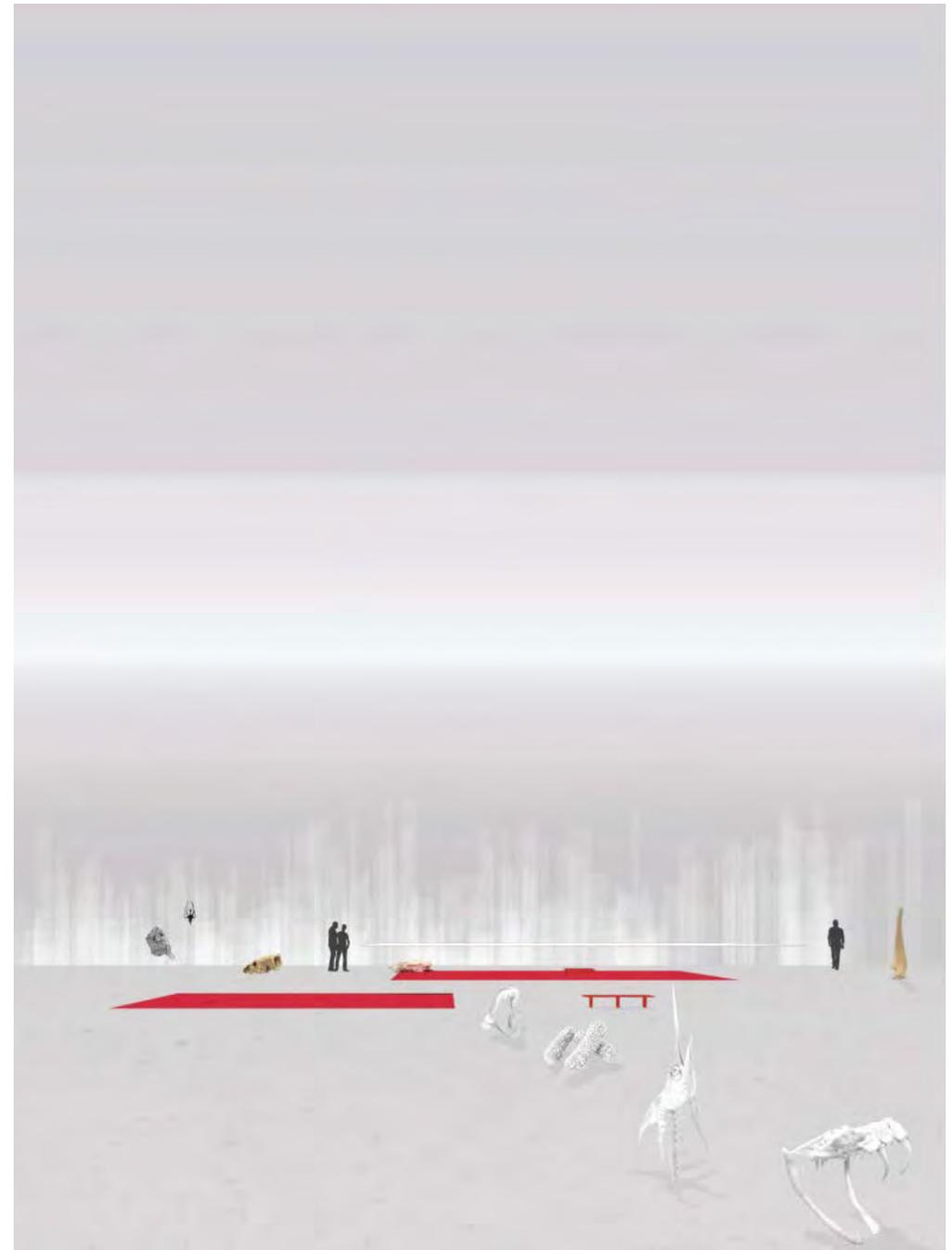
A rearrangement of the collection of the Musuem fur Naturkunde based off Linnaean taxonomy to bring together species that would otherwise never come in contact with each other.

Re-imagining decomposition as part of the preservation process in museums.

[ BY Kevin Ledee ]

[BRIEF]

This intervention attempts to synthesize decomposition by fragmenting the individual specimen themselves beyond immediate recognition. These fragments are regrouped based on ecosystem, trait-based, or environmental connections. This system would better illustrate the complex networks we so easily knock out of balance through environmental degradation.



**Audience** /'ɒdɪəns/ n.

By decentralizing the forum, the most visible and most audible to the greatest audience hold the highest power. Delegates seated at the edges of the overlapping platforms, most likely the smaller nations and parties, will be given a stronger voice in formal

**Classification** /,kla-sə-fə-'kɑ:ʃən/ n.

The act or process of classifying systematic arrangement in groups or categories according to established criteria.



litigation of climate changes injustices. Larger and smaller nations are suppressed in the least-visible sections of the forum.

The project also attempts to break down human convention, hoping to make the natural history museum slightly more natural through making entropy and decay visible part of the audience's experience.

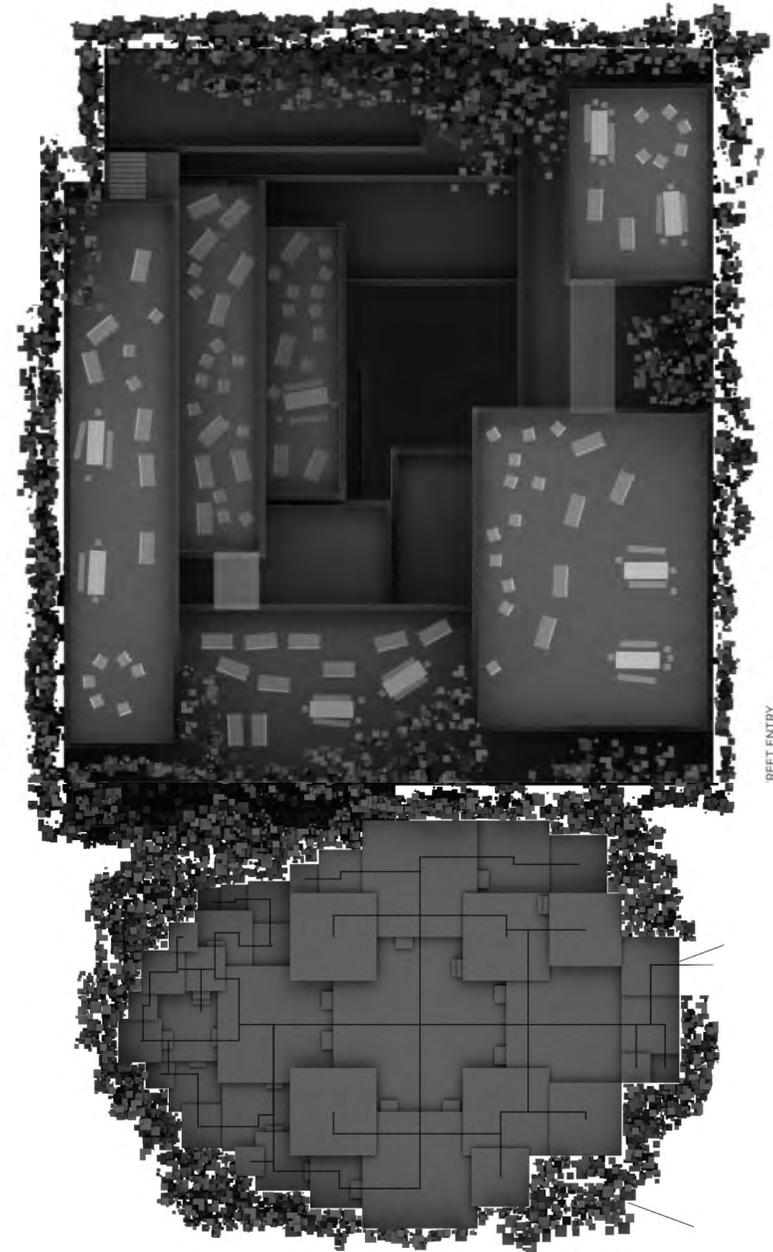
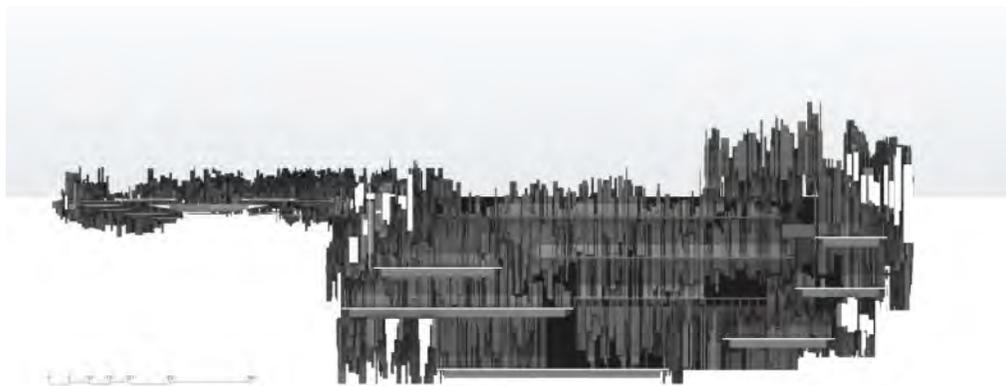
**Diorama**

/,di-ə-'rɑ:mə/ n.

a scenic representation in which sculptured figures and lifelike details are displayed usually in miniature so as to blend indistinguishably with a realistic painted background.

**Entropy** /'en-trə-pē/ n.

The degradation of the matter and energy in the universe to an ultimate state of inert uniformity.



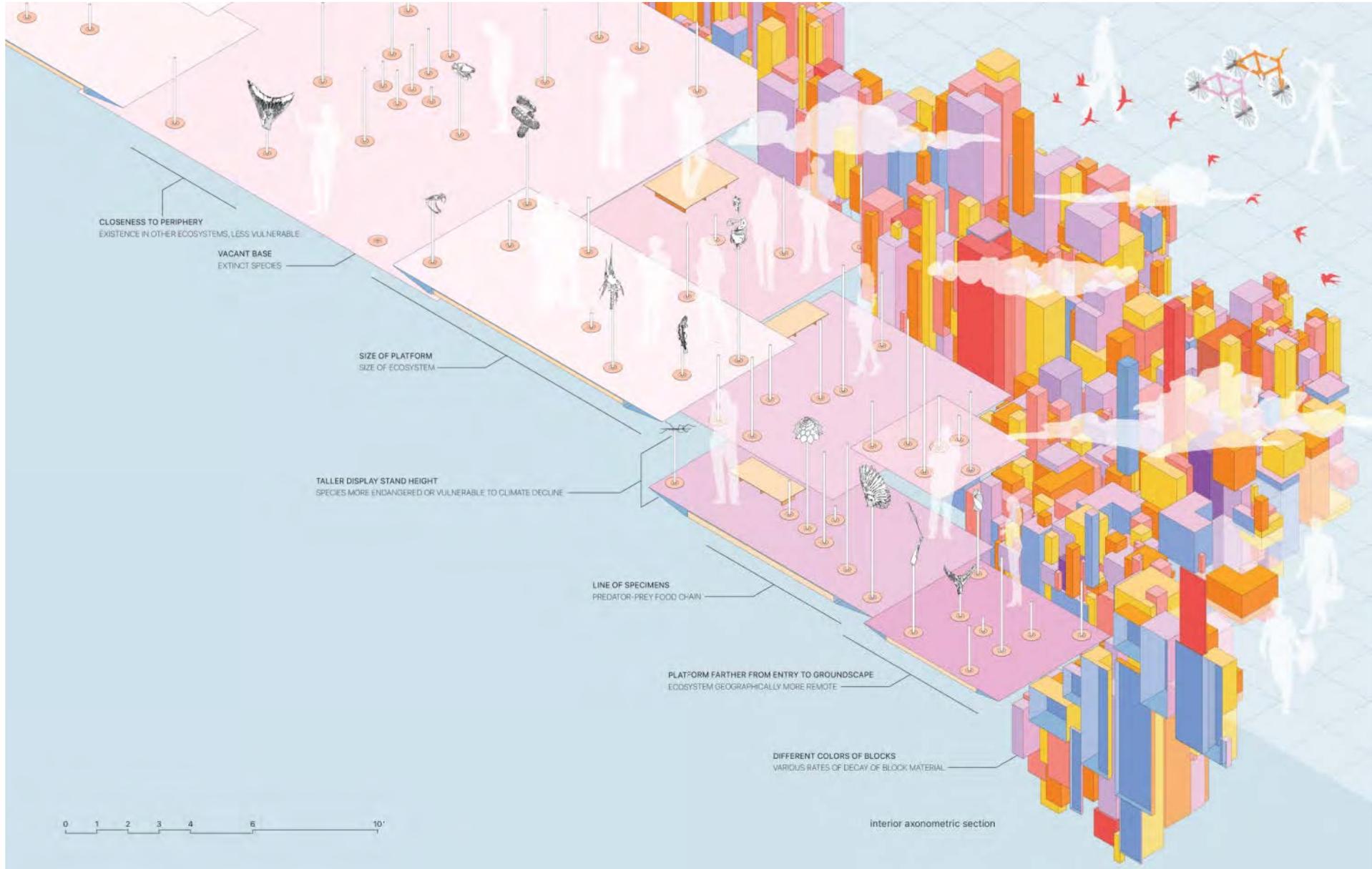
REET ENTRY

**Forum** /'fɔːrəm/ n.

On the right side of the fragmentation exhibition is an underground forum dedicated to the discussion of climate-related matters. As a cavernous space, it remedies the asymmetrical power dynamics giving large countries the power to make environmental discussions at cost to peripheral societies.

**Linnean** /lə-'nē-ən/ adj.

Relating to, or following the systematic methods of Swedish botanist Linnaeus – who established the binomial nomenclature. This system classified living organisms into kingdoms, divided into classes, and they, in turn, into orders, genera and species.



# DNA archive

*/'ar,kaɪv/*

NOUN

1

A climatorium created to speed up the process of digitization through the use of an assembly line and a data center.

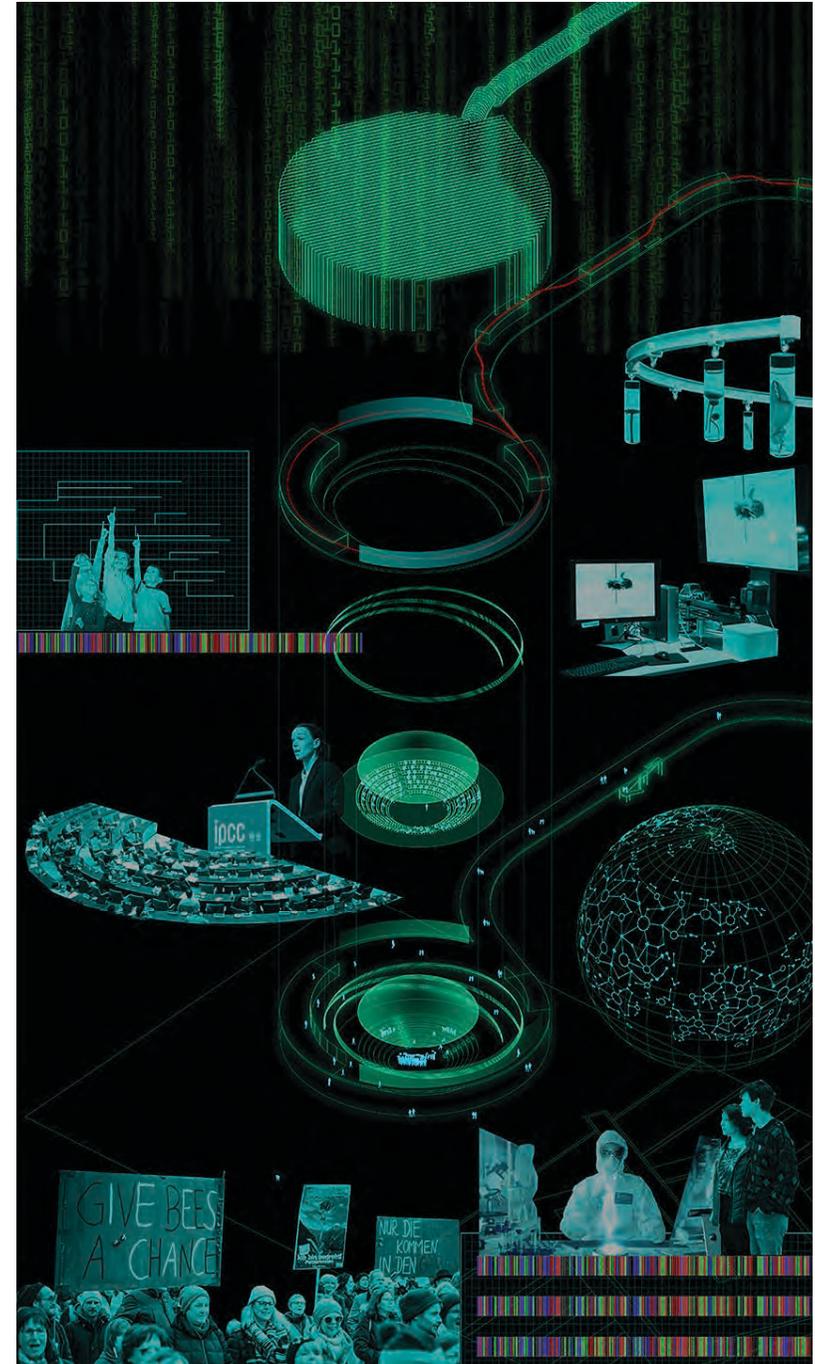
An intervention to extend the conception of a museum from being limited to the physical confines of a building into one more accessible to the public.

Spatializing the digitization process of the collections into a database that is made accessible to all. A climatorium that recomposes the traditional access model to DNA information and explores the endless potential of the museum's existing collection.

[ BY Victor Ohene + Eno Chen ]

[BRIEF]

DNA barcoding is adopted as a strategy to complement the traditional method of taxonomy in the Museum of Naturkunde. The intervention serves to both speed up the process of digitization in the museum and also engages the public to participate in this process. ENCODE extends to the Invaliden Park in which it houses the digital archive, amphitheater and public space.





**Urban scale** /'ɜrbən skāl/ adj.

Shows the overall intervention in its urban context with vignettes suggesting how each space works in program and is experienced spatially as well. The specimen will be brought out from the existing museum and transported throughout our structure. As they make their stops at each station, the process of digitization is made transparent to the viewer as they are not only able to follow it physically, but also invited to interact in a space that dynamically respond to each species.

**DNA barcoding**

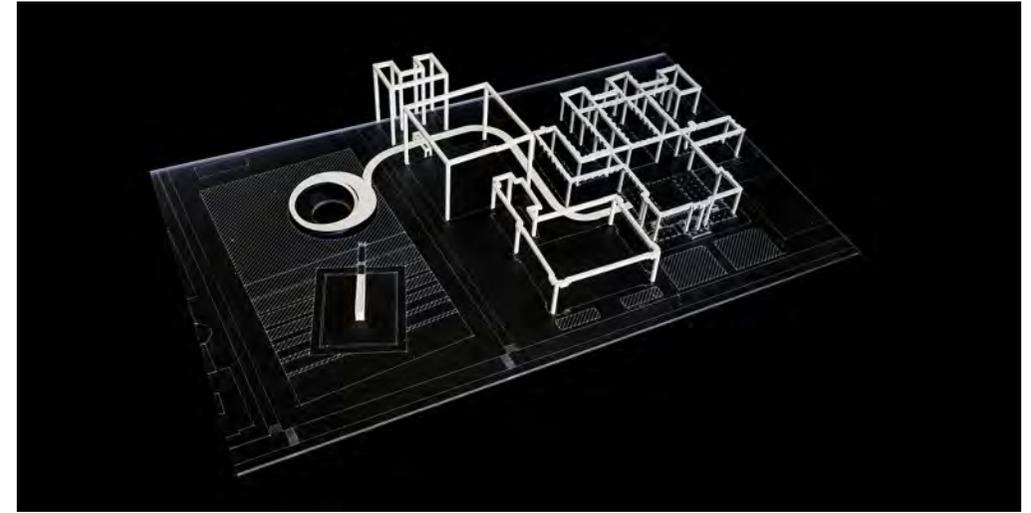
/,dē-,en-'ā 'bār,kōdiNG/ v.  
A method of species identification using a short section of DNA from a specific gene or genes.

**Spectacle** /spek-ti-kəl/ n.

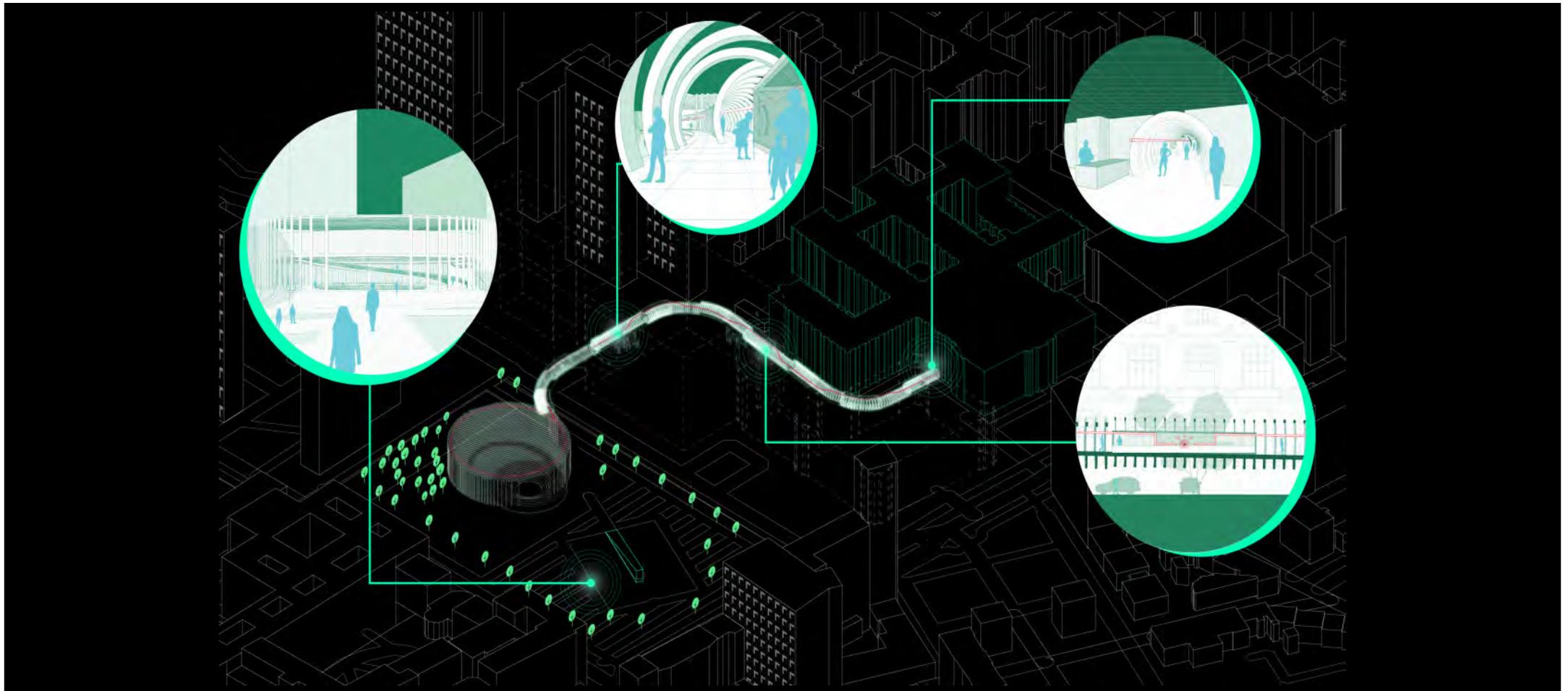
Something exhibited to view as unusual, notable, or entertaining.

**Phenomenology**

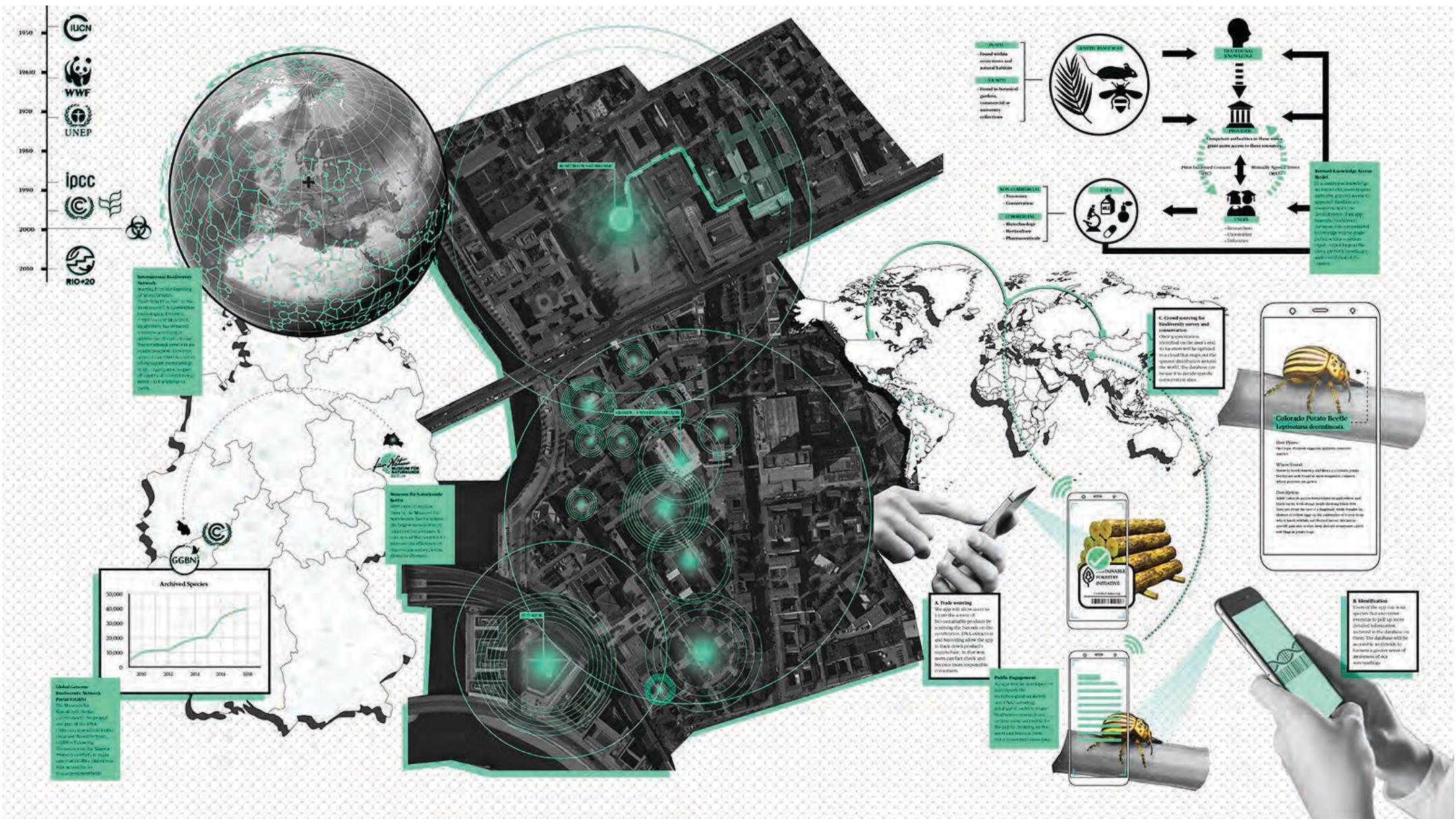
/fə,nāmə'näləjē/ n.  
An approach that concentrates on the study of consciousness and the objects of direct experience.



[138]



[01. on climatorium]



# 05 on display

## [THEME]

Similar to this publication, the exhibition focused on mapping the different ways in which students (re)defined what a climatorium is. Using green tape, each project was mapped from a display wall with drawings a collages to related objects displayed on the floor and finally to a word cloud with one word phrases on the defining the climatorium. The exhibition also included displays of videos and other media works produced through out the class.

## [WORD CLOUD]

The words on the cloud included:

DISILLUSION	ENVIRONMENTAL JUSTICE
SOCIAL JUSTICE	EXTINCTION MONITOR
COMPARISON	DISCORD
LIVING ARCHIVE	IMMERSION
DNA ARCHIVE	SENSORIUM

## [TIMELINE]

FEB 10	Opening Night and Reception
FEB 5 - 19	Exhibition Dates

# 2020 NEW YEAR SHOW



WINE AND CHEESE RECEPTION  
MONDAY / FEBRUARY 10 / 6:00-8:00 PM  
THE MCCAGG GALLERY / THE DIANA CENTER

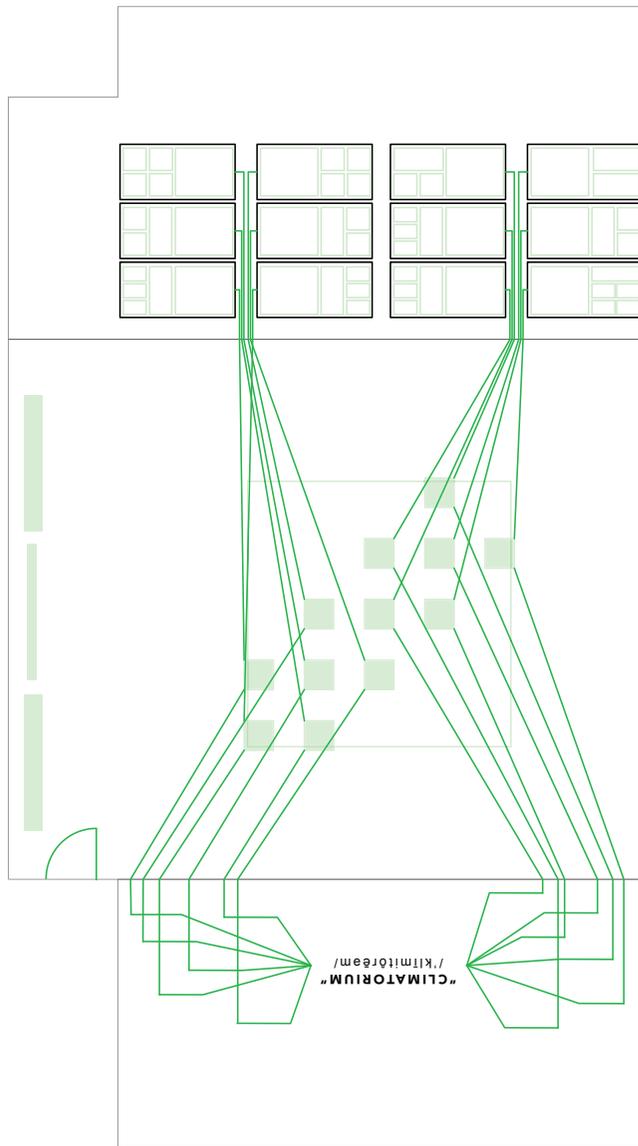
# layout

/ˈlāˌaʊt/

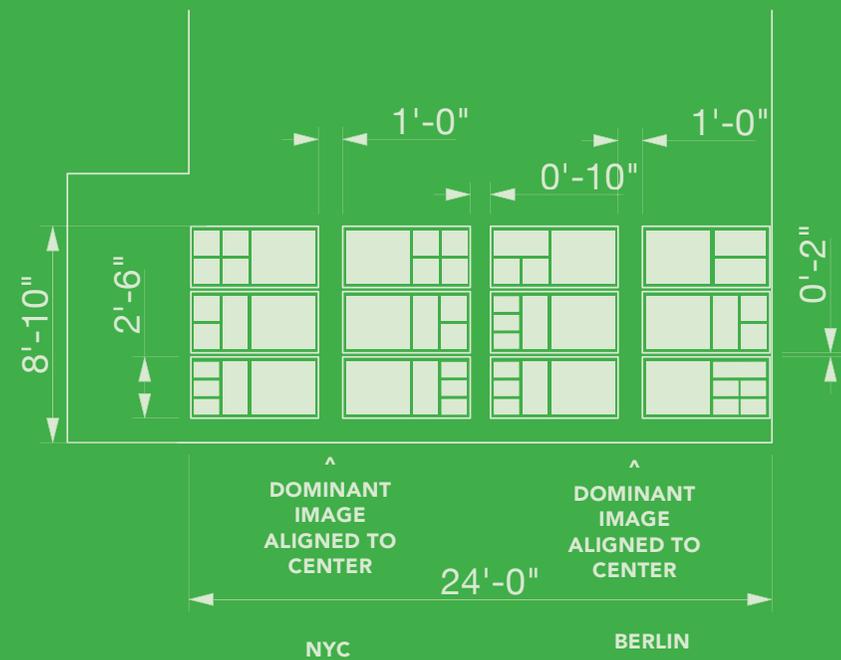
[WALL]  
DRAWINGS

[FLOOR]  
OBJECTS & MODELS

[GLASS]  
VISUAL THESAURUS



[DRAWING WALL DETAILED]



TINO + BELLA	KURT	TINO + BELLA	KURT
VICTOR + ENO	CEMRE + REBECCA	VICTOR + ENO	CEMRE + REBECCA
KEVIN	TAMARA + MADDIE	KEVIN	TAMARA + MADDIE



# 06 on journey

## [BRIEF]

Green (New) Imaginaries, the Design III senior studio title evokes the recent forceful yet schematic resolution known as the Green New Deal, proposed by Rep. Alexandria Ocasio-Cortez and Sen. Ed Markey in the US congress.

## [PROCESS]

Research Topic: One Material  
Select a material for your project focus:  
Concrete/Steel/Glass/Masonry/Plastics/Data/Wood

Research Lens: 1. Carbon Footprints [Climate Impacts]  
2. Justice  
[Labor, Environmental and Climate Justice]  
3. Future [Alternatives]

Final Project: Relational Drawing  
- Drawings that work across scales, connect dispersed sites and high-light unseen problematics  
- Drawings that reframe past-present-future relationships  
- Drawings that combine multimedia techniques: architectural representations, images, videos, or sound  
- Drawings that are not neutral. They must take critical, cultural or activist propositions.

## [GROUPS]

Glass  
Wood  
Stone?

## [SCHEDULE]

NOV	01	<b>ARRIVAL</b> Hotel Check-In Site Visit: Tiergarten; Holocaust Memorial; Brandenburg Gate; Reichstag.
	02	<b>SITE VISITS (led by RALPH GHOCHÉ)</b> Freie Universität; Berliner Philharmonie; Museumsinsel; Fernsehturm
	03	<b>SITE VISITS (student led)</b> Day - Museumsinsel: Pergamonmuseum; Bode-Museum; Neues Museum; Alte Nationalgalerie; Altes Museum. Night - Dinner with UdK students and Faculty. Kreuzberg Himmel
	04	<b>WORKSHOP: CITY BODY ACTION (DAY 1)</b> Universität der Künste Berlin; Branderburg Gate
	05	<b>WORKSHOP: CITY BODY ACTION (DAY 2)</b> Universität der Künste Berlin; Branderburg Gate
	06	<b>SITE VISITS (museums)</b> Museum für Naturkunde Berlin; Futurium
	07	<b>SITE VISITS (free day)</b> Berlin Wall; Bauhaus Universität Weimar; Tchoban Foundation - Museum architecture; Studio Olafur Eliasson
	08	<b>SITE VISITS</b> Olympiastadion; Unité d'Habitation; Jewish Museum Berlin
	09	<b>DEPARTURE</b>



**Memories**

/ˈmem(ə)rē/  
n.

The faculty by which the mind stores and remembers information.

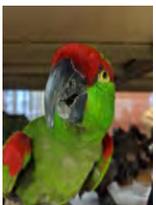
Something remembered from the past; a recollection.

**Tour** /ˈtʊər/ noun.

A journey for pleasure in which several different places are visited.

**[LOCATIONS]**

- Museum für Naturkunde
- Studio Tour Olufur Oliason
- Free University
- Berlin Wall
- Architecture Museum
- Berliner Philharmoniker
- Altes Museum
- Neues Museum
- Alte Nationalgalerie
- Bode Museum
- Pergamon Museum
- Brandenburg Gate
- Olympic Stadium
- Unité d'Habitation
- Bauhaus
- UDK



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# 08 on glossary

## CLIMATORIUMS WITH A GLOSSARY OF CLIMATE ACTIONS

**oceanatorium; 57**

**/ˌoʊʃəˈnetɔːriəm/**

A climatorium that uses spectacle, monumentality, water and glaciers.

An exploration of the destructive and transformative quality of water in climate change discussions.

**extinction monitor; 63**

**/ˈmænədər/**

A climatorium that sheds light on the series of extinctions caused and boosted by human activities.

Four extinction chambers on: Ocean Acidification, Introduction of Invasive Species, Overconsumption, and Habitat Loss.

**emersion; 71**

**/əˈmərʒən/**

A Climatorium that dissolves the regions between the accessible and inaccessible.

A series of exhibitions to engage its audience to gain a wider perspective on the true consequences of climate change.

**damage; 77**

**/ˈdæmɪdʒ/**

A climatorium that highlights places on the earth that are uninhabited yet affected by humans.

A meeting space for the discussion and mediation of climate issues, protest and action.

**dis-course/cord; 83**

**/ˈdiːsˌkɔːrs/kɔːrd/**

A climatorium that could devolve from a place for equitable discourse to one of chaotic discord.

A forum that eases the severe power disparity between high-level policy makers and the climate scientists and civilian activists.

**sensorium; 89**

**/ˈsensəriəm/**

A climatorium that invokes other senses besides visual ones to create new experiences of climate change.

An environment that uses sound and geometry of plant cells to raise awareness of the anthropocene and its role in extinction and climate change.

**curating energy; 99**

**/ˈenərjē/**

A climatorium that examines a large-scale global issue through the perspective of one of the smallest organisms: phytoplankton.

An “energy garden” consisting of columns that carry photosynthesizing algae to produce energy and offer sustainable energy for the museum.

**living archive; 107**

**/ˈɑːrˌkaɪv/**

A climatorium that archives 1137 Birds.

Spaces for the museum's scientific program that double as a working exhibition.

**immersion; 113**

**/ɪˈmɜːrʃ(ə)n/**

A Climatorium that creates immersive views on biomes.

A series of suspended vitrines display exhibits on biomes: as they exist today - in a degraded state- and the “ideal” or “historical” biome as it should be.

**justice; 121**

**/ˈʃʌstəs/**

A climatorium that highlights justice using public-private spatial exhibits.

The exhibits create individual experiences of sea-level rise and extinction.

**fragment; 127**

**/ˈfrægmənt/**

A climatorium that aids decomposition.

Re-imagining decomposition as part of the preservation process in museums to better illustrate the complex networks we so easily knock out of balance through environmental degradation.

**dna archive; 133**

**/ˈɑːrˌkaɪv/**

A climatorium that speeds up the process of digitization using a public assembly line and a data center.

The archive retains DNA information and engages the public to view specimens and the process of digitization.

# acknowledgements

The publication was compiled, edited and designed as an Independent Research Project by Eno Chen and Victor Ohene, advised by Kadambari Baxi and Kachun Alex Wong. All student work is by: Madison Canby, Eno Chen, Kurt Huckleberry, Constantino Khoury, Kevin Ledee, Victor Ohene, Rebecca Siqueros, Bella Tincher, Cemre Tokat, Tamara Yakubova.

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The studio would like to send our deepest appreciation to Alex Kachun Wong for his resourcefulness as a Teaching Assistant and his support with the exhibition as well as this publication. We want to acknowledge his dedication in helping the students in developing their projects alongside his own graduate studies.

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As the climate changes, so must architecture.

[ B + C | ARCHITECTURE ]