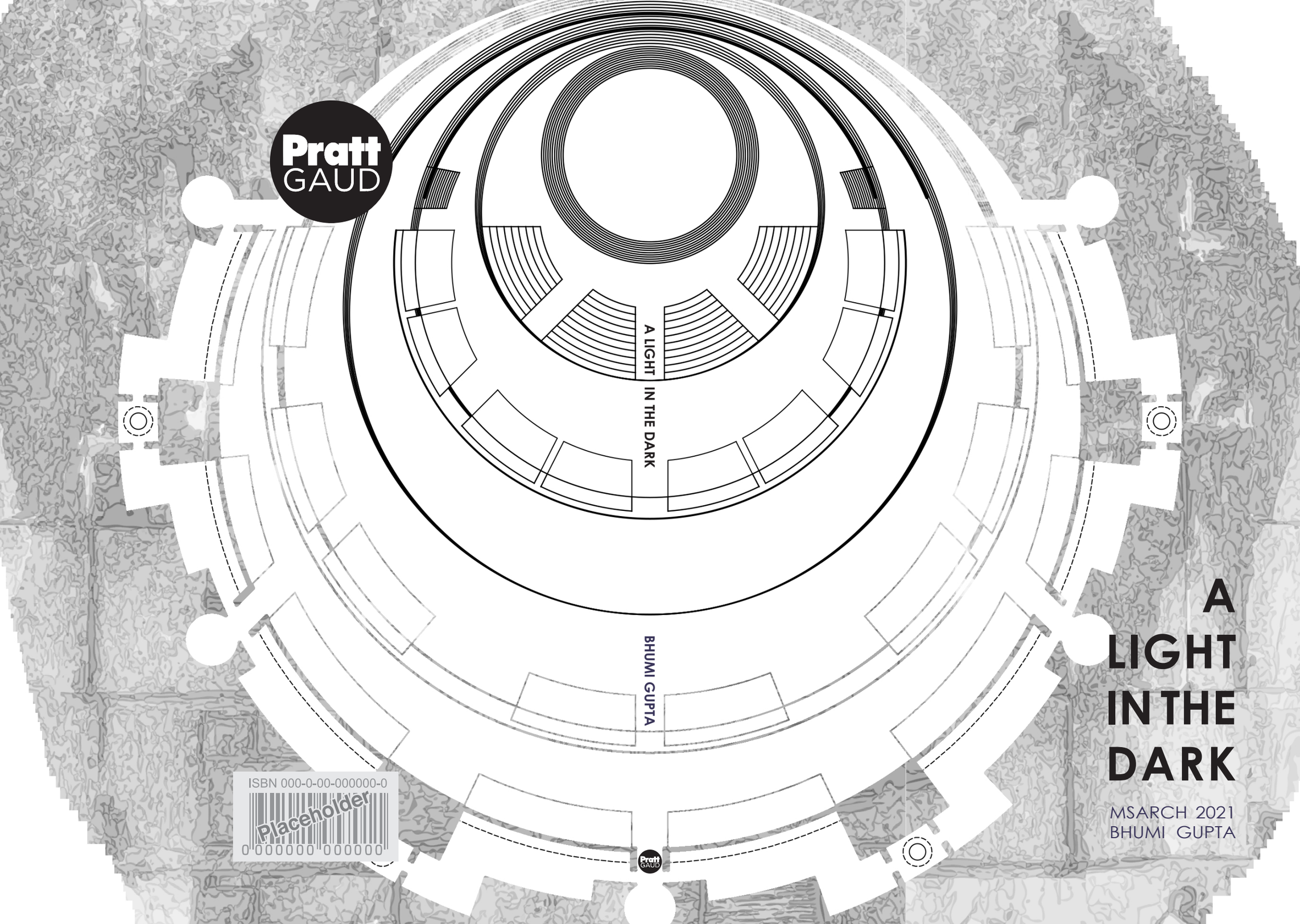


# A LIGHT IN THE DARK

MSARCH 2021
BHUMI GUPTA

ISBN 000-0-00-000000-0
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## MS Programs Introduction

We began the 2021-2022 MS program year musing on the Anthropocene, the geological period marking the undeniable impacts of human activity on the planet; and we undertook our research on Governors Island in entirely new learning conditions that, on some level, usher in the "post-Anthropocene." With the increase of face-to-face learning and field studies this spring and summer, we encounter the smoke from California wildfires and record hot temperatures, reminding us of the urgency for design to engage climate crisis. With the culminating research in the winter of 2021-22 we find new virus variants, returning us to a now familiar state of isolation, concern and quarantine, as varied authors link the pandemic to the post-Anthropocene.

What does it mean to be post-Anthropocene? The term "post" yokes us to our environmental condition: it means that we wrestle with our anthropocentric exploitation of the planet; that we examine and acknowledge the inextricable relationship between racism and environmental degradation; and that we look at the manner in which social inequity is inscribed in the built environment.

Governors Island Access Badge

Jeffrey Anderson

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Jonas Coersmeier

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

David Erdman

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Jaya Kanal

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Krithi Krishnan

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Jing Liu

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Dhvani Shah

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Simran Shah

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Sofie

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Beatrice Galilee

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Bhumi Gupta

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Ariane Harrison

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Vineeta Mudunuri

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Masudah Rahman

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Erich Schoenenberger

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Sanskruti Suthar

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Governors Island Access Badge

Jubin Titus

Student
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

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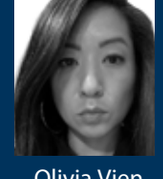


Olivia Vien

Faculty
Pratt Institute

Start Date: 4/12/2021
End Date: 11/19/2021

Pratt

Pandemic brought us into new dialogues with the effects of the Anthropocene. Infection is not limited to animals and humans, but describes, as well, a structure of interactions that are reconfiguring around pandemic, racism, isolation, and environmental catastrophe. The conventional physical aggregation of non-diverse academic bodies makes way to zoomed discussions across time-zones and perspectives; studio reviews, the province of top down expert monologues makes way for new platforms of committed listening, engaged looking and real dialogue. Simultaneously, forays into in-person fabrication accomodated making immersive interiors, replete with an uncanny domesticity for repurposed historical houses.

Any "nature" left in the city is highly unnatural: it is constructed, cultivated and maintained by man and machine. It has few if any provisions for non-human species. The domestic interior, in a period of quarantine, must contain a world within its walls: wildness, energy, heating and cooling, water and fresh air. The MS programs in Architecture and Urban Design worked closely together in taking these constraints as cues, with intensive explorations of water, moss, biochar and biogel surfaces as new material for building interiors, seeking to bring the palette of nature into new public spaces. Artificial islands, archipelagos, tides and currents flowed into urban designs that embraced the flows of New York Harbor.

We suggested that it may be timely to bring nature's "wilderness" inside. The problem posed in the program asks whether architecture can re-imagine biophilic interiors as interiorized wildernesses – we see that the densely programmed interior cores that you designed anticipate and relieve the pressure of quarantined living. Your proposals explored the architectural reconfiguration of the domestic interior in integrating a constructed wilderness as well as a feral water, energy and waste services. The definition of "service core" as a space for plumbing, circulation and power was radically redefined to embrace ecological services: plant-life generators, algae-producing units, carbon sequestering media, desalization



platforms and stormwater retention give new dynamics to the domestic core. These proposals explored environmental affects as well, in producing spaces that integrate nonhuman presence, that manifest actors outside of human perception. Volumetric interior landscapes created new outputs, from oxygen-rich air to biodiverse vertical surfaces to lighting that unfolds new potentials for domestic space under the confines of quarantine. Architecture proposals focused on ecological service cores that channel and filter stormwater, that nurture plant, algae and other animal life, that produce new lighting systems, and that condition air in novel ways. Urban design created new islands reaching into the Buttermilk Channel, connecting historical and ecological concerns.

The MS Architecture and Urban Design projects worked across several different scales, starting with an interrogation of the soils, histories and legacies of Governors Island. Soil studies contended with Lenape archaeology, brackish water-tables and lead contaminants on this urban island park whose checkered history is writ across its geological strata. Research posed questions of pressing concern: how can a park serve as a outdoor school? how can we create potable water for an island tethered to the mainland? how do we address geological racism in this island's colonial heritage? Studio faculty (Jonas Coersmeier, Ariane Lourie Harrison, Erich Schoenenberger, Olivia Vien, Jing Lui and Ray Rui Wu) and Mediums instructors (Jeffrey Anderson, Mia Landsbergis) worked through the "rewilded" interior at multiple scales. Electives in fabrication, exhibitions and urban adaptations tested concepts from Governors Island in new material and geographic contexts. And pro-seminars (Cynthia Davidson, Sanford Kwinter and Beatrice Galilee) developed theoretical and cultural frameworks for architectural interventions on Governors Island.

The culminating project site on Governors Island afforded a unique and relevant locus of exploration. In the early 20th century, the Army Corps of Engineers doubled the island, adding millions of cubic yards of fill to


the south side. West 8's masterplan brought artificial mounds to the island. Governors Island was a constructed nature. In 2016 on Governors Island, the British artist Rachel Whiteread furnished one of the island paths with a concrete cast of a small home titled *Cabin*. The domestic inscribes the island. Governors Island opened its thirty-odd Victorian homes for cultural, environmental and educational residencies. Pratt GAUD has occupied Building 14 in one of these residencies, with The Climate Museum, the NYC Audubon and the Urban Soils Institute as neighbors. This set of resources, along with recreation and arts programming, brings nearly one million visitors each summer.

The MS Architecture and Urban Design projects adapted the historic structures of Building 14, the Eastern Development Zone Shoreline and Building 3 with cores that, in addition to providing water, energy and air climatization, bring new formulations of wilderness into the interior. This work will become the subject of Pratt GAUD's "Re-Coring" exhibition in the Summer of 2022, along with an ongoing "Pratt Climate Provocations" exhibition for Fall of 2022.



The project team working with the Guerilla Science's "Communicating Climate Science Through the Arts" workshop drew heavily upon on the contributions and vision of MS students Dhvani Shah, Simran Shah, Vineeta Mudnuri and Jubin Titus. The contributions of MS students to this climate literacy effort has established a platform upon which Pratt SoA seeks to build an annual and ongoing program of workshops and exhibitions.

It is important to recognize the degree to which MS Architecture program work has received recognition for its curricular focus on Governors Island. Directed Research has been published in architectural journals, included in the 2021 Italian Virtual Pavilion at the Venice Biennale and related Pratt microsite, and featured in Dean's and Chair's talks on post-pandemic education. And the MS effort of Governors Island figured in the January 2022 award to Pratt of a three-year residency on Governors Island begining in Summer 2022. Also, the MS cohort held an active role in the Pratt SoA, with Vineeta Mudnuri developing graphics and communication for the Dean's office, with Graduate Student Council representation by Jubin Titus, and with varied Graduate Assistant positions held by all members of the 2021-22 MS cohort.

It is a testament to your resiliency, your commitment to your education and your understanding of the significance of this period — one of pandemic and climate emergency – will mark a significant change for architecture and urban design. We are different now. Your culminating projects suggest that we have already ushered in the post-Anthropocene: that, in acknowledging the blinkered perspectives of the Anthropocene period, architects and urban designers will now envision, fabricate, and script more inclusive engagement in a global environment circumscribed by pandemic, climate change and inequitable socio-economic policies.

Ariane Lourie Harrison
MS Architecture and Urban Design Programs Coordinator

# A LIGHT IN THE DARK

by

Bhumi Gupta



A thesis
submitted in partial fulfillment
of the requirements for
the degree of Master of Science, Architecture
School of Architecture
Pratt Institute

February 2022

## A NOTE OF THANKS

This report is based on research conducted on the carbon material and its forms, exploring the potential it holds. I am grateful for all the support and help given to me by my colleagues, friends and family in encouraging me to start the work, persevere with it and finally to present it.

I thank Ariane Harrison, who helped me with discovering the capabilities of research and study and accepted all my bizarre ideas while working on the project.

I further extend my gratitude to Jonas Coersmeier, Erich Schoenenberger, Olivia Vien, Jing Liu and Ray Rui Wu for guiding me throughout the coursework and encouraging me to explore new possibilities.

Also, I wish to express my sincere thanks to Julia Van Den Hout, Cynthia Davidson and Pierre deLooz for inspiring me and contributing to develop my skills.

A constant support and my teammate, Dhvani Shah I thank you, without whom the timely completion of the task at hand wouldn't have been possible.

I acknowledge the love given to me by my friends who are my companions in this. Finally, I seek blessing from my family, especially my parents, Ar. Vishwas Gupta and Ar. Smita Gupta. They all kept me going and continually boosted my morale.

But, it would be an incomplete note of thank without the mention of Mr. Robert M. Pirsig, who wrote the book 'Zen and the Art of Motorcycle Maintenance'. Without reading this great book I would not have had the insight to choose this path and like he wonderfully said –

"Is it hard? Not if you have the right attitudes. Its having the right attitudes that's hard."

## FOREWORD

THE ROAD MOST TRAVELED

A road that's been chosen many a times. Always leading to the same place, but never the same journey. Addressing a village, by name, but in the city. Wrapping around the green, this grey surely is bland but holds the capability to induce nostalgia. The Y-junction that leads one here, hosts a cinematic reveal to the three level structure of brick and mortar that I call home. Every time with the turning road, the wait turns too, into impatience. Those long twenty steps to the door is the most familiar feeling that brings me to my own. I see my neighbors, the kids playing, the old dog that's too lazy to shoo away the cats lurking around her, I can almost hear the television playing inside my living room and I know that I've arrived.

Every day, every time it's almost the same yet equally thrilling and comfortable to stand at the same spot that brings back so many memories. All the times when I could see the skies changing from blue to orange and then black through my window, the view underneath transformed as well. All things get showered with the yellow hue from the million street lights that could easily work as a night lamp for each household. The open spaces get occupied as the cars turn in, with the yellow dancing off them, and church bell rings to say its goodbye to the day.

As it gets colder, the stars can be seen with their luminescence creating silhouettes of the hills in the surrounding. Listening to the sounds of the birds chirping late in the night, a soul definitely finds its peace right there at home.

## PROLOGUE

It is the year 2050 and we are alive. It's been an eventful 30 years and a marker for the change in our cultural trajectory. We understood that the negative carbon can be transformed into positive. Taking the particular case of Governor's Island, we observed the carbon being emitted by vehicles in the Battery Tunnel and saw potential in sequestering it. The process of carbon capture further opened up opportunities for us to experiment with the carbon. As an essential step to utilise the captured carbon, it was stored deep under the ground as deposits. Over the years, these sediments formed by accumulation of captured carbon transformed into multiple layers of carbon material. The island is now a block of new carbon material, a platform for innovation in the way we construct and design habitats.

Design is an expression, of belief and culture. With the medium of the built, architects define in their own design language the term ‘architecture’. Without the development of, and uptake of, a more balanced definition of architecture, architects may continue to design from their own cultural perspective, inadvertently creating a ‘misfit’ for other cultural groups who use their architecture. Designing with an understanding of cultural difference, and aiming to create a ‘good fit’ between the architecture and the user, supports human well-being and contributes to a form of culturally sustainable architecture. It is the need more than mere curiosity for an ongoing research task to seek the development of a metrics of cultural sustainability. And then to use this study for evaluative use in assessing environments, which must necessarily integrate architectural and social science analytic methods.



## CHAPTER 1

Its dark, he can sense it even with his eyes shut. His head feels heavy and there's an uncanny thirst that absorbs him. He wants water. He opens his eyes and tries to see in the darkness. On deciding to take the risk in this darkness, he stands up and slowly starts to walk around. Not long after he sees a faint light shimmering not far from him, thinking that it could be water, he walks towards it in a hurry.

The calm he'd felt with the shimmering blue soon fades away as he realizes that what he'd seen was just a reflection on a very old building, almost all of it blanketed with the darkness. He tries to find a door or an entrance and on inspection understands that this is an old defunct church.

He suddenly has a flash of memory rush into his mind and out of instinct he start walking towards the trees that surround the church. He is walking and he hears before he sees, the water that he'd been wishing for. He wants to drink all the water there is and he rushes, but he trips on a small stone and falls face forward into a pit. Alas he gets water.

He tries to swim and navigate his way up, surprisingly there are no water weeds touching him and the water tastes unfamiliar, not salty enough. It is not the ocean, nor the sea, then where is he? Finally reaching the surface, he looks and what he sees amazes him.

The ruin aesthetic intrigues him, adorned with a golden hue.

## AESTHETICS OF RUINS

Ruins perceptively are defined as something that has been lost to time and has achieved a state of decay. They are incident in nature and depict an act with them. This memorial aspect of the ruins suggest the immateriality of its matter. Man's interplay with nature can be seen in these historical markers of time. "To see sensuously and intuitively this unique immateriality in ruins is to be convinces of a possible dynamic aesthetics of ruins, which are products of the processive cocreativity of nature and man, both of man the artist and of man the percipient."[1]

Associating ruins with time would be binding it to history that is was perceived in rather that the period it was conceived. The ruin is never finished in its revelation and is a continuous synthesis that changes with how it is seen and accepted. It is like wine, the more it is matured the better it gets, and it needs a ruining nature to form the beauty that it is. As intrusion of nature, ruins oppose the built that surrounds it validating its own aesthetic as beauty.

"Man's perceptions of ruins, like the ruins themselves, are part of the dynamic cosmic process that is somehow united by time."[2] An amalgamation of natural beauty and artistic beauty with the eye of the human made beauty, ruin is an adjective that adds value to the time it belongs to.

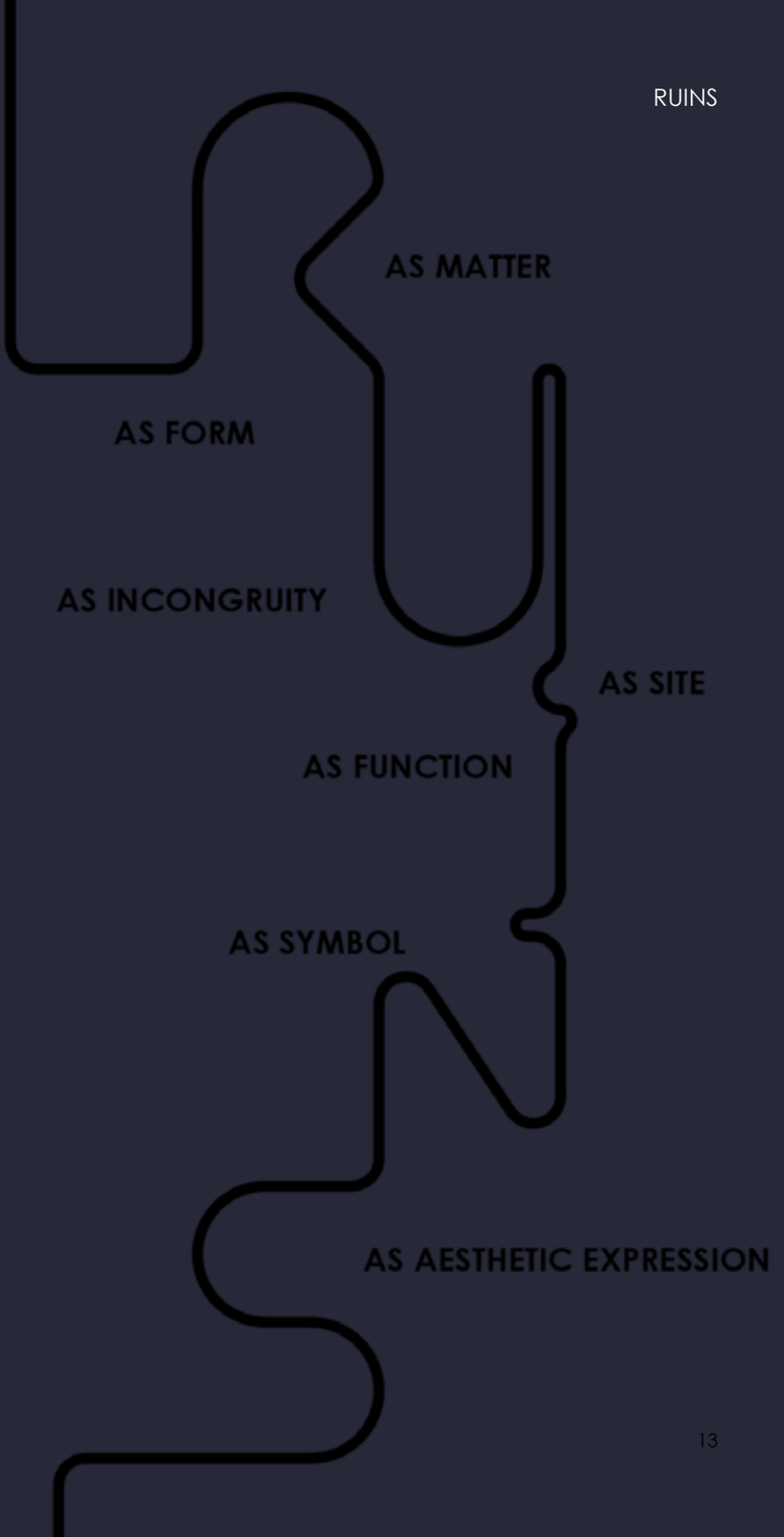
Over the years, the perception has changed and its depiction has evolved based on how it would be seen in the story it withholds. Fiction is a true record of how the ruins are perceived. This perception may not indicative it to be positive or negative but it definitely marks them as important.

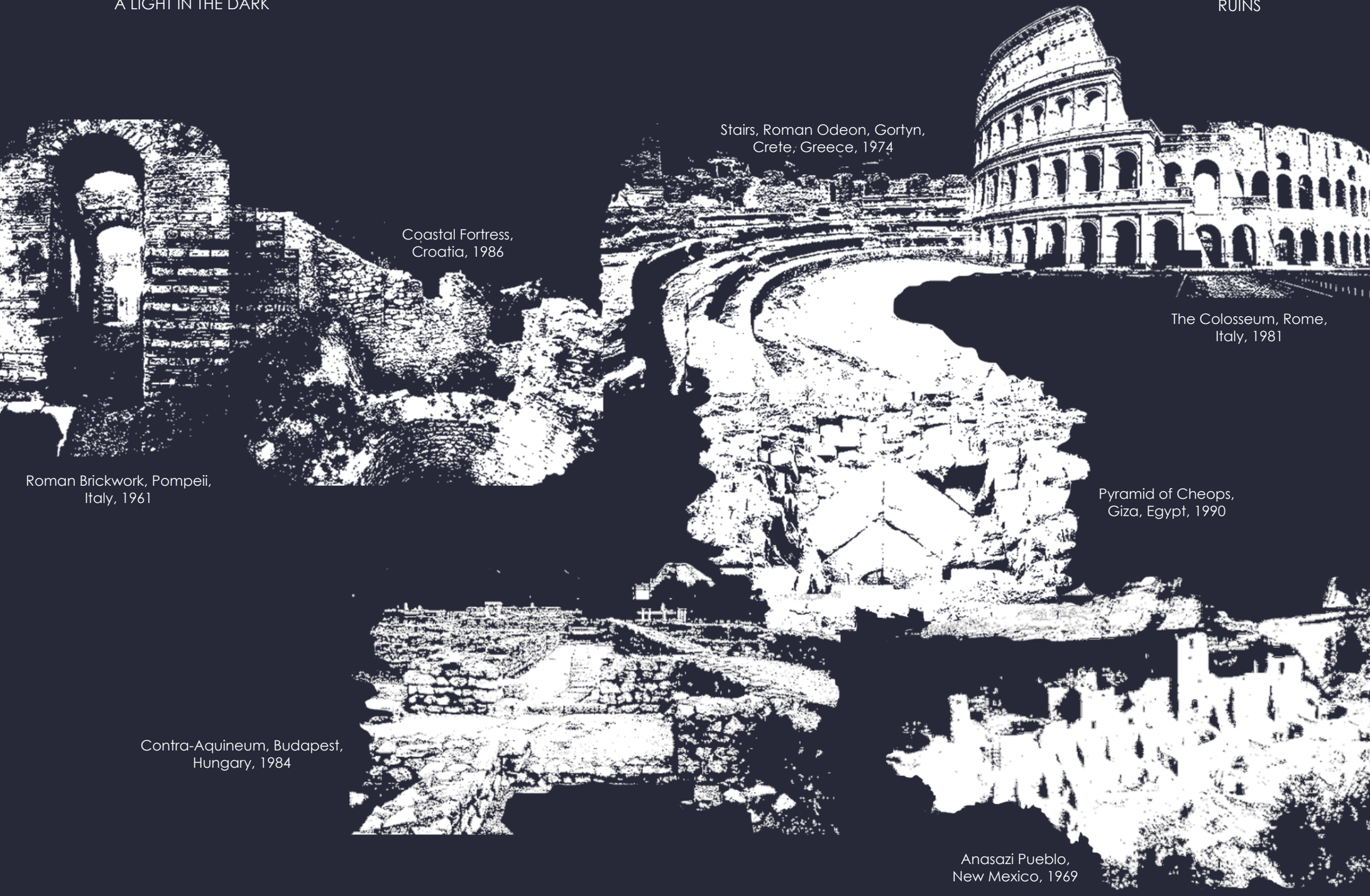
1- Hetzler, Florence M. "The Aesthetics of Ruins: A New Category of Being." *The Journal of Aesthetic Education* Vol 16.No. 2 (1982): page 105 para 1. <www.jstor.org/stable/3332283>

2 - Hetzler, Florence M. "The Aesthetics of Ruins: A New Category of Being." *The Journal of Aesthetic Education* Vol 16.No. 2 (1982): page 106 para 2. <www.jstor.org/stable/3332283>









Roman Brickwork, Pompeii, Italy, 1961

Coastal Fortress, Croatia, 1986

Stairs, Roman Odeon, Gortyn, Crete, Greece, 1974

The Colosseum, Rome, Italy, 1981

Pyramid of Cheops, Giza, Egypt, 1990

Contra-Aquineum, Budapest, Hungary, 1984

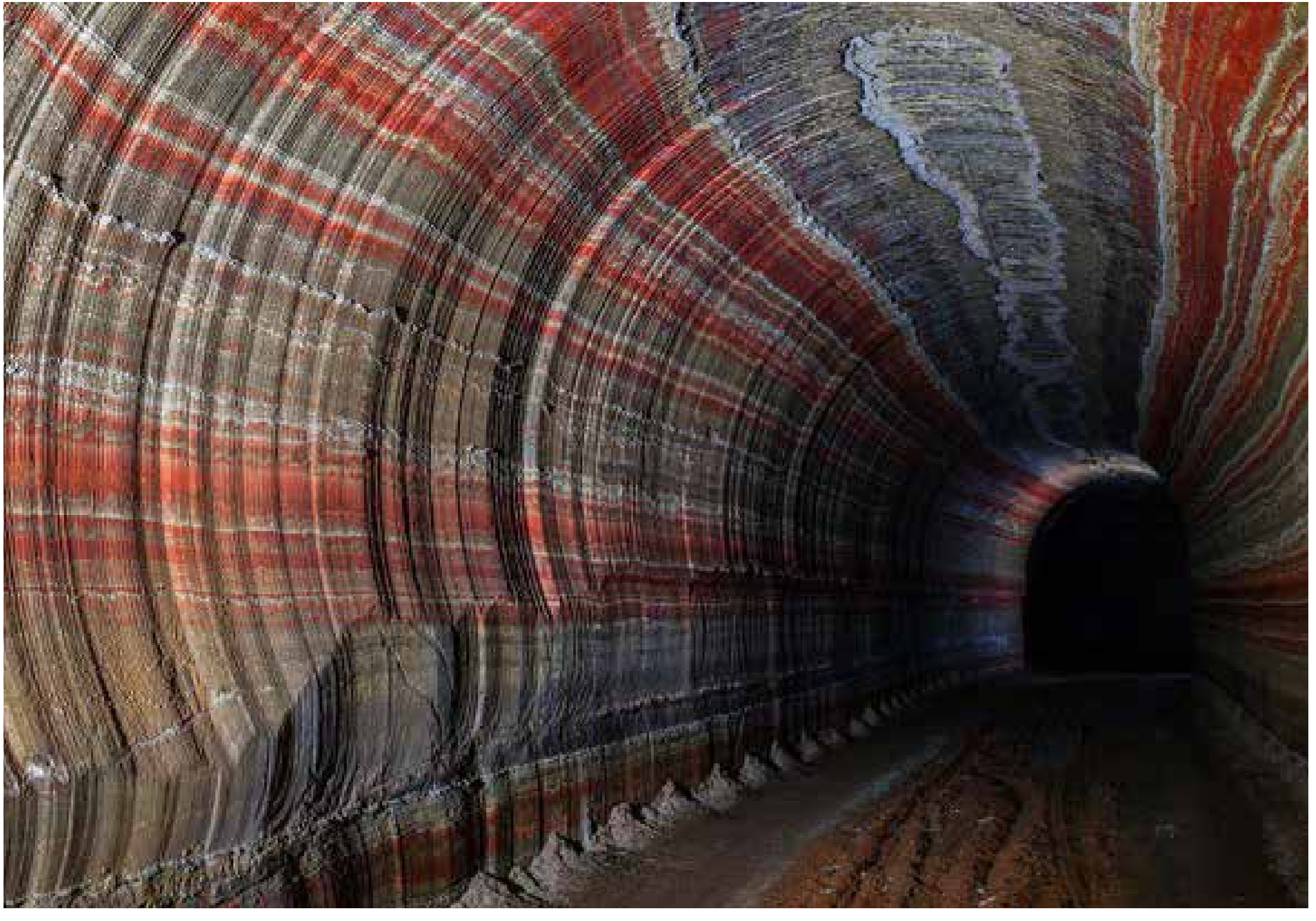
Anasazi Pueblo, New Mexico, 1969

**What are ruins traditionally?**

**Why have ruins been significant?**

**How do we make a ruin?**

**Can we define Utopian ruins?**



The thought of associating loss and mourning with the visual of the ruins is what needs to change. Ruins have been marvels of architecture and have been successful in being seen as significant objects in time. The memory attached to the piece of built or unbuilt may not be a sad one, it can be a reminder to what we did in the past that has given us a better present and is also a precedent to a better future. What also needs to change is the way in which we visualize a ruin. In an approach to do this, we take up Governor's Island as playground and develop an aesthetic for what we call the carbon ruin, a memorial to our understanding of carbon.

## CHAPTER 2

The sight is mesmerizing, looking at all the dancing light and the colors, he is curious and wants to know where he is. He decides to look around in detail and investigate. On examining the pit he fell in, he deciphers that there must be an entryway somewhere around for him to enter, someplace where this warm light is coming from.

He bends down to look and examine the soils and the surfaces that are around him. On keen observation he realizes that there are marks on the ground indicating fluidity, which meant that the plane that he was standing on was in fact sloping. He soon figured out that he was positioned on an edge of a mound and decided to follow the peak.

Midway his climb, he encounters a path that curves around the mound twisting its way through smaller trees. He simply follows on a hunch that this would lead him straight to where he wanted to be, and soon enough he reached an opening of a tunnel from what he could see.

The tunnel seemed cold and yet inviting enough for him to step forward as he could once again see the golden hue from that light within. The sun was starting to rise and he felt energetic. He could see better the traces of time on the walls of the tunnel. Not long after he reaches the other end of the tunnel where he can see the water at his feet in a crater sort of well, or that's what he thought it was.

There is light all around, bouncing on the water and illuminating all the surfaces it finds. He is excited about the place he is in and mesmerized to be able to be here at all. He paces in the tunnel for long and looks at all the coloration and striation that are very evident. He tries to touch and understand material. At places, he finds graphene deposits and figures out that this material he sees is made of processed carbon.

## CARBON BASED MATERIALS

We have seen in the past how carbon is available to us as resource, in varying forms. Yet, carbon has not been explored to its full potential. "In the past two and a half decades or so, conjugated carbon nanomaterials, especially carbon nanotubes, fullerenes, activated carbon and graphite have been used as energy materials due to their exclusive properties."[3]

Carbon in solid form can achieve a block like state when stored in soil which in turn can be used as a building material too. This opens up possibilities of experimenting with the carbon form as an energy source. "Following the global energy outlook, it is forecasted that the world energy demand will double by 2050. This calls for a new and efficient means to double the energy supply in order to meet the challenges that forge ahead. Carbon nanomaterials are believed to be appropriate and promising (when used as energy materials) to cushion the threat."[4]

Experimental studies reveal that nanotubes are the stiffest and strongest fibers ever produced. This has been notably correlated with better mechanical and electronic properties of this material. Carbon nanotubes in a lower density form have proven to be exponentially stronger in comparison with steel as structural material when tested.

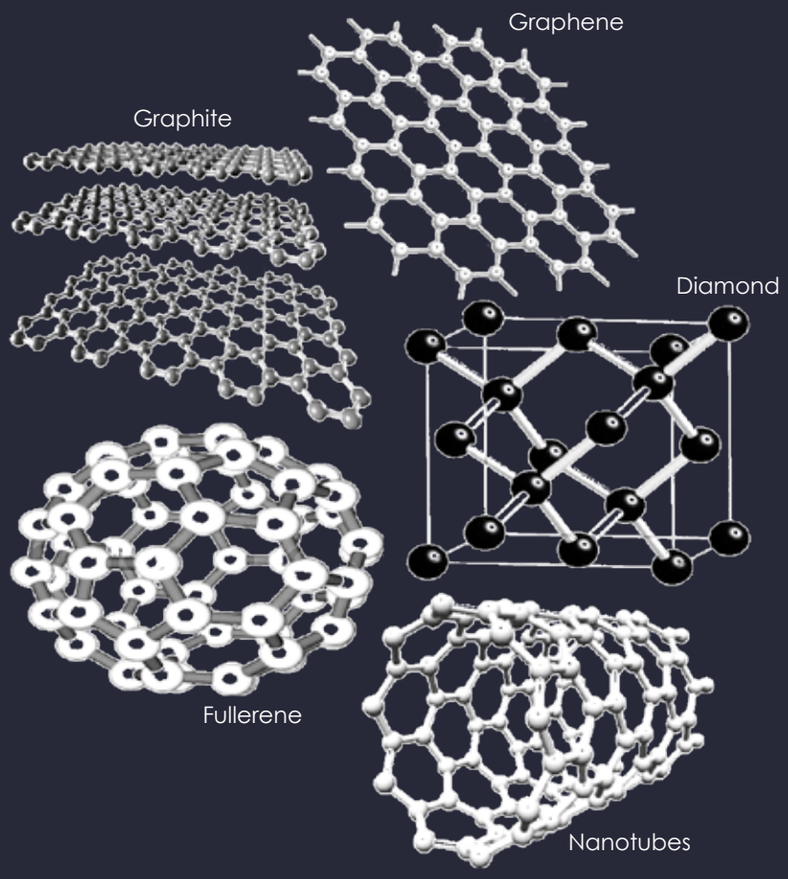
Carbon as the new material as the driving force to return to the nature what we have taken from it and it also holds the capacity to make minute amends to our unsustainable ways, at least in terms of construction. It is a one step forward to restore the disrupted balance of ecosystems.

3 - Salisu Nasir, Mohd Zobir Hussein, Zulkarnain Zainal, Nor Azah Yusof. "Carbon-Based Nanomaterials/Allotropes: A Glimpse pf their Synthesis, Properties and Some Applications." *Materials* (2018), page 1 para 1. <www.mdpi.com/journal/materials>.

4 - Salisu Nasir, Mohd Zobir Hussein, Zulkarnain Zainal, Nor Azah Yusof. "Carbon-Based Nanomaterials/Allotropes: A Glimpse pf their Synthesis, Properties and Some Applications." *Materials* (2018), page 1 para 2. <www.mdpi.com/journal/materials>.







**Is carbon toxic?**

**Why have we been using carbon materials?**





**Is a new carbon material the future?**

**Can carbon be replaced?**

Context and concept, two words with different meanings in isolation but closely related when used together. The context determines what the concept could be and in turn the concept has to support the context in a perfect balance as to not alter it. It is a fine line that makes a distinguishing appearance between two words and that is what we call as design. Design may be intuitive or a result of meticulous practice or it can also be a definition. It can be all or it can be neither the only thing that it cannot avoid to be is precise.



## CHAPTER 3

Amused with his understanding of the carbon material, he moves into the light and is mesmerized once again by the shimmering water down in the circles of this carbon material. He carefully navigates his way as close to the water as he can get to see further in depth. But, the morning sunshine casts a heavy glare onto the water making it difficult to intercept any finding. Alas he decides to jump back in and scavenge for any clues.

It was a remarkable sight, he saw lines, many lines. They were deposits of carbons over years and years, that much he could make out as he could clearly see color variations from top to bottom. He soon realized and grasps that there was no more to be found, rather he didn't need to see more to learn about his whereabouts.

He quickly swims back to the top and walks back to the tunnel and comes out. Laying on the mound, basking in the sun, he jogs his memory to all the research he had come across from his father's library. He couldn't really pin point to what he was trying to remember but the fresh warm light lets his instinct have a free reign.

And then, he remembers, from long ago, reading about the carbon sequestration, a boom that had bought this world some time.

## SEQUESTRING CARBON

Most people are unaware of what causes such global destructions. In this case of global warming, a major contributor is carbon dioxide emissions.

One common factor in conclusions have been that the atmospheric release of carbon dioxide is deathly for our sustenance on earth. A simple solution to this is to find other containers to store this carbon, per se soil. "Although oceans store most of the Earth's carbon, soils contain approximately 75% of the carbon pool on land — three times more than the amount stored in living plants and animals. Therefore, soils play a major role in maintaining a balanced global carbon cycle."[5]

Using soil base to store carbon is a step toward tapping into the potential of using carbon as a building material. The stored carbon can be used as building blocks that are also a source of energy. "Carbon fiber plates are thin, solid and adaptable. They can be outlined and introduced to give a practical arrangement which does not reduce outwardly from the first plan of the structure."[6] The dark carbon would transition into being a light, a ray of hope for our dying world.

5 - Schlesinger, William H. "Carbon Sequestration in Soils." Vol 284 (1999) page 1 para 2.

6 - Netula, Dr. Omprakash. "Carbon Fiber as a Construction Material." *Imperial Journal of Interdisciplinary Research* (2017) page 1220 para 3.





**Is world ending?**

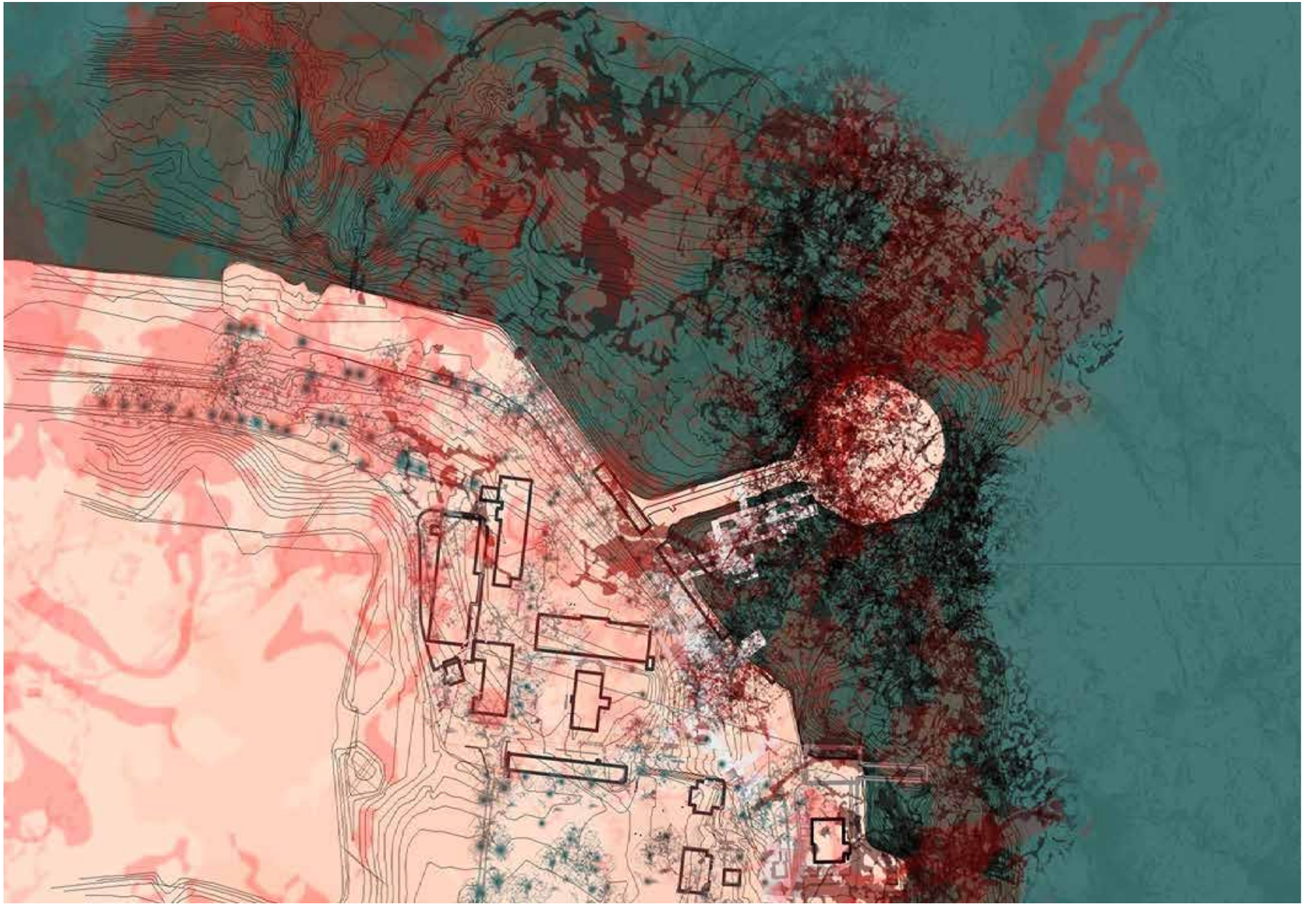
**Why are we buying time, isn't it ours?**





**How do we get light from a dark carbon?**

**Can carbon be our ray of hope?**



Over the years as civilizations have changed, architecture has seen change in the vocabulary of design as well, which is noted with the change in use of the building materials. As a move forward, it is not surprising that use of available resources is being optimized to produce more resources, especially for construction. Use of carbon as material is one such example where achieving net positivity, thus making it sustainable, is the target. With the process of carbon sequestration, we need to address how captured carbon needs is stored, where accumulation of the stored carbon over the years is ground for creating a ruin like quality to the architecture of simply collecting. This further would be playground for enhancing the ruin like quality of the memorial over time with changes in the environment.

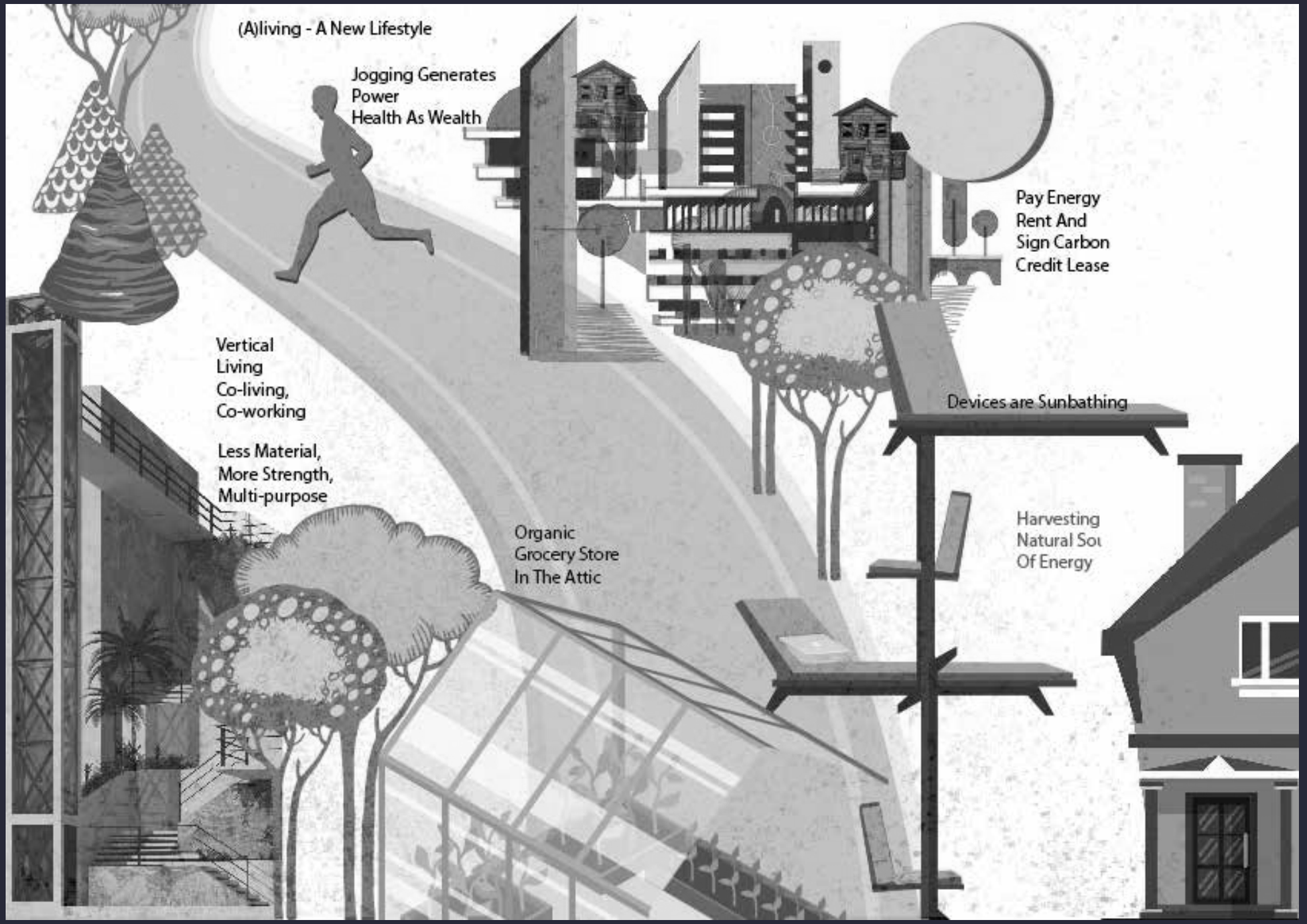
## CHAPTER 4

He sat a long while, thinking about the hours he'd spent reading all the articles and research papers that his father had collected for his studies. He vaguely recollected seeing an article from around thirty years ago about carbon mining, collection and storage. It had gotten him very curious to find out all about it but had not pursued his thoughts then, today he had all the time to think of it.

He tries to dig deeper into his memories of the article and speculate about life in the crater that we was besides. He had gone through the transition of a changed living but this he had not seen before, it looked historic.

After tremendous speculation and waiting, he gets up and goes on to search more. He'd seen doors and windows underwater in the circular walls around him. He takes a long breath and dares to jump a tier down and investigate inside the ruins. It was not difficult to find another tunnel opening and miraculously this one had more passages leading him inside the dwelling.

He is aware of the marks that time had left on the walls, the wear and tear too. He examines things closely and encounters early stages of historical smart living from the 2050s, the concept of being off-the-grid. Old ways were simple, yet smart and resourceful.


(A)living - A New Lifestyle
Jogging Generates
Power
Health As Wealth
Pay Energy
Rent And
Sign Carbon
Credit Lease
Vertical
Living
Co-living,
Co-working
Less Material,
More Strength,
Multi-purpose
Devices are Sunbathing
Organic
Grocery Store
In The Attic
Harvesting
Natural Sou
Of Energy

Deposition forms layers and thus creates textures. We conduct material study to observe the sedimentation and settling down of the substance. As a result we obtain patterns of striations and porous accumulation at places. Taking up these moments as opportunities and design foci, we develop our idea of creating spaces in these layers by carving out.

Our strategy to excavate and form the crater was in forms of circular rings where the layers of the carbon material are evident with an element that adds to the aesthetics of the memorial idea. In the process of excavation, mounds were developed with the spoil. These mounds are designed to aid the temperature control for habitation beneath, used for community farming and define new circulation on the site. Mounds also are opportunities to connect energy generating functions around the crater visually and by circulation as well.

Using the carbon as regenerative material and a host to energy, it is an opportunity to create a sustainable structure that provides for the user and takes care of itself by becoming a powerhouse. Simply, movement too would contribute as a resource. By doing so, we are trying to address the thought of independent living where the systems of the house are powered by it's building materials. The idea is to make the public and the private intervene in an indoor setting. In order to make this functional, a mixed use aspect is associated with the scheme, which also creates a demand for further use of the system of carbon.

Diving into the details of such living environments, we propose a scheme of timelines where the studio spaces in top tiers integrate with the bottom ones to open up as a marketplace and recreational area. Visitors can experience living in the crater for a year, produce their own food and energy, and explore the material when the island isn't open for public access for 6 months, then share the produce and experience with visitors in the other half of the year.





From 12 seconds to 12 months, you have a carbon memory to take back as a souvenir. The crater lives on the principles of a retreat where carbon is your energy, pick your timeline and be part of the process. The journey begins from crater being an exhibit in itself with it functionally being a machine, a micro climate. Creating experiences with varied time frames is what the crater offers.

The craters envision communal life, where people have the opportunity to communicate amidst their centrally facing green spaces and gather at the core for communal activities. Mining into the ground will expose us to the water below in the land. The porosity in the material will allow the water to gather and form a pool in the basin of the crater, hence we use this as a landscape asset and embrace the reflective quality of water. The visitor experiences these spaces in a vertical spatial procession so that the desired ambiance of mystery is achieved. Part of the crater has steep slopes to put the new carbon material on display as in an exhibition.

Adding functions to the niches of the carved out carbon spaces, the crater is an absolute indulgence of human experiences that celebrate existence and teach you to live to the fullest with the time that remains, in a broader sense, by mentally preparing for the apocalypse.

Our study would further dive into integrating geo-thermally powered carbon material systems for water supply, electricity and communication systems. These are systems that make this house a city of its own, thus making it off-the-grid and sustainable. By defining a circle of sustainability between the house and environment, between visitors and residents, we understand and think that's where architecture happens, in between the seams and folds of these multiple facades and systems where material plays the role of a binder.

**What do we imagine our smart future to be?**

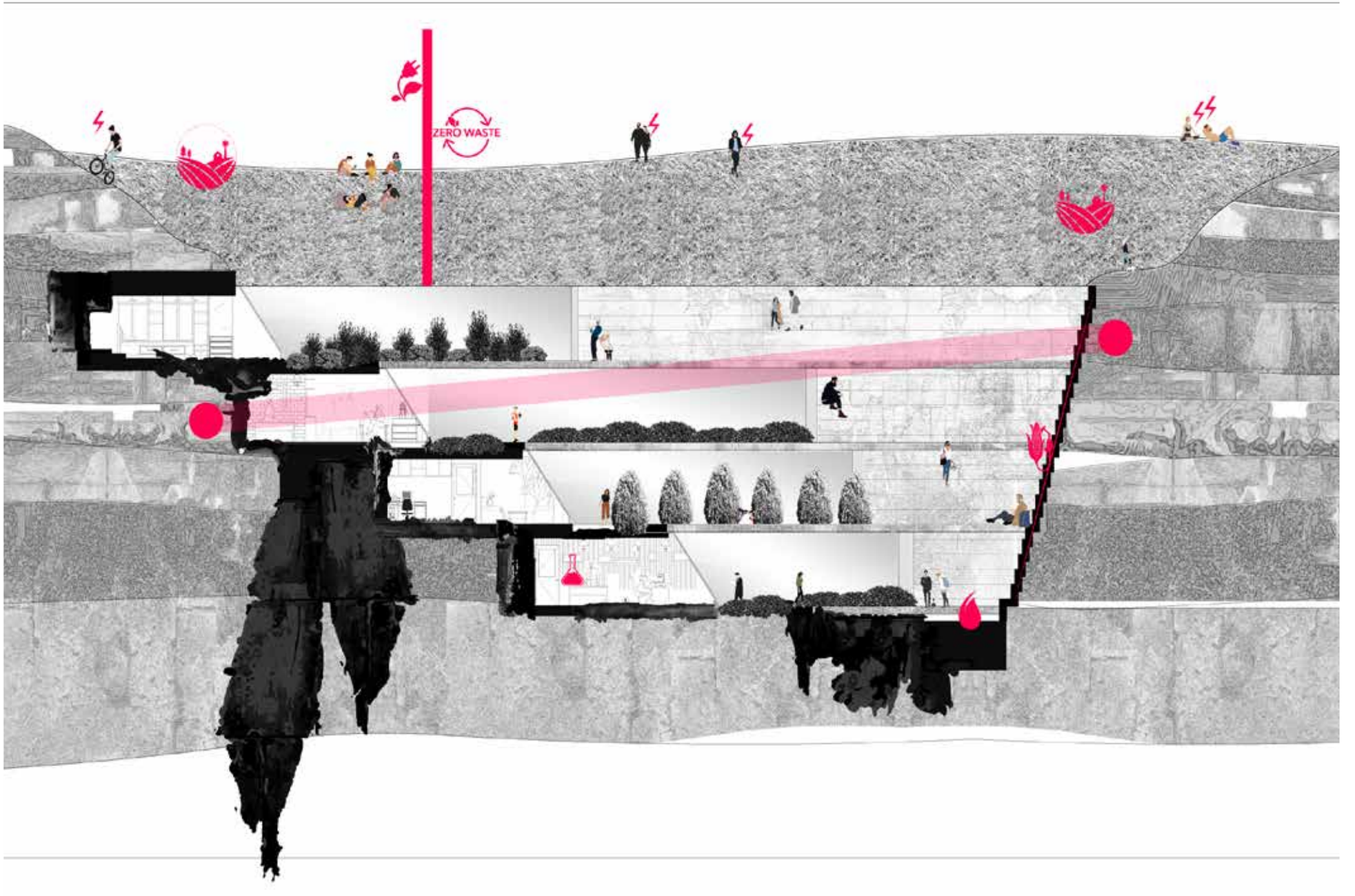
**Can carbon be a new form of energy?**





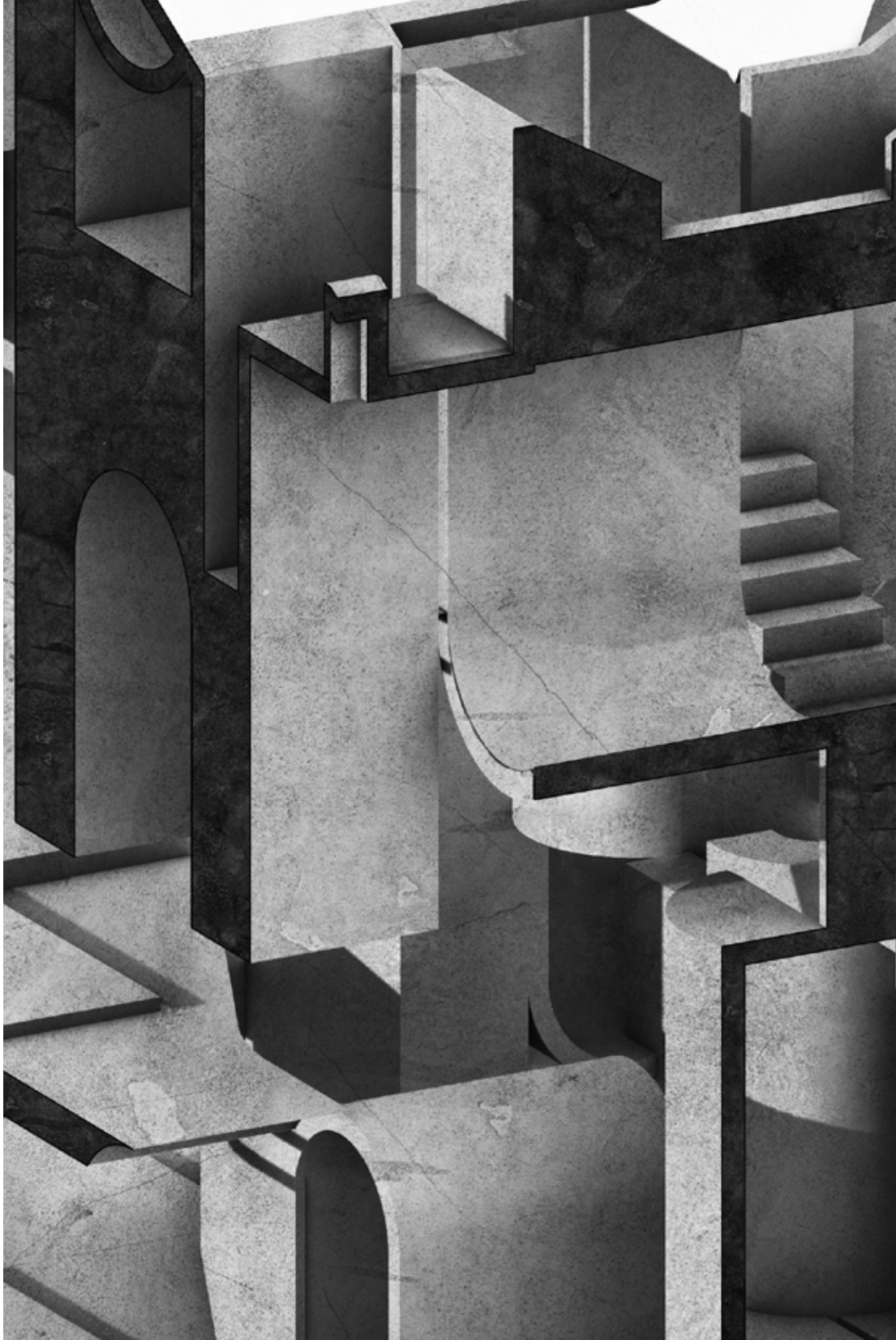
**Is the architectural language changing?**

**How would a time bound recreation be?**


ZERO WASTE

Today's world is a vastly more connected and interdependent system than it has ever has been. Information flow is effectively instantaneous, and many of the results are far more influential and sometimes less apparent than ever before. Design thinking needs systems thinking, and vice versa, in order to identify and deliver the most appropriate and circumspect solutions. The future of design thinking is about going beyond designing for today's problems. We need to find multidisciplinary solutions to the great challenges of our time in order to continue to live and thrive on this planet. With the emergence of new technologies, it has become possible to design large developments as micro-cities that offer a range of diverse services. Excess energy that has been generated by private residences, offices and other buildings is now often fed into the public power grid. Great design will intrinsically be what drives this progress. The future is closer than you think.





## CHAPTER 5

He is mesmerized by the story these ruins tell him about the life here almost about 30-40 years ago and he tries to take all of it in. he wants to go back home and find all there is to this. Until now he had forgotten about the underlying worry, where was he?

Out of concern, he traces his steps back towards the tunnel and leads himself out. He decides on starting from the place he'd woken up at. On setting out to explore rest of the area, he sees a lot of familiar things. He looks all around, soaking in the warmth his memories give him.

He suddenly starts running on a course, again led by his instinct and he finds the vent tower he was looking for, another building from his memory. He now knows where he is but to confirm, he walks to the highest mound there is, which he knows the way to. He climbs the steady slope and looks at the island he is on. The vision before his eyes is complete now, filled with everything he takes in and sees physically and also in glimpses from his memory.

He is happy with all the brightness, he finally remembers it all.

## MEMORIAL VALUE OF RUINS

"Not in order to build utopias but to live with their ghosts."[7] To build for the future, in a definitive manner so as to make it an image worthy of perception and record. Designing a ruin would mean to decide what we leave behind for our future to know us as. It is the light formed in our memory that induces feeling of relativity which results in likeness.

The image that we see of what exist may not be how we perceive it, the value of anything, particularly the built, depends on its reception. Hence, forming a culture. Culture is significant to all as culture gives you a sense of belonging, especially when everyone speaks the same language, it could also be of a visual vocabulary where design intent is the grammar. Language evolves with the culture as an intimate product of the way those within the society communicate.

The ability for it to change lies in the fact that all understand it and adhere to a relationship with it, protected by the way we see through the lens of the media.

An impact so bright that it blinds our visual of perception and its subsequent feel, architecture is a cultural expression as well as a technical achievement and most significantly a storyteller. It has social obligations and the power to be called aesthetic in order to derive a social change, to carry collective memories and be stage to utopian ideas.

"The new aesthetics of technological innovation, revealed in the exposed reinforcing rods, is the aspect of the ruins that Speer finds most distasteful but which Walter Benjamin would have found most fascinating. A new aesthetic, or more pointedly a subversion of aesthetics, is unveiled by the arbitrary processes of decay."[8]

A boundary of a space defines not just the function it holds, but also the image it creates in our head for us to call it beautiful. At the same time it can be questioned, why things need to be beautiful? How do we define the quality an entity holds? The answer to this lies in the response that the space brings out by amalgamating with the built. If the interaction is pleasant, it holds the tendency and the ability to heal us. Art is not for art sake alone, it's almost therapeutic.

Design is not just an attitude, it's an expression.

"After all, is it not possible to imagine that the politics of political ecology might lie in some small part in the struggle over specifically and irreducibly architectural images—images of laboratories as images, perhaps— that actively reimagine and reorganize, rather than domesticate, the relation between nature and culture?"[9] To embrace what we feel is not easy and to even realize that the space you step in has changed you is altogether a feat in itself. But, it is a subtle transaction that occurs where your eye perceives colors and forms to relate to memories and literate you to feel a certain way, and the process repeats, you keep feeling a certain way about same things always.
To change this is design.

7 - Martin, Reinhold. Utopia's Ghost. University of Minnesota Press, n.d., page 147 para 2

8 - Stead, Naomi. "The Value of Ruins: Allegories of Destruction in Benjamin and Speer." *An Interdisciplinary Journal of the Built Environment* Vol 6 (2003): page 53 para 4.

9 - Martin, Reinhold. Utopia's Ghost. University of Minnesota Press, n.d., page 92 para 2

**Is memory made of light?**

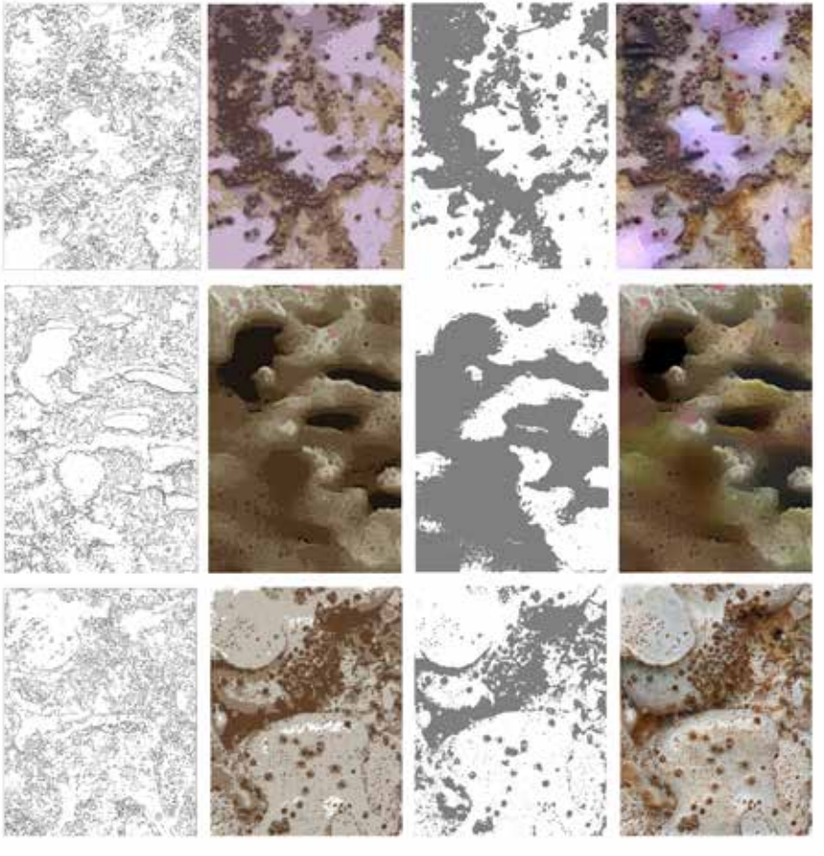
**How does culture get defined in future??**

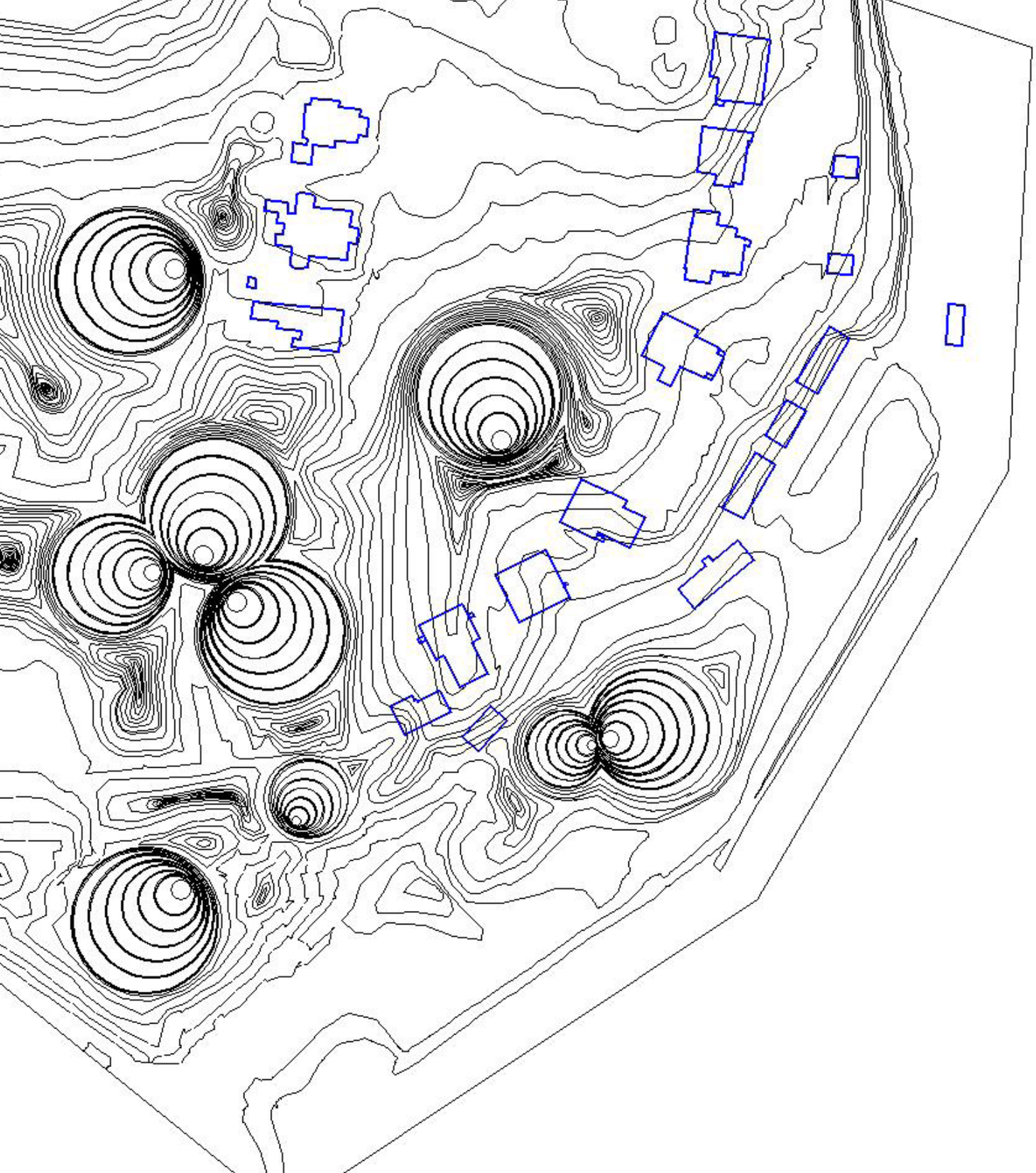




**What is the value of ruins?**

**Can we design something to be a ruin?**





## EPILOGUE

*Dear Diary,*
*I remember now, I know how I ended up here, this is the old island my dad got me to when I was small. I came here to look at the bee pavilion, play on the slide and collect oyster shells. We also biked around the hills in the south. What I see now is a volumetric capture of the time that has passed. A memorial in dedication to our deeds, depicting climate change.*

*Yours,*
*A Man from Utopia*

Architecture is a cultural expression as well as a technical achievement and most significantly a cultural narrative. This narrative has social obligations and the power to be called aesthetic in order to foster social change. Change carries collective memories and is stage to ideas about creating a memorial in form of a ruin. Ruins, a record of the change, are nothing but pages of history that are born out of fossils. Fossils and the study suggest that everything and anything is a ruin or results in becoming one, as seen via history of built structures. Structures of the future will reflect the social fabric of the past that has been critical for the growth. Growth, in order to establish its rules of modernity, which has potential to be a ruin, improves the social wellbeing of society and emotion. The emotion attached with the image of a ruin need not be of devastation and misery, it can change and be of hope that leads to inquisitive questions.
A question that we need to ask now with respect to the carbon ruin is, what are we leaving behind for the people in the future and work towards achieving a fruitful today.

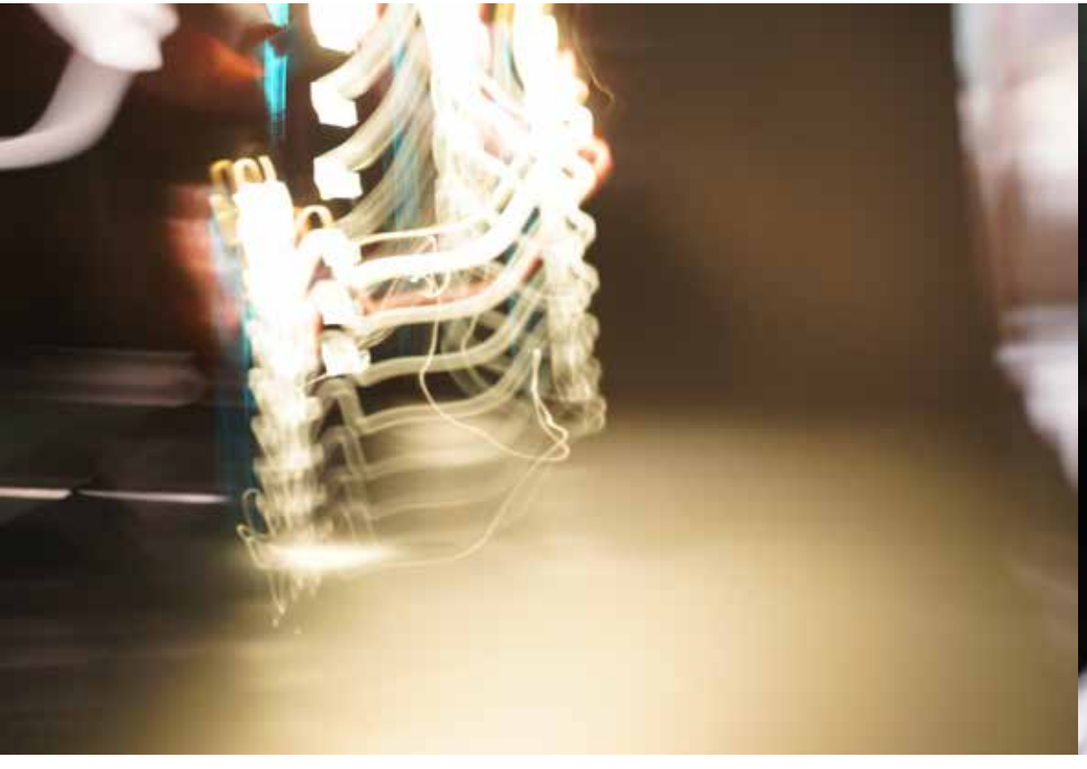


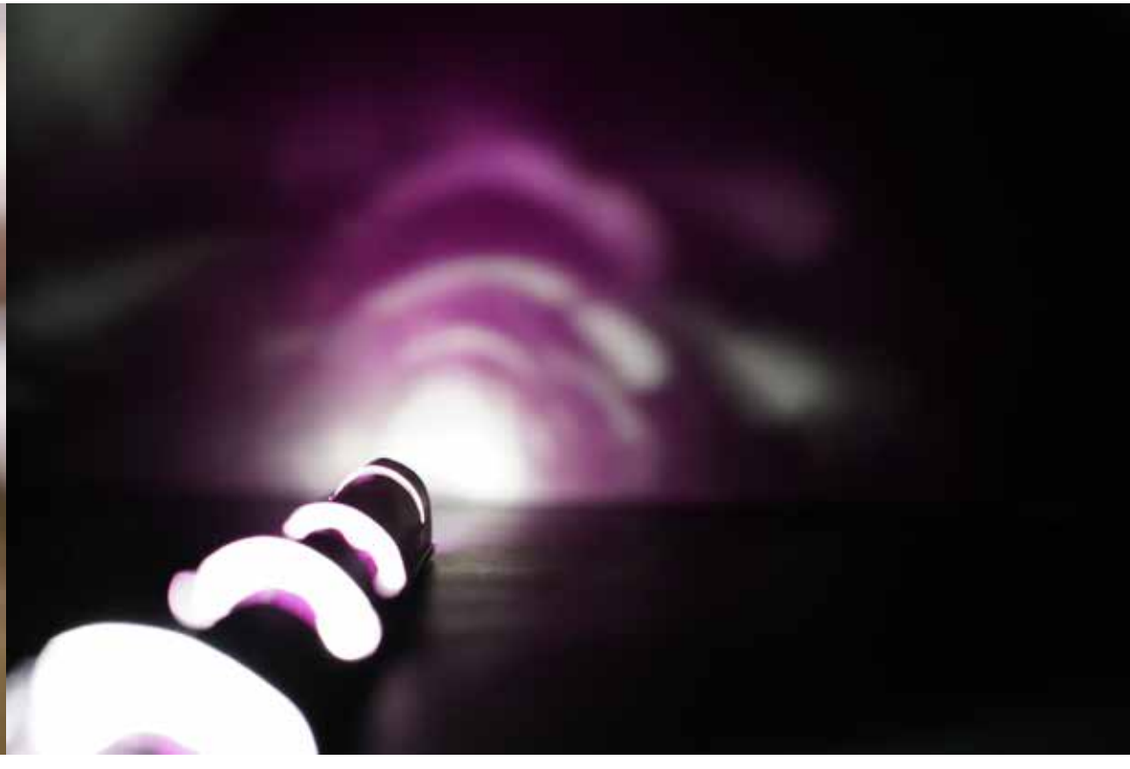
**Can light change feelings?**

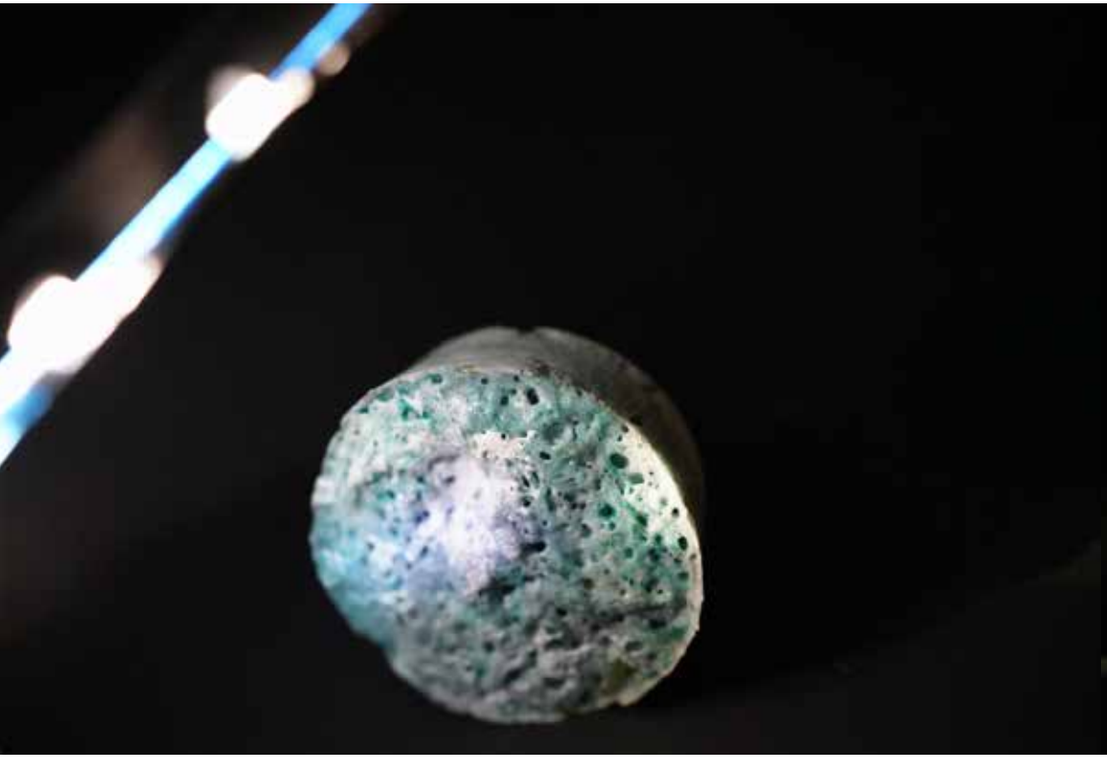
The way we feel is important to us, we work very hard to achieve the goal of feeling a certain way, if we accomplish it, we call it success. Design works in a similar way, it would be alright to say that emotion is synonymous with design. While we use emotions to denote what we feel, design is an expression too yet it does not register with us the synchronisation that our mind offers.

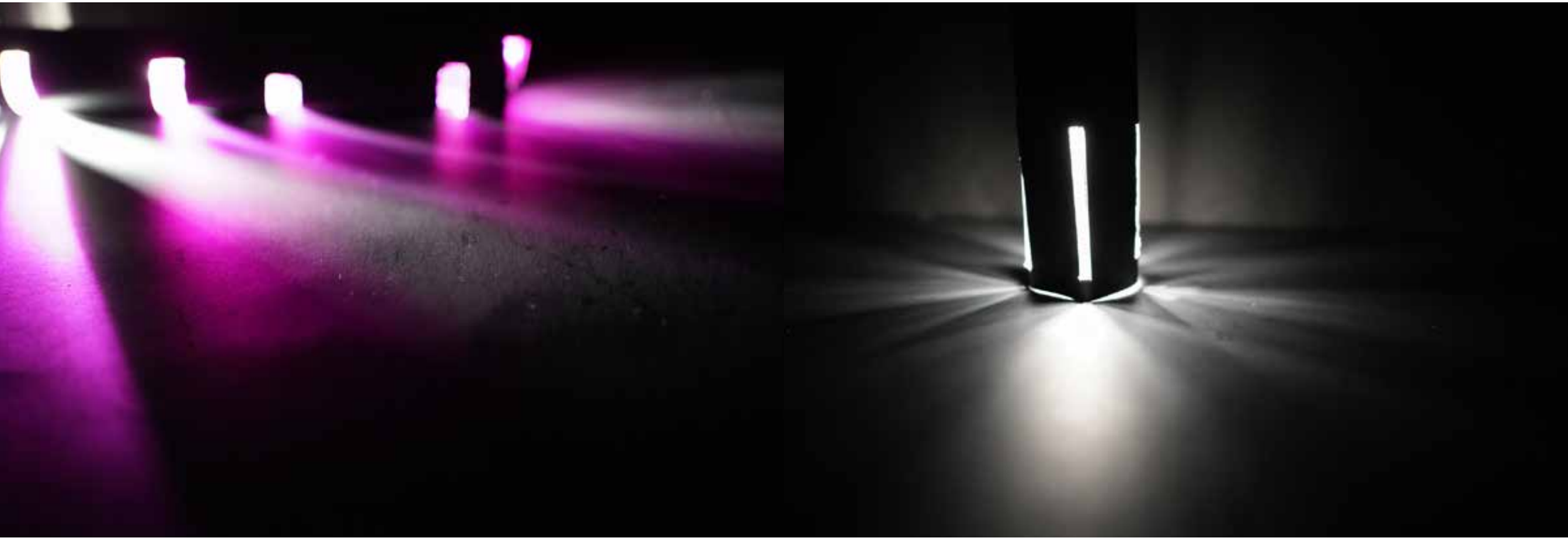


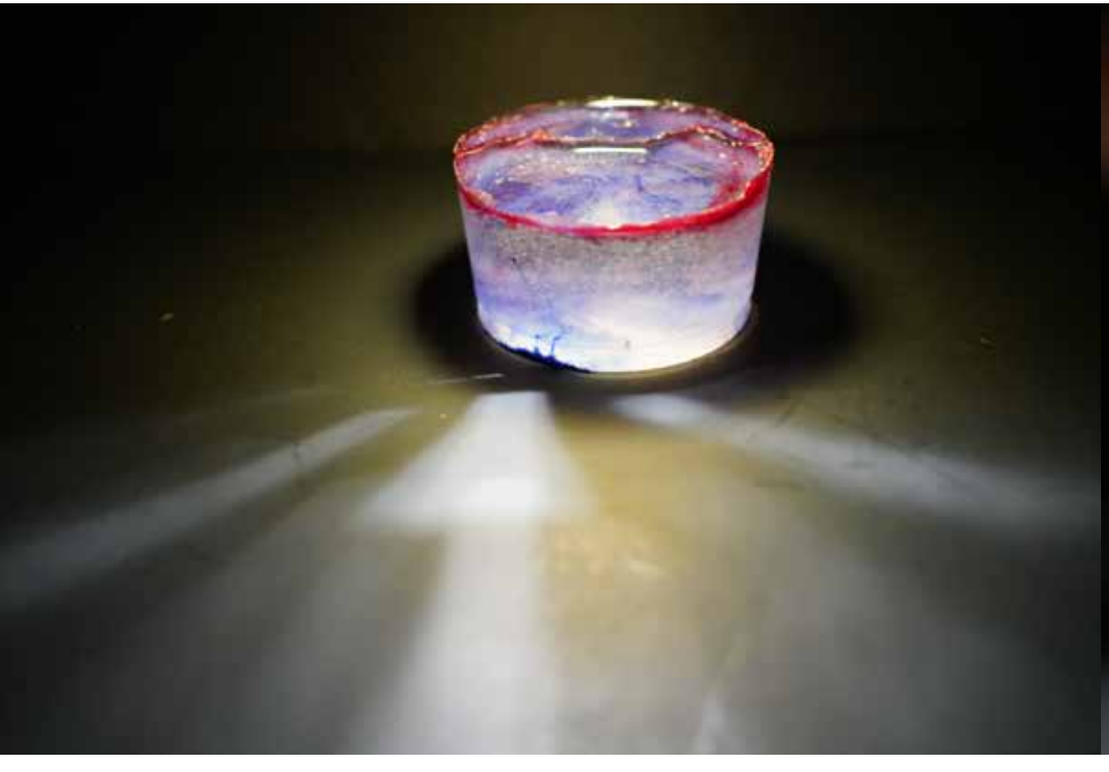










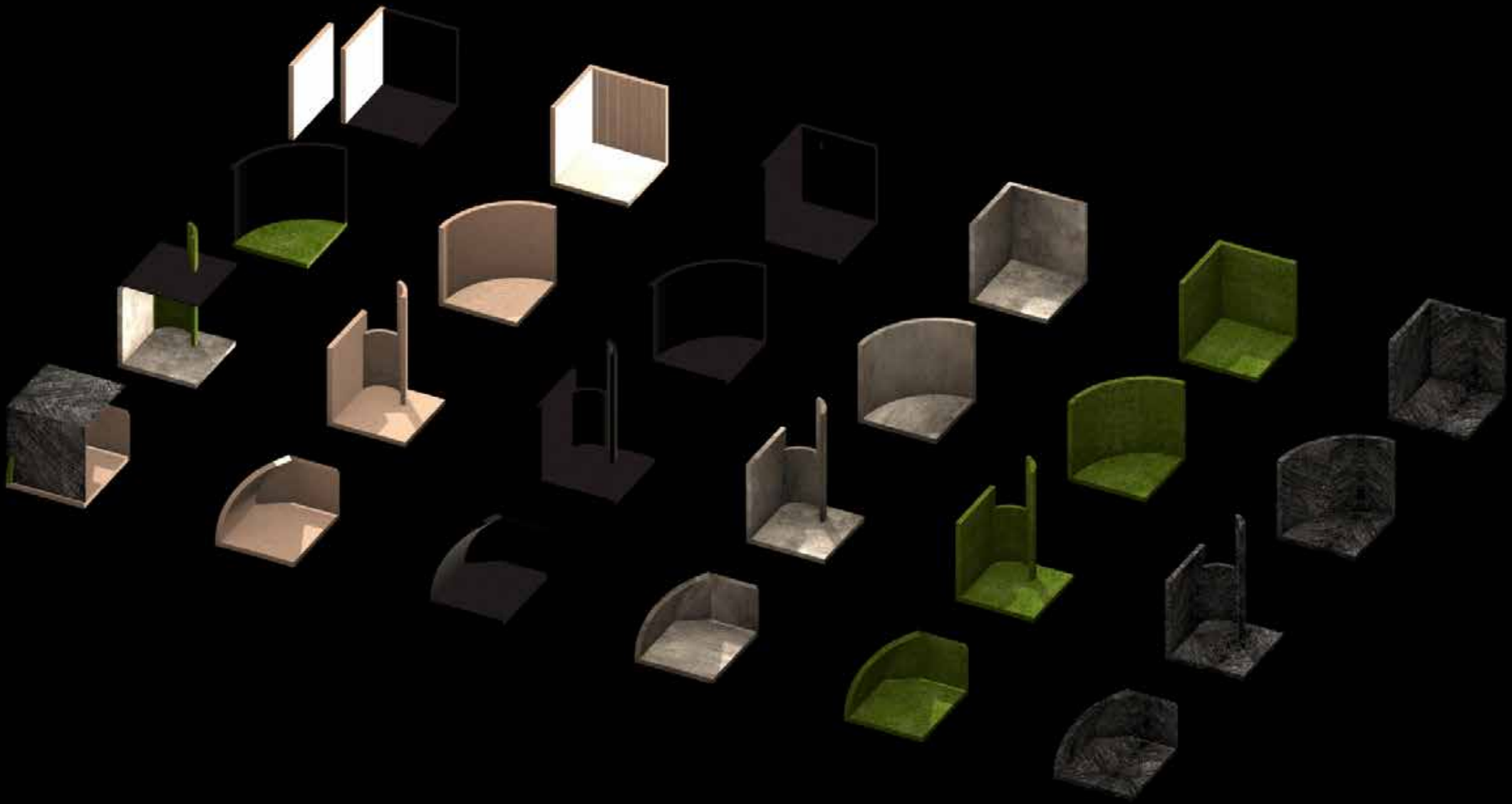


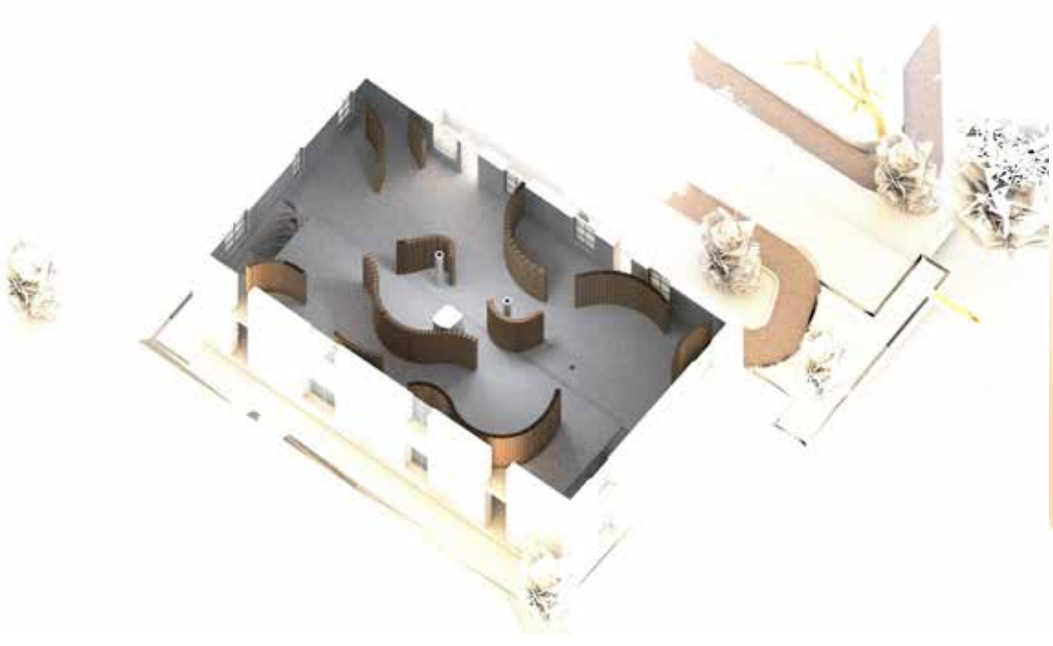
**LIGHTING CARBON SPACES**

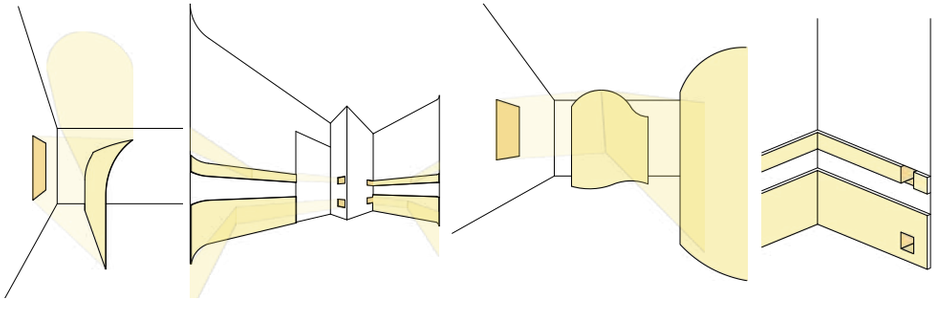
With the case study of our project in House 3 on Governor's Island, we study the concept of generating electricity for the houses and activities in Nolan park, the idea looks at the poetics of light. Our project attempts at  minimizing source of artificial lights; thus bringing up the idea of feeling light rather than seeing light fixtures.

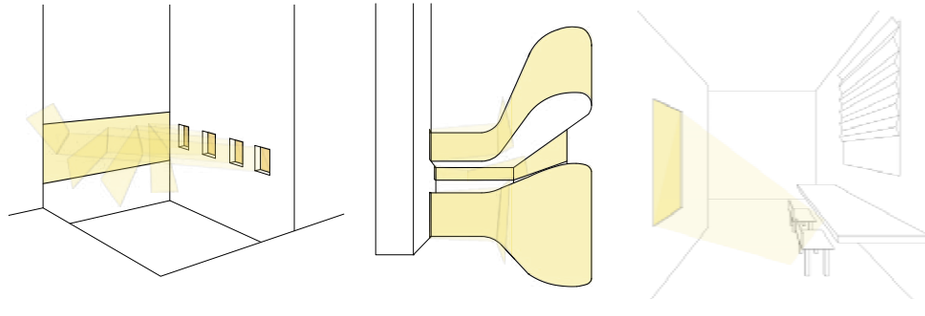
We studied the properties of light and the conditions that can be achieved with altering the material, shape and texture of the surface or intensity, color and source of light.

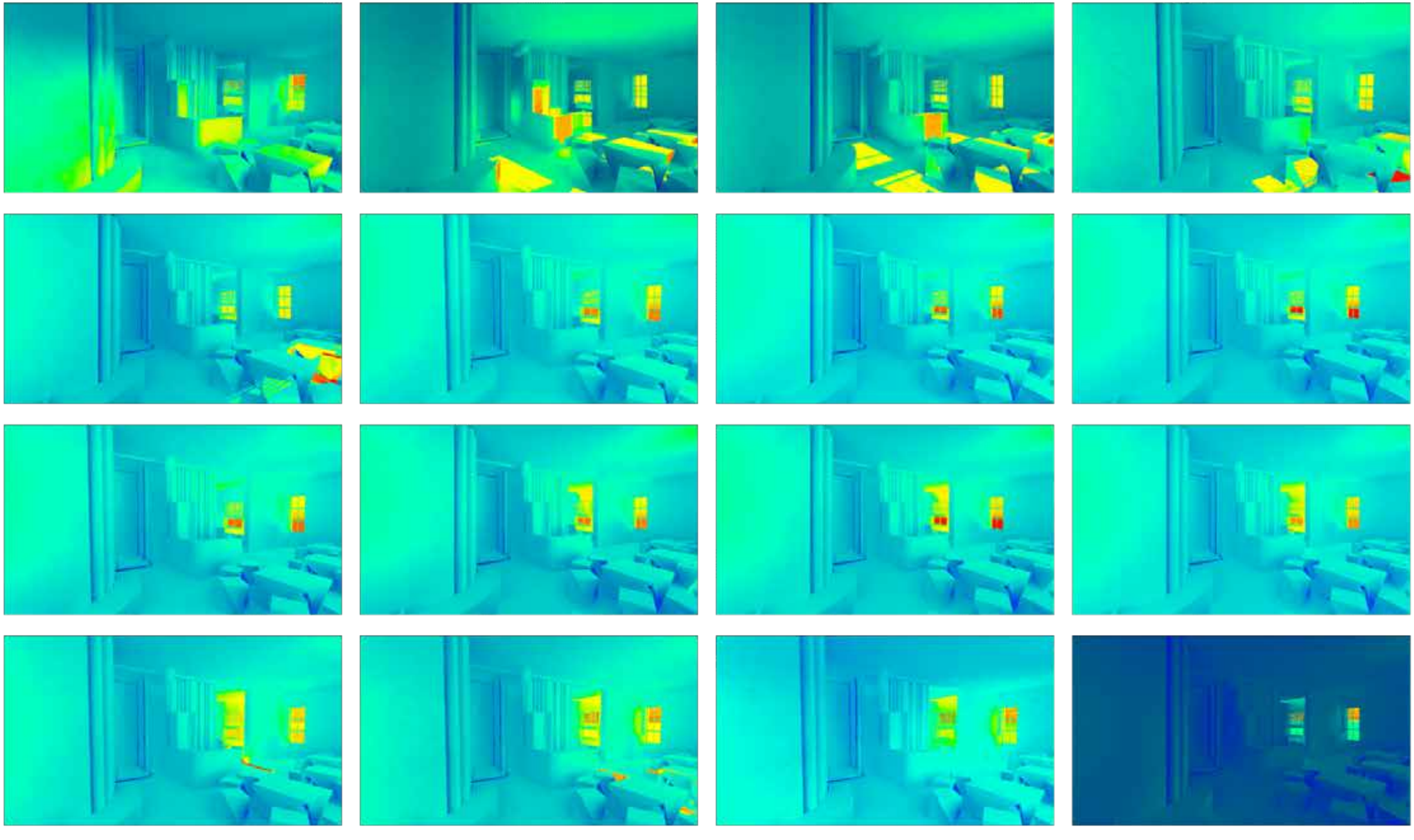
Our study proved that the warmth attained with an indirect light source changes the ambiance and mood positively. Hence, we came up with an idea to introduce a light shaft, to reduce lighting fixtures and in turn reduce the electricity load.











**Yes, light can change feelings!**

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**Structure, a significant object then is now a ruin.**

**Ruins transform future.**

*Amongst the others I sit*
*Looking at the colours*
*In front of me and beyond*
*I sit to conspire*
*The plan my destiny takes*
*It's the beyond*
*That is really visible*
*In spite of the clear view*
*There is a blotch in the sky*
*Which nothing but makes*
*The perfect closer to perfection.*
*Caffeine in hand, toes out cold,*
*Eyes strained at the vision,*
*The mind strolls amidst lanes*
*Of hope that I live, in the beyond.*
*I think to not think*
*Of what is to come,*
*It might not.*
*But it's the here that brings me*
*Back to the dream*
*Of the other land of beyond.*
*That land is a far place from here*
*And the journey a harsh ride.*
*But to hop on the means*
*To the road, it's further away.*
*So, I bring myself to look*
*At the sky but not the blotch,*
*The light and not the glare,*
*The destination and not the way.*
*However easy it may be to think,*
*Like they say and I can't deny,*
*Its better said than done,*
*To live up to the seconds in a day,*
*To mark its presence.*
*I wish it were tomorrow*
*Where it's all green and bright*
*Yet it is today, trying*
*To mix it's blue in the aging yellow.*
*But the wish is a wish*
*As all is nothing but black.*