

The Temple of the Natural Delights

Florian Nelemans

*Robert Nottrot
Jan van de Voort
Peter Koorstra*

*Ben Bronsema
Daan Vitner*





Prologue

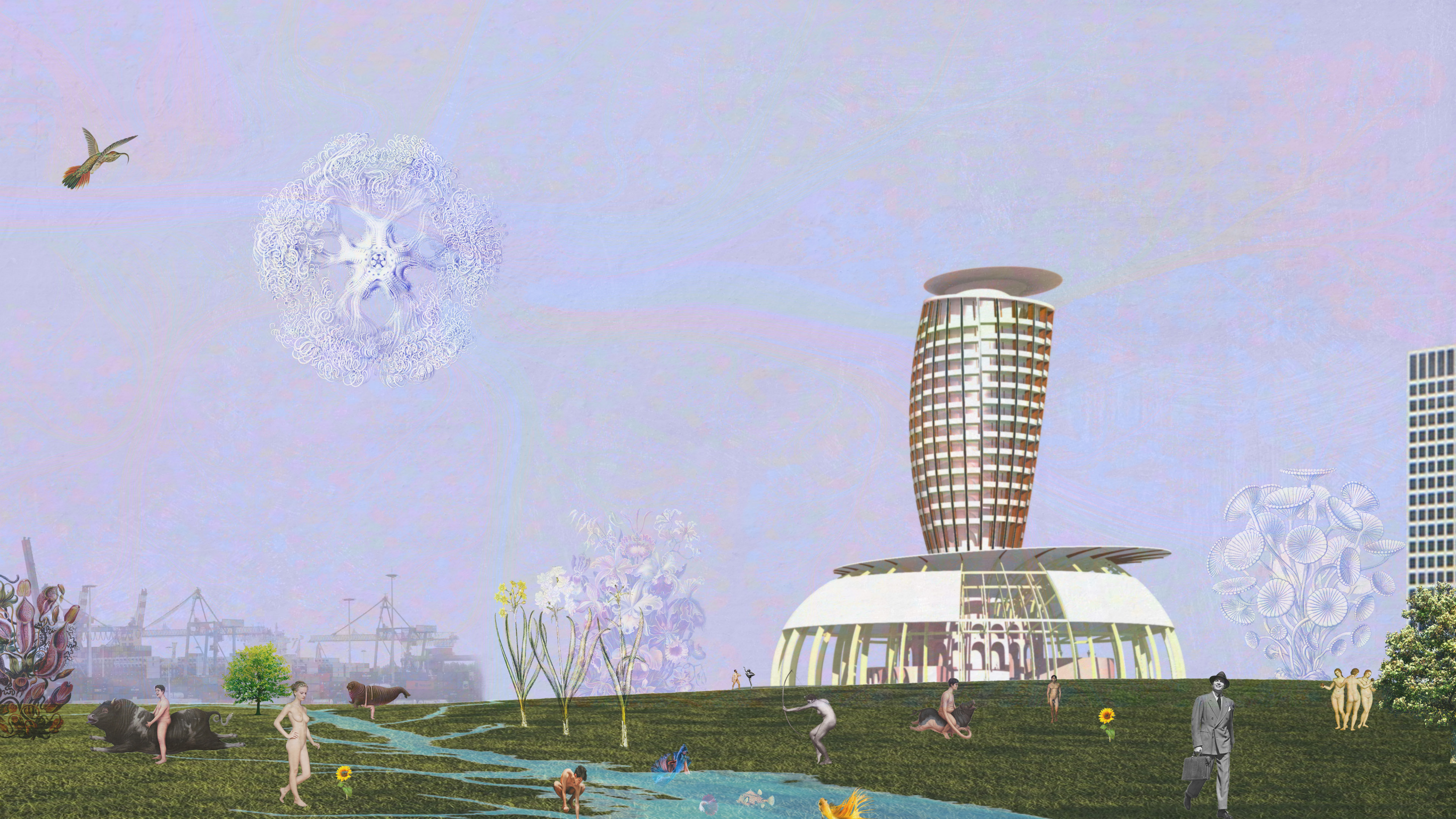


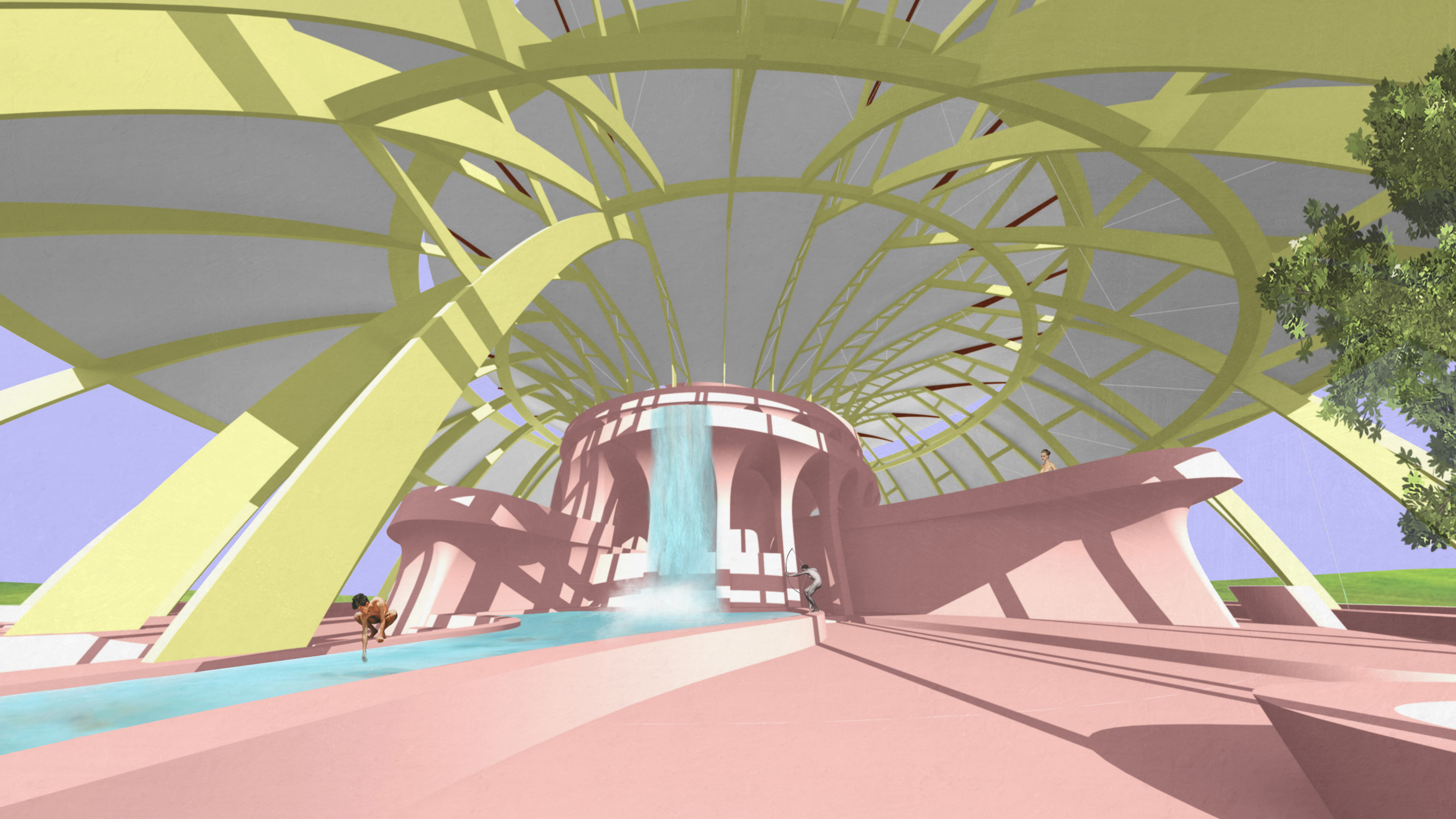
The Temple of the Natural Delights

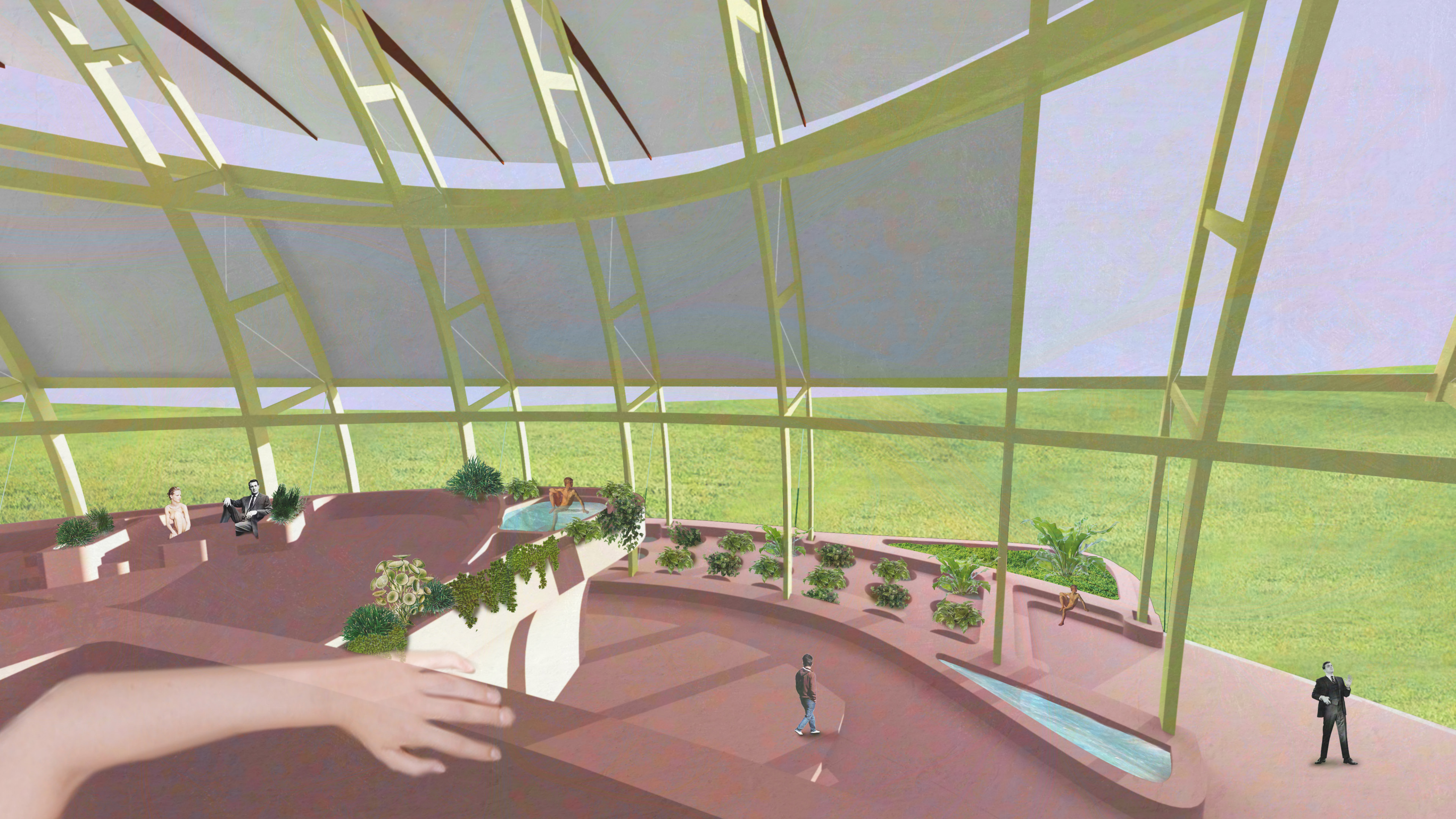
A narrative about the transformation of society during the Anthropocene.

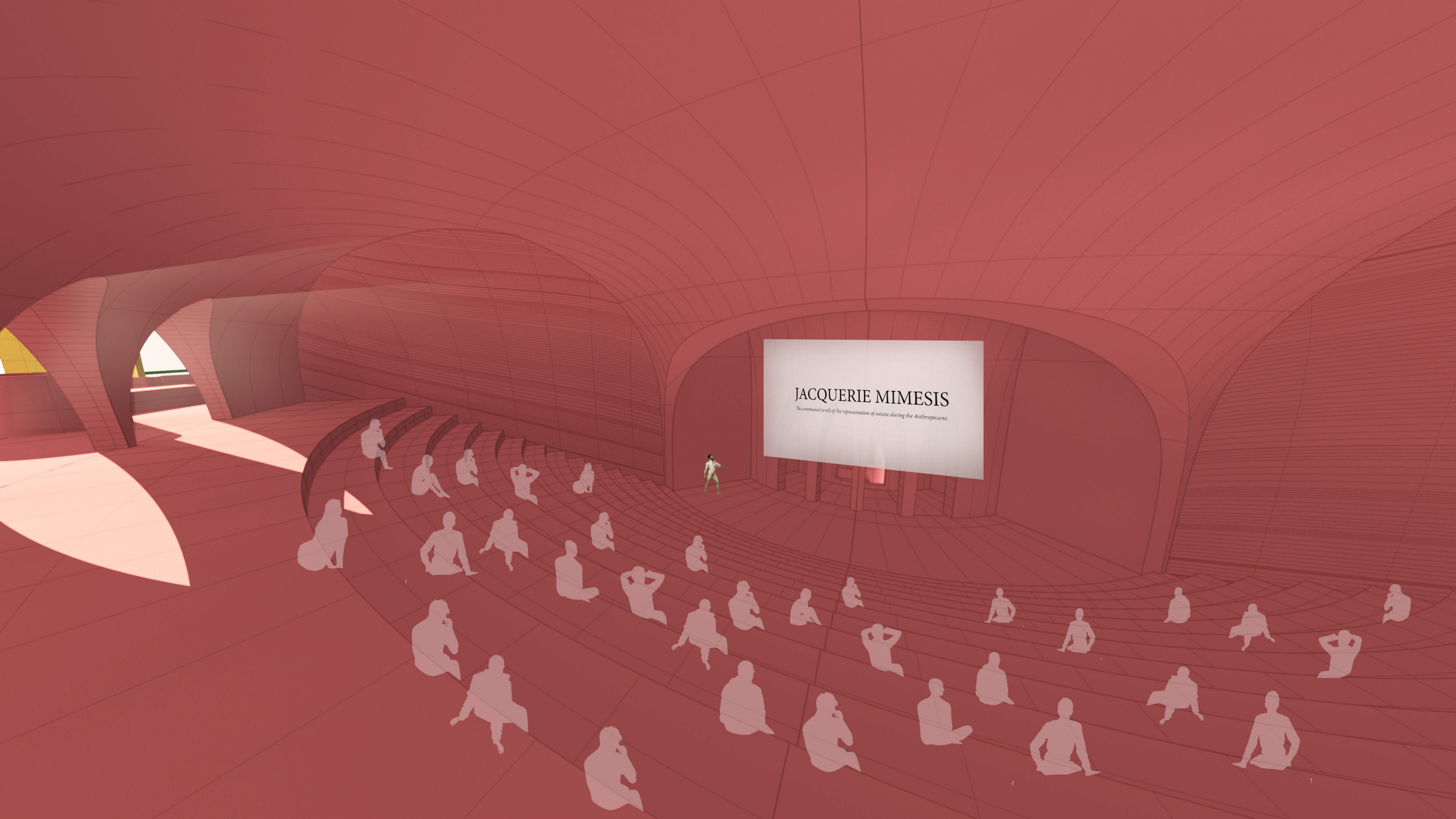












JACQUERIE MIMESIS

The communal revolt of the representation of nature during the Anthropocene.

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Precambrian Era



4600 - 541 million years ago

Genesis of life



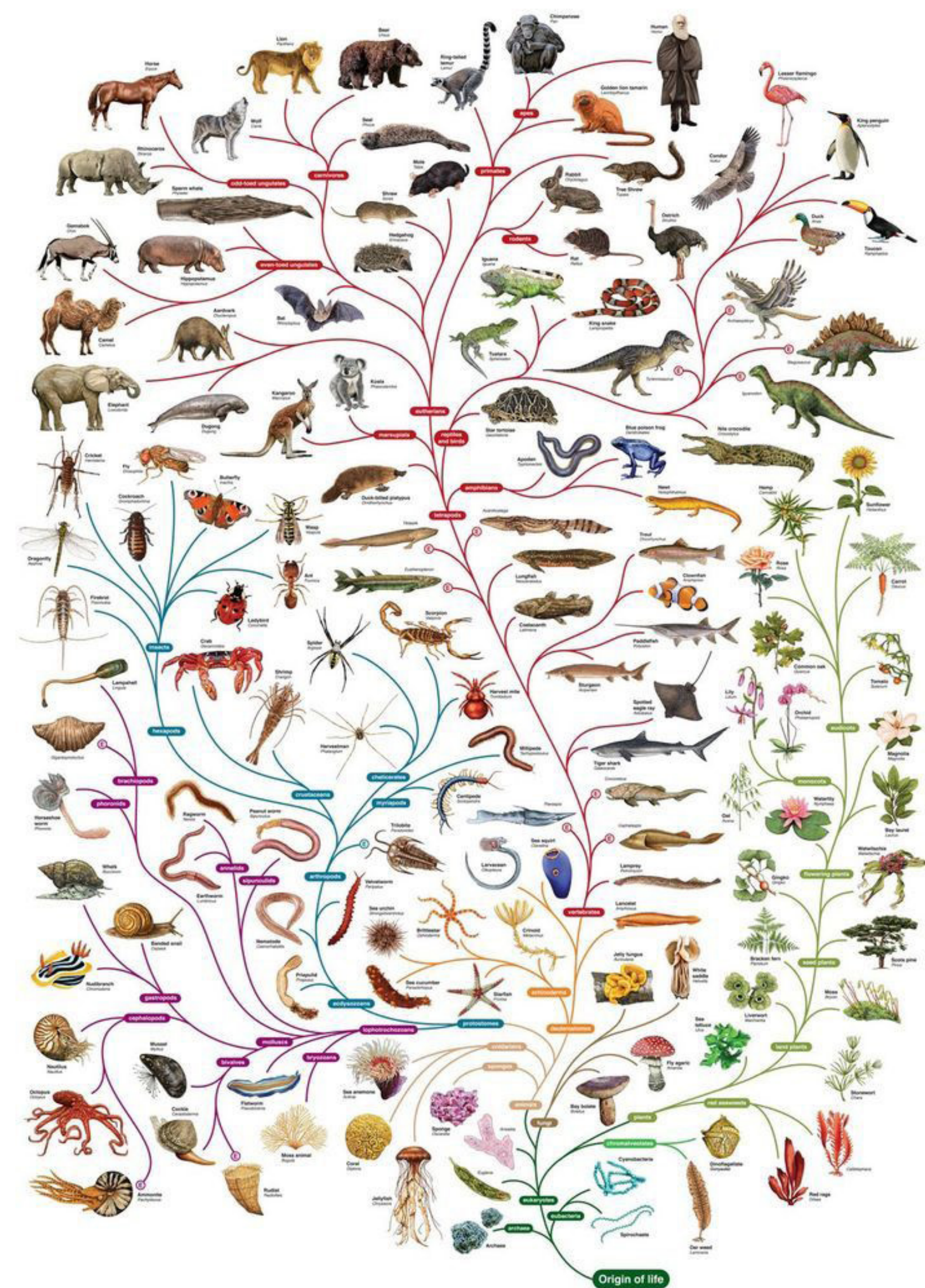
3800 million years ago

Mitochondrion



2 billion years ago

Biodiversity



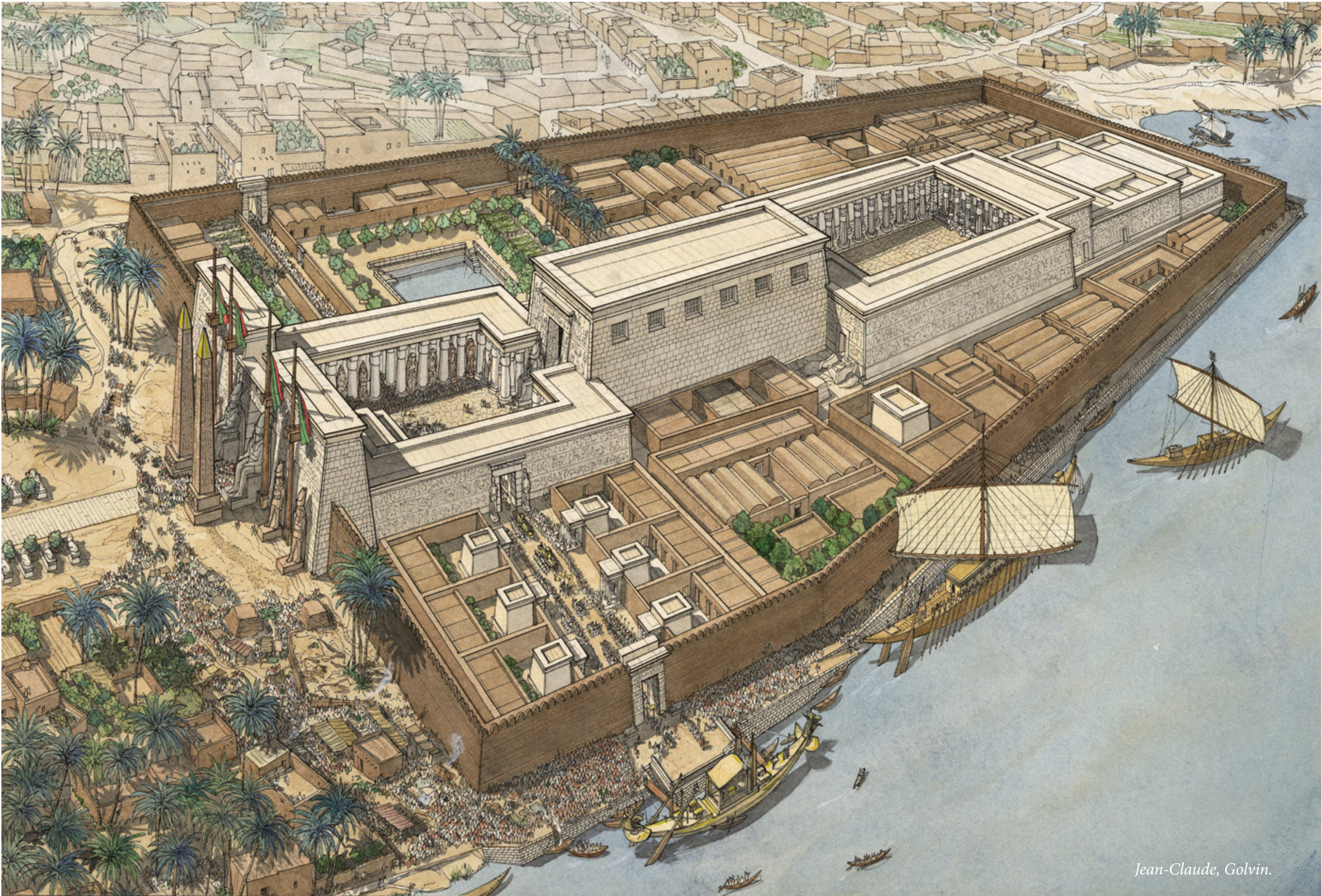
Tree of Life

Development of Human Civilization



Neolithic Revolution around 12,500 years ago

Temple of Luxor



Jean-Claude, Golvin.

Egypt, Paestrina. 1250 B.C.

Gothic Architecture



Sainte-Chapelle, Peter of Montereau. Paris, 1248.

René Descartes (1596 -1650)



French philosopher, mathematician, and scientist.

Immanuel Kant (1724 -1804)



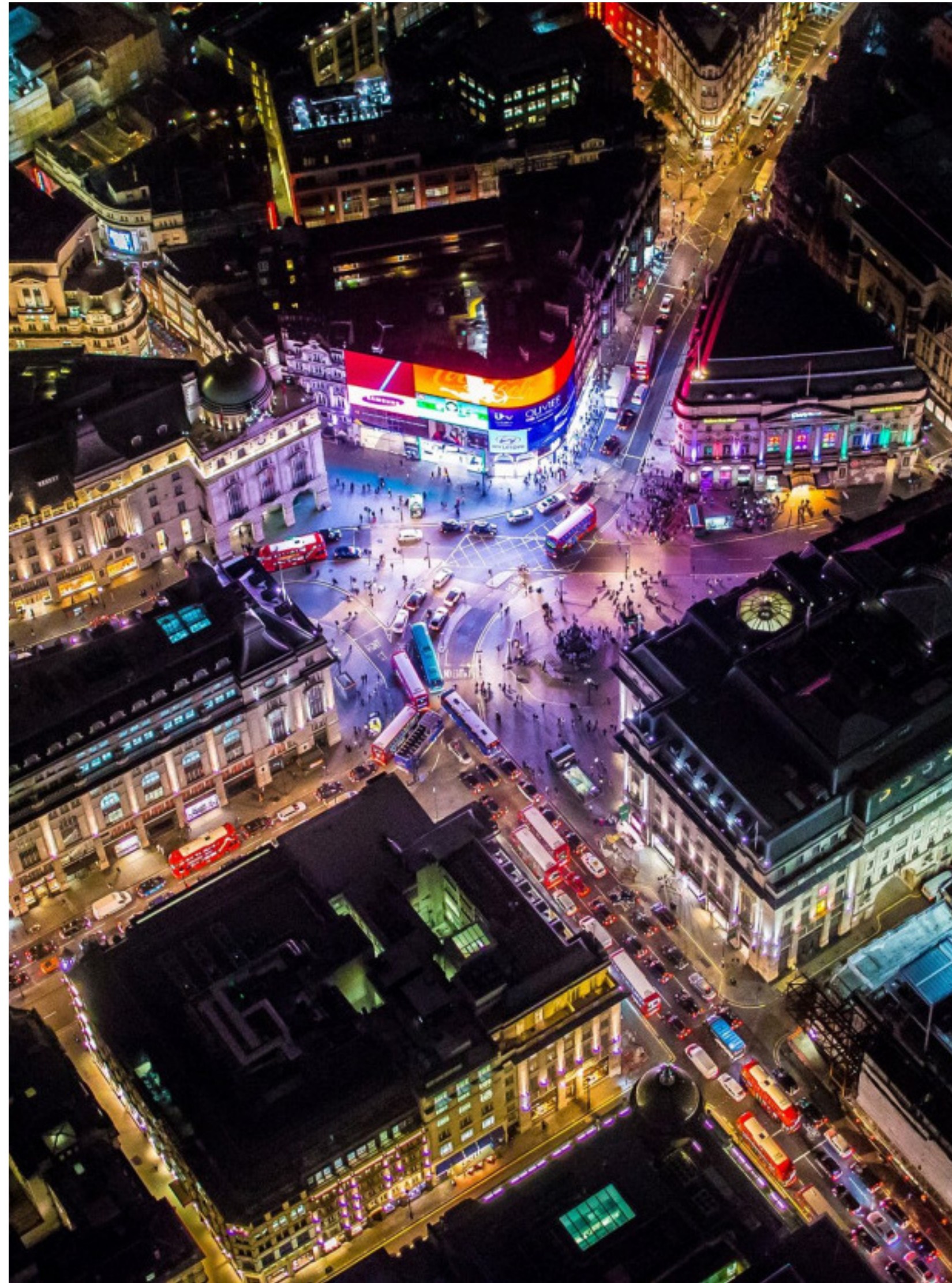
German philosopher central figure in modern philosophy.

Detached functions



Mishka Henner's Coronado Feeders - Dalhart, Texas

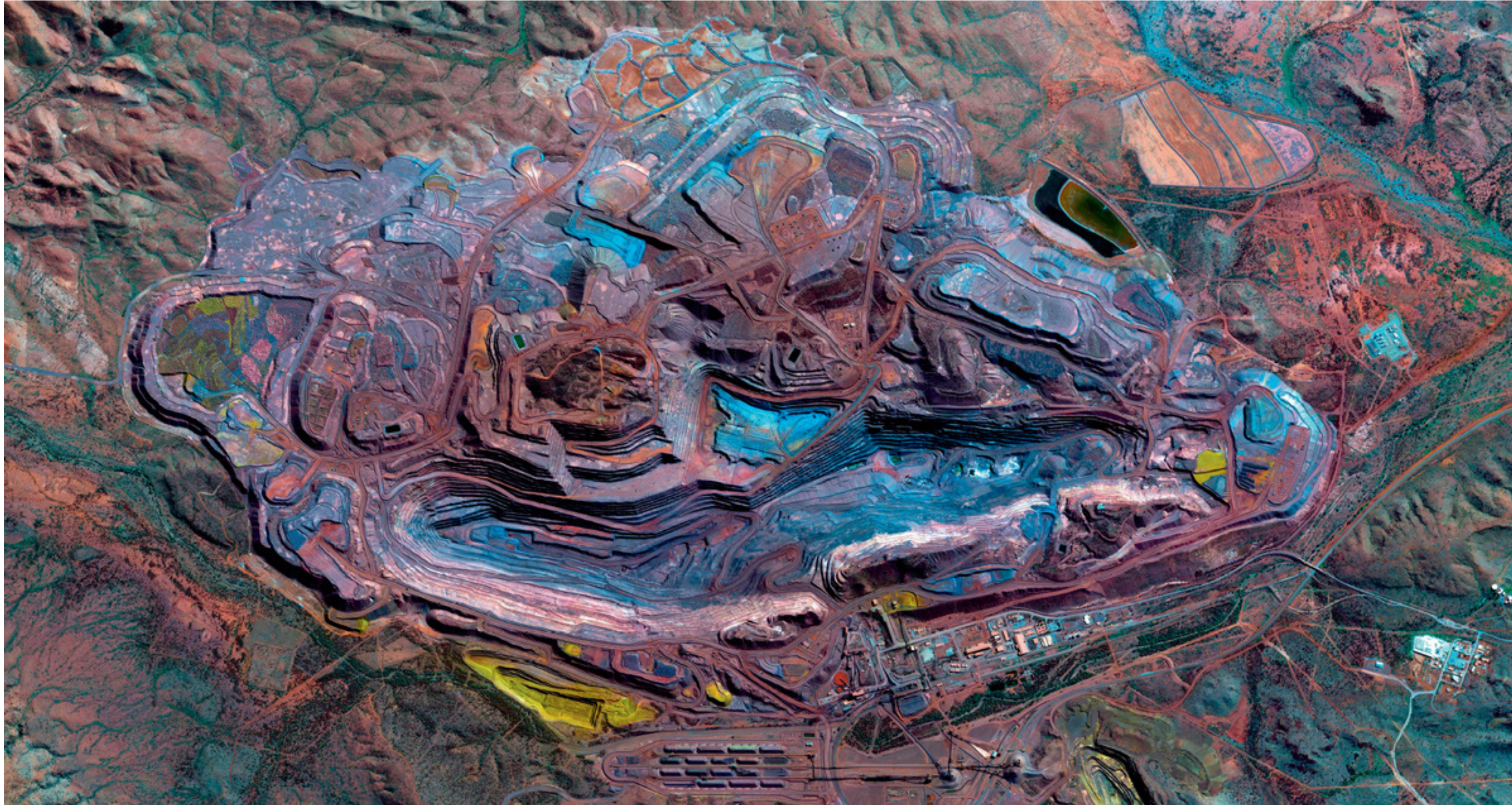
The Build Environment



Piccadilly Circus London, Vincent LaForet.



Deformation of Land



Mount Whaleback-Iron ore mine, Benjamin Grant.



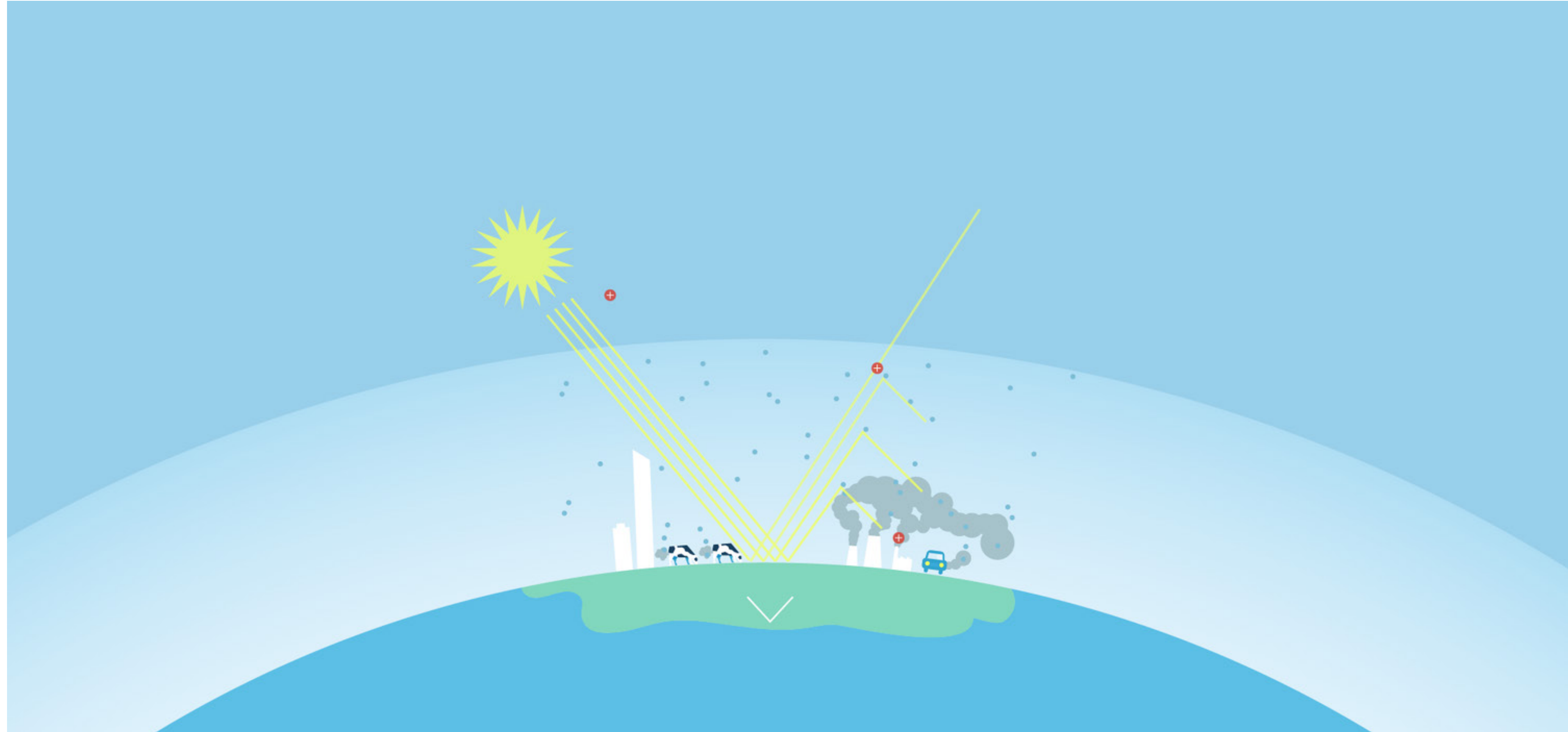


Degrading biodiversity



World press photo 2018, Neil Aldridge.

Greenhouse effect



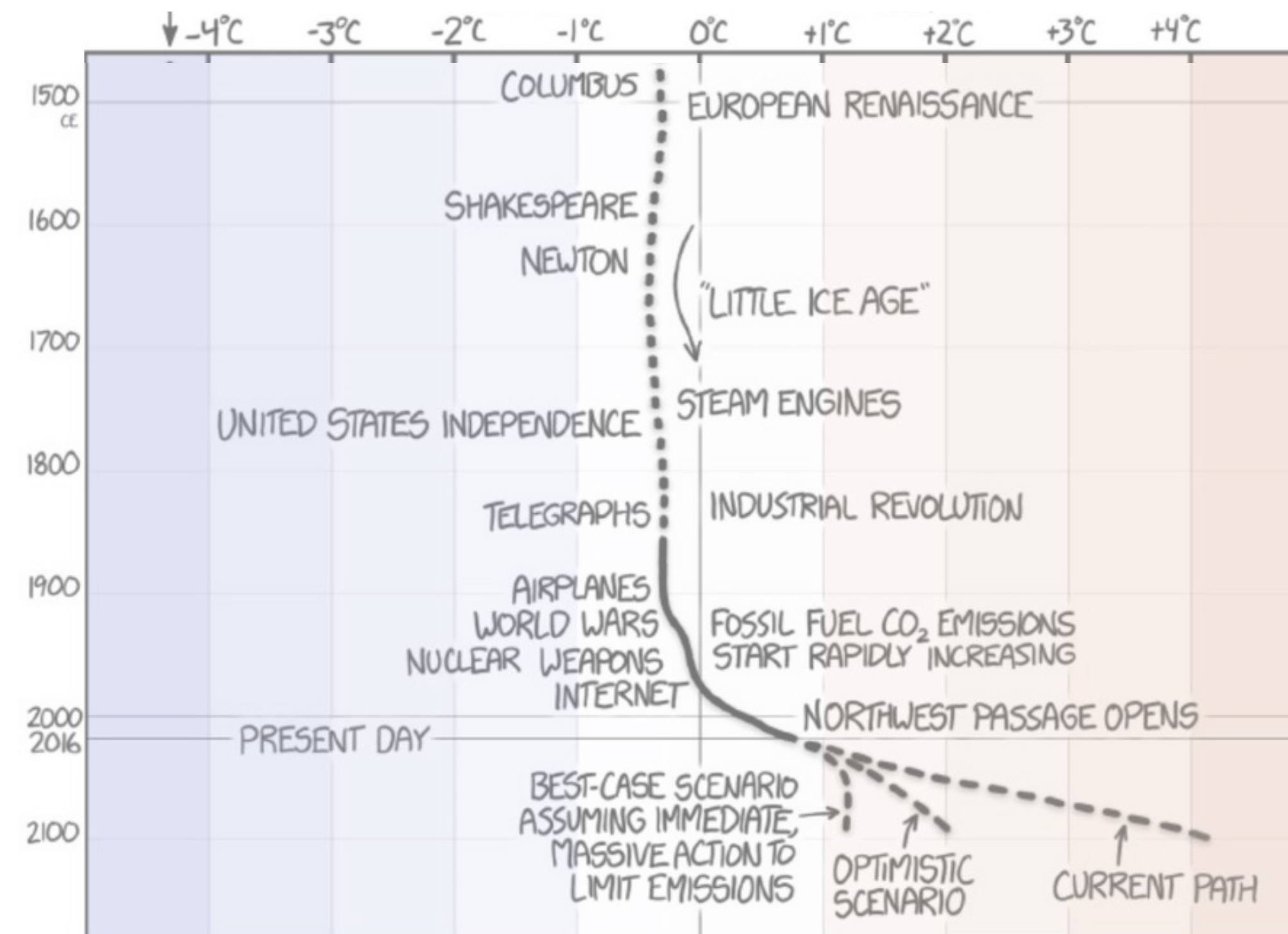
Infographic, Studio Lakmoes.

Deteriorating Systems for Life



Smog in Shanghai

Timeline of the Average Temperature on Earth



Sources: Shakun et. al. (2012), Marcott et. al. (2013), Annan and Hargreaves (2013), Hacrut4, IPCC

Climate Change



Kinderdijk, The Netherlands.

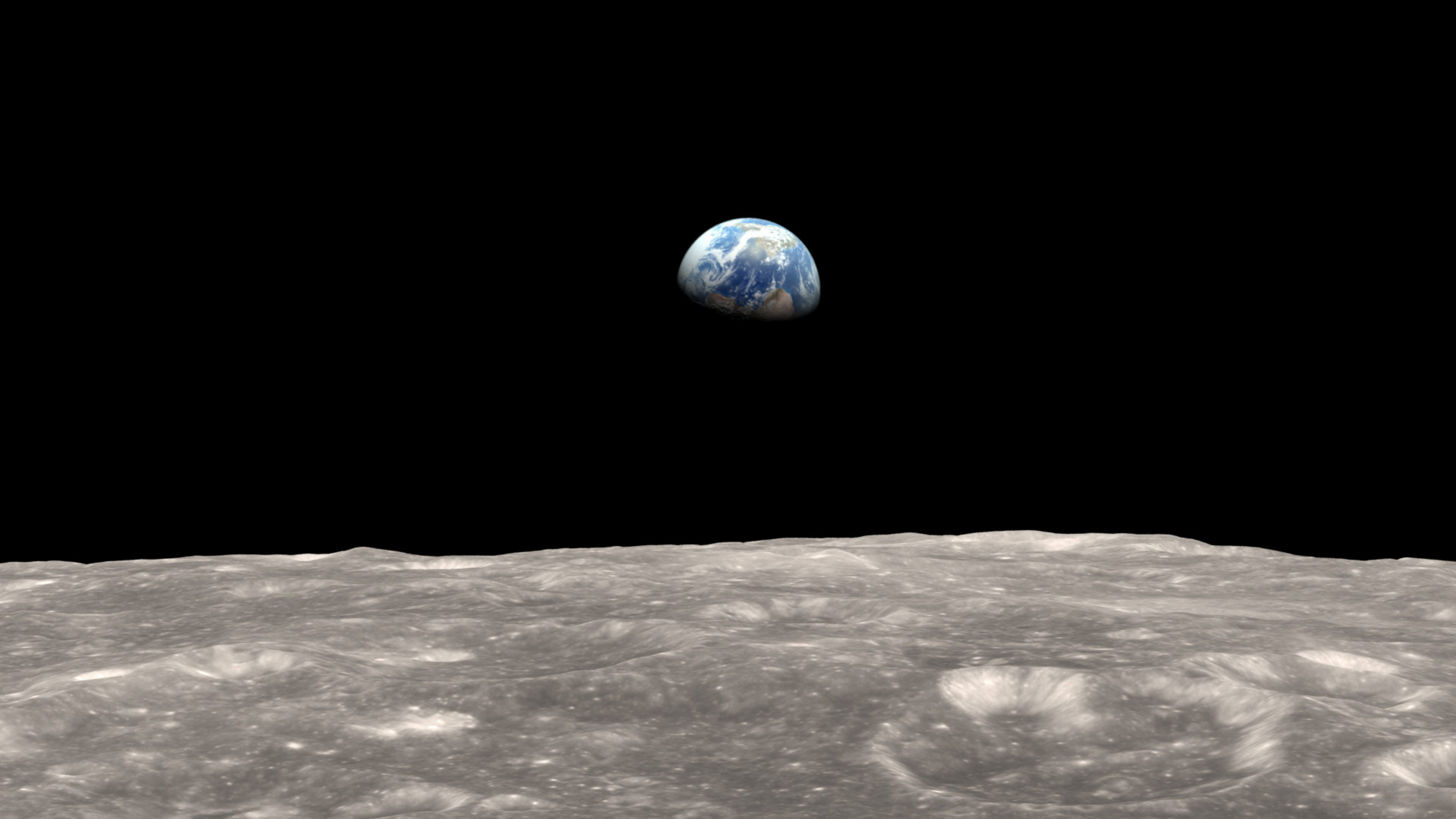


Melting Polar Caps

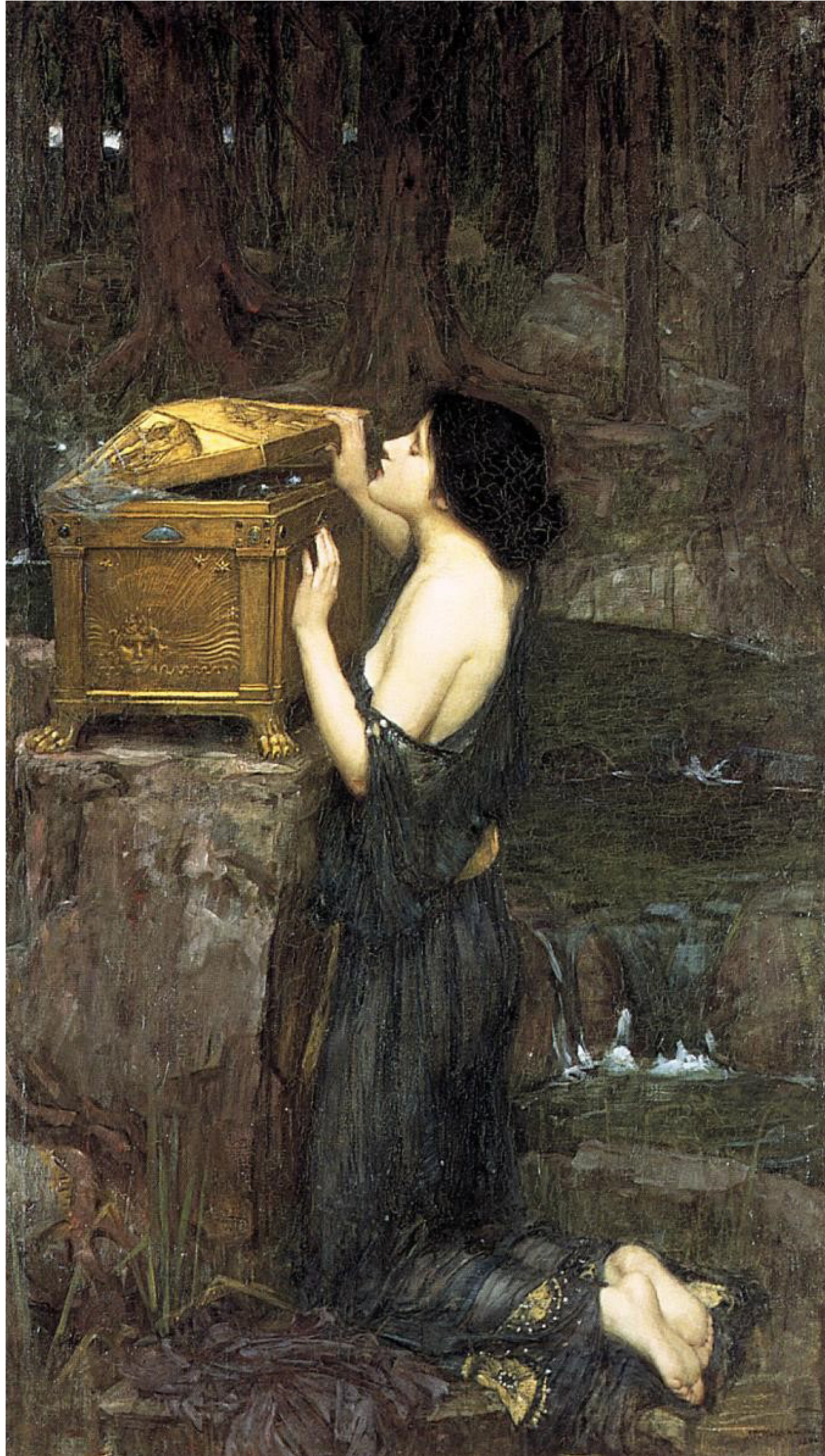


Sea Level Rise





Pandora's Box



John William Waterhouse, 1894.

Nations Unies

Conférence sur les Changements Climatiques 2015

Paris France



The Anthropocene

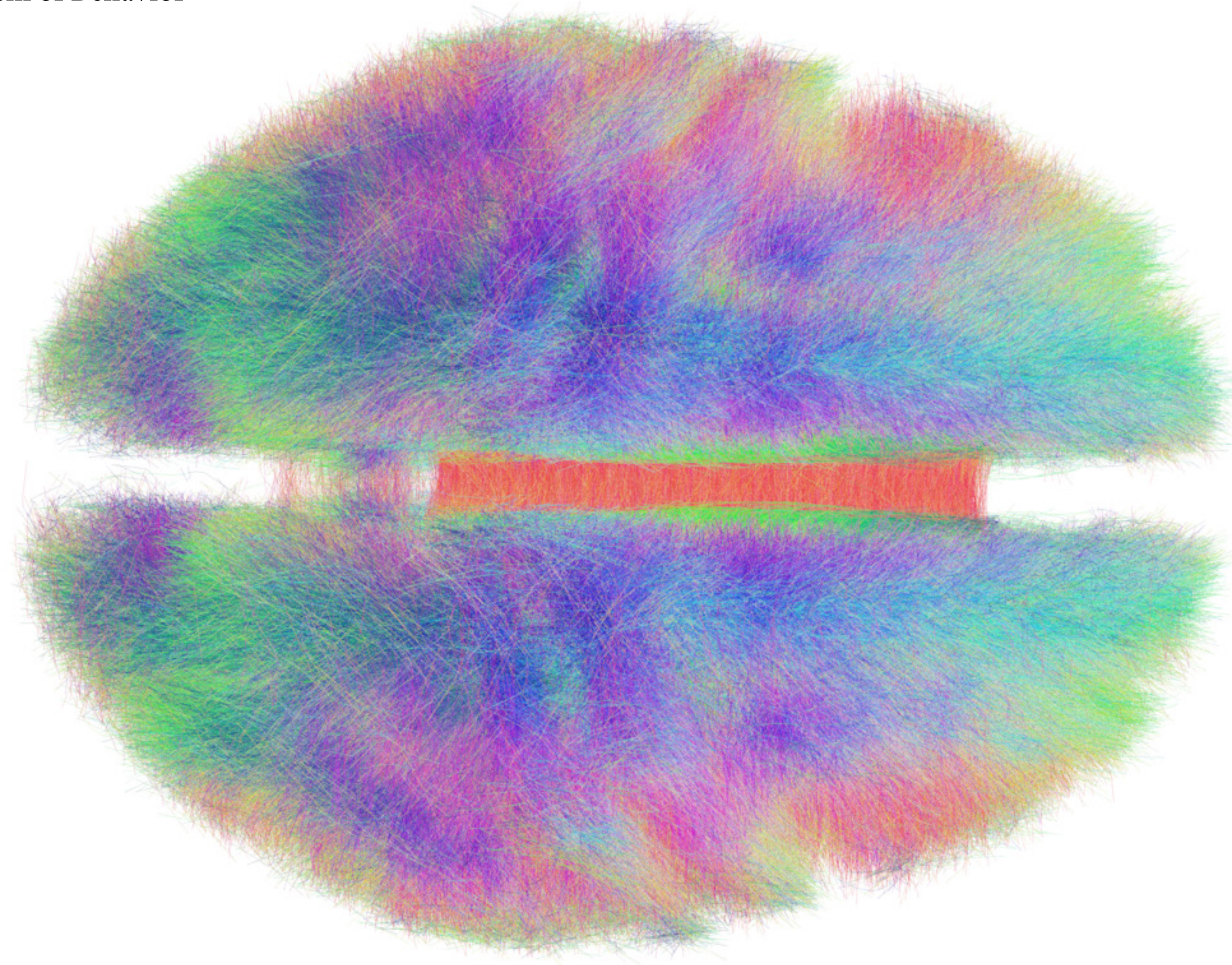


Catherine Malabou

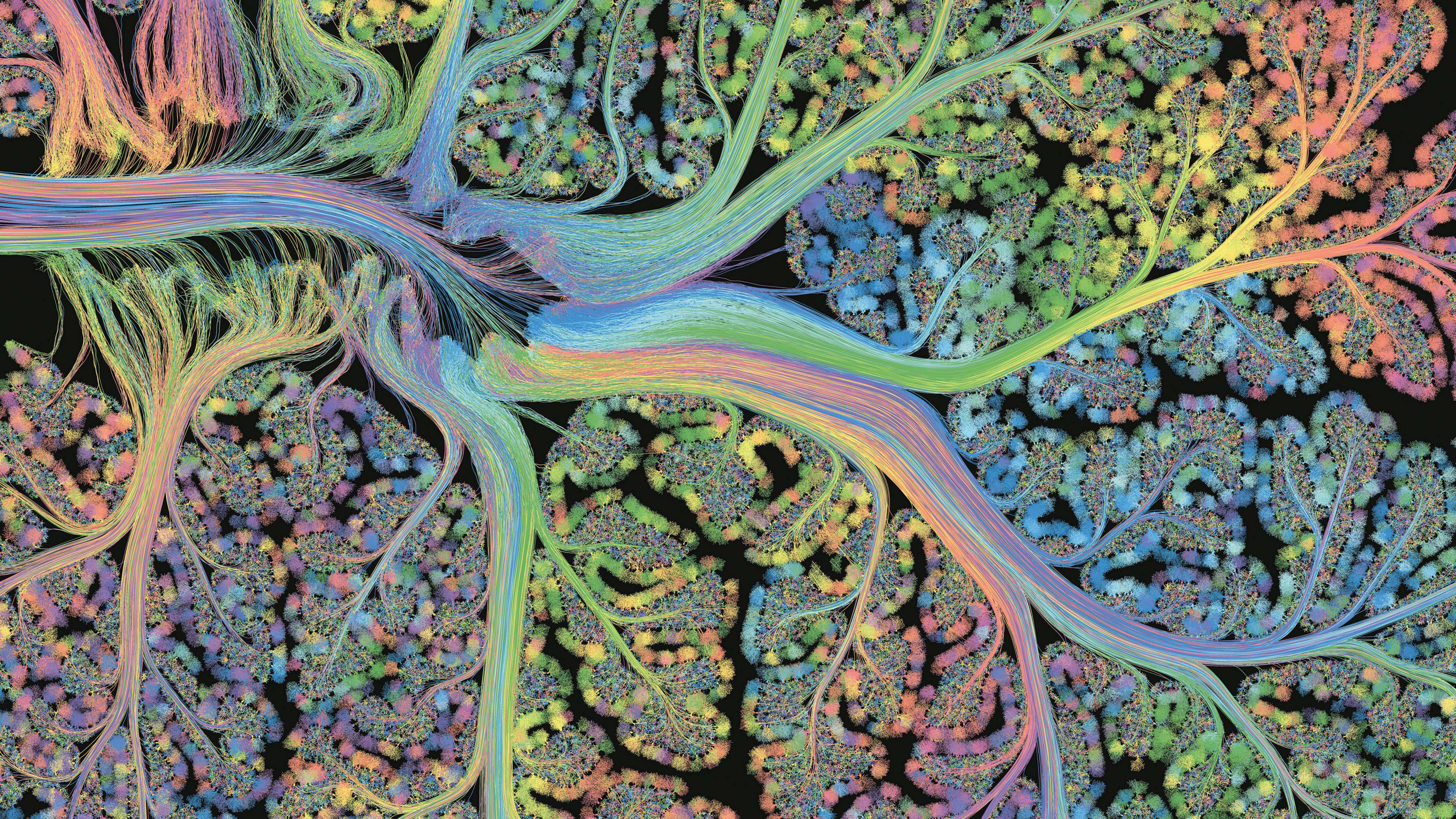


Professor in the Philosophy Department, CRMEP, Kingston University

Mechanism of Behavior



The Human Connectome, University of Southern California.

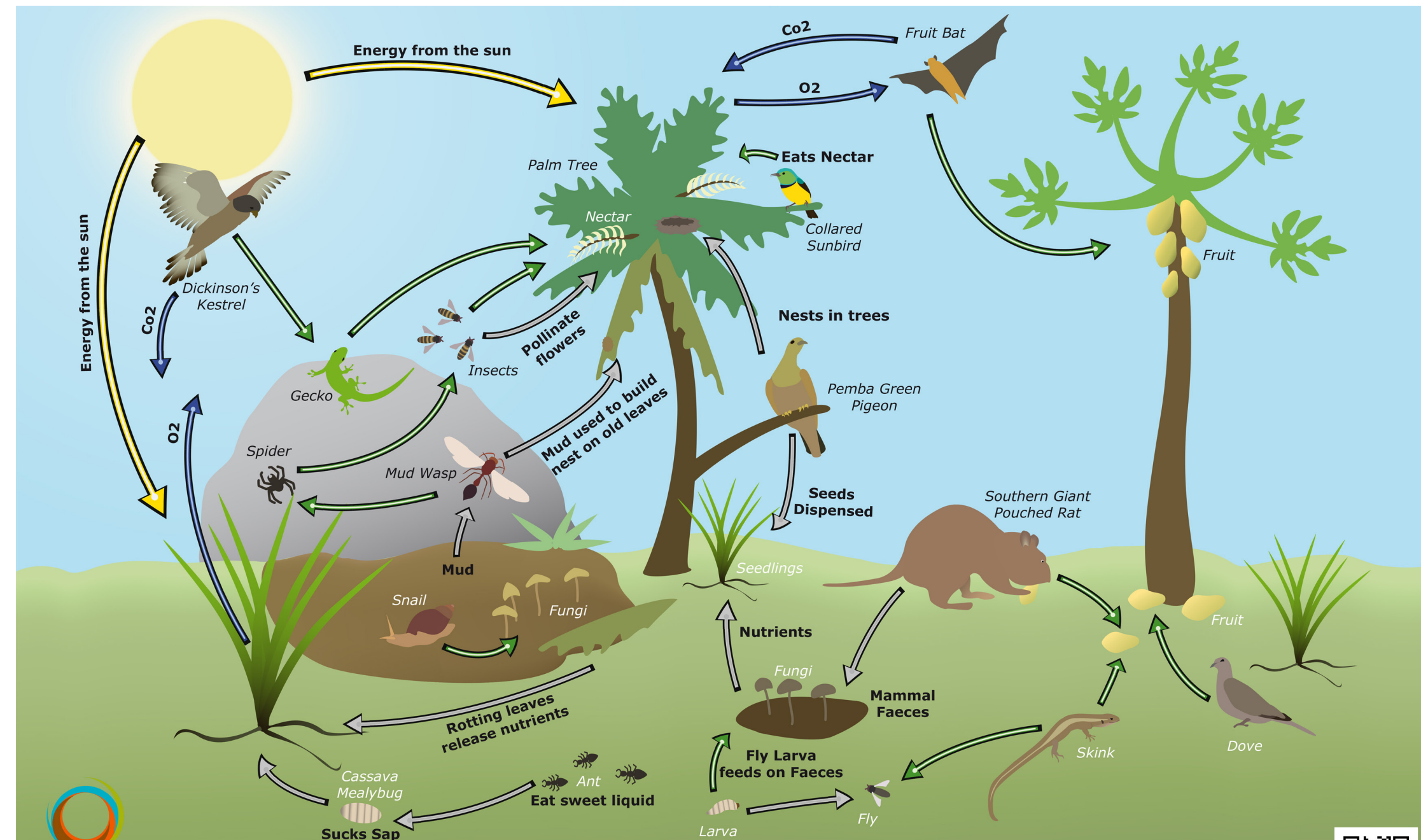


Timothy Morton, 1968



object-oriented philosophy movement

Ecosystems



Sazani associates, Supporting Sustainable Livelihoods in Zanzibar











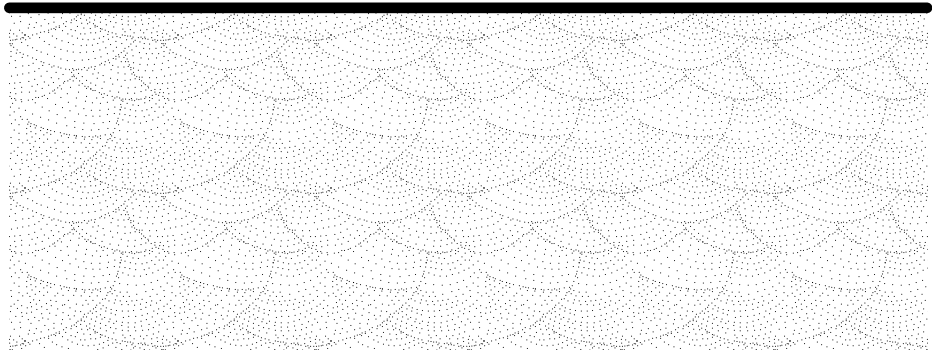
Sanford Kwinter (6 may 1994)

“According to Goethe the organism is the expression of the interaction of multiple systems of rules or mutually modifiable instructions.

There could never be an exact correspondence between the original transmitted messages (DNA) and the phenotype that what is produced when the genotype is used as instructions to assemble the form.

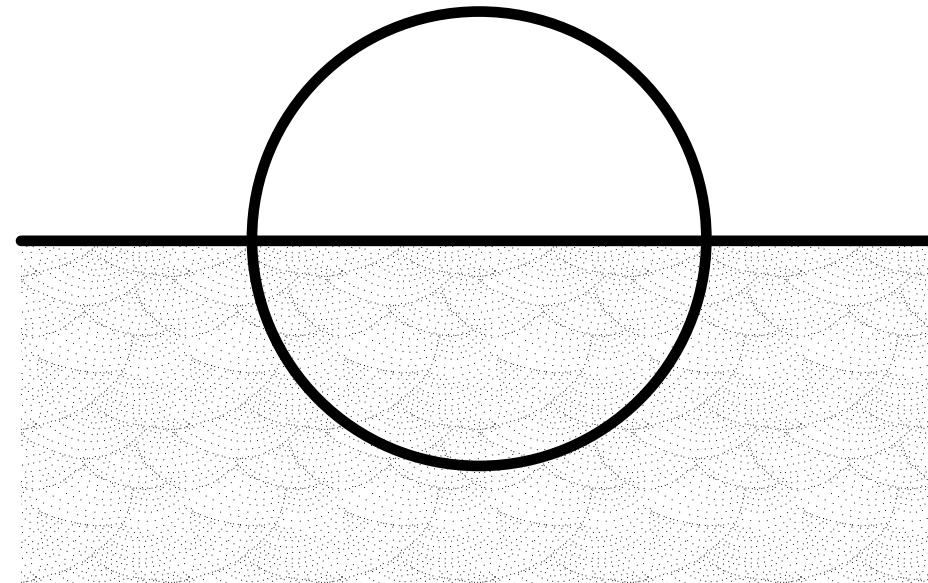
Each of these individual systems of rules represents different scales of shape pressures and different rates of unfolding creating a bonified complex and polyphonic structure with perpetual crosstalk between the strata. Possibly at least one could speculate the source of their stability as organisms.”

Site



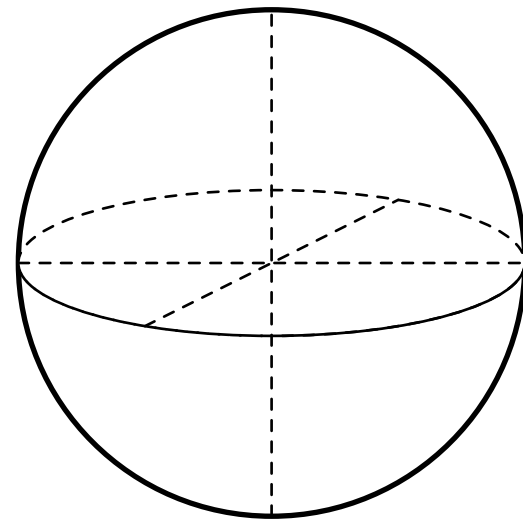
Land of Earth

Sphere

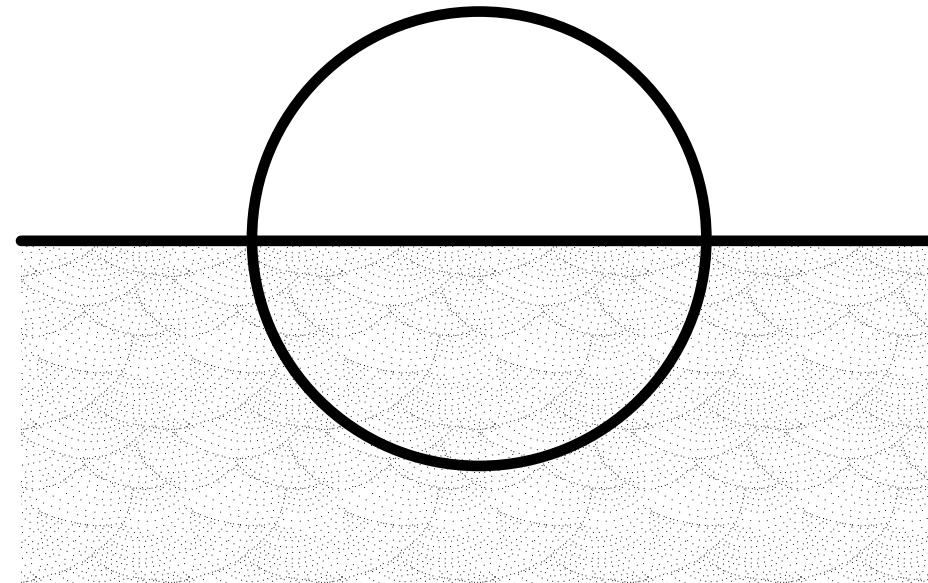


Most volume with least transmission surface

$$A = 4 \pi r^2$$
$$V = \frac{4}{3} \pi r^3$$

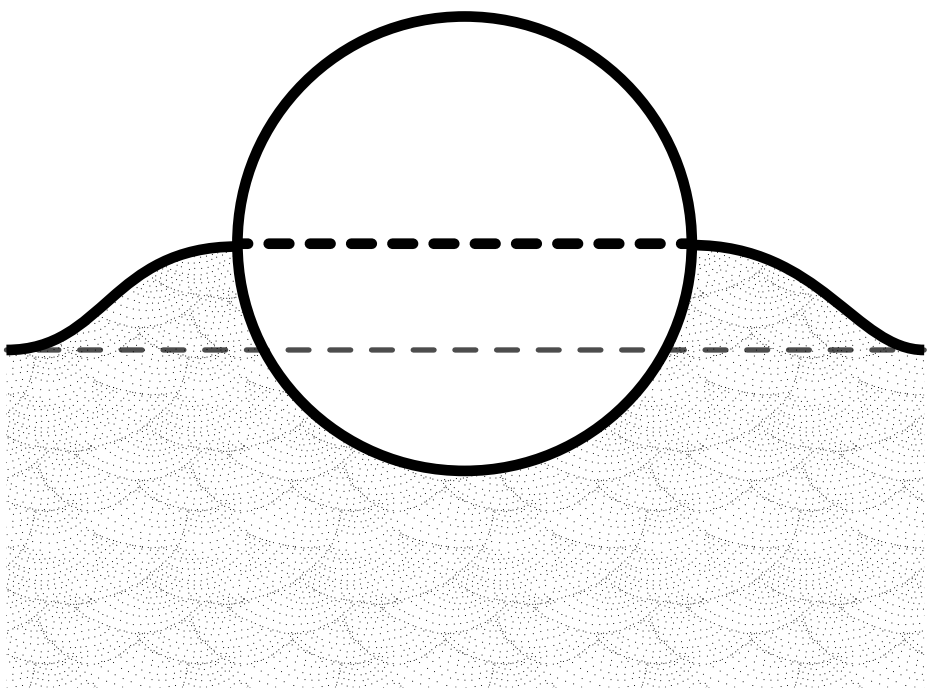


Sphere



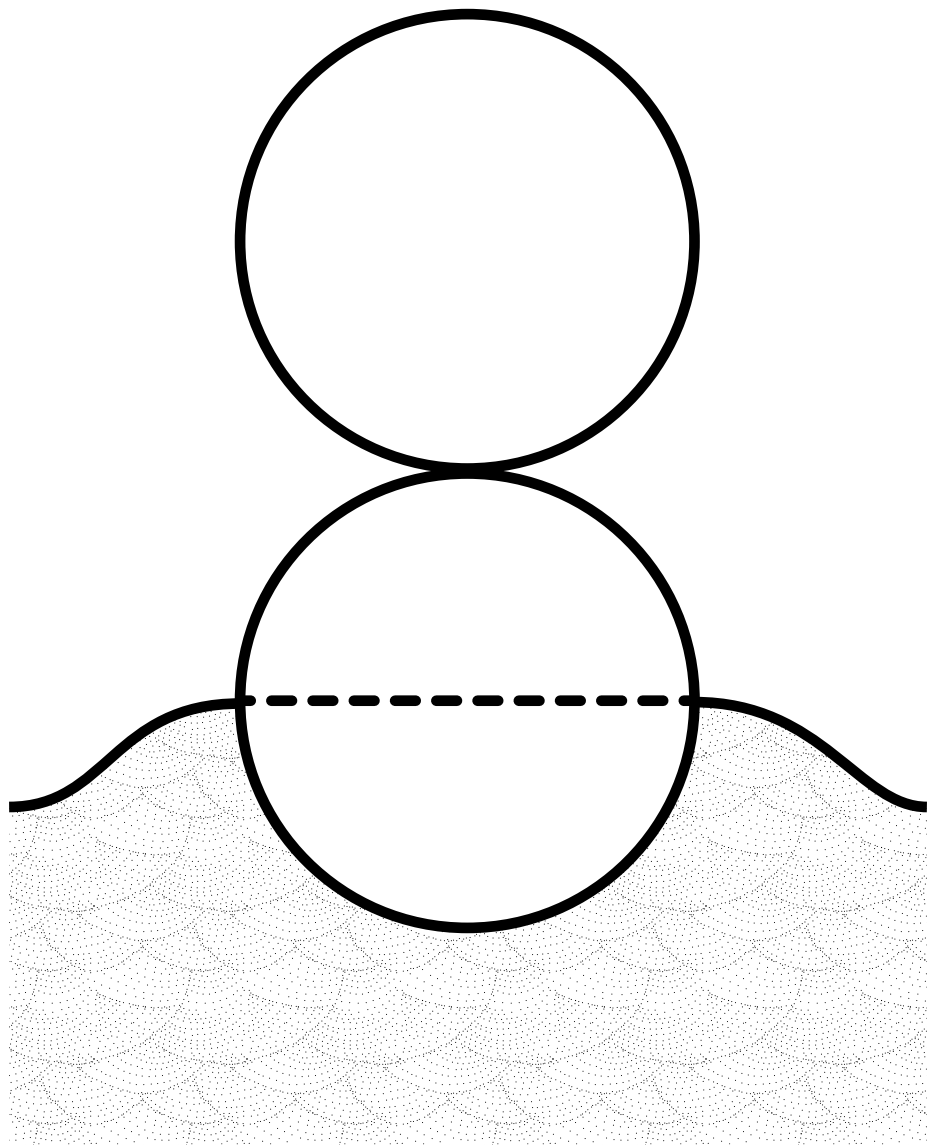
Most volume with least transmission surface

Site Transformation



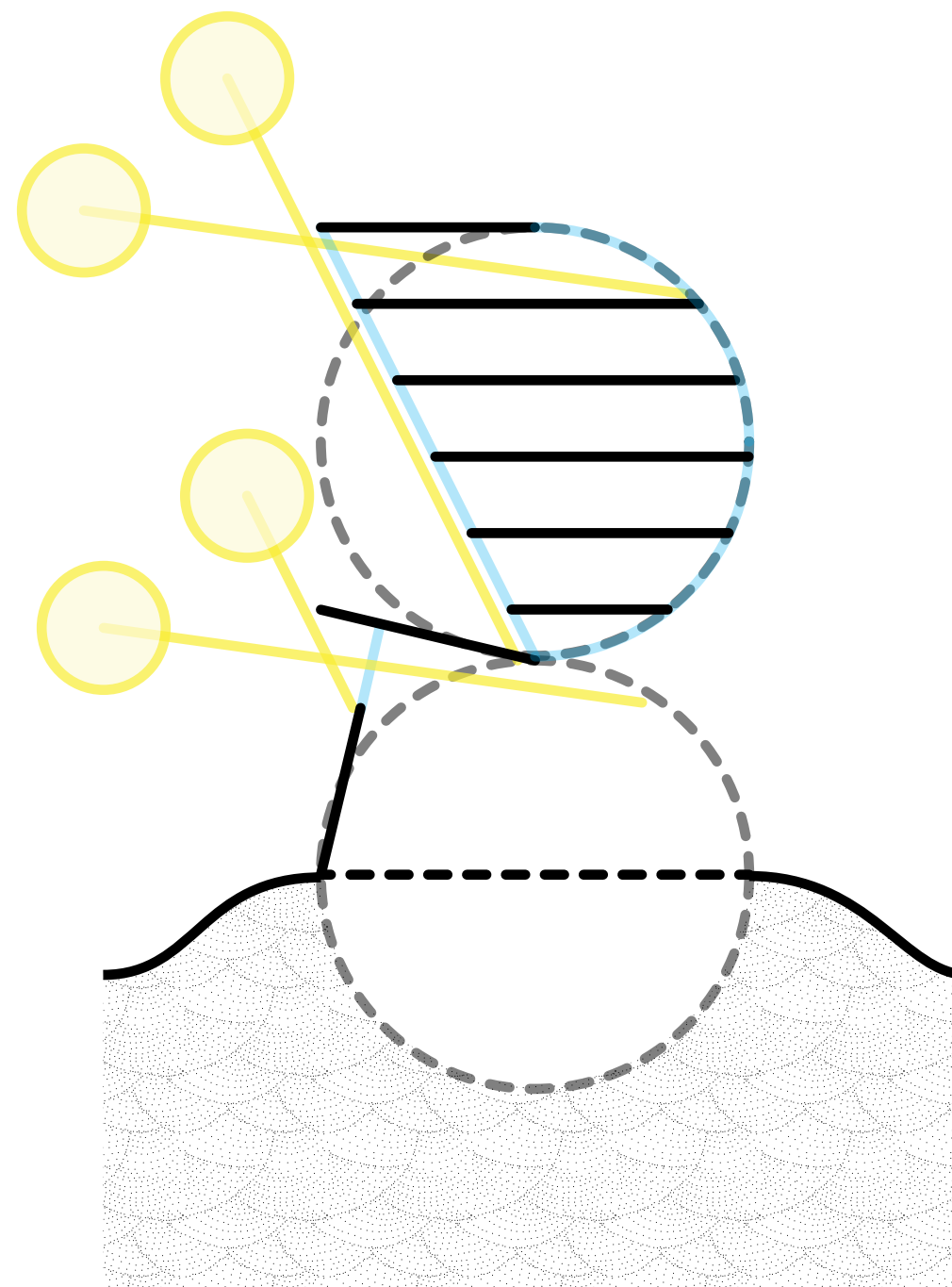
Reuse Material - Earths insulation - Sea Level

Programatic Divsion



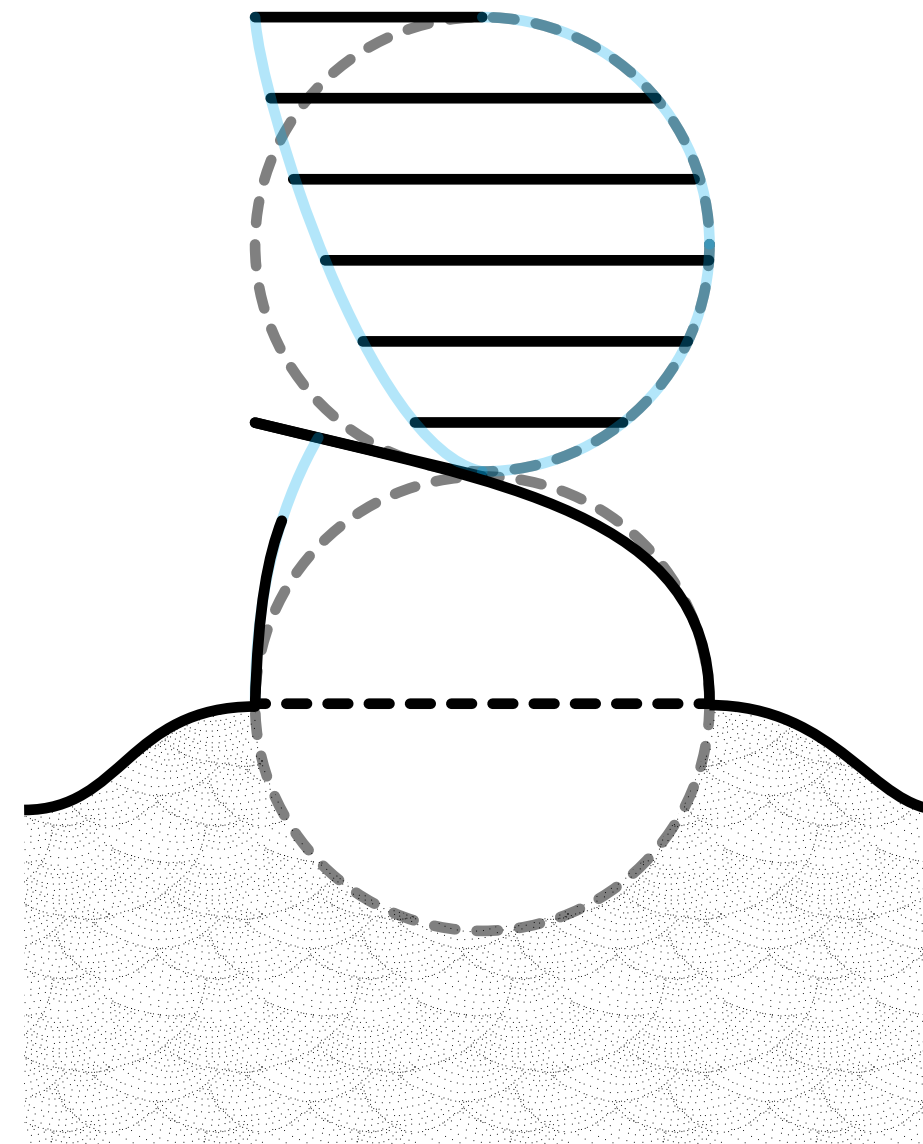
Public & Private

Solar adaptation



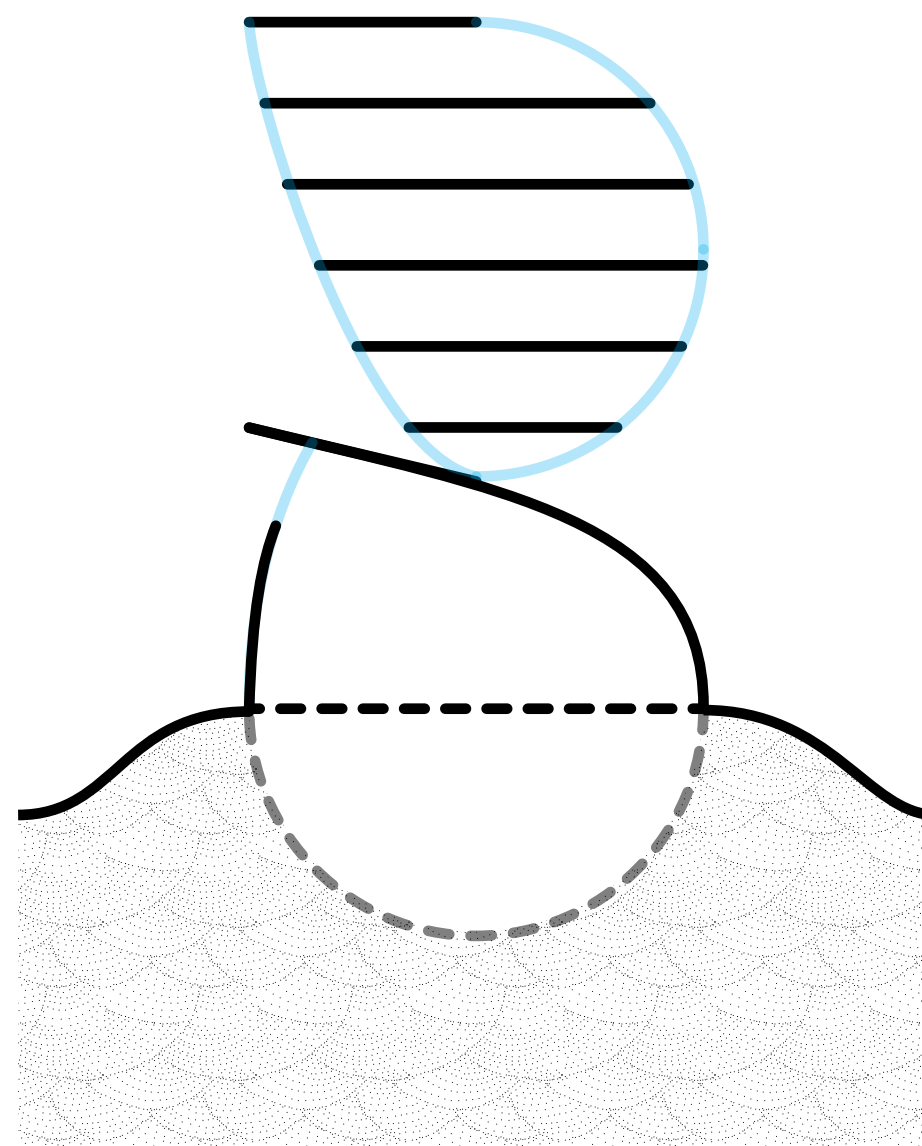
Passive Heat & Sun screen

Compromise



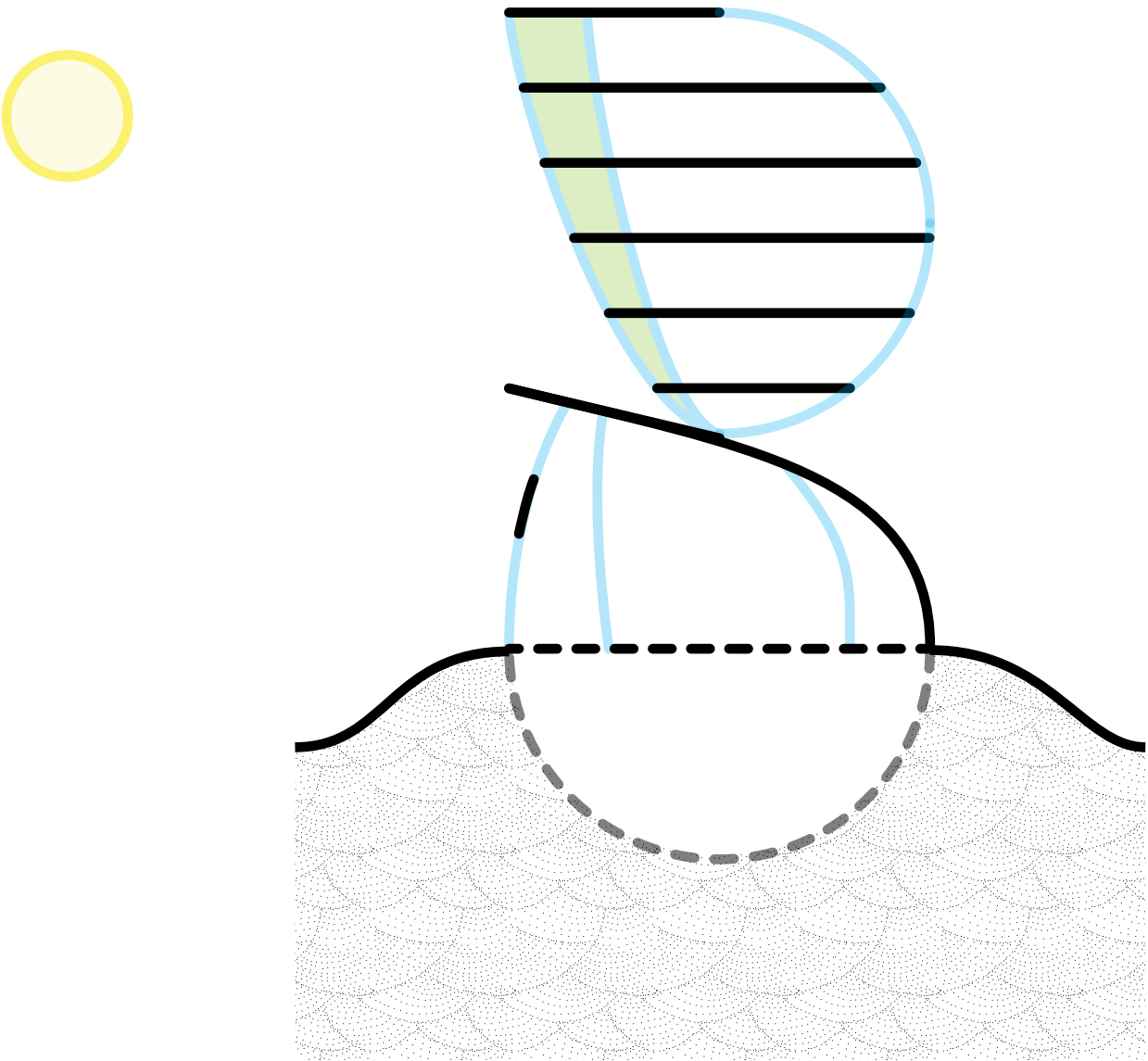
Organic shape

Result



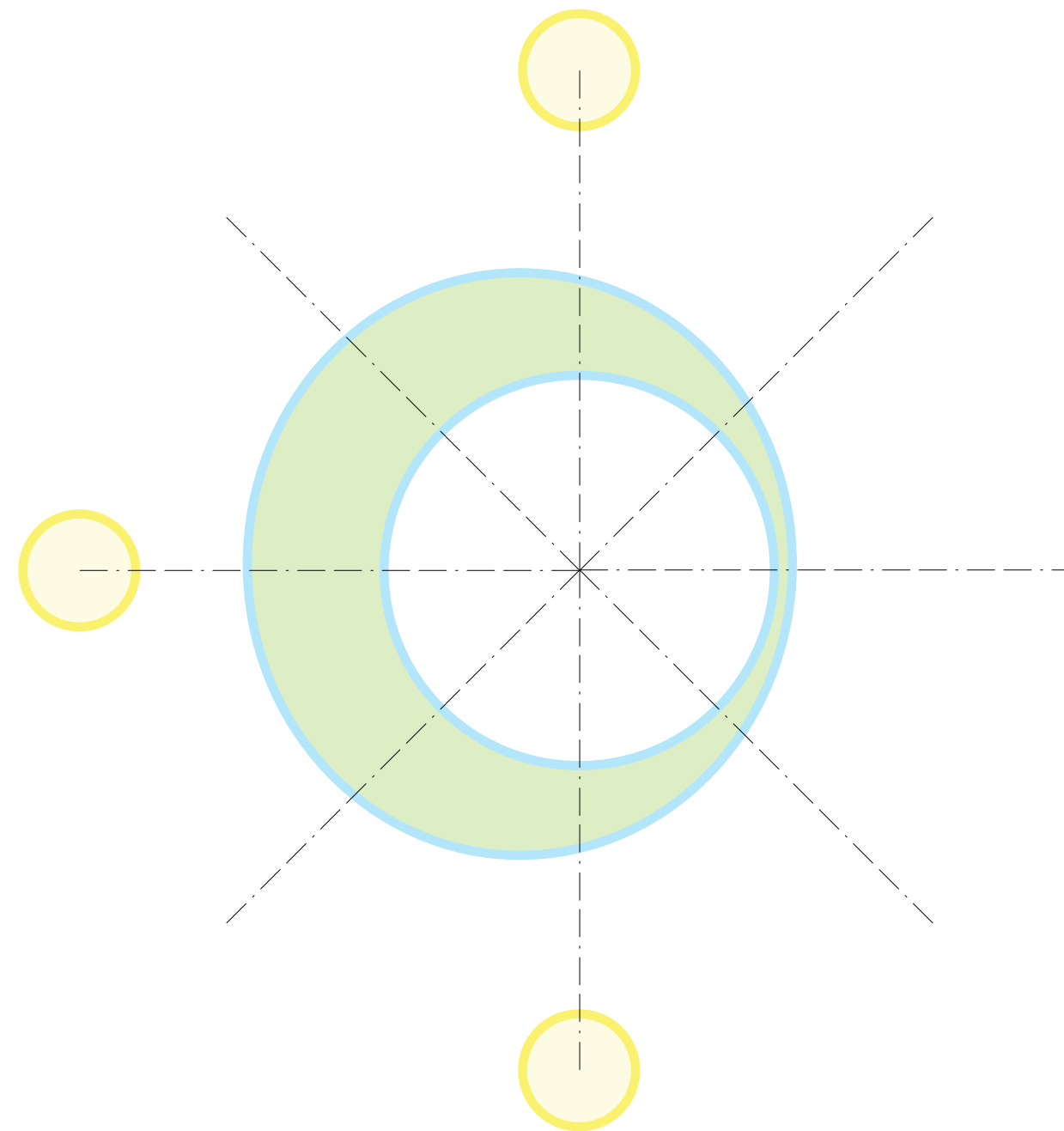
Organic shape

Climate Buffers



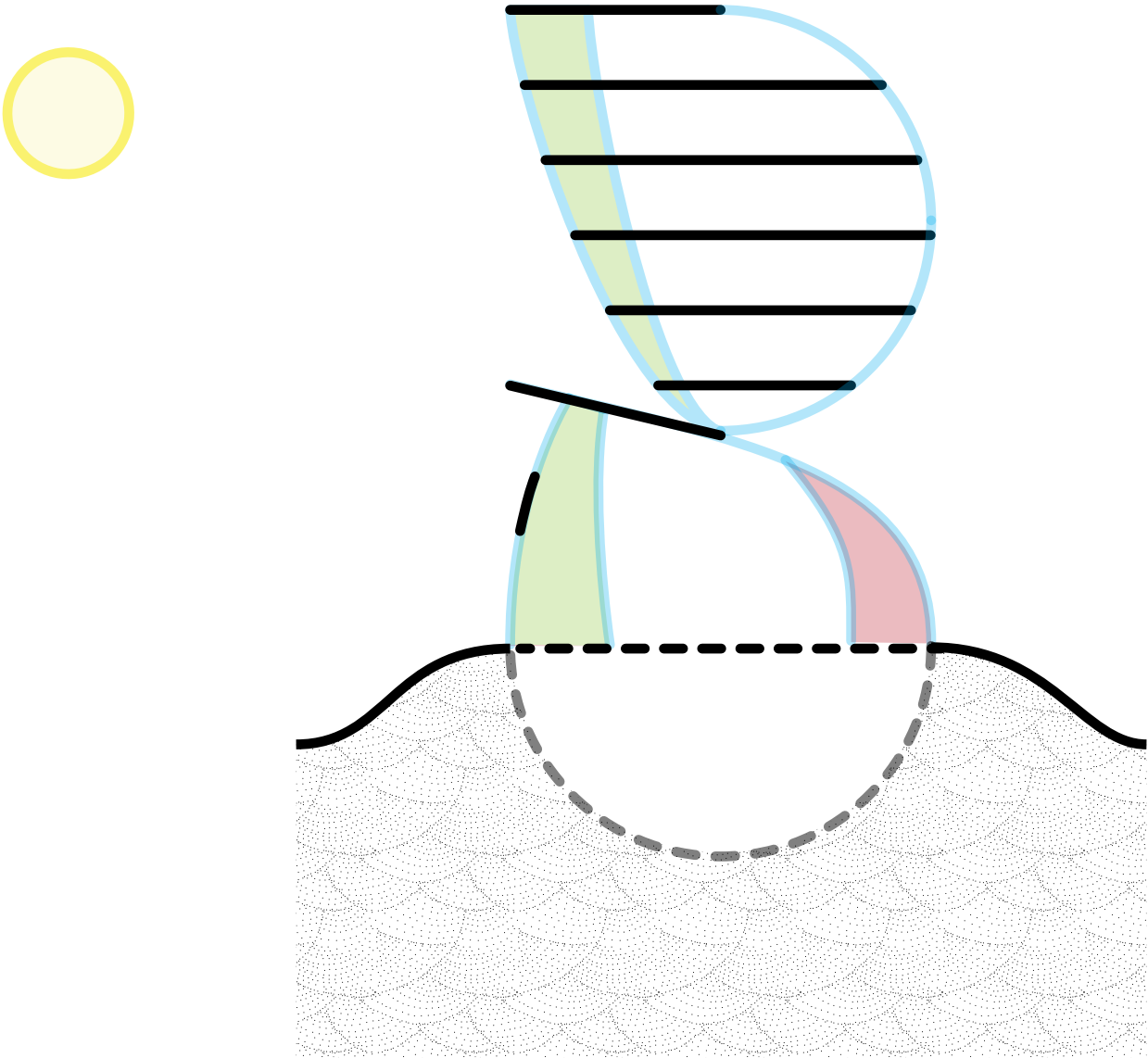
Greenhouses

Solar adaptation



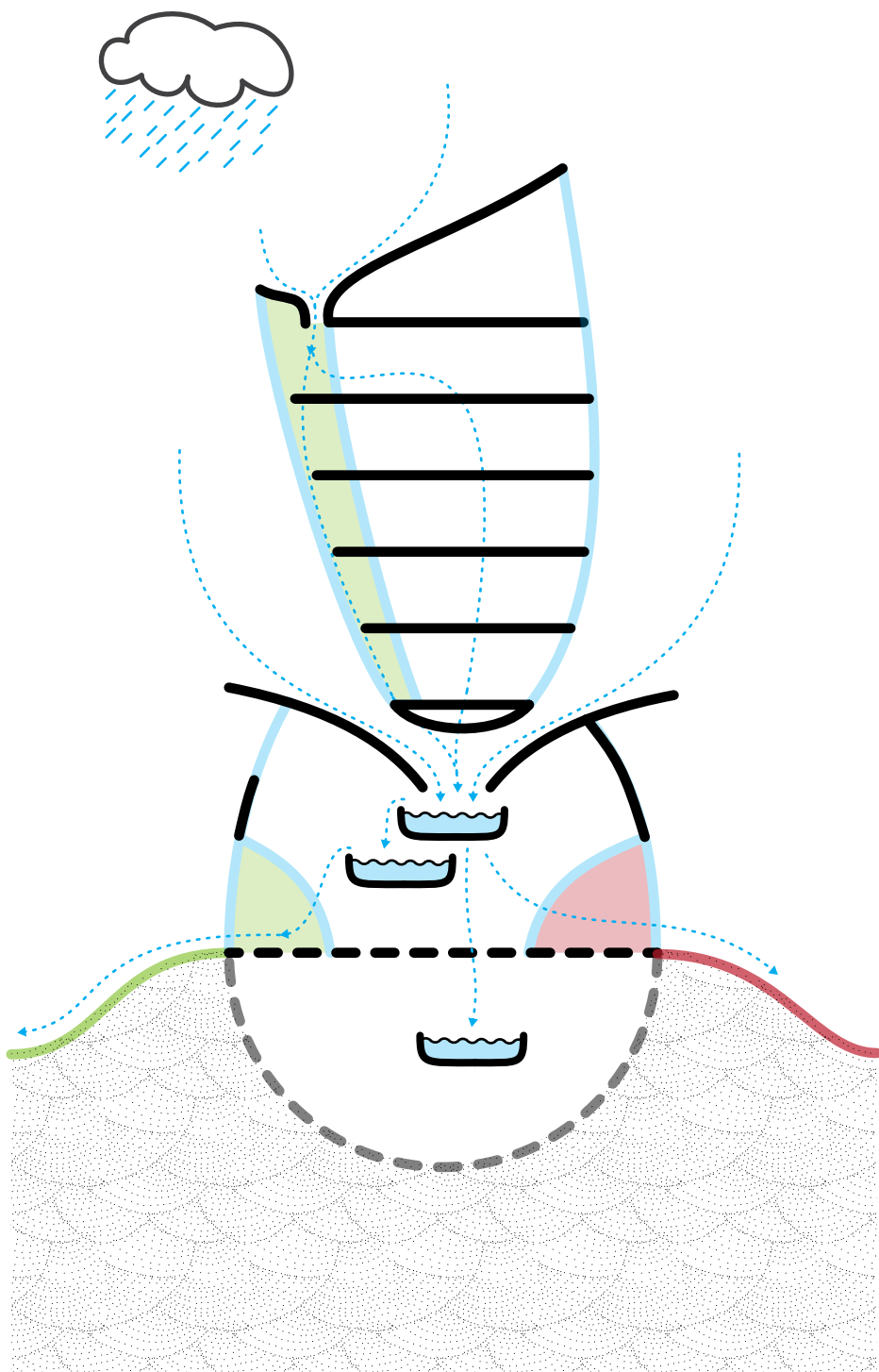
Greenhouse plan in Tower

Climate Buffers



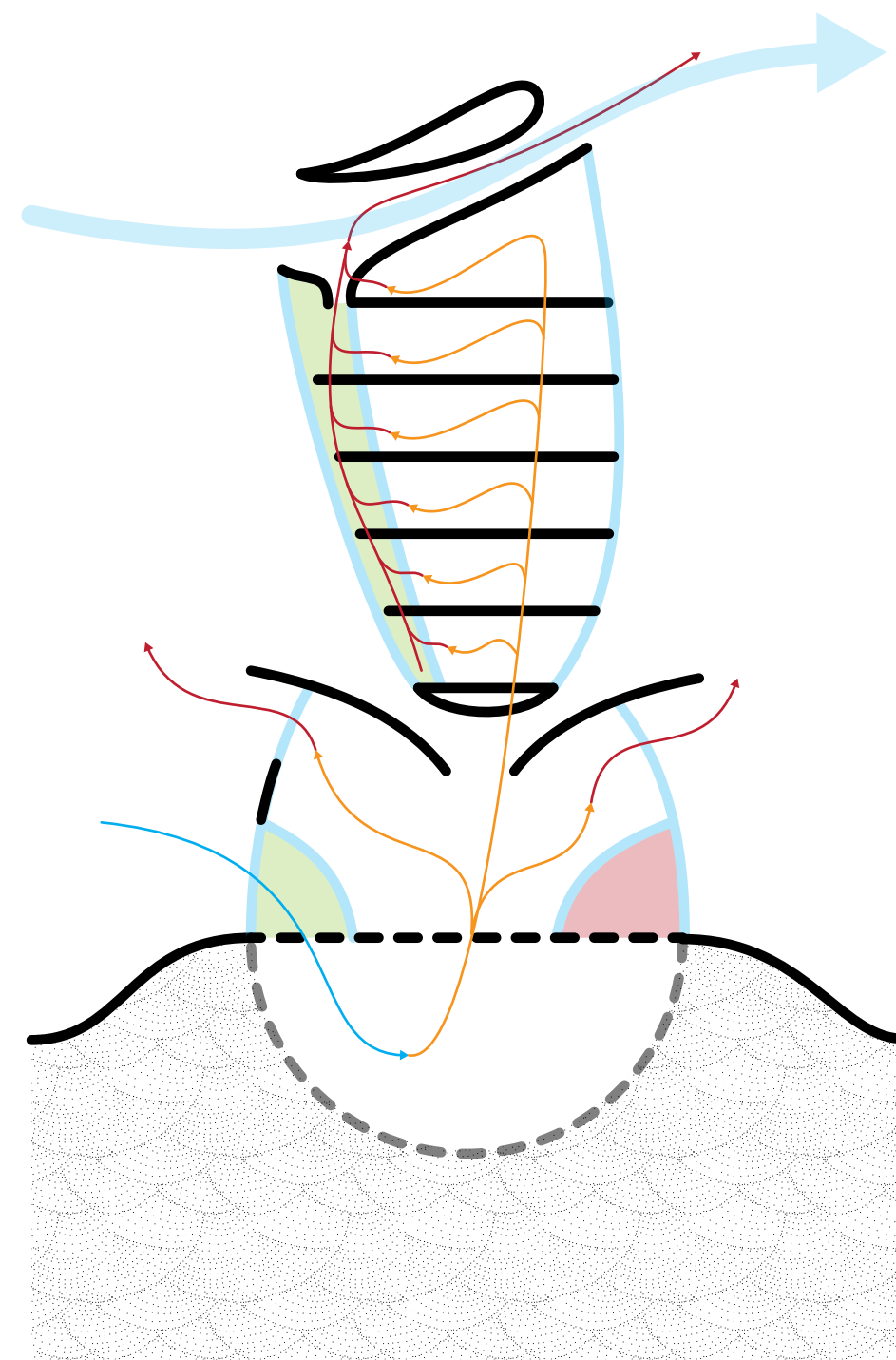
Greenhouse & Animal residence

Roof transformation



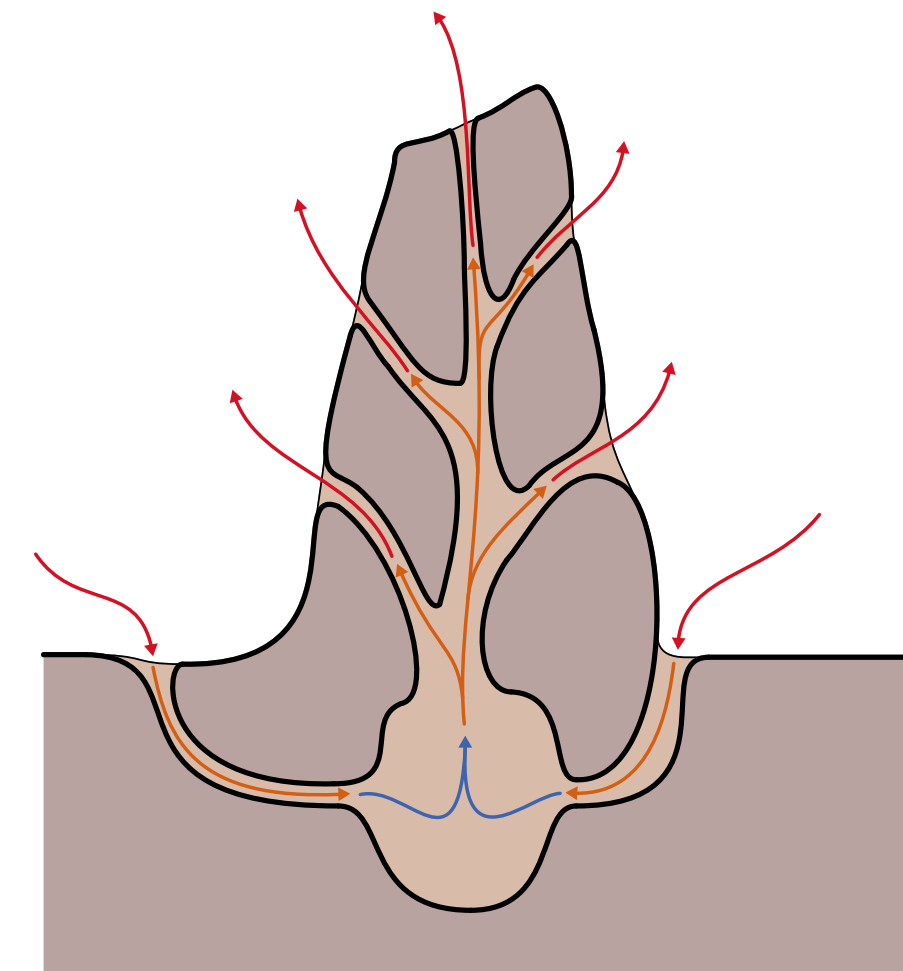
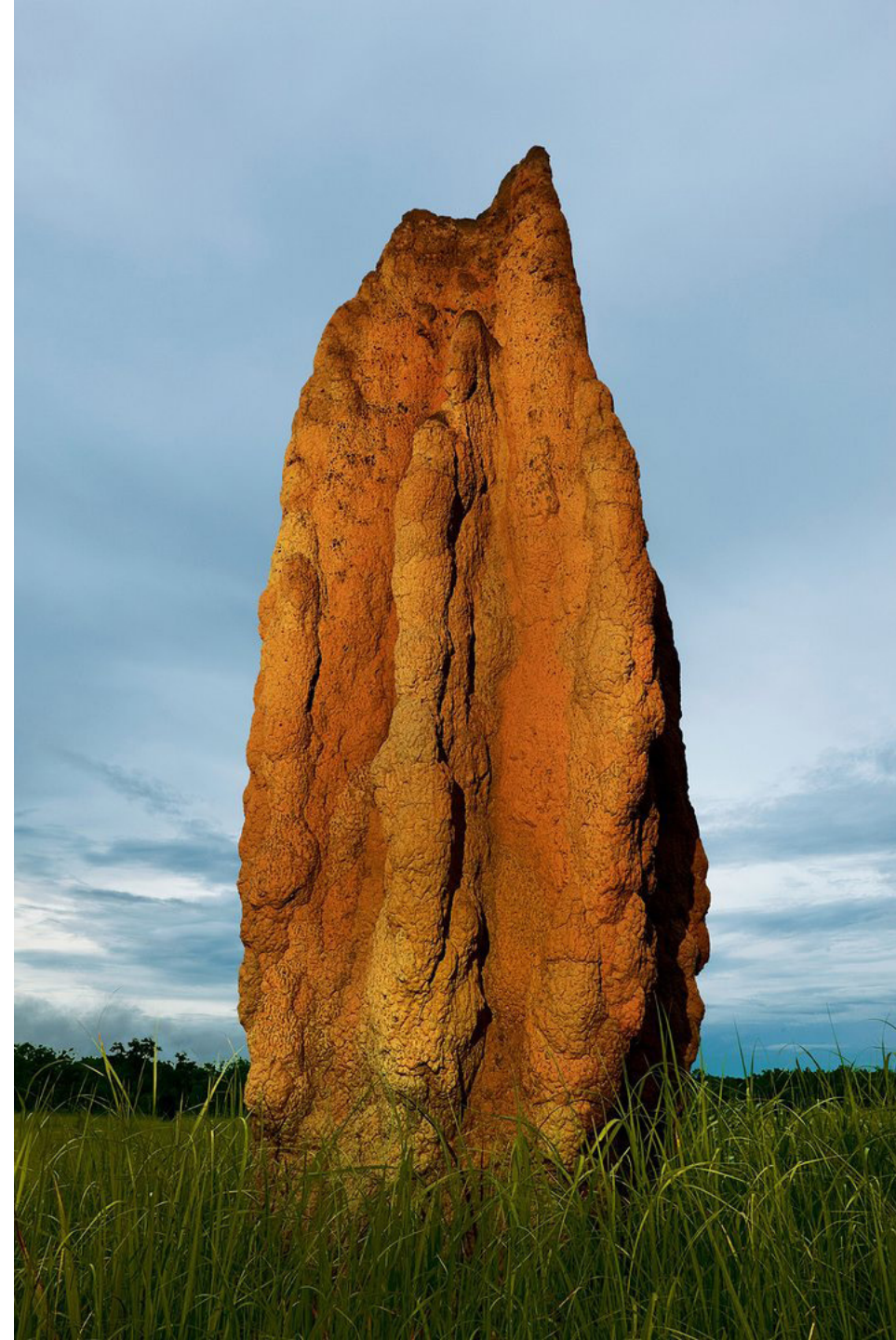
Water Flow

Ventilation adaptation



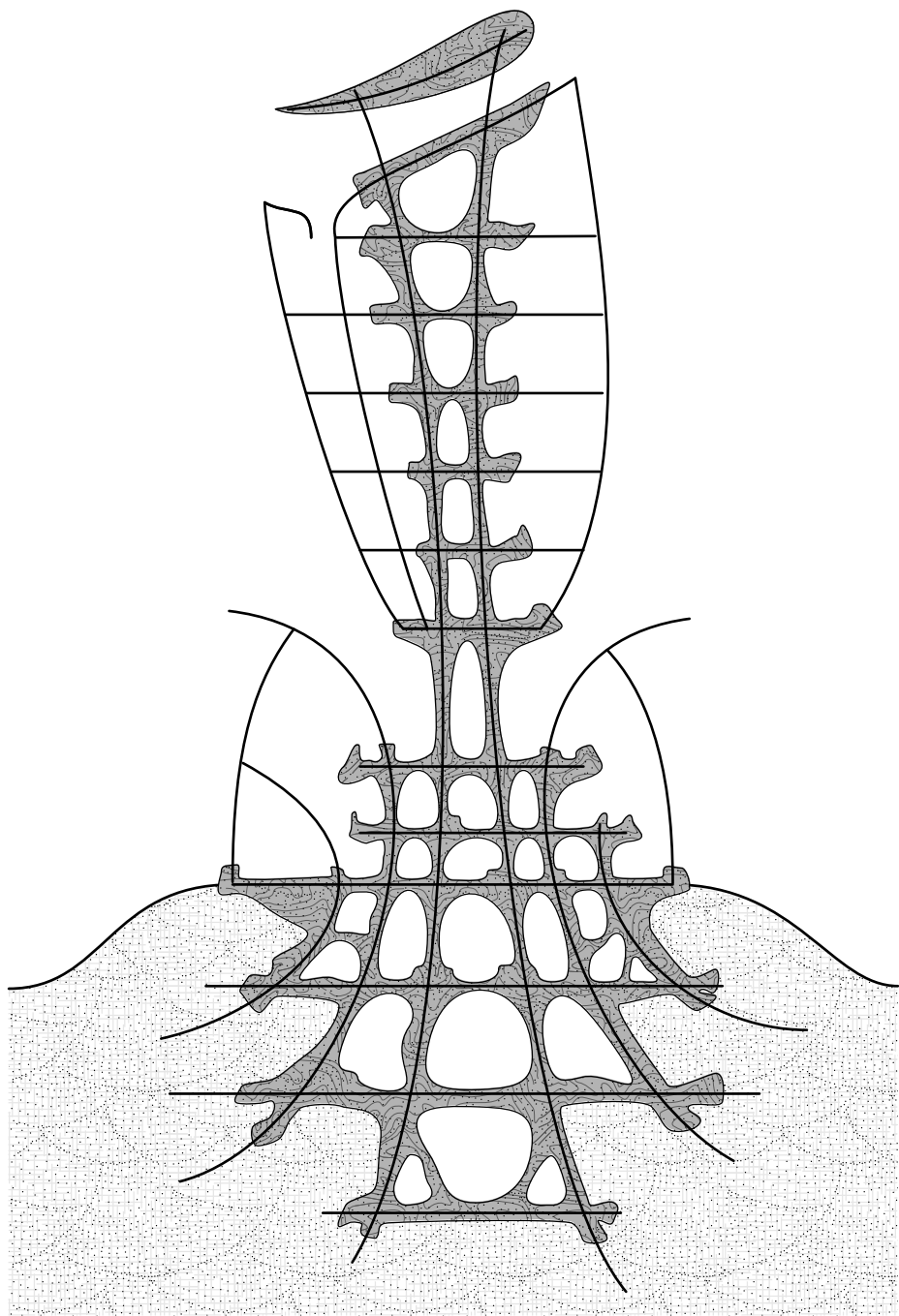
Air Flow

Termite hill



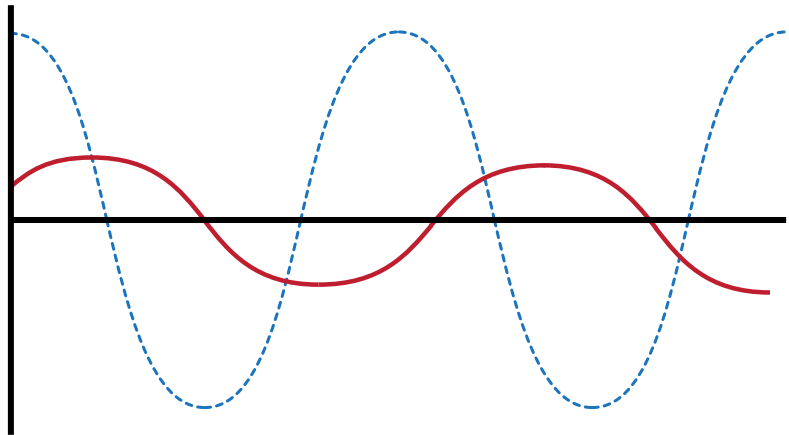
Air Flow

Massive core



Construction & Heat distributor

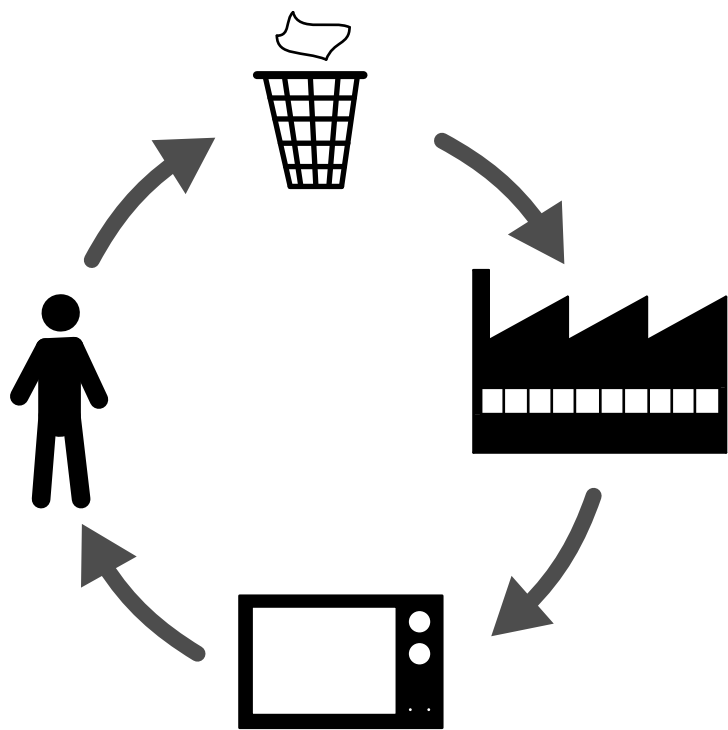
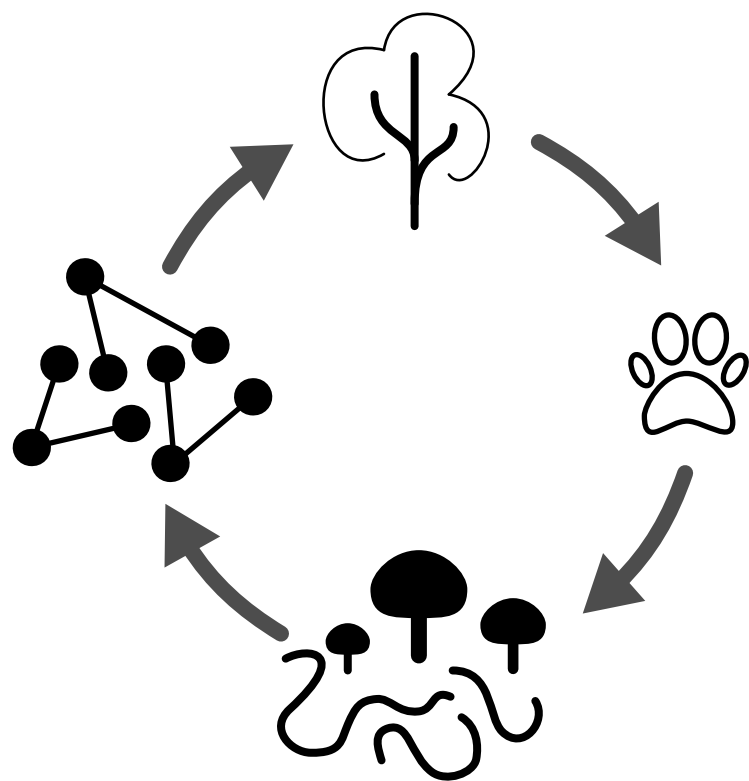
Heat accumulation



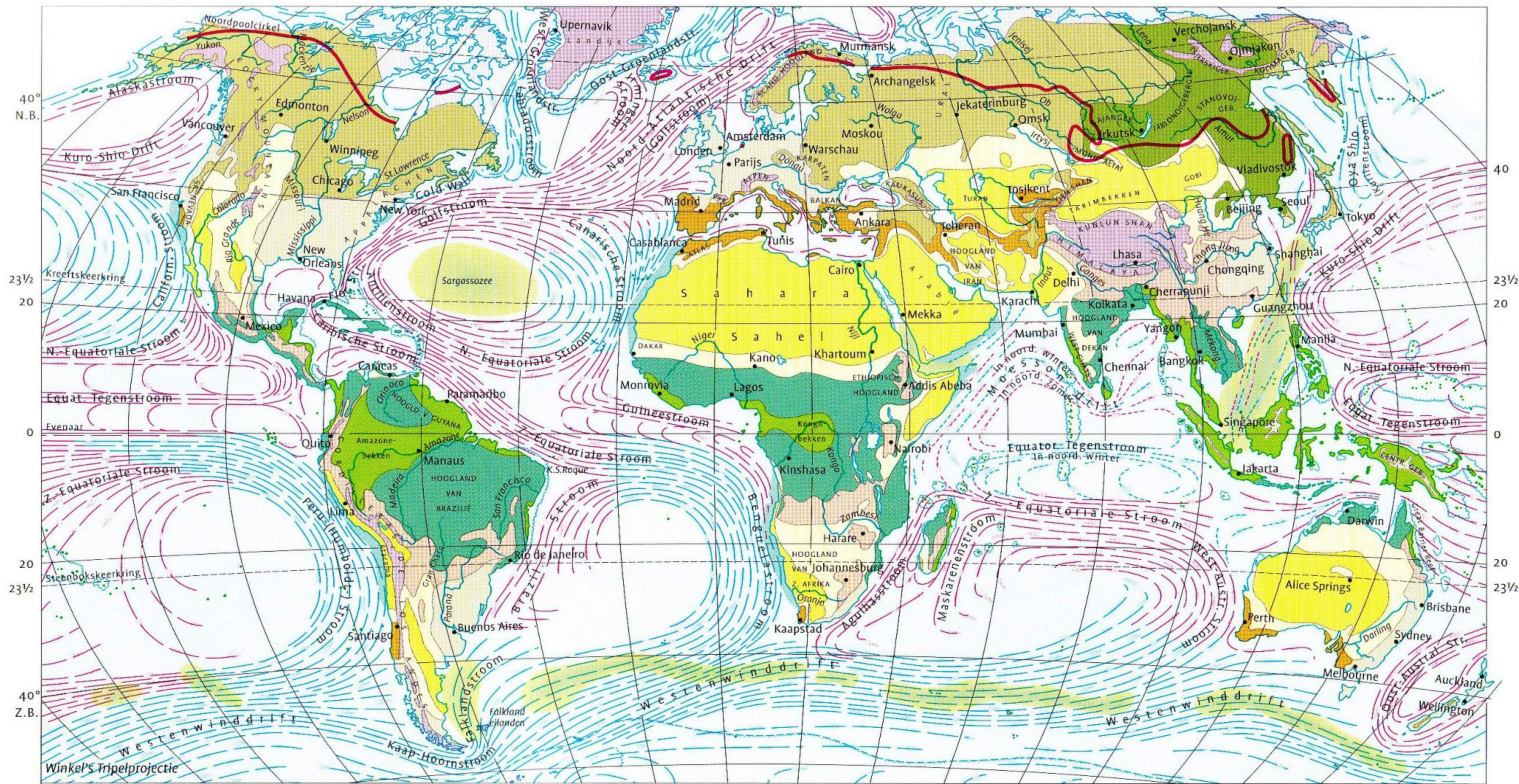
stabalizing thermal comfort



Materials



Recycled or climate positive







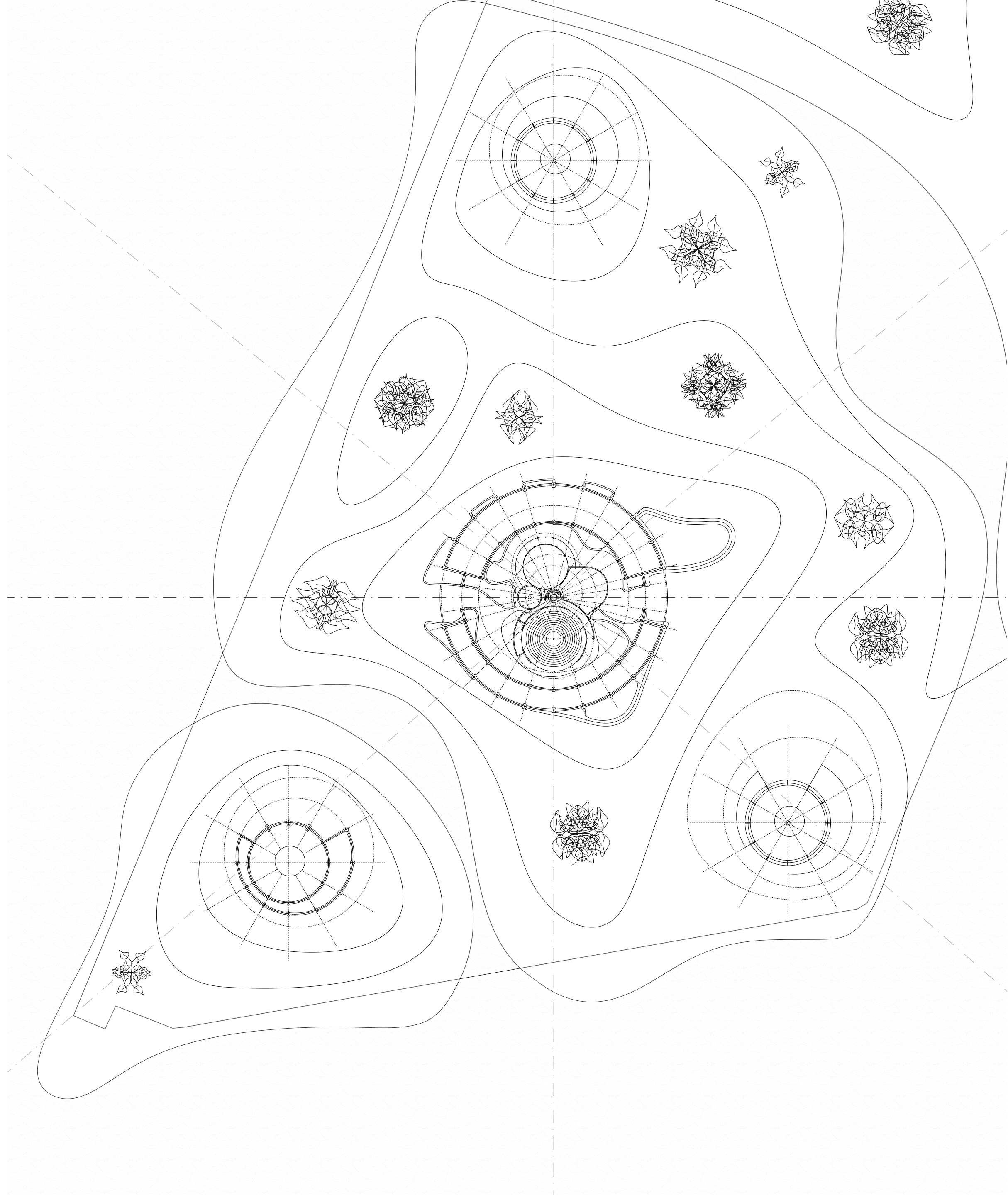


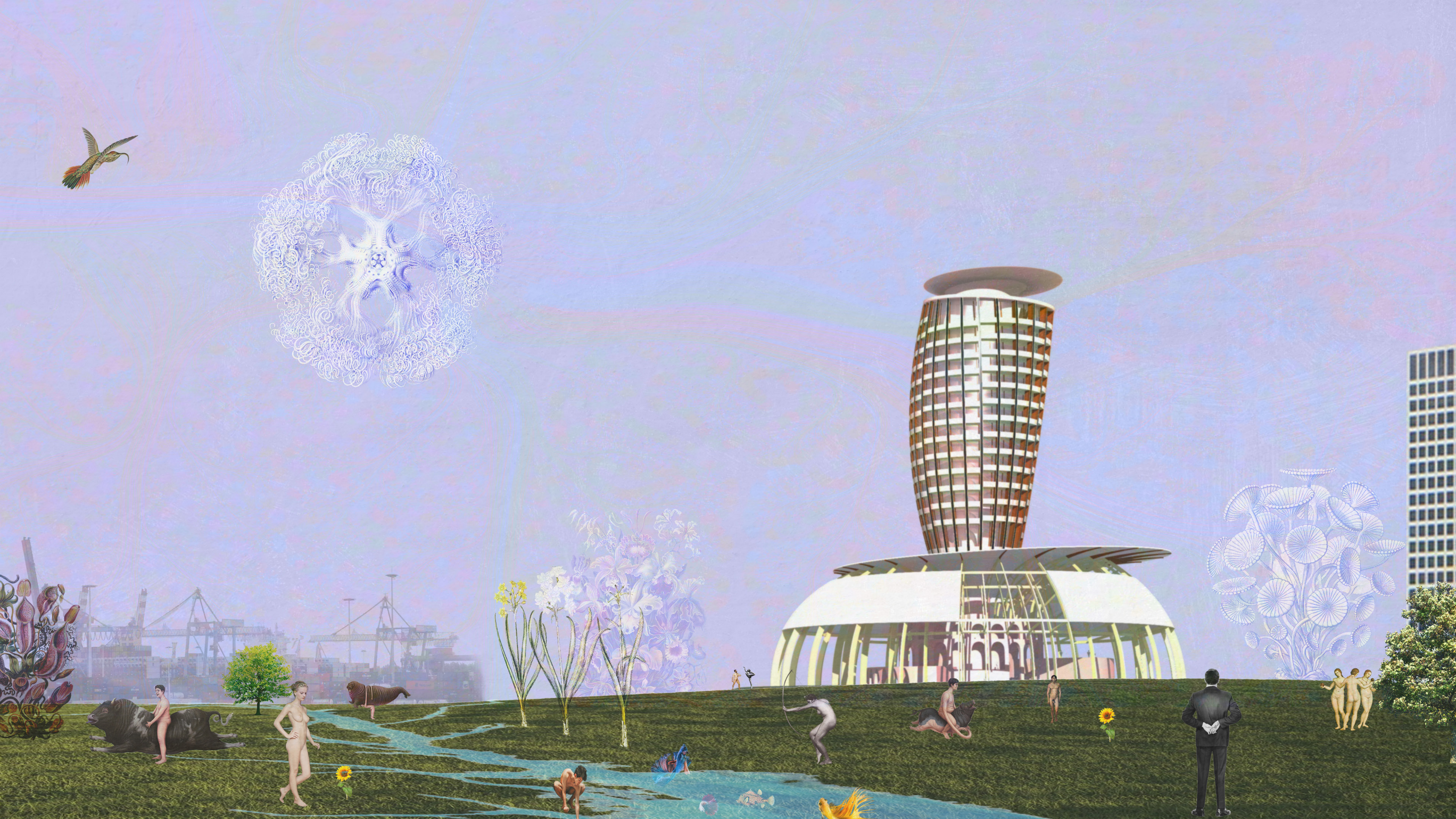


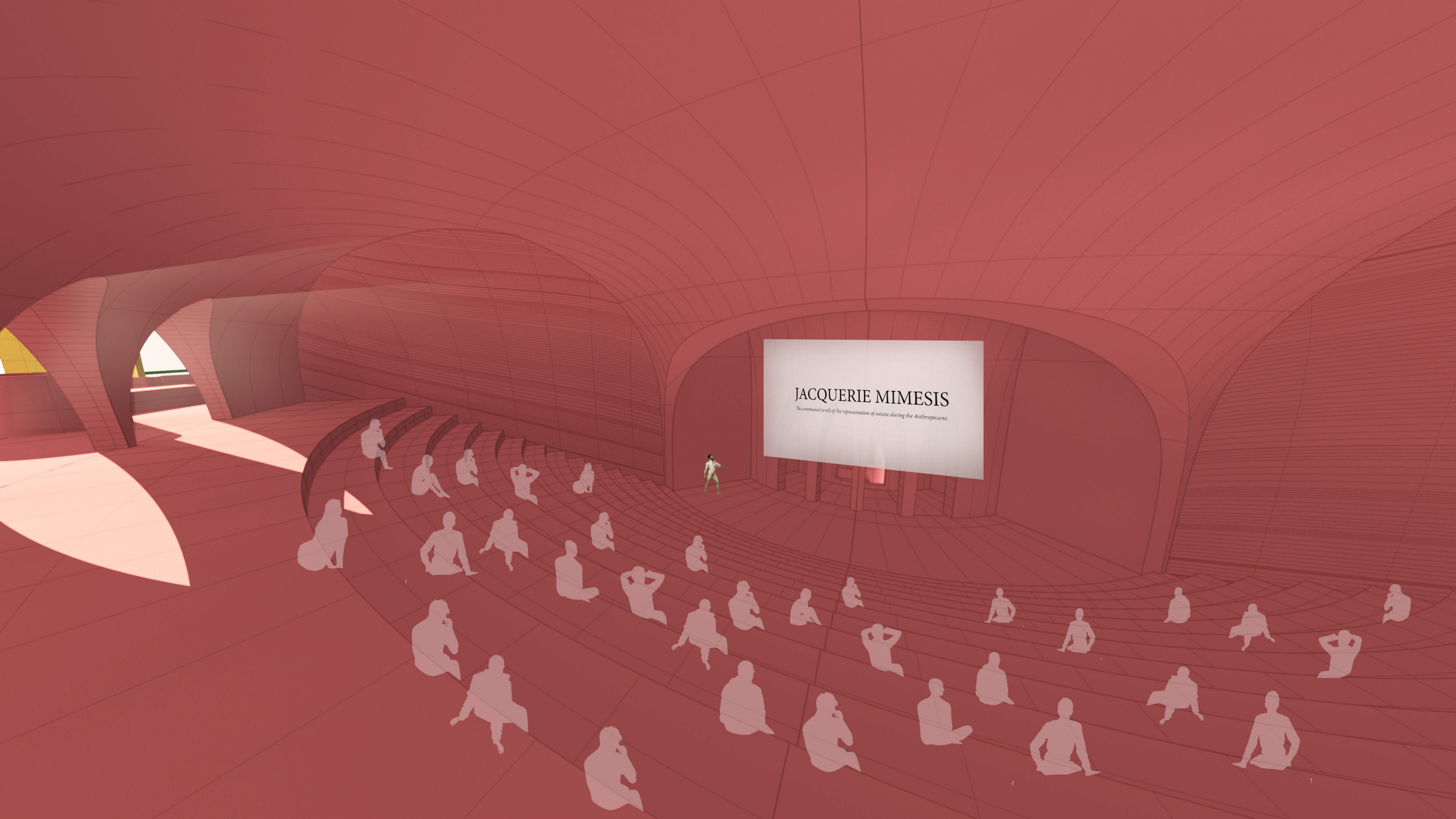








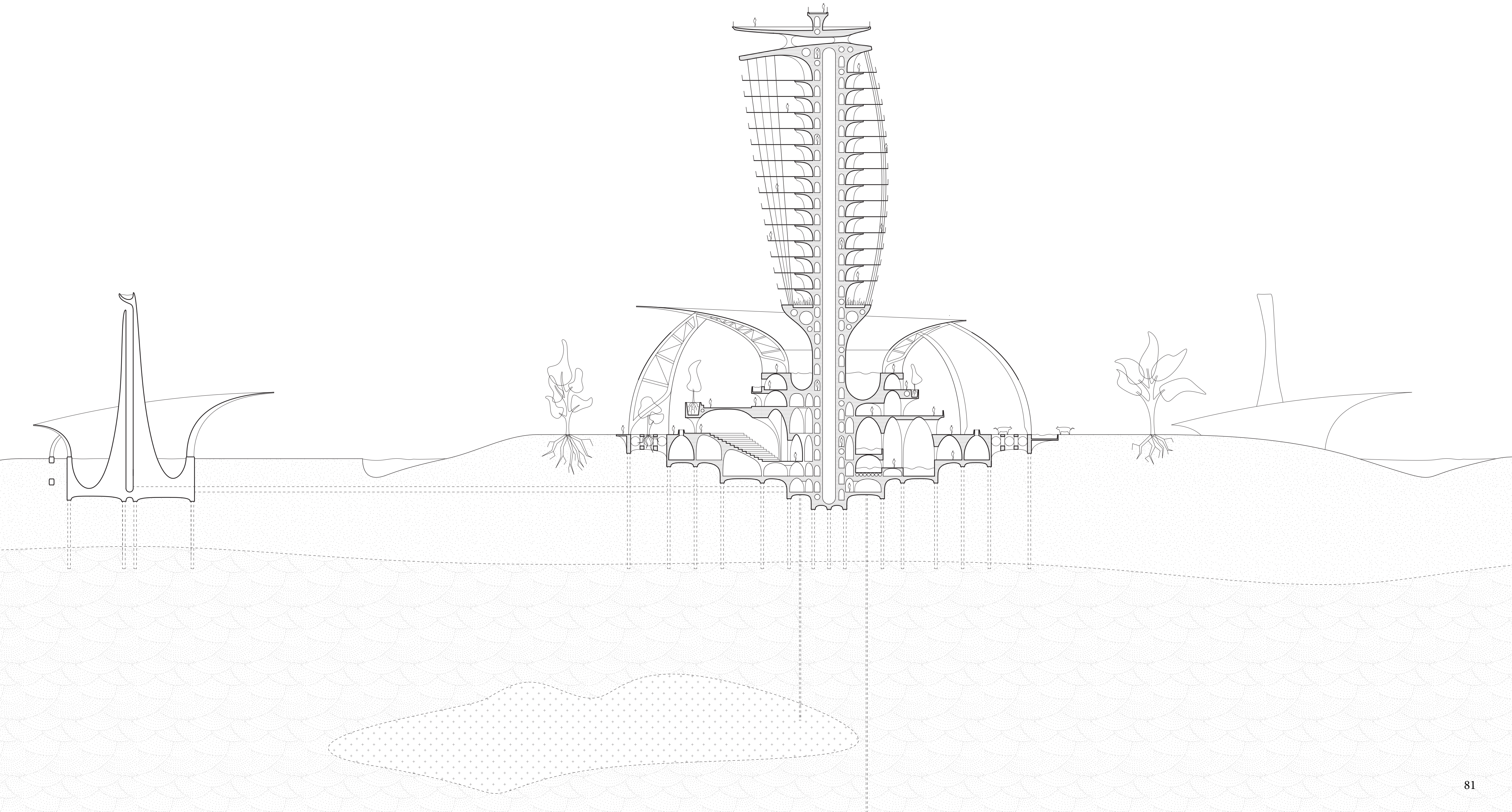


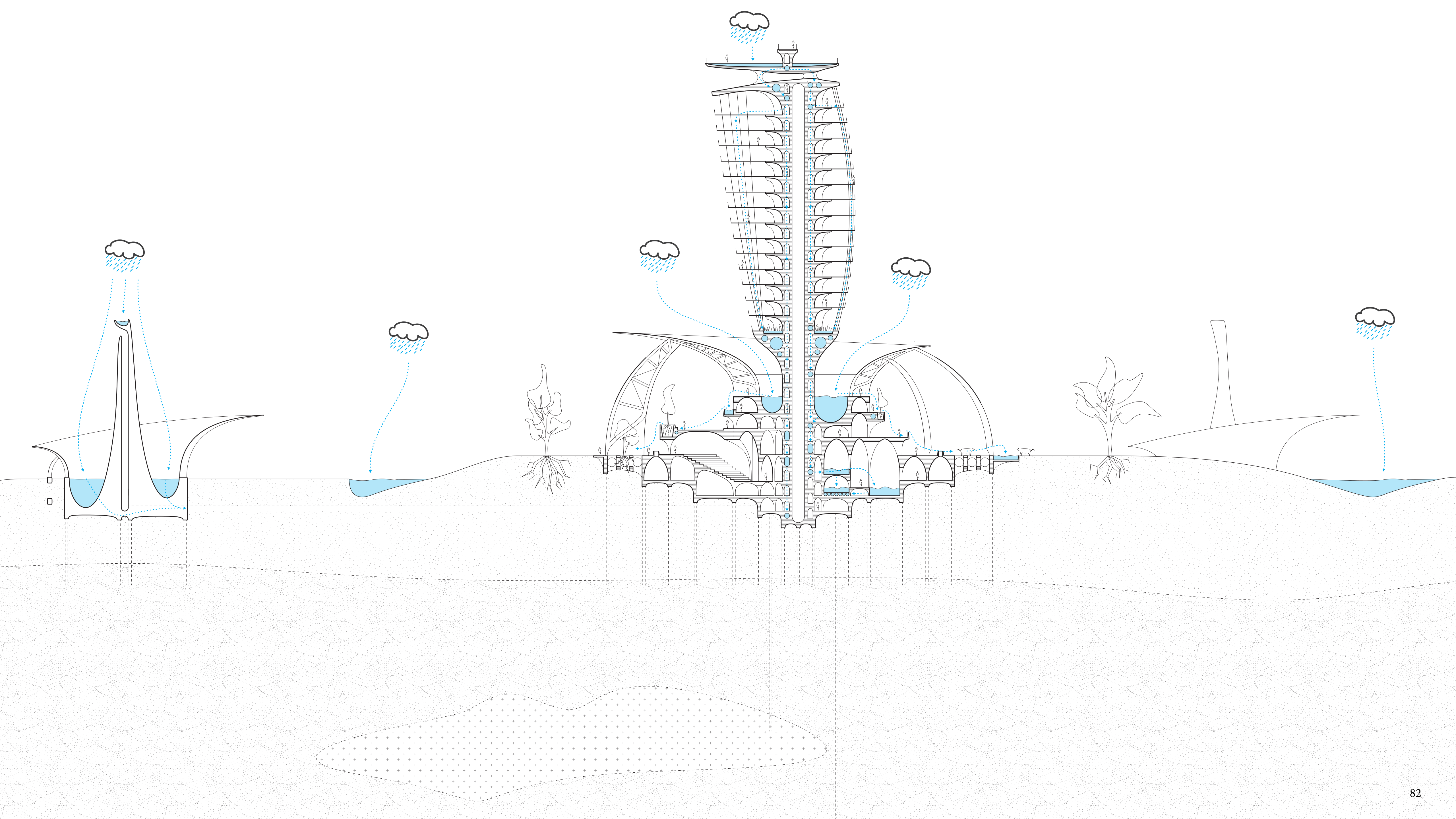


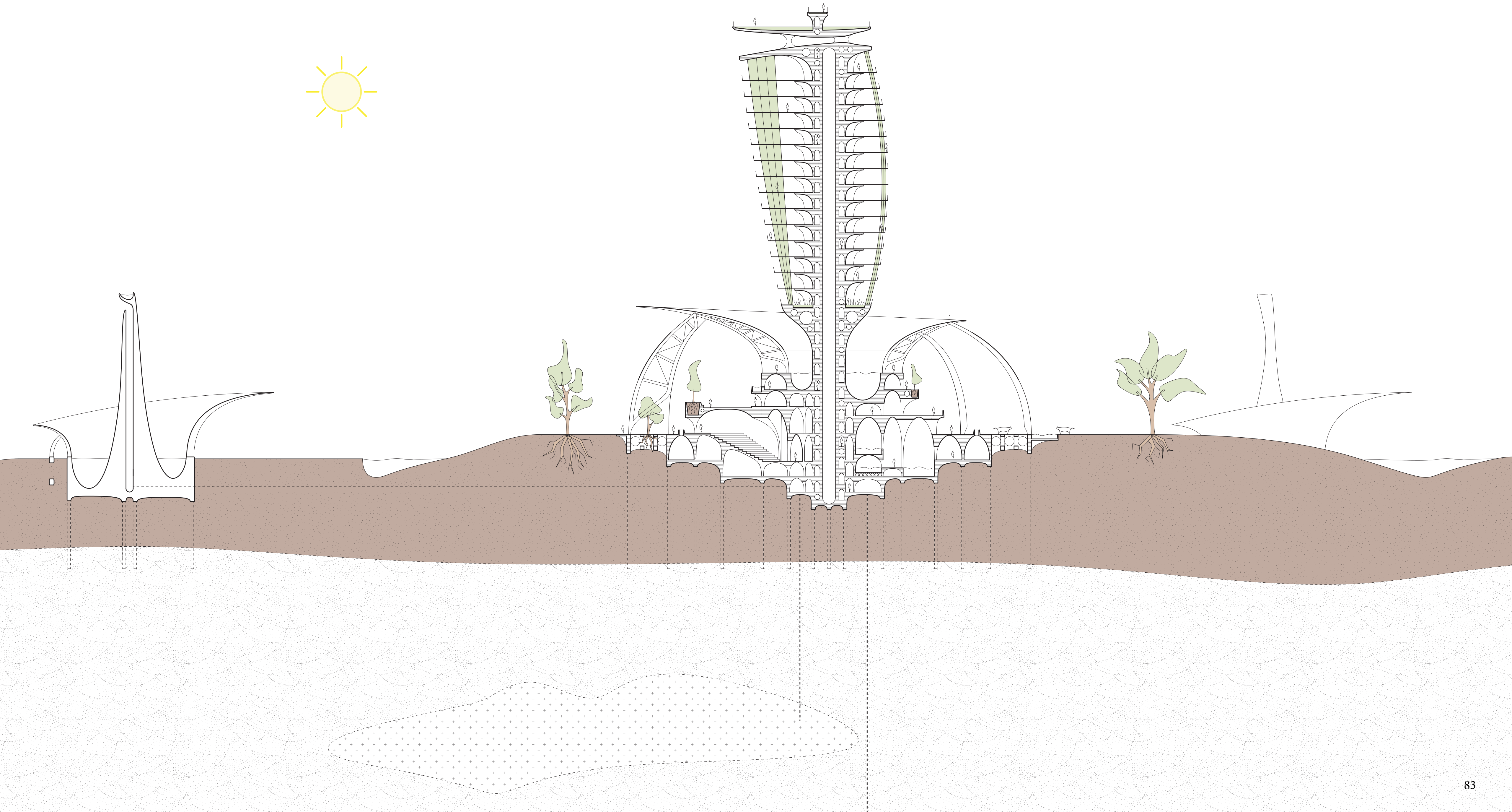
JACQUERIE MIMESIS

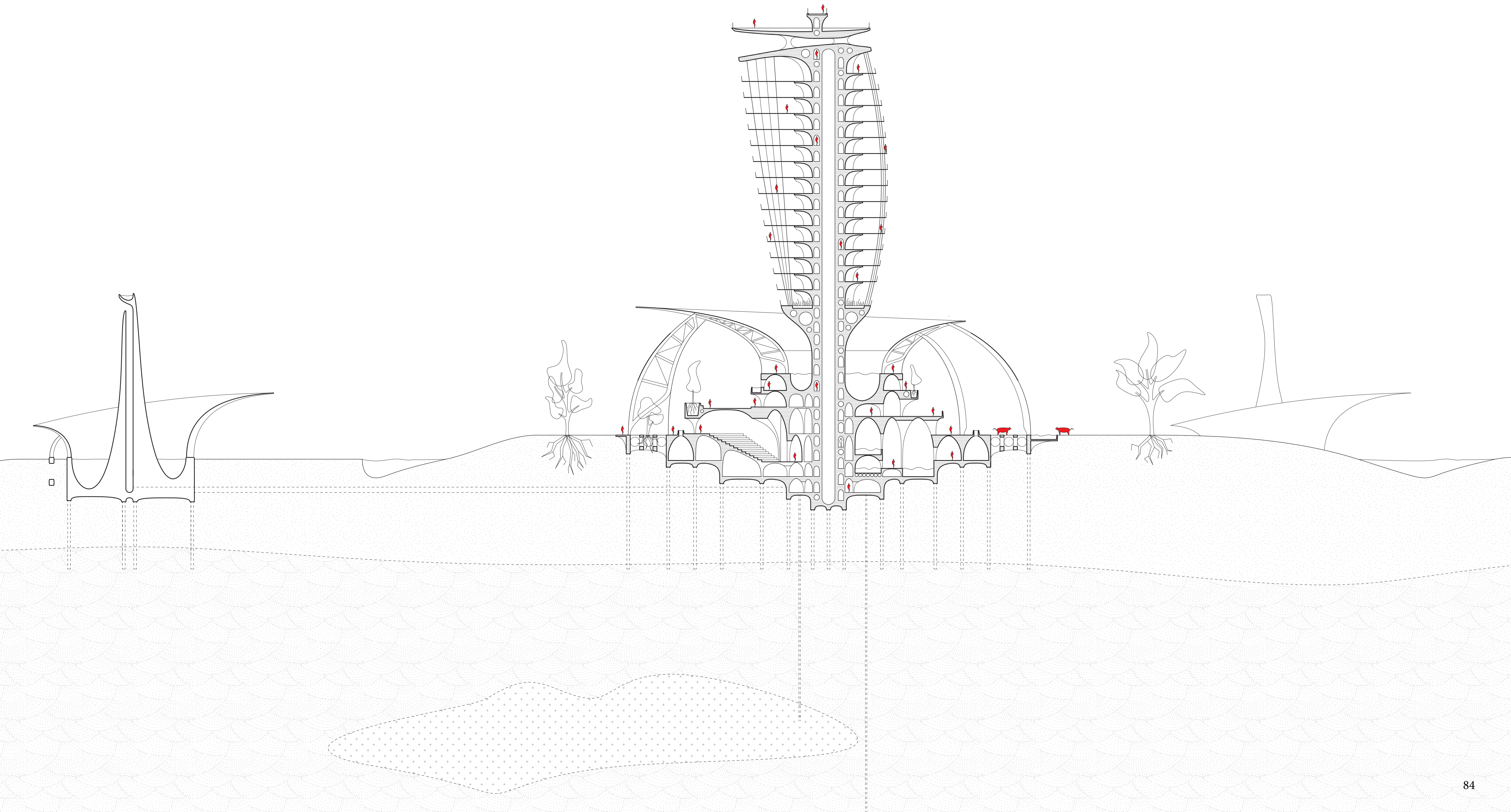
The communal revolt of the representation of nature during the Anthropocene.

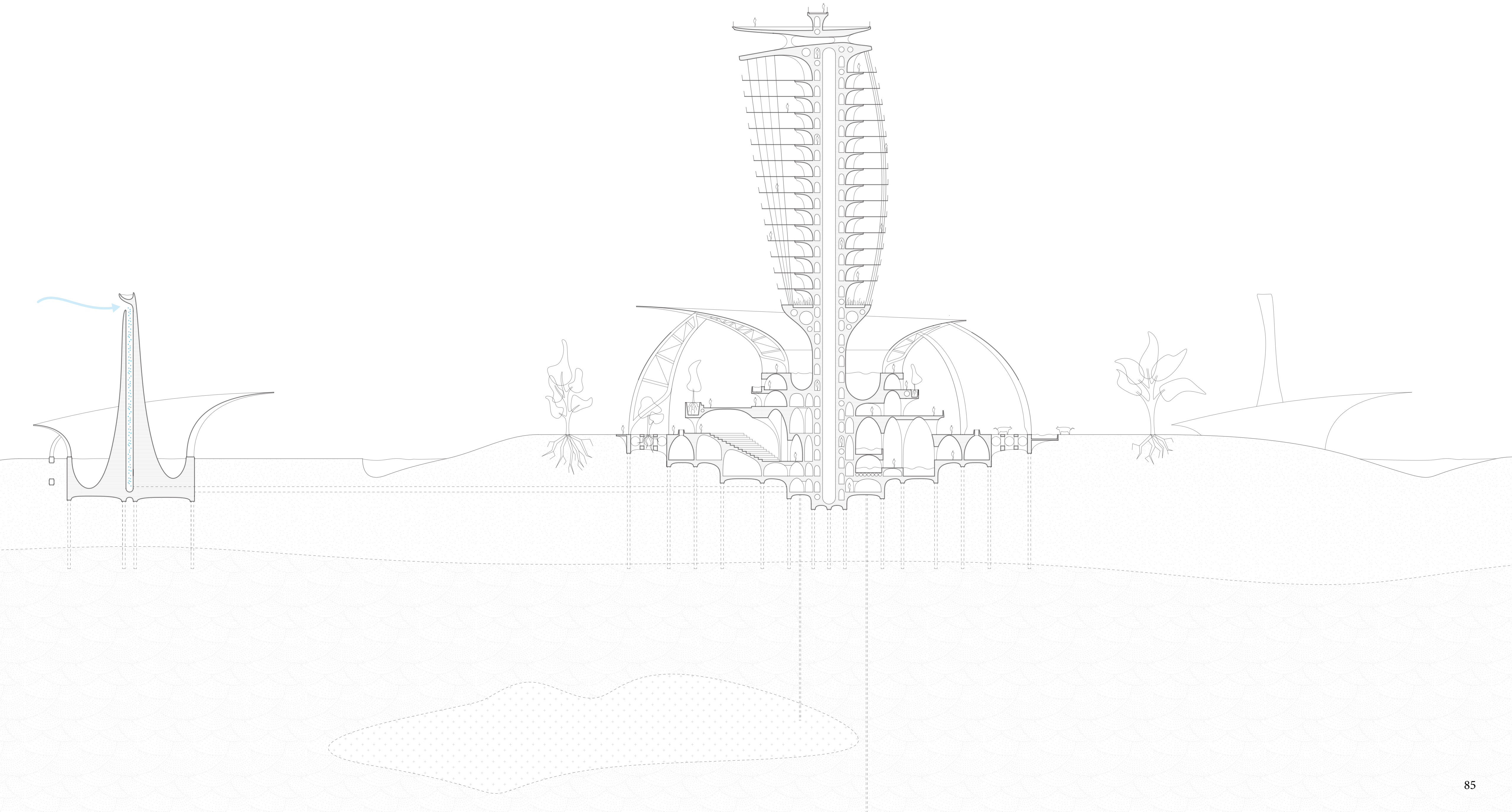


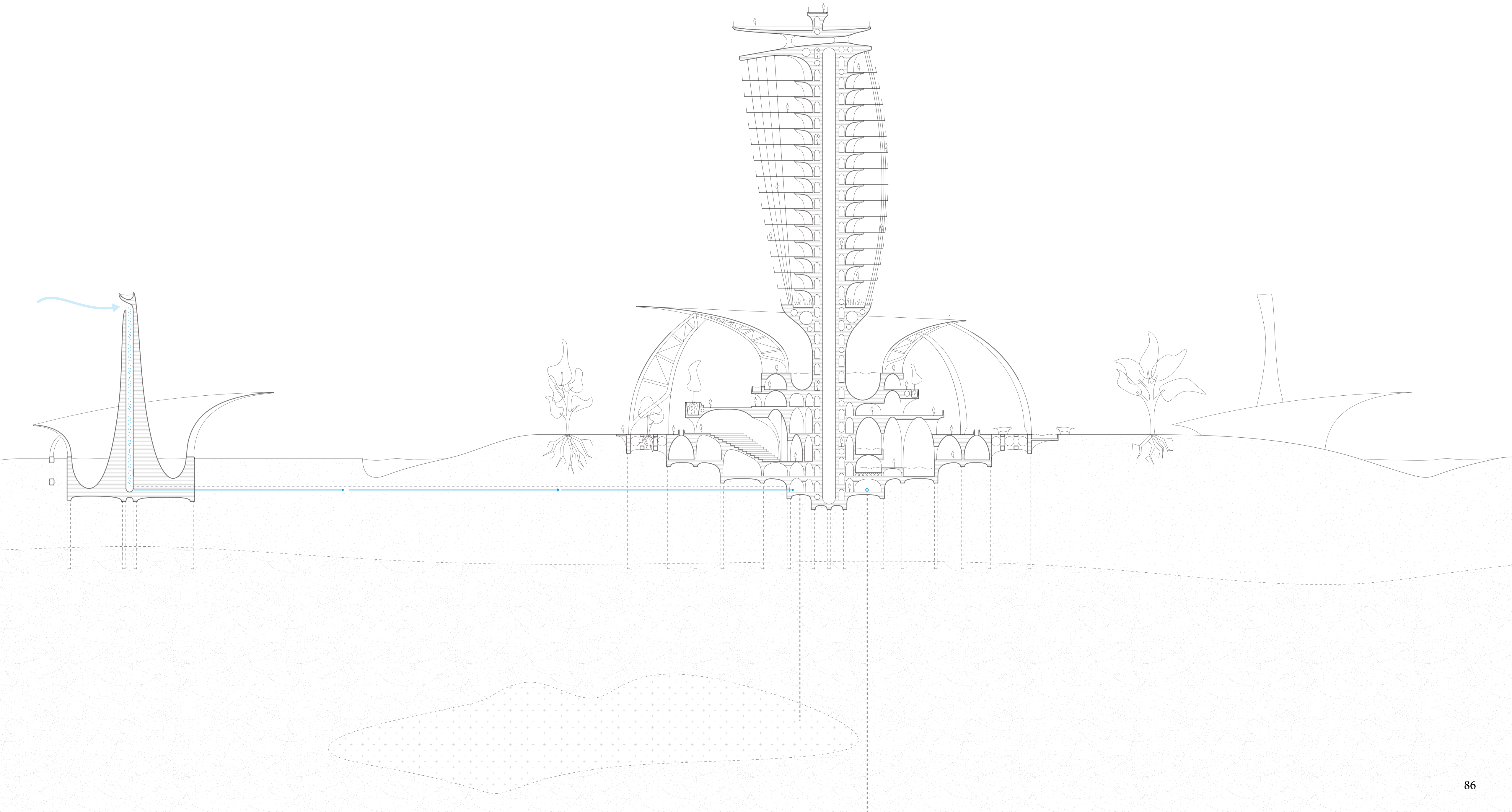


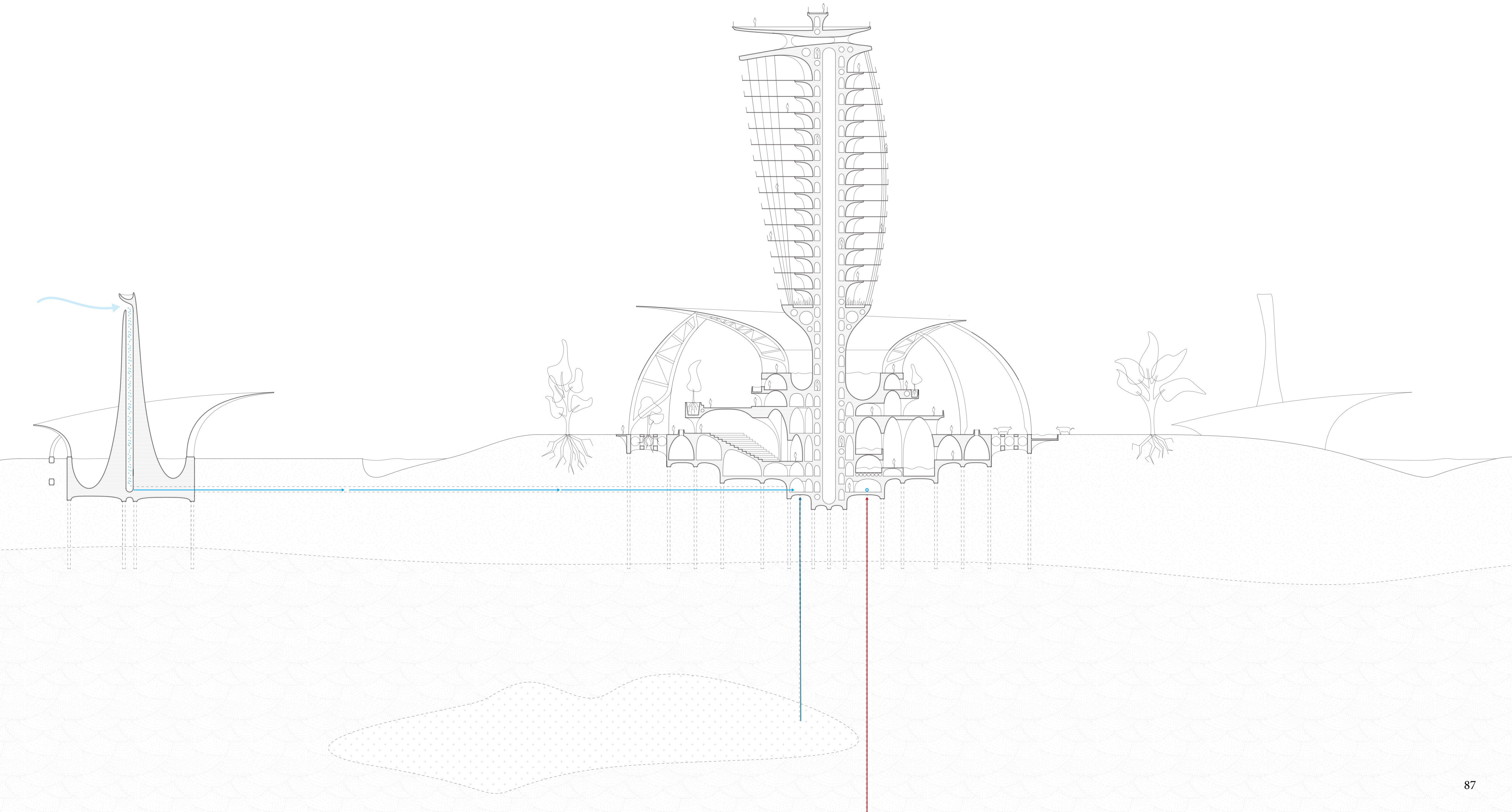


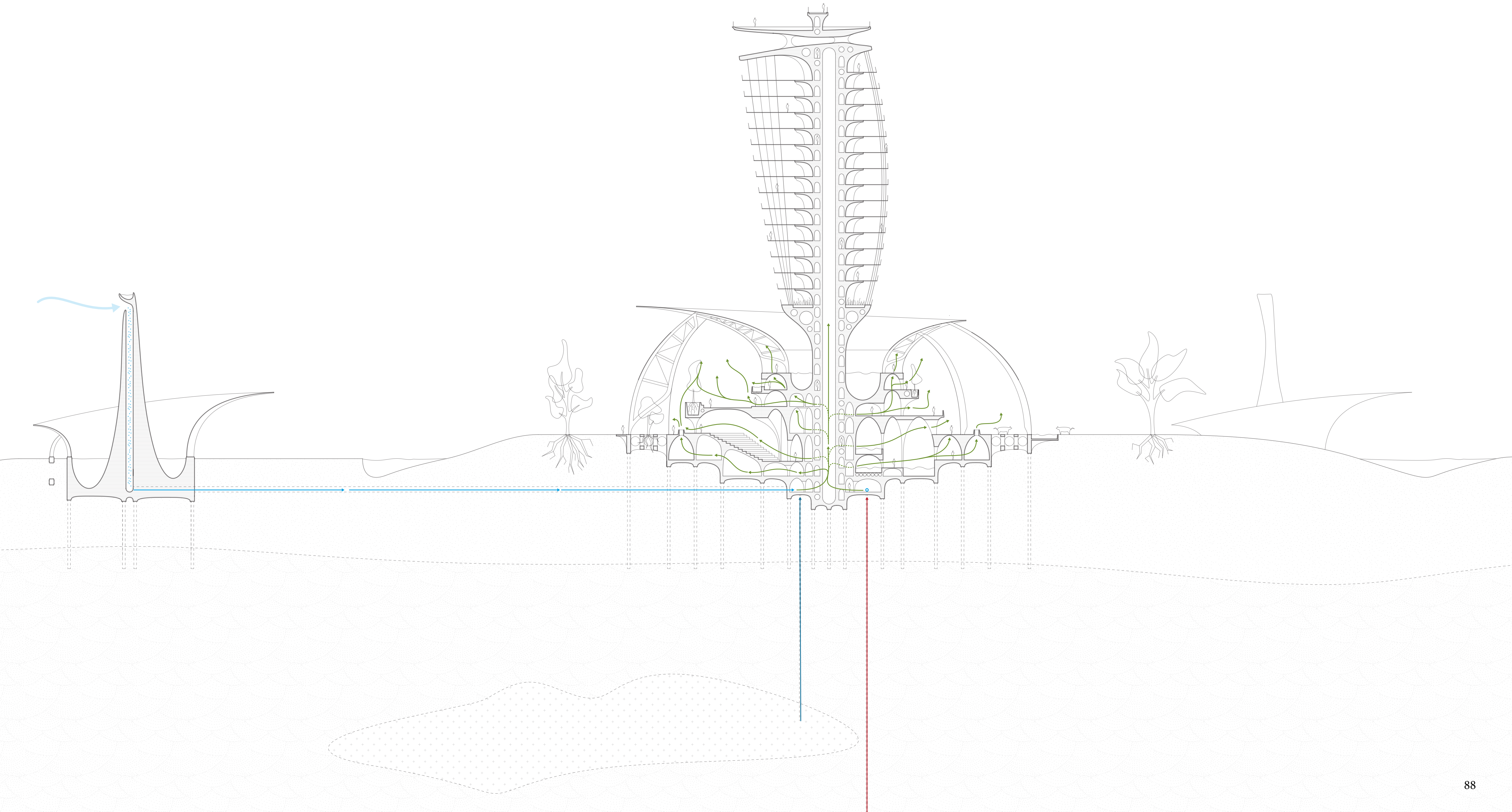


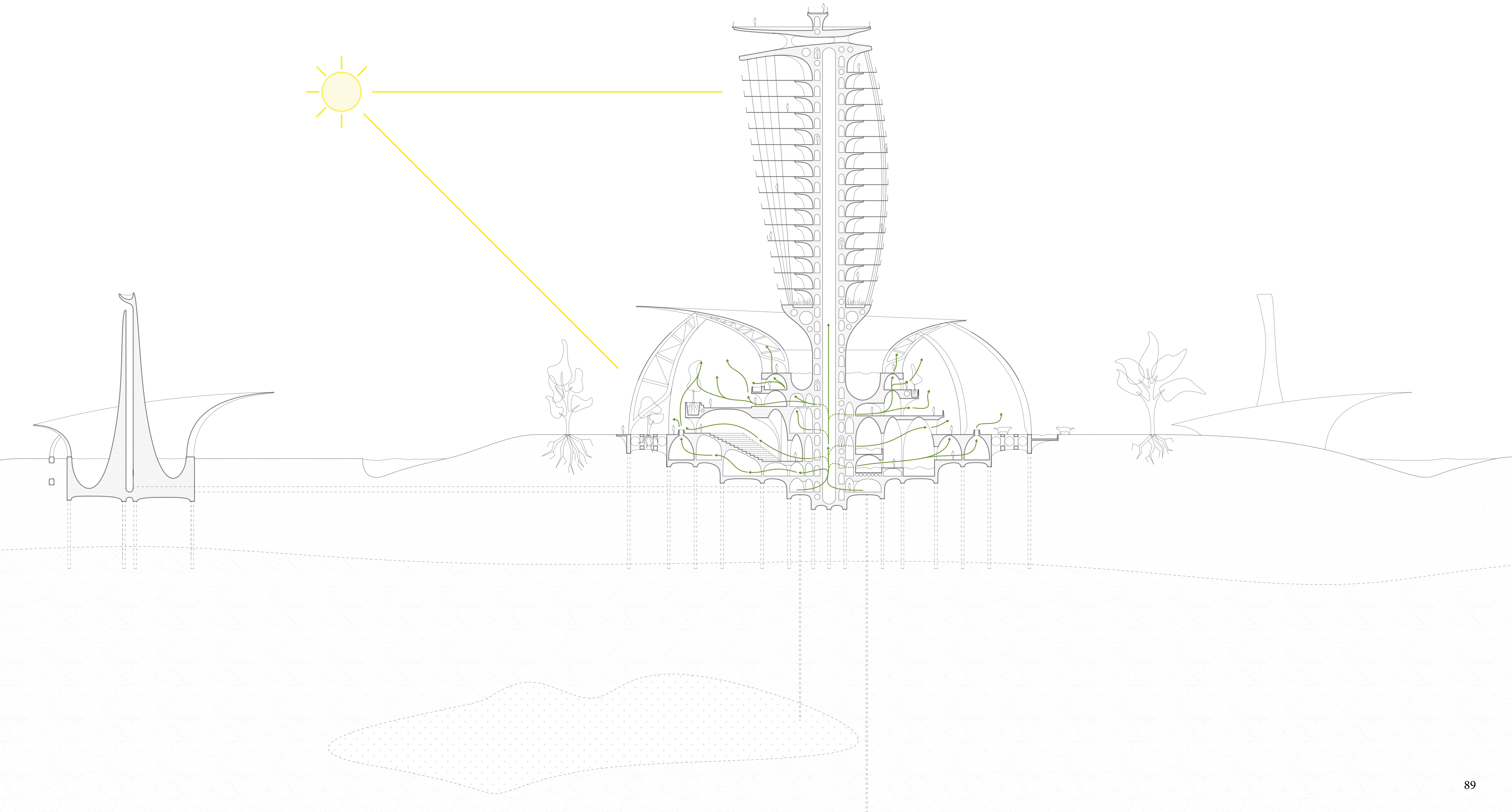


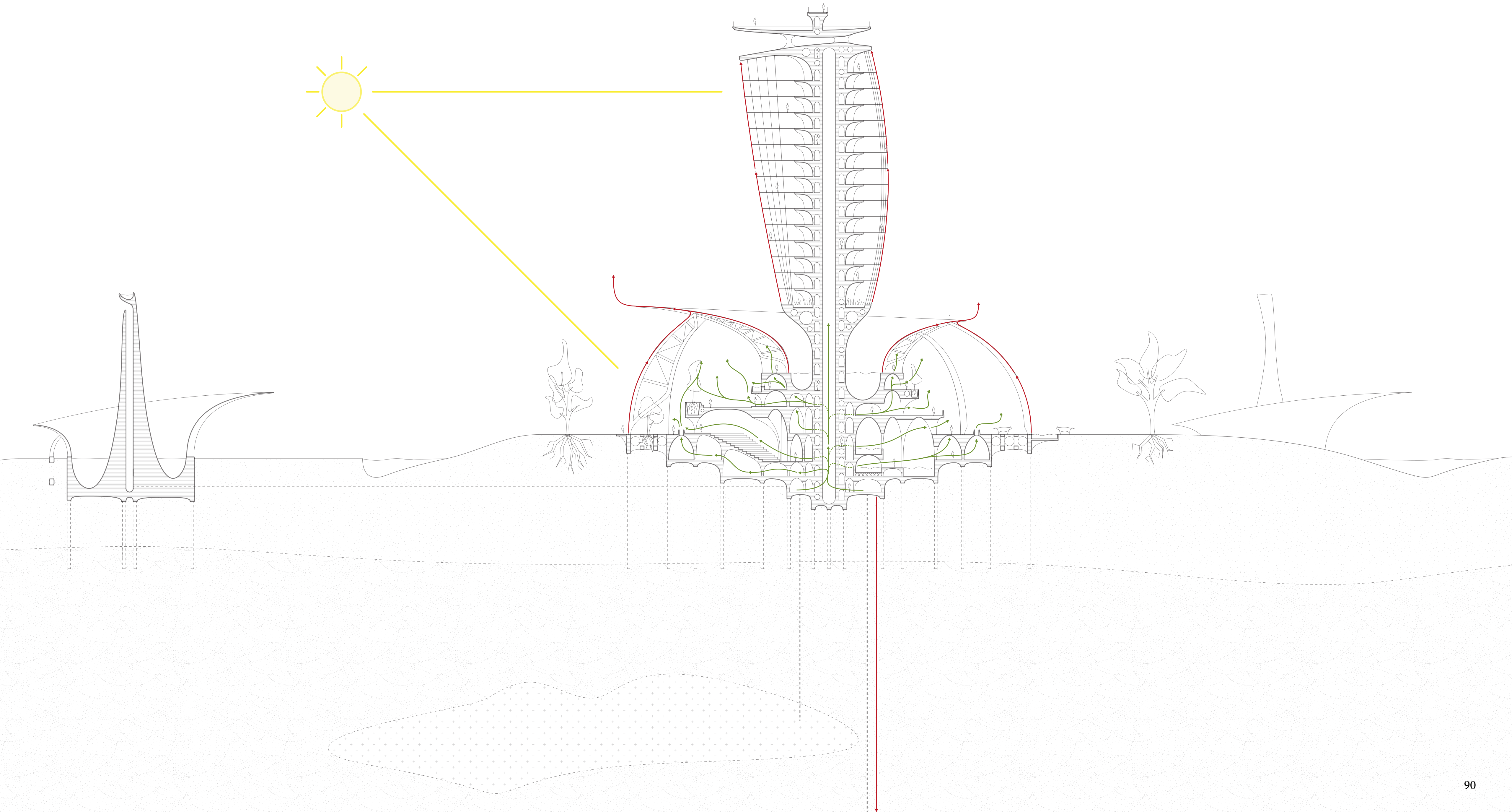


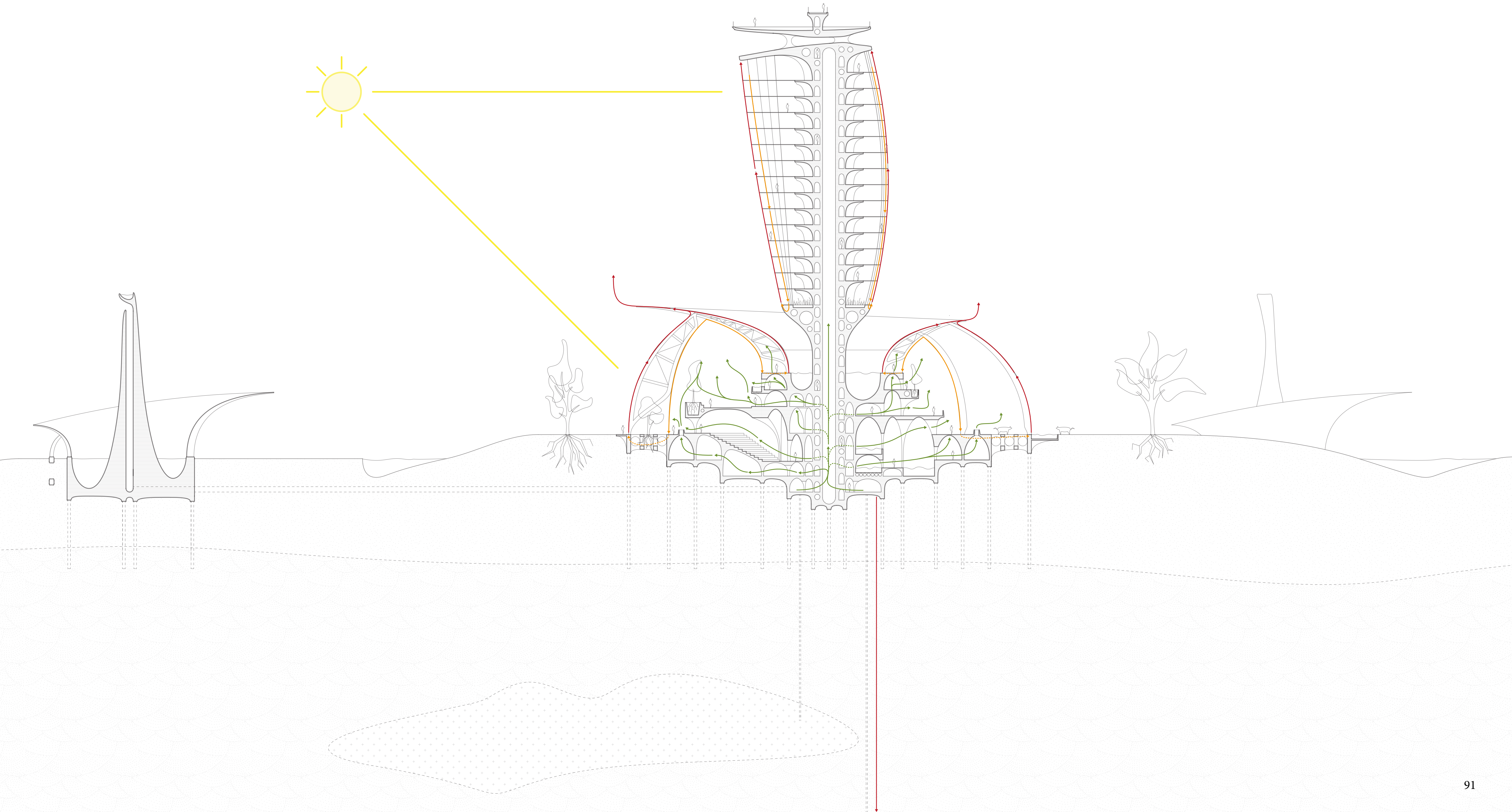


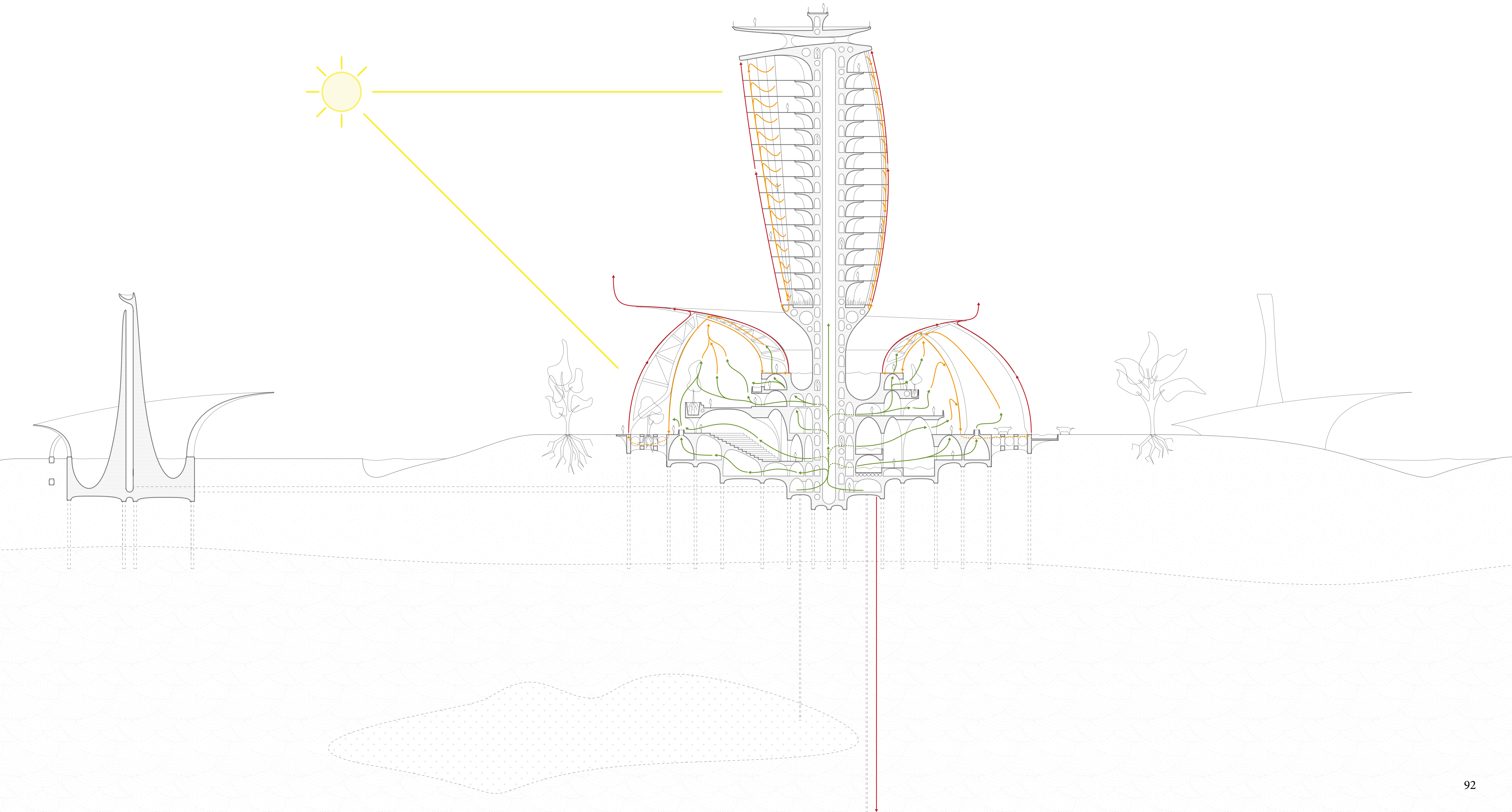


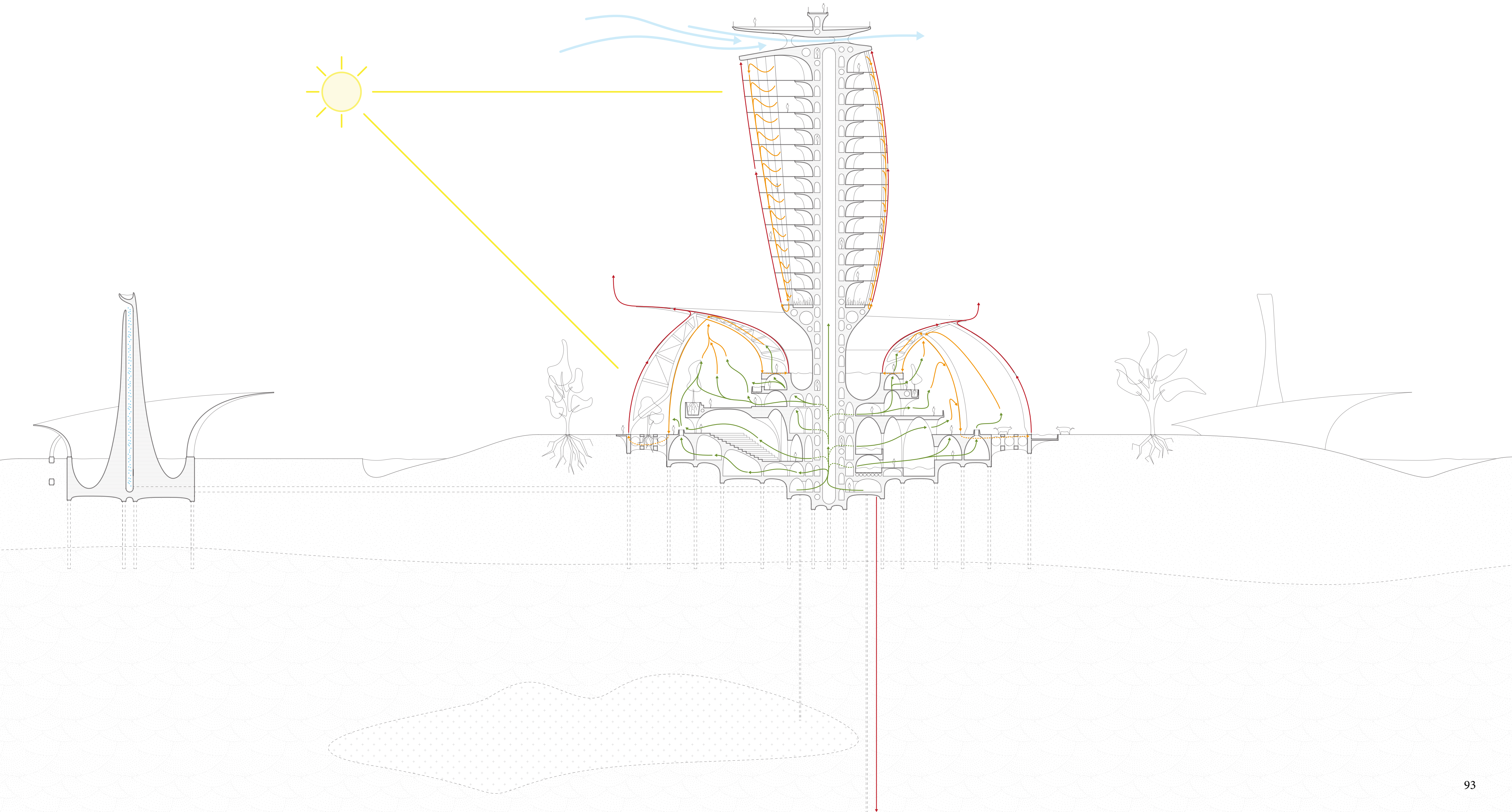


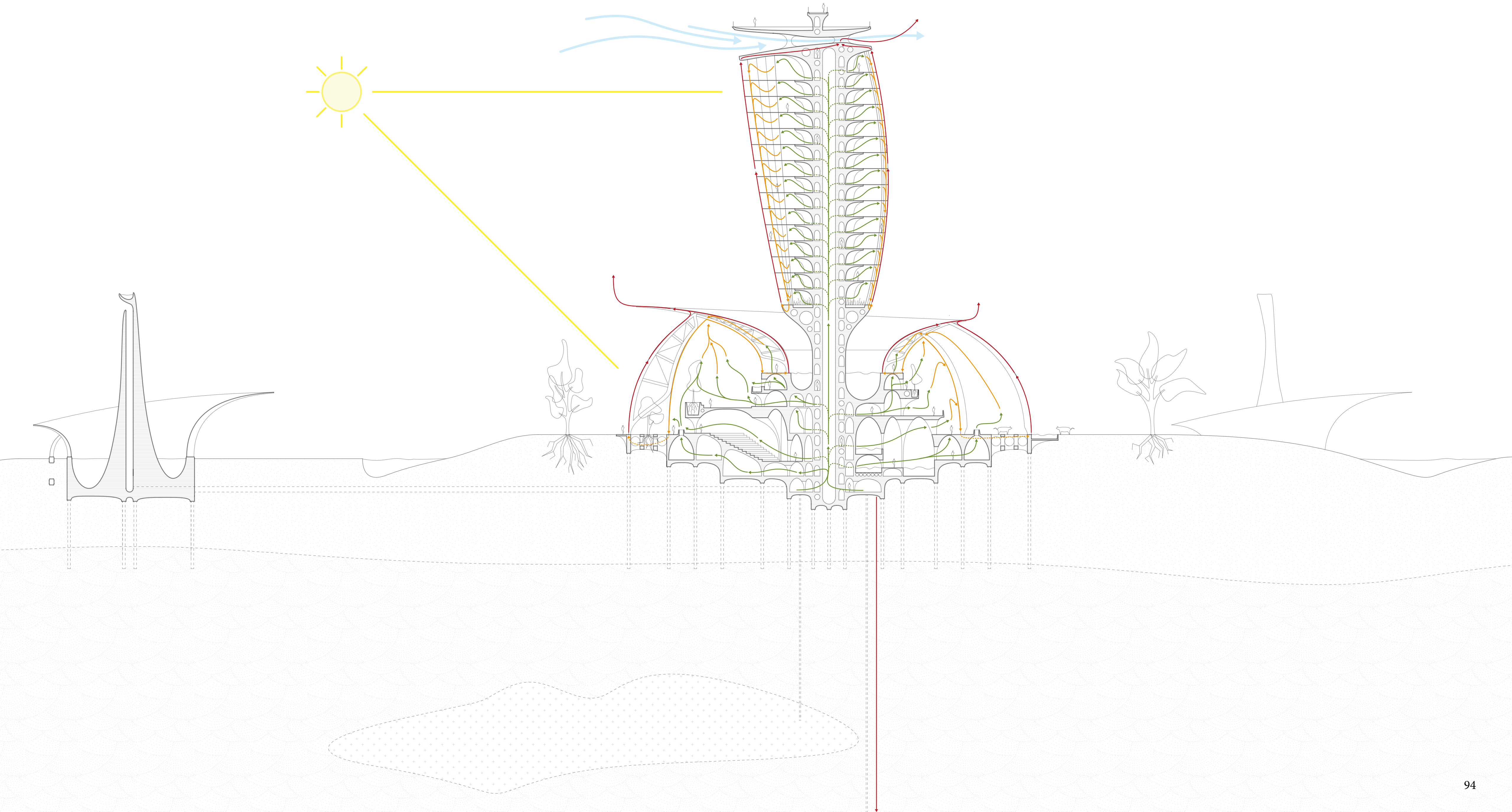












Exhaust shaft size

Maximum inhabitants = 130
Fresh air per person = 50 m³ / h
Max ventilation capacity = max amount persons x fresh air per person
= 130 x 50
= 6500 m³ / h

Max velocity per second = 1,5 m/s
Max velocity per hour = 1,5 x 3600
= 5400 m/h

Total surface = Max ventilation capacity / air speed
= 6500/ (1,5x3600)
= 1,2 m²

Amount of shafts = 24

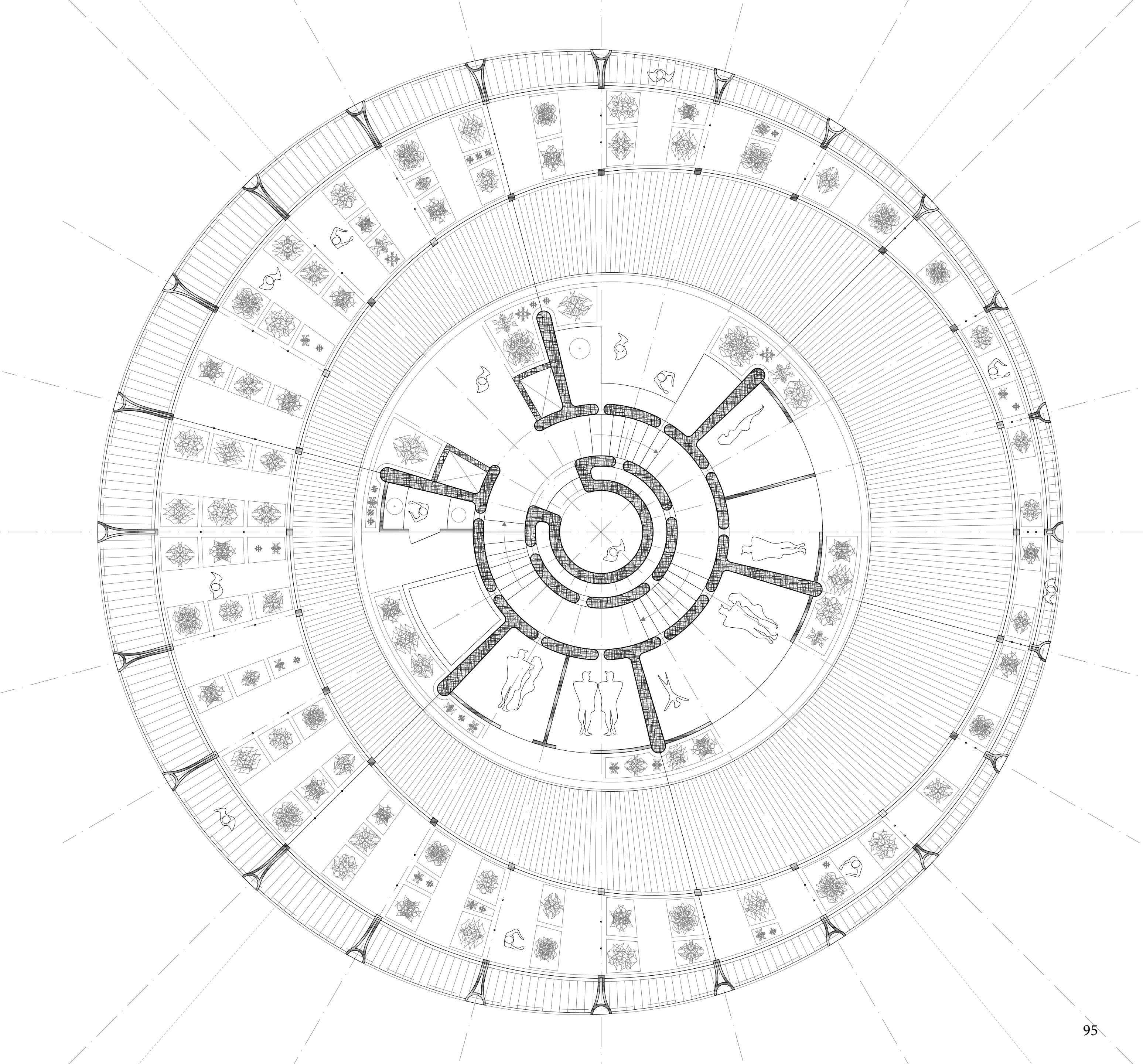
Surface per shaft = 1,2/24
= 0,05 m²/shaft
= (π x r²)/2

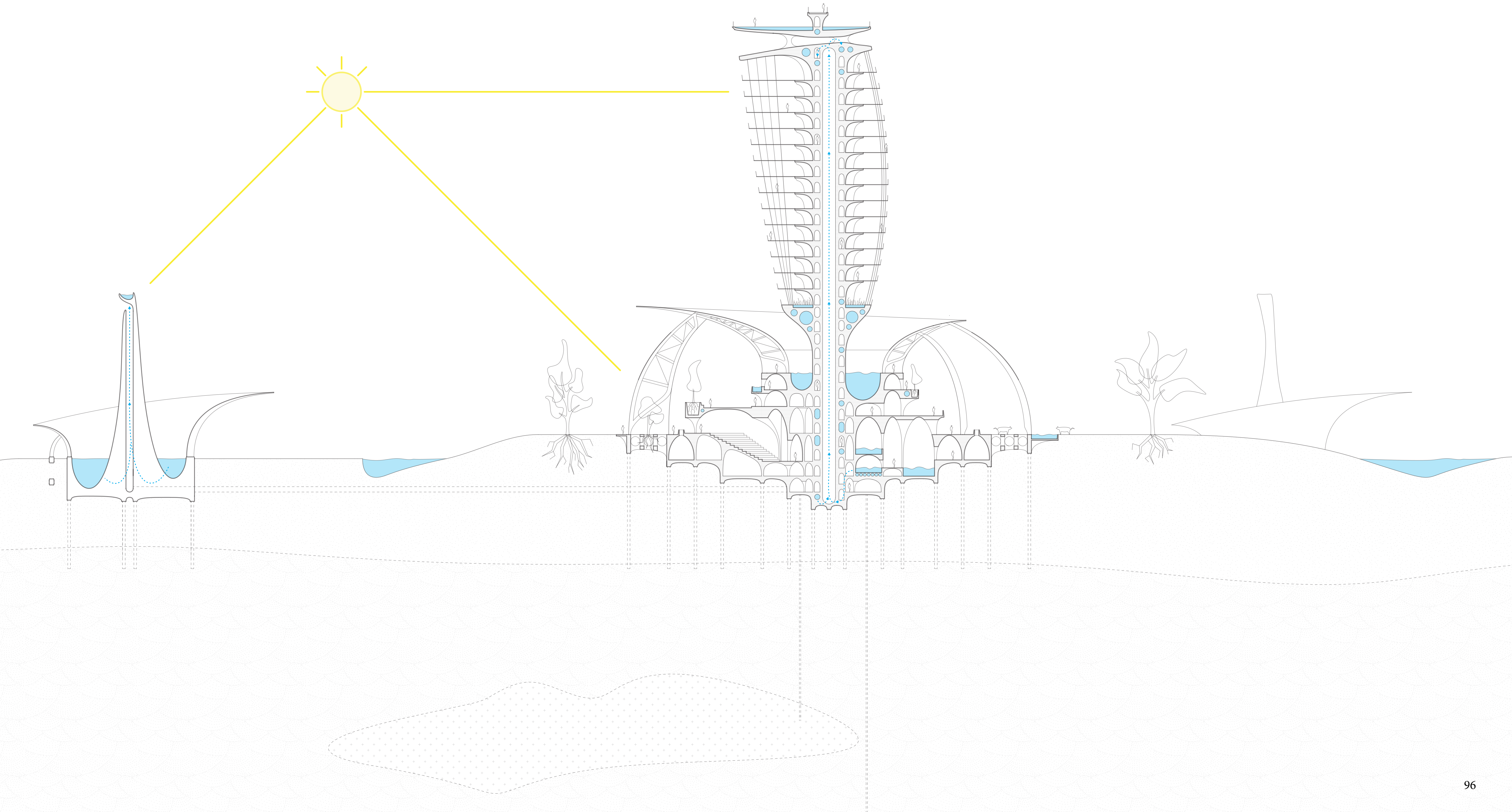
Surface per shaft (π x r²)/2 = 0,05
π x r² = 0,1

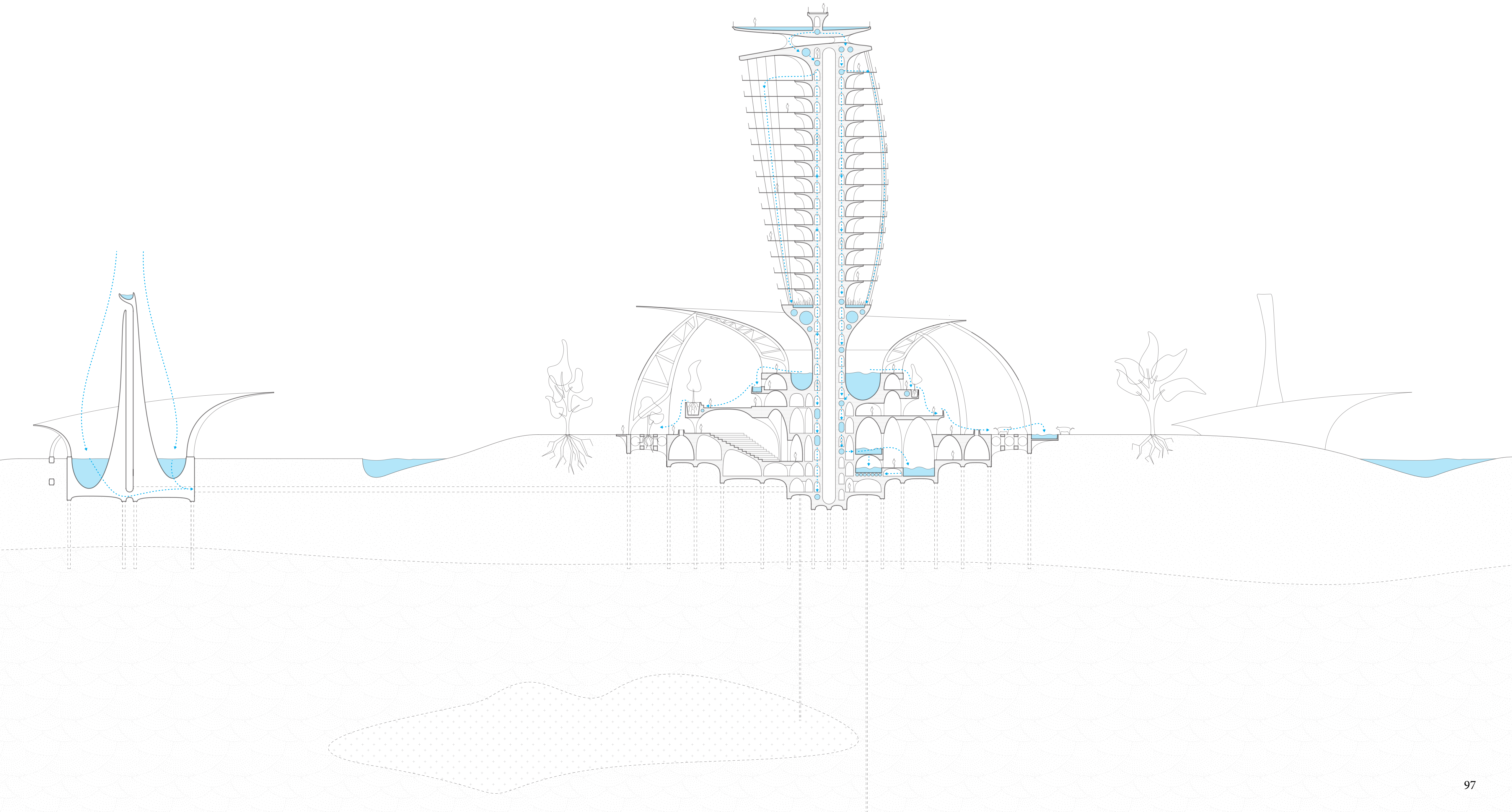
Radius single shaft r = √0,1/ π
r = 0,18

Diameter single shaft d = 36 cm

< Ventilation demand < airspeed = good for the system







Potential Energy waterflow

$$E_{\text{potential}} (J) = M \times g \times h$$

$$E_{\text{potential}} (W) = f \times g \times \Delta h$$

M = mass

g = gravitational force 9,81 m/s²

h = height

f = flow (L/s)

Efficiency = 80 – 95 %



Air vents energy demand

Vent Power = 13 W
Maximum capacity = 124 m3/h

Maximum inhabitants (tower) = 130
Ventilation demand = 50 m3 / h
Max ventilation capacity needed = max people x ventilation demand
= 130 x 50
= 6500 m3 / h

Needed Power (W) = 13 x (VCn / VCv)
= 13 x (6500/124)

= 681,5 W

Water flow demand

Power Potential (W) = Needed Power (W)
(fn x Δ h x g) x 0,8 = 681,5 W
fn x 25 x 9,81 = 852 W
fn = 852 / (25x9,81)

= 3,474 L/s

Energy demand to achieve pump demand

Worst cas scenario = Maximum amount of night hours
Shortest day in the Netherlands 21th December (8:46 – 16:30)

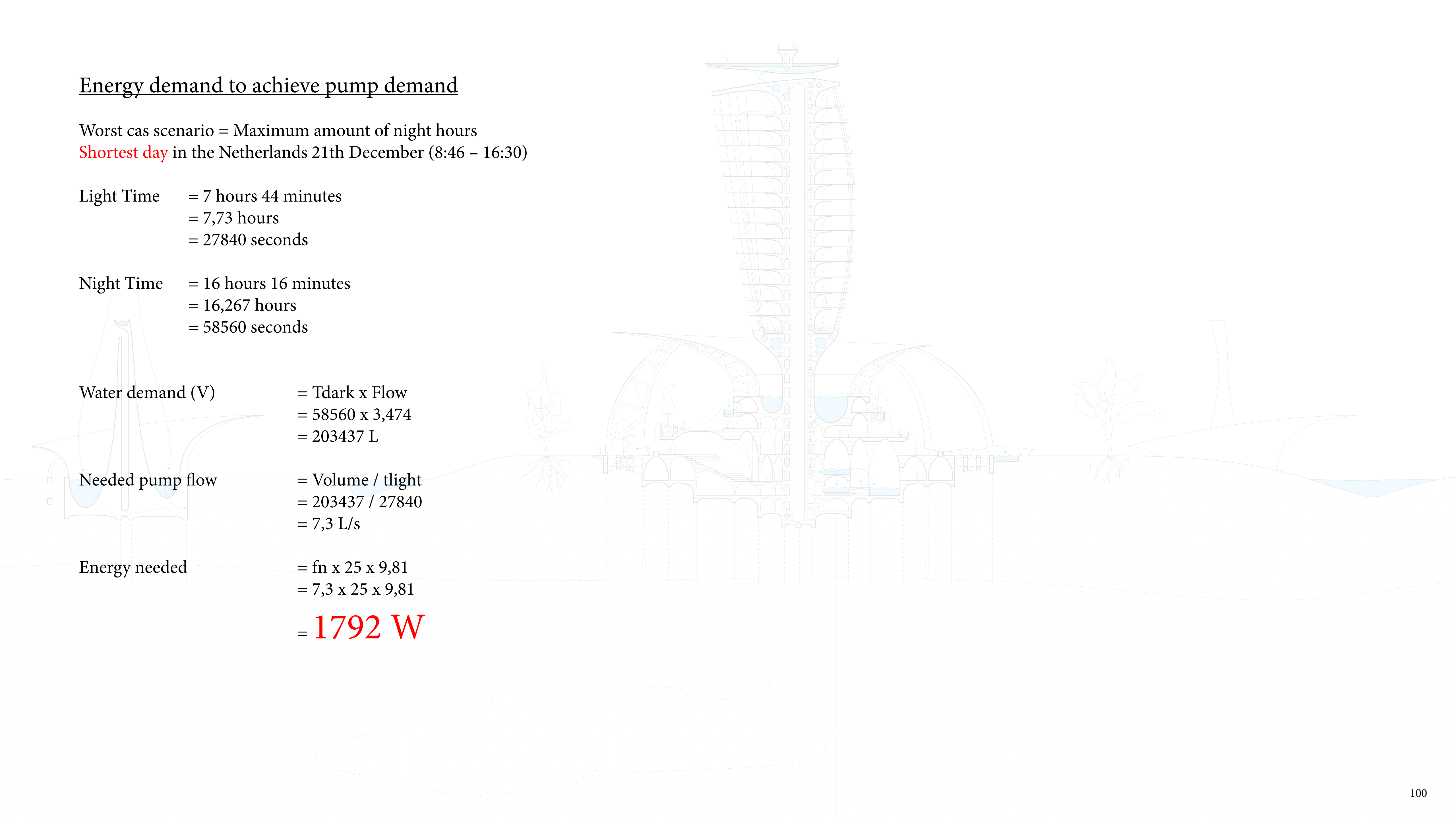
Light Time = 7 hours 44 minutes
 = 7,73 hours
 = 27840 seconds

Night Time = 16 hours 16 minutes
 = 16,267 hours
 = 58560 seconds

Water demand (V) = Tdark x Flow
 = 58560 x 3,474
 = 203437 L

Needed pump flow = Volume / tlight
 = 203437 / 27840
 = 7,3 L/s

Energy needed = fn x 25 x 9,81
 = 7,3 x 25 x 9,81
 = **1792 W**



Solar panel surface demand

Peak Power solar panel 1 m2 = 250 Wp
Winter day (cloudy, no rain) = **effeciency 10 %**
= 25 W

Solar panel Surface = E_n / E_p
= 1792 / 25
= 72 m2

Solar panel Surface available = 1500 m2

Worst case scenario

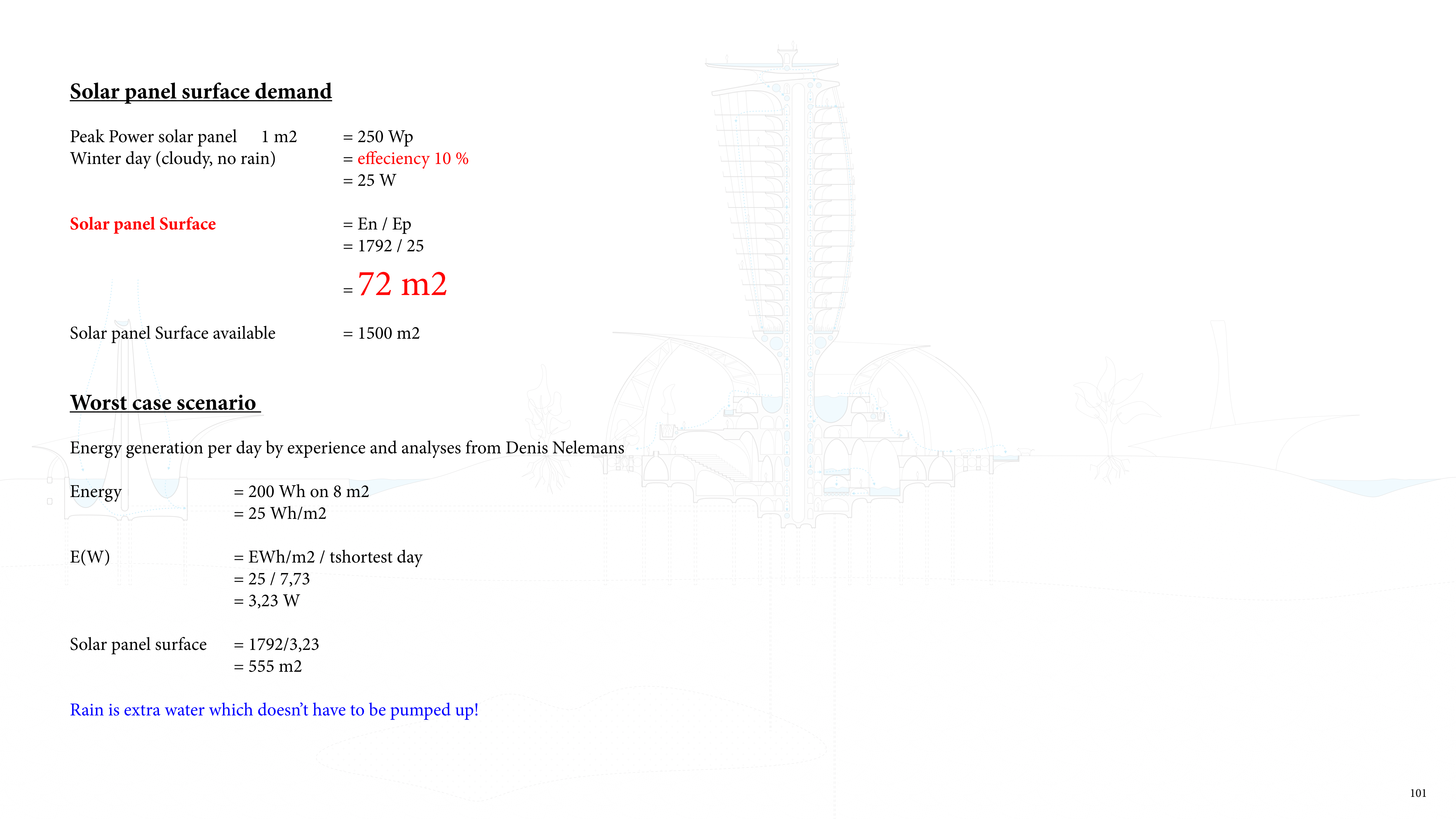
Energy generation per day by experience and analyses from Denis Nelemans

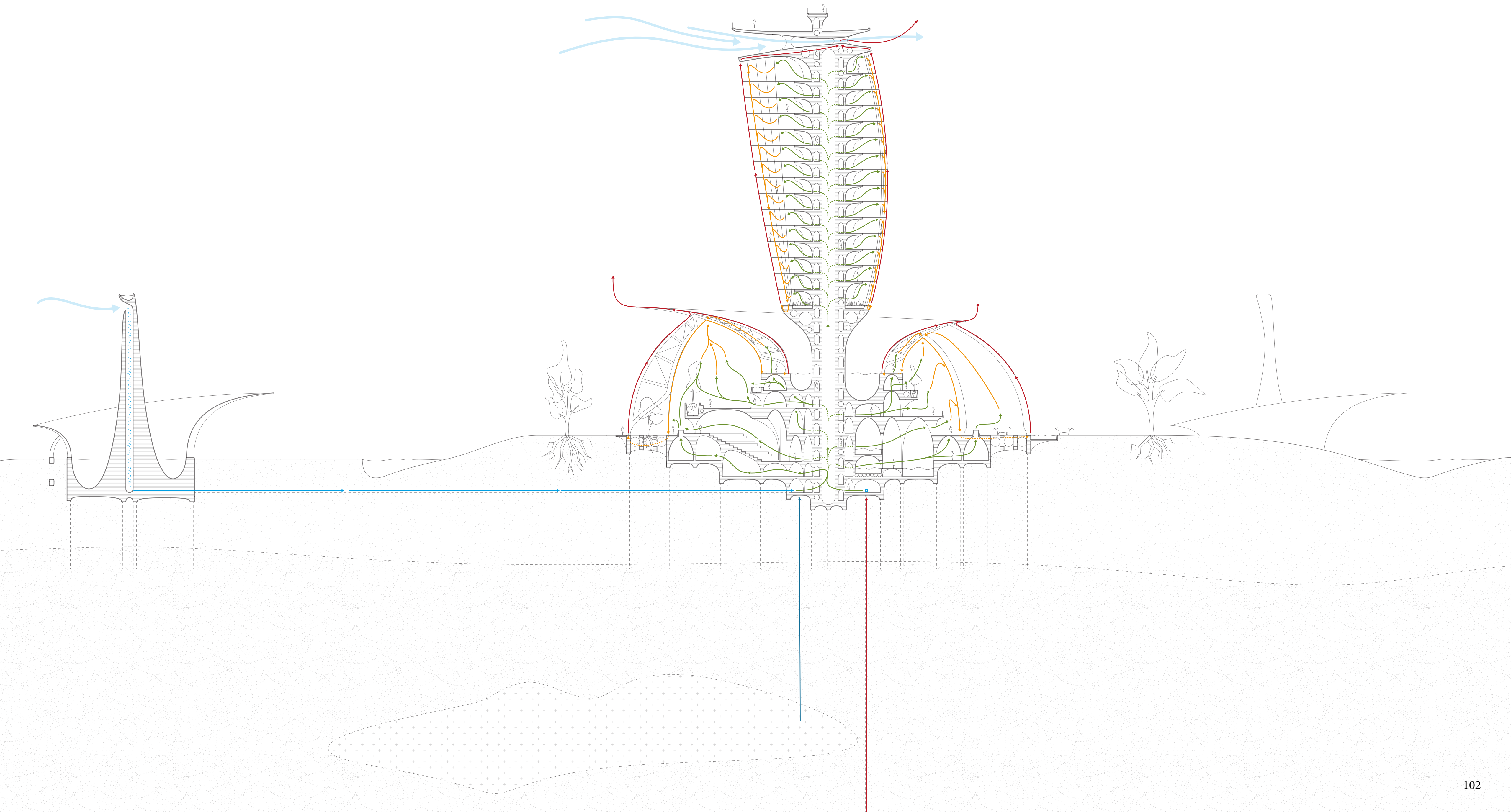
Energy = 200 Wh on 8 m2
= 25 Wh/m2

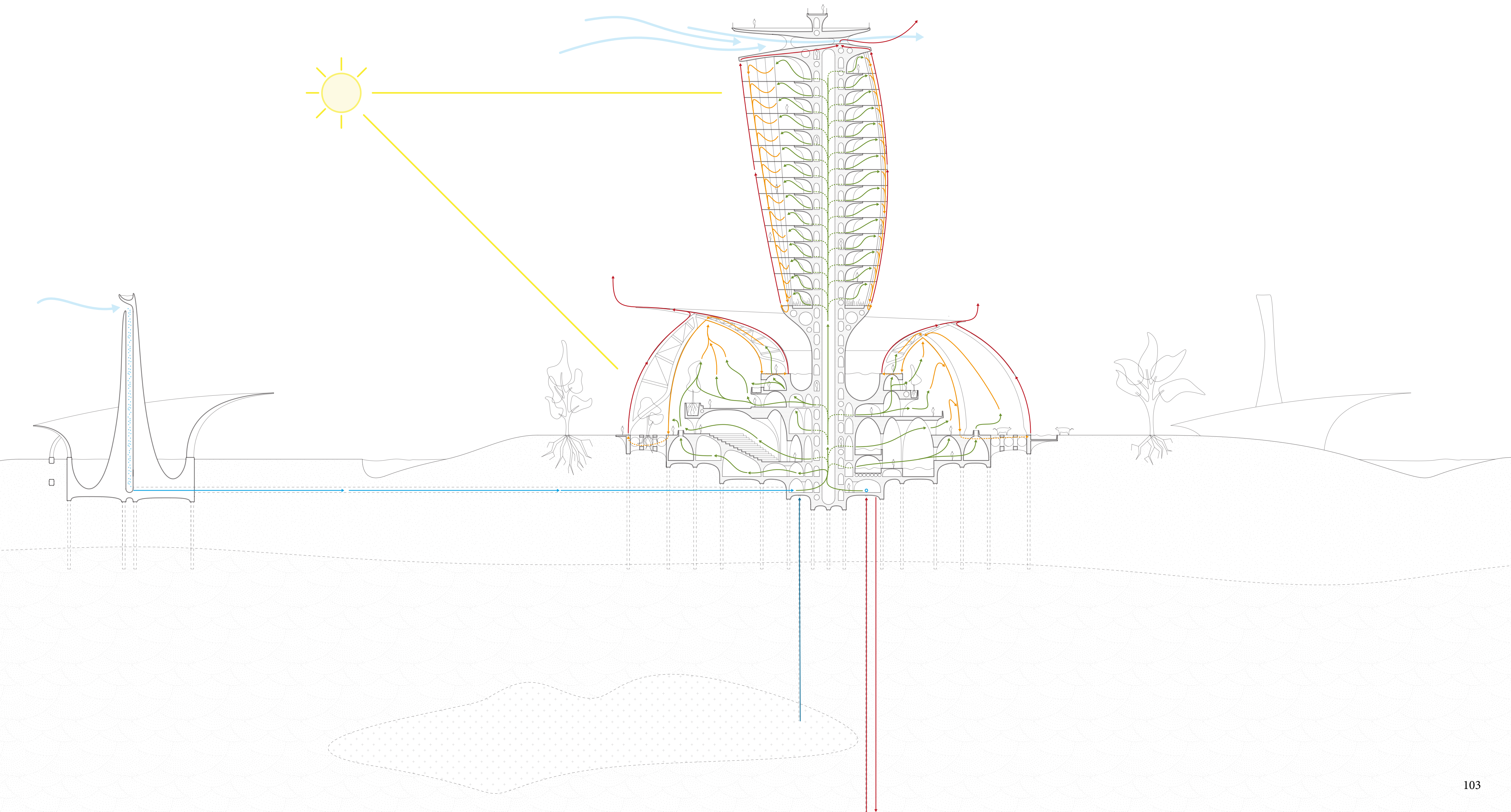
E(W) = $E_{Wh/m2} / t_{shortest\ day}$
= 25 / 7,73
= 3,23 W

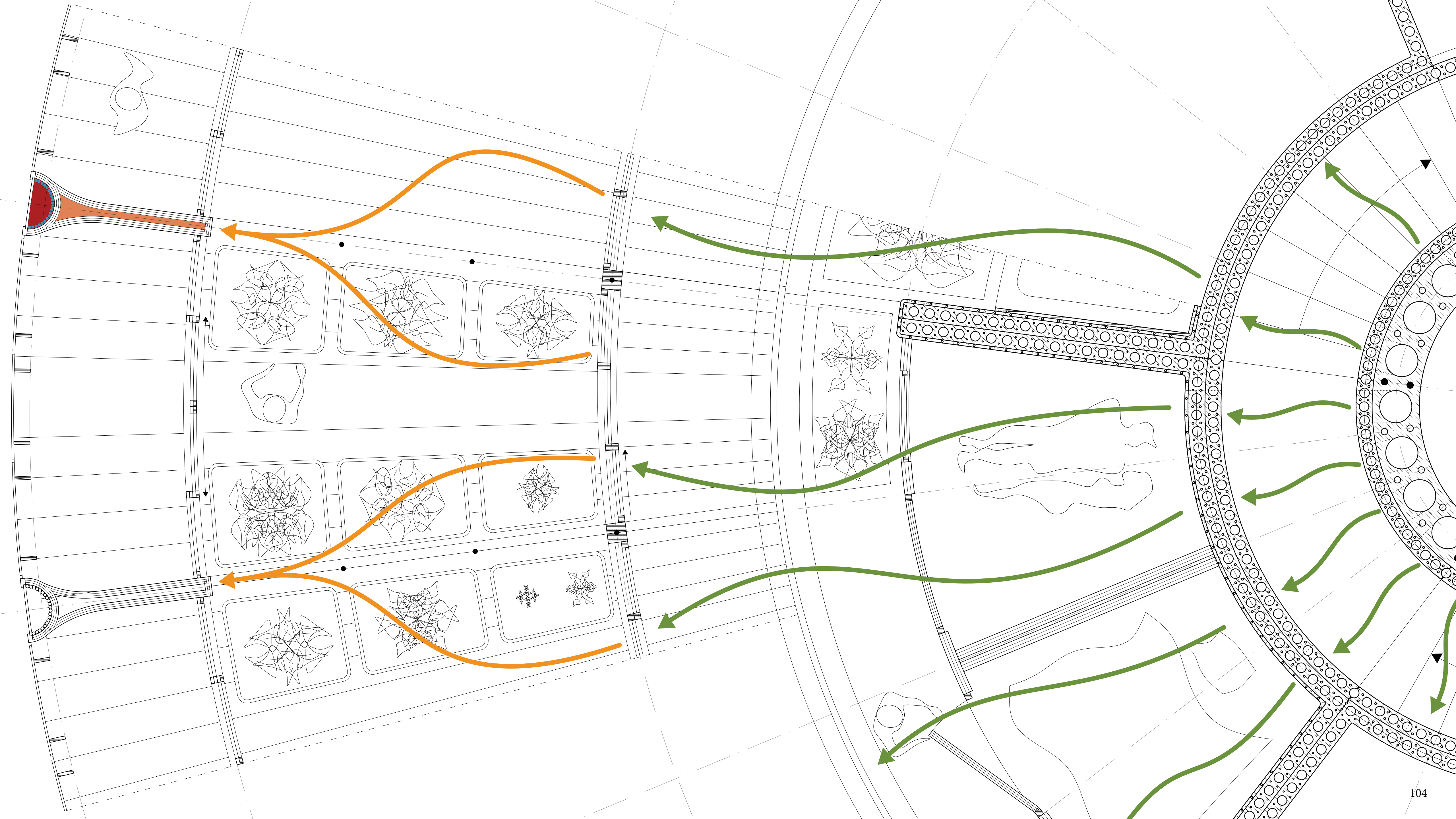
Solar panel surface = 1792/3,23
= 555 m2

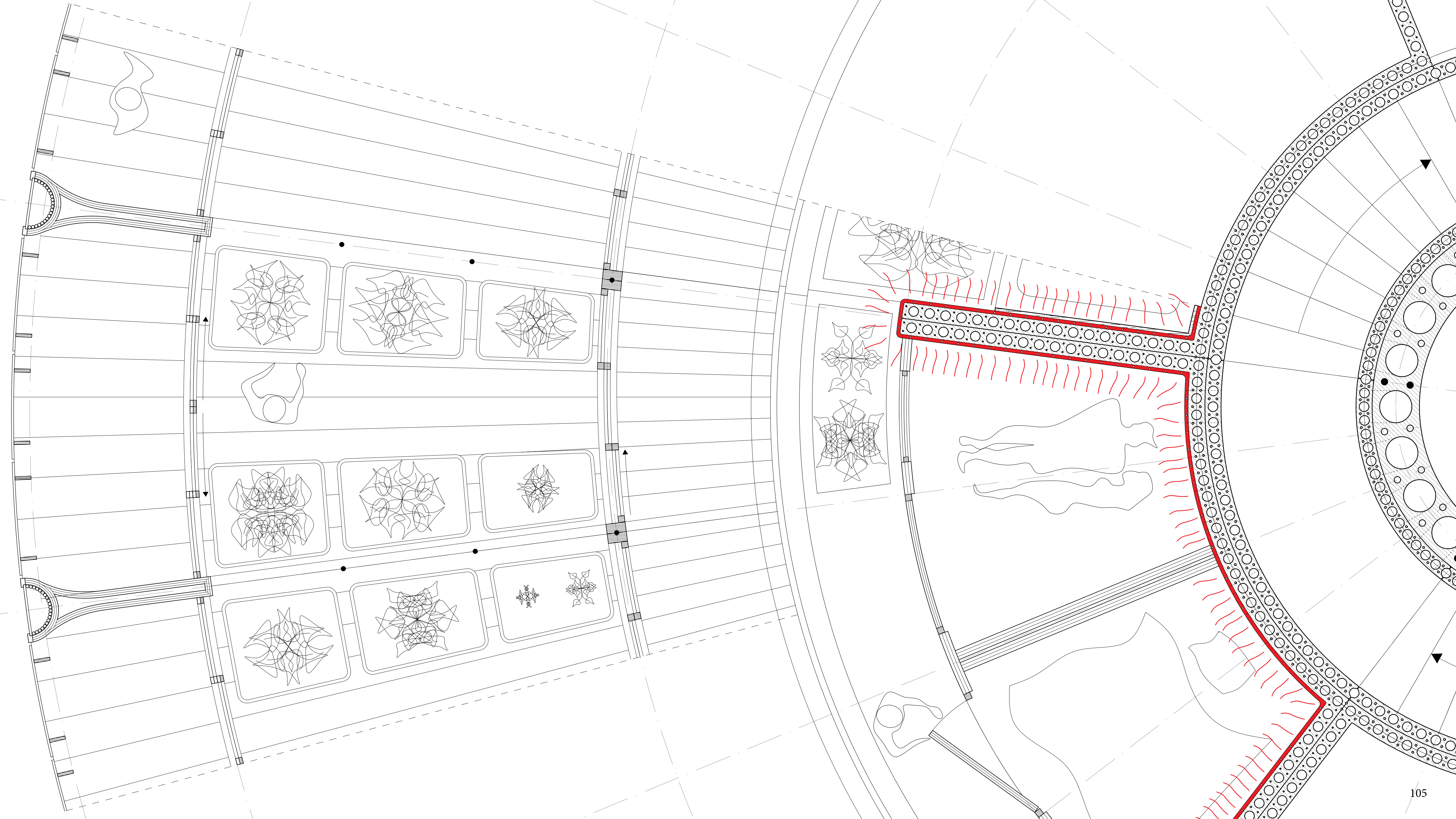
Rain is extra water which doesn't have to be pumped up!

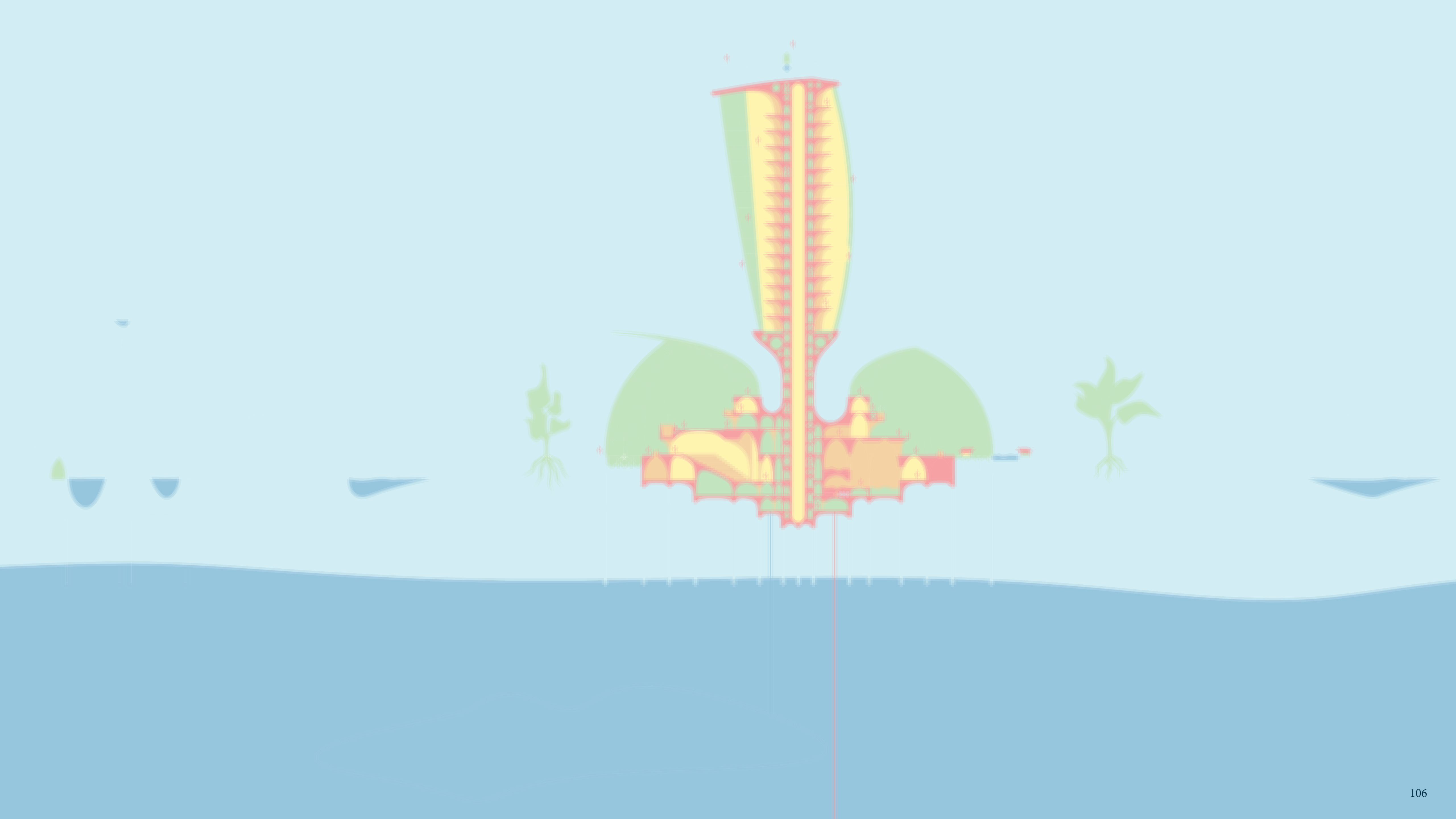




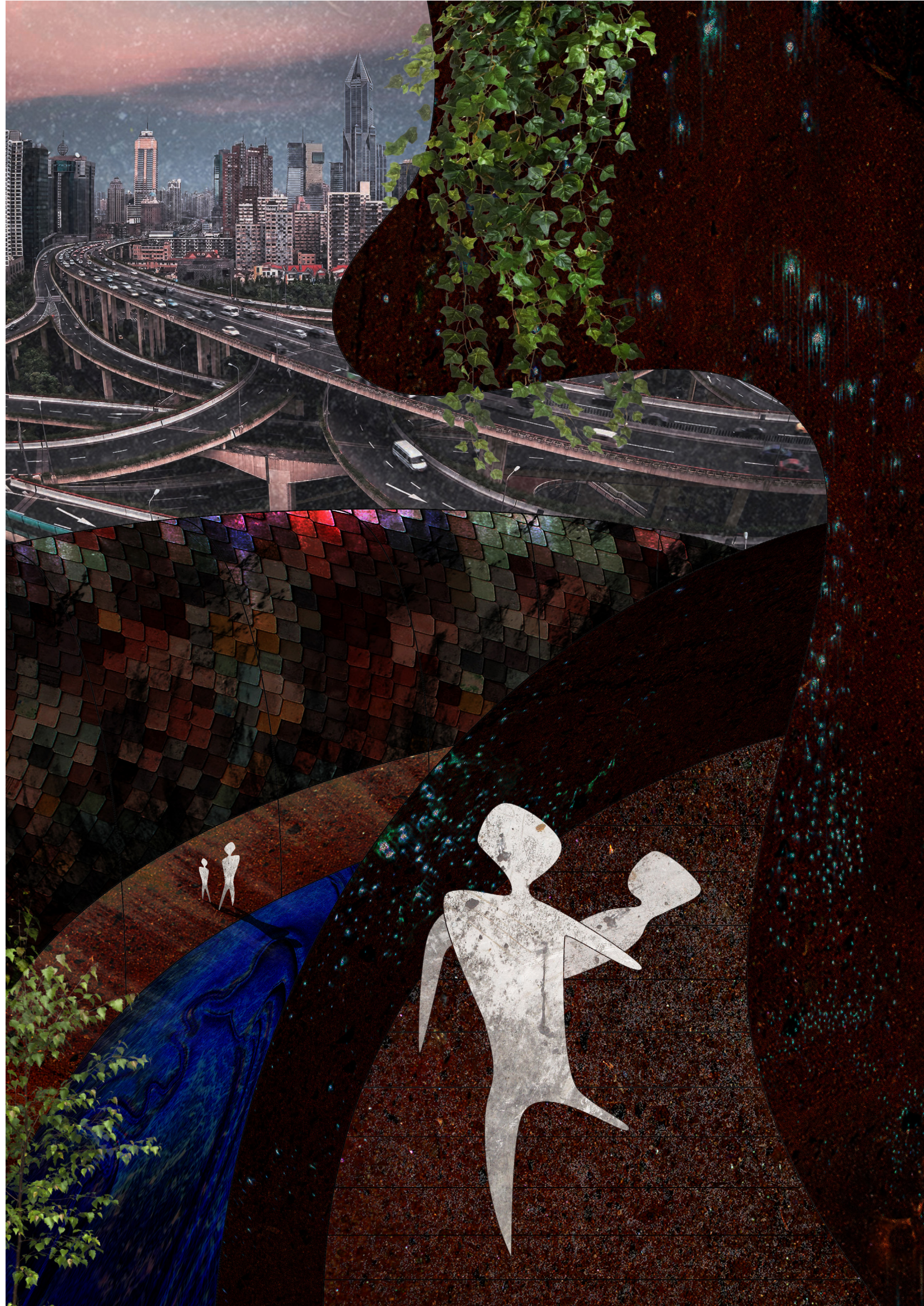


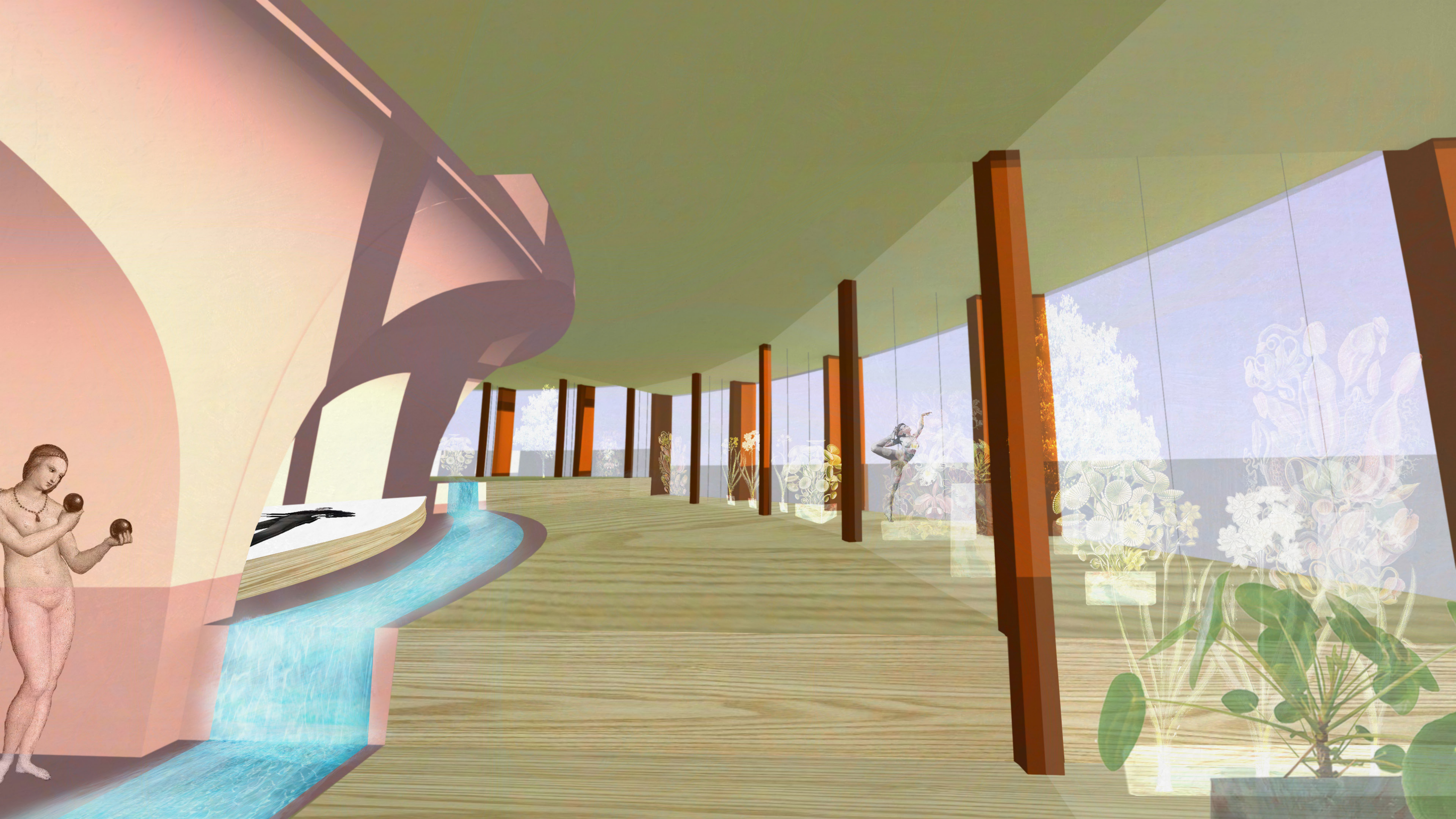


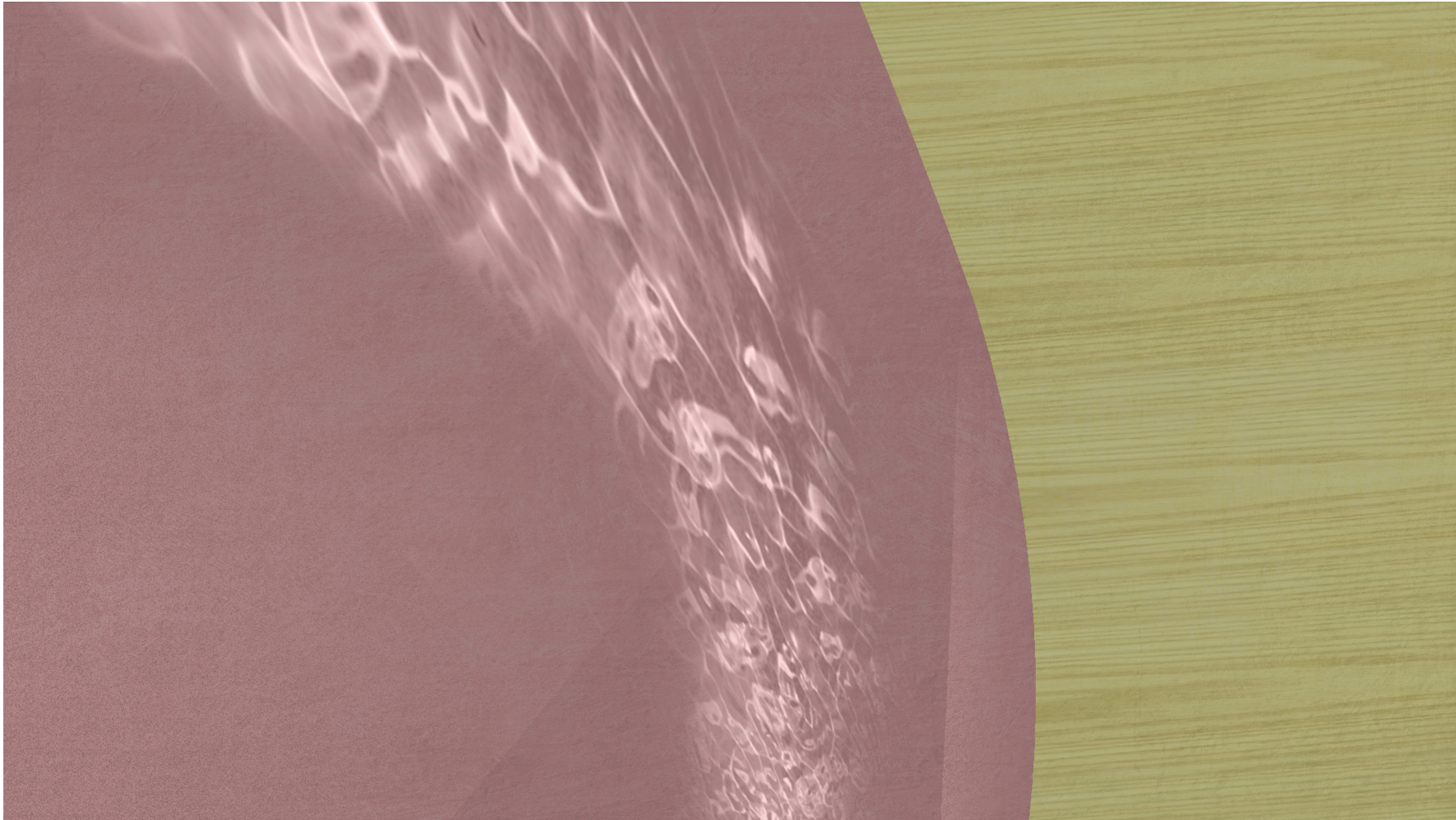




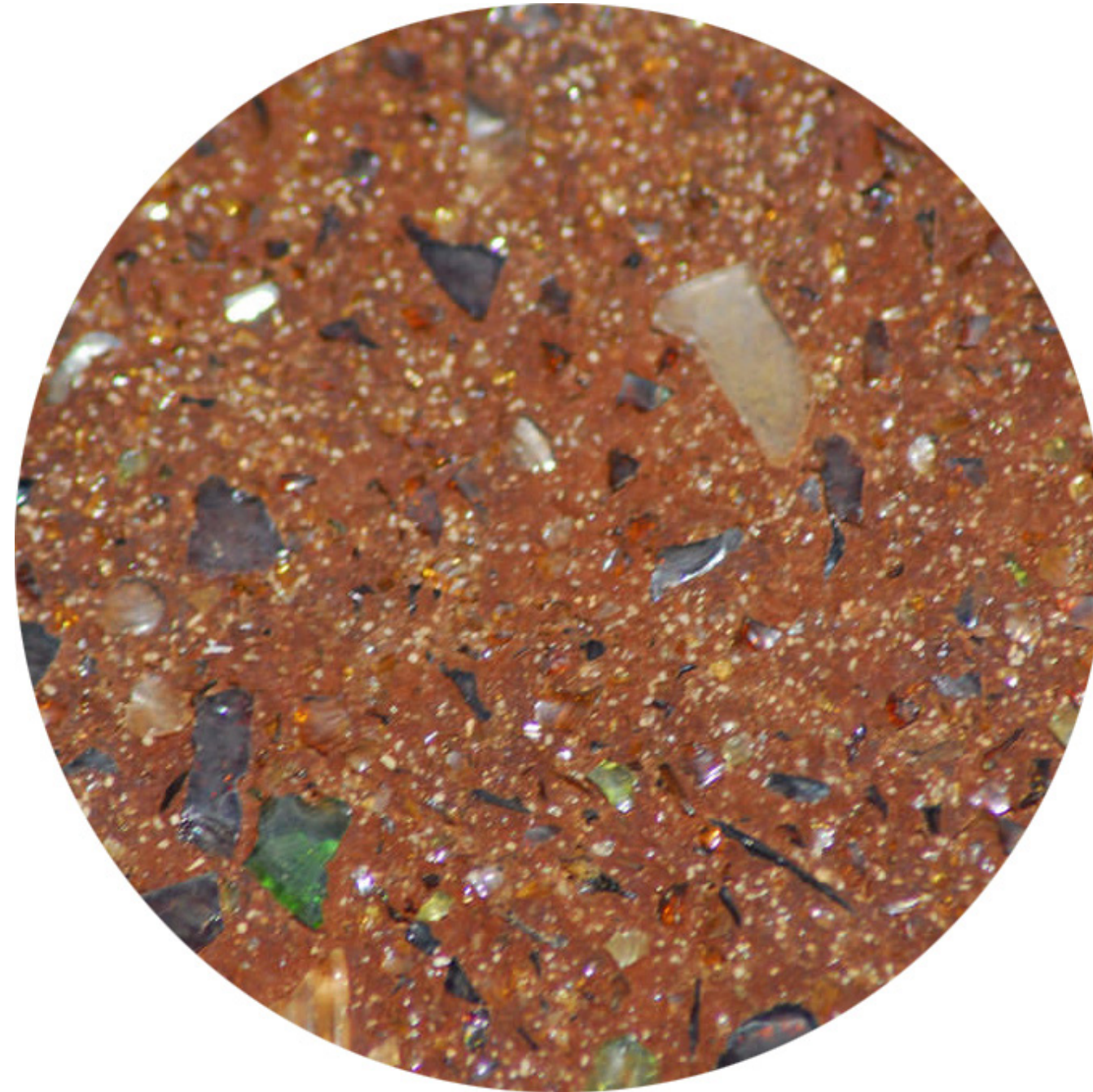








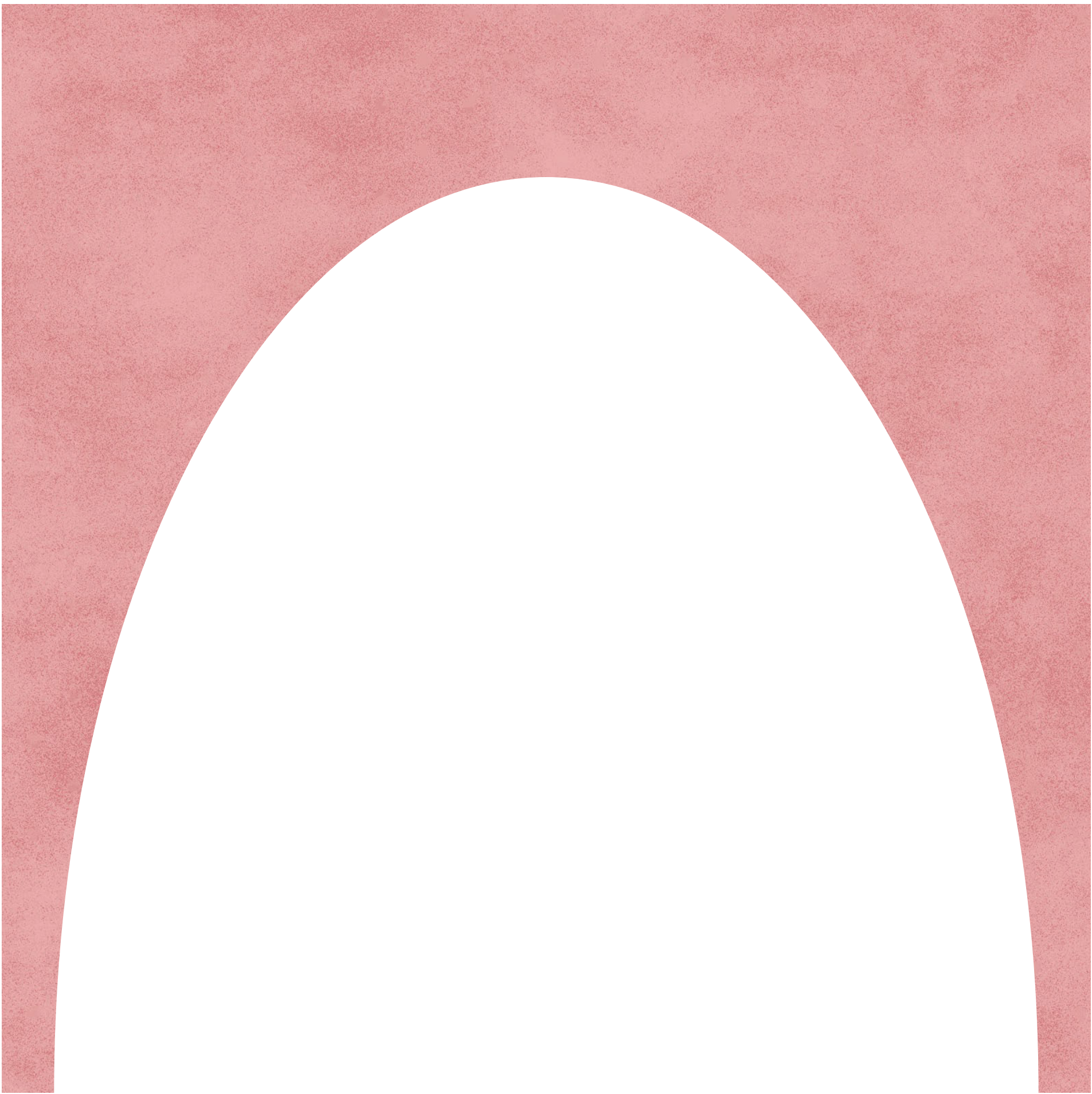
Ferrock



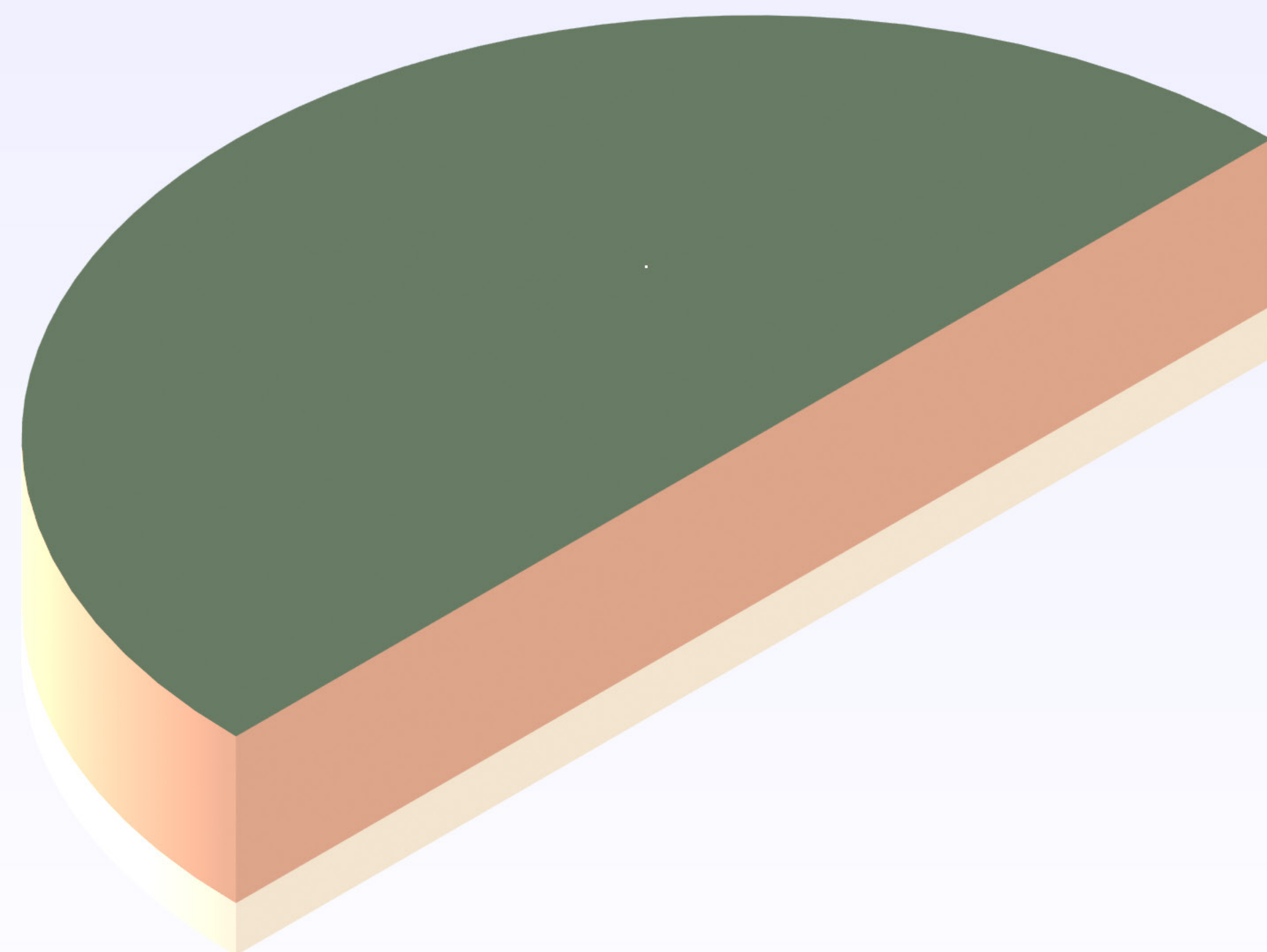
David Stone

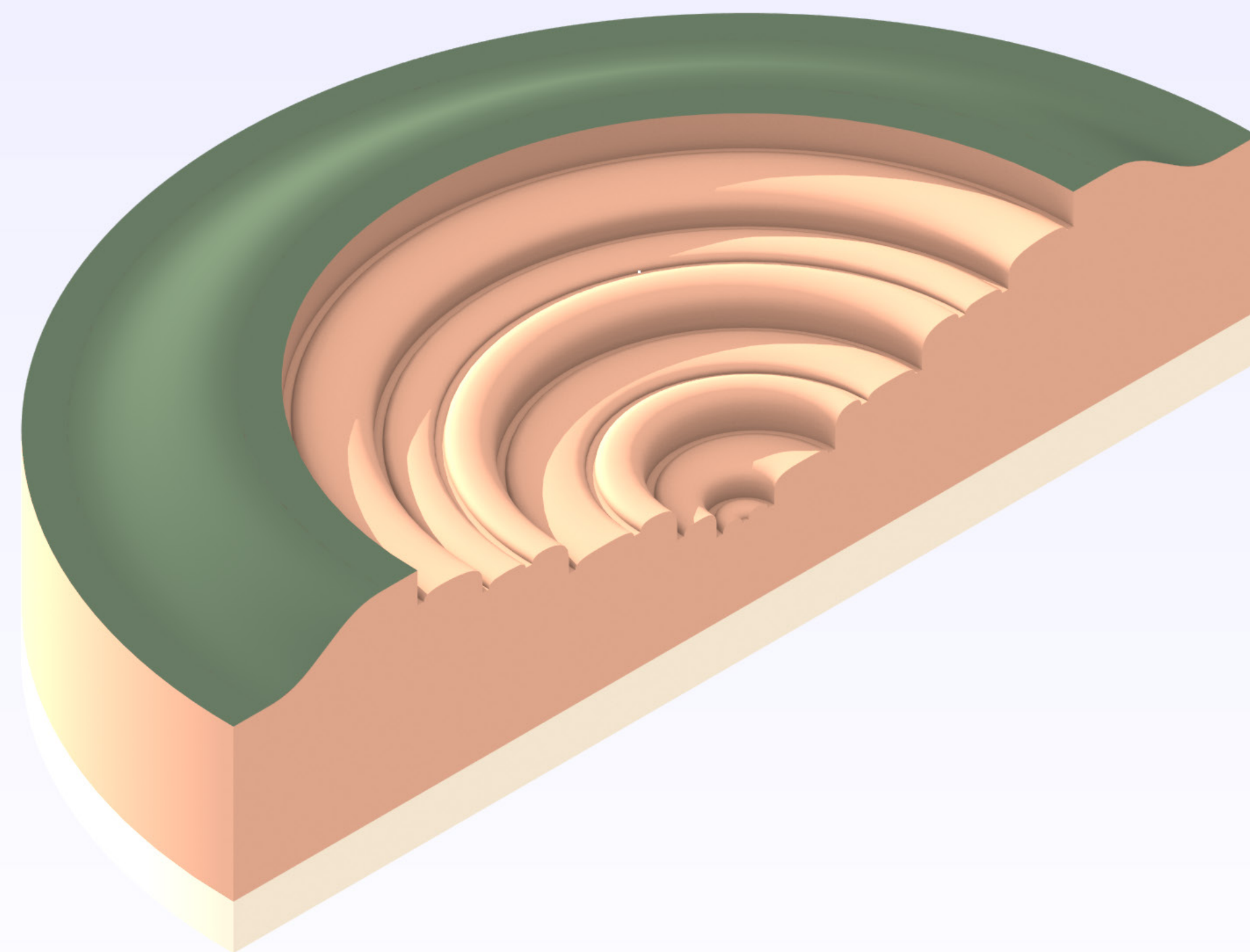


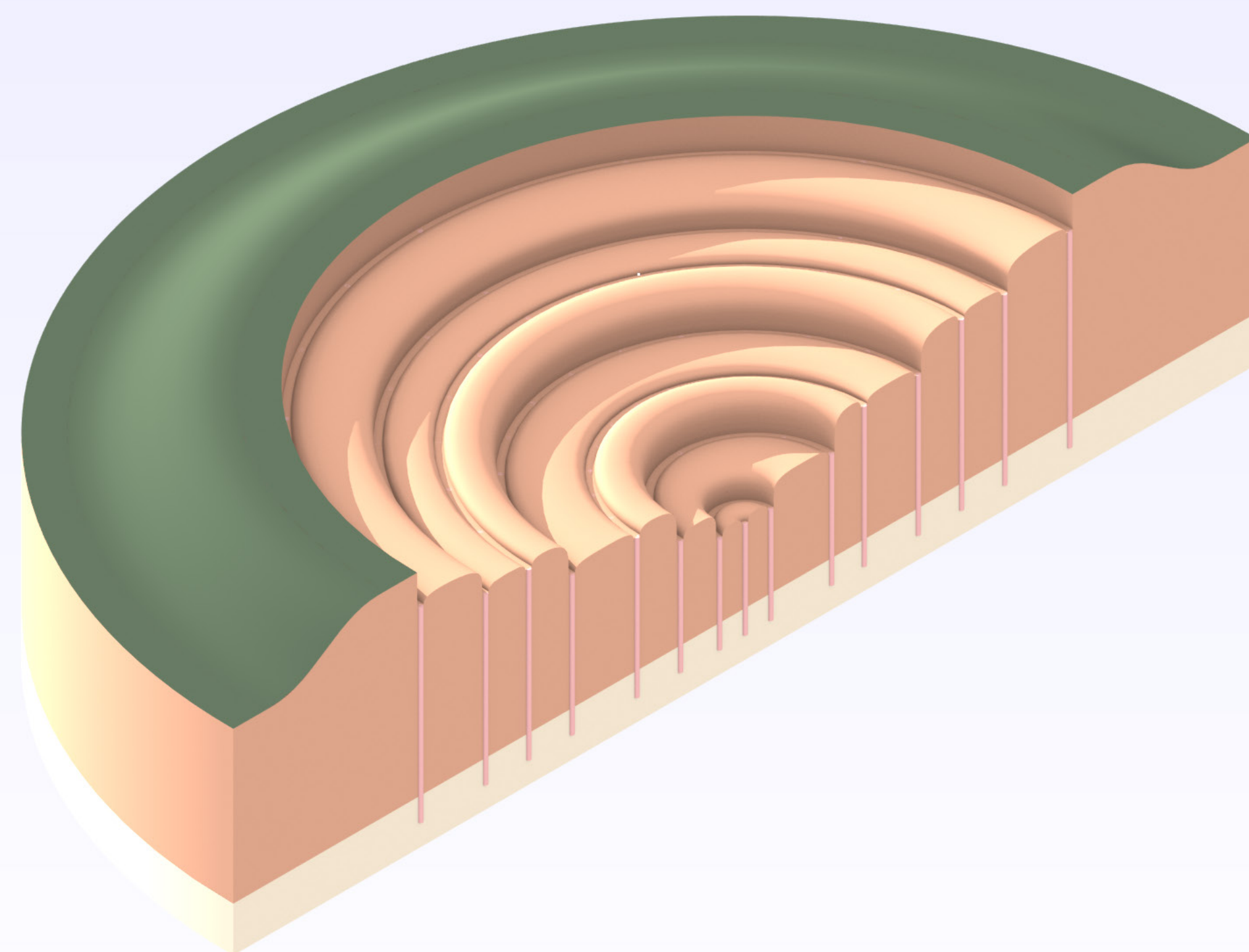


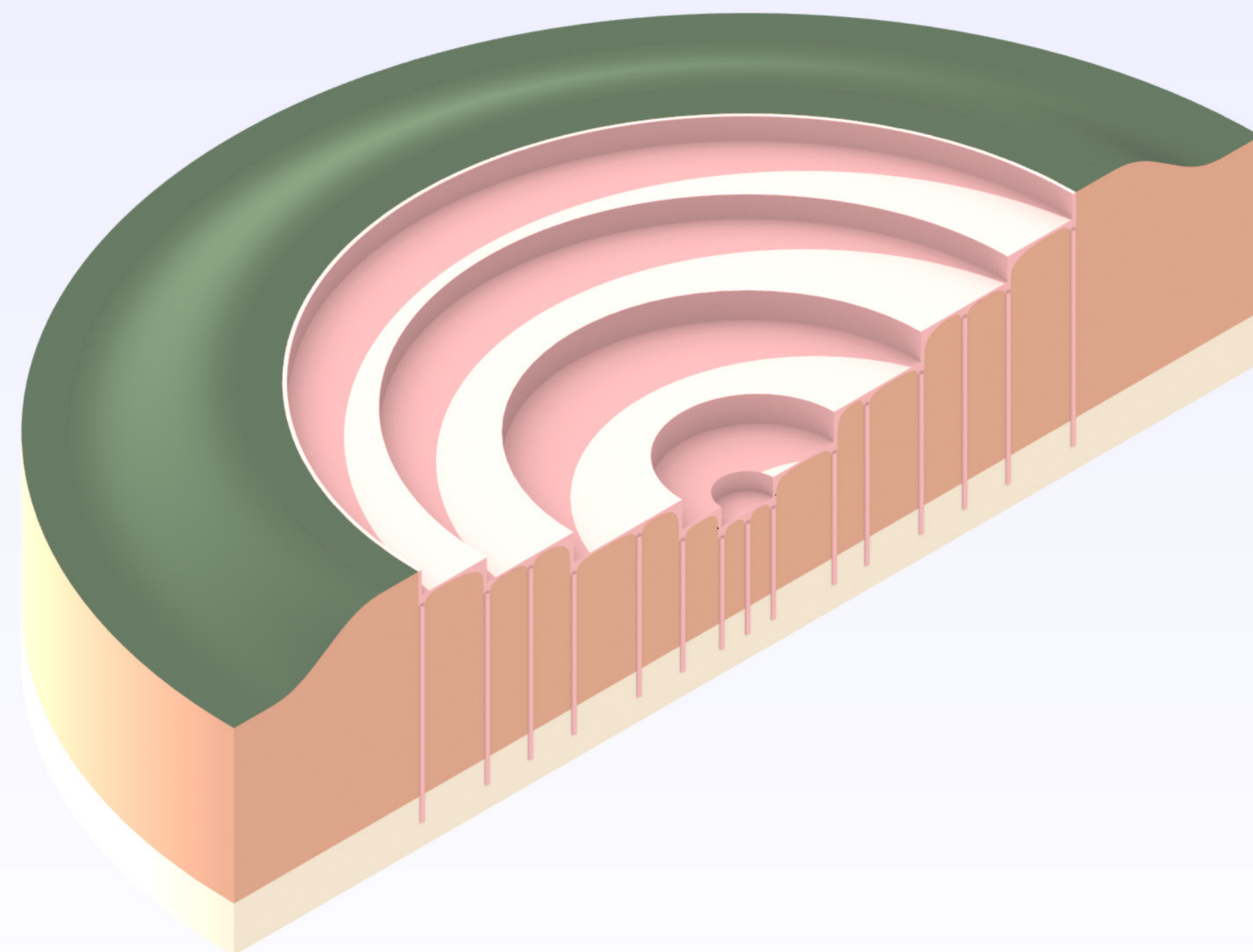


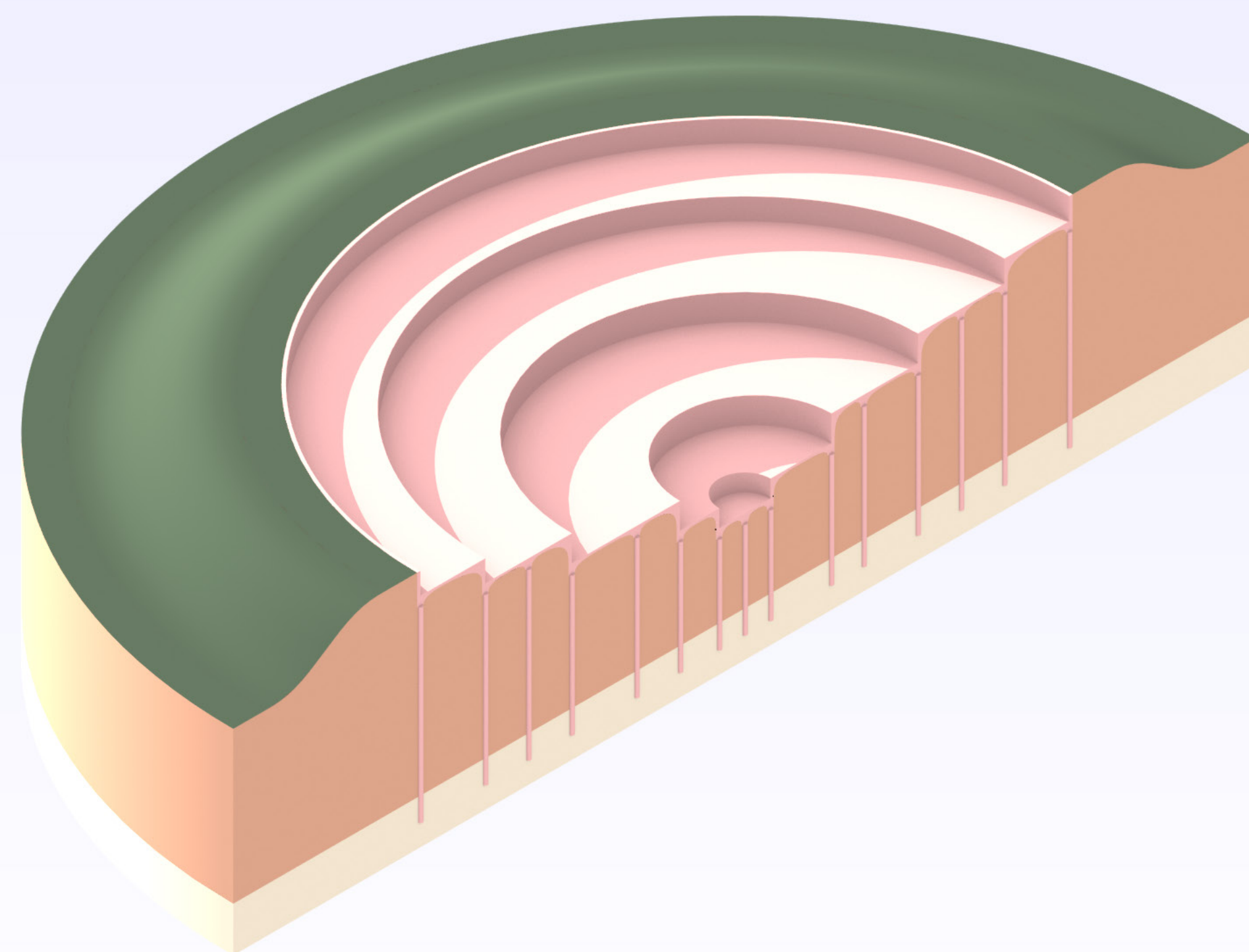


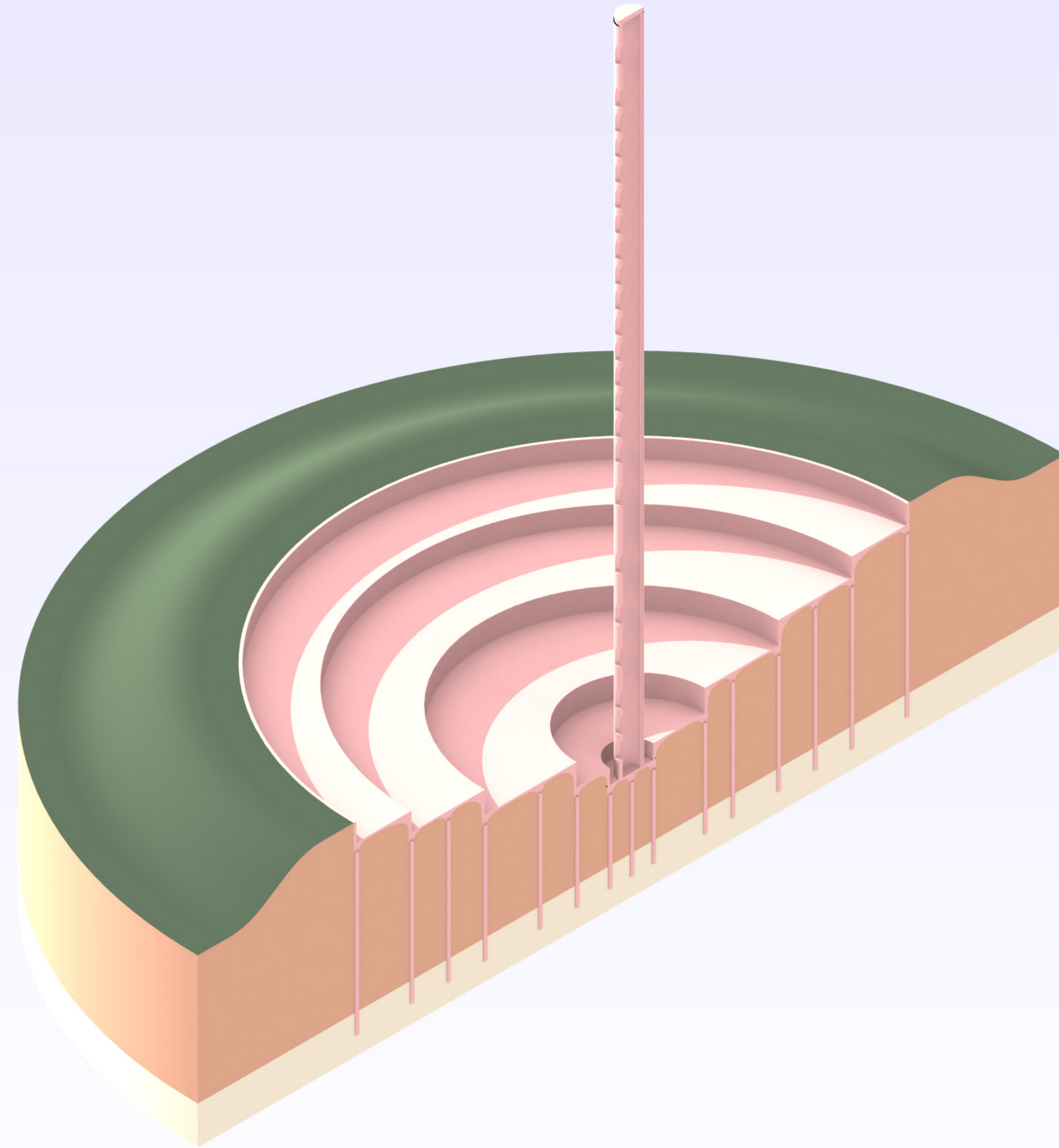


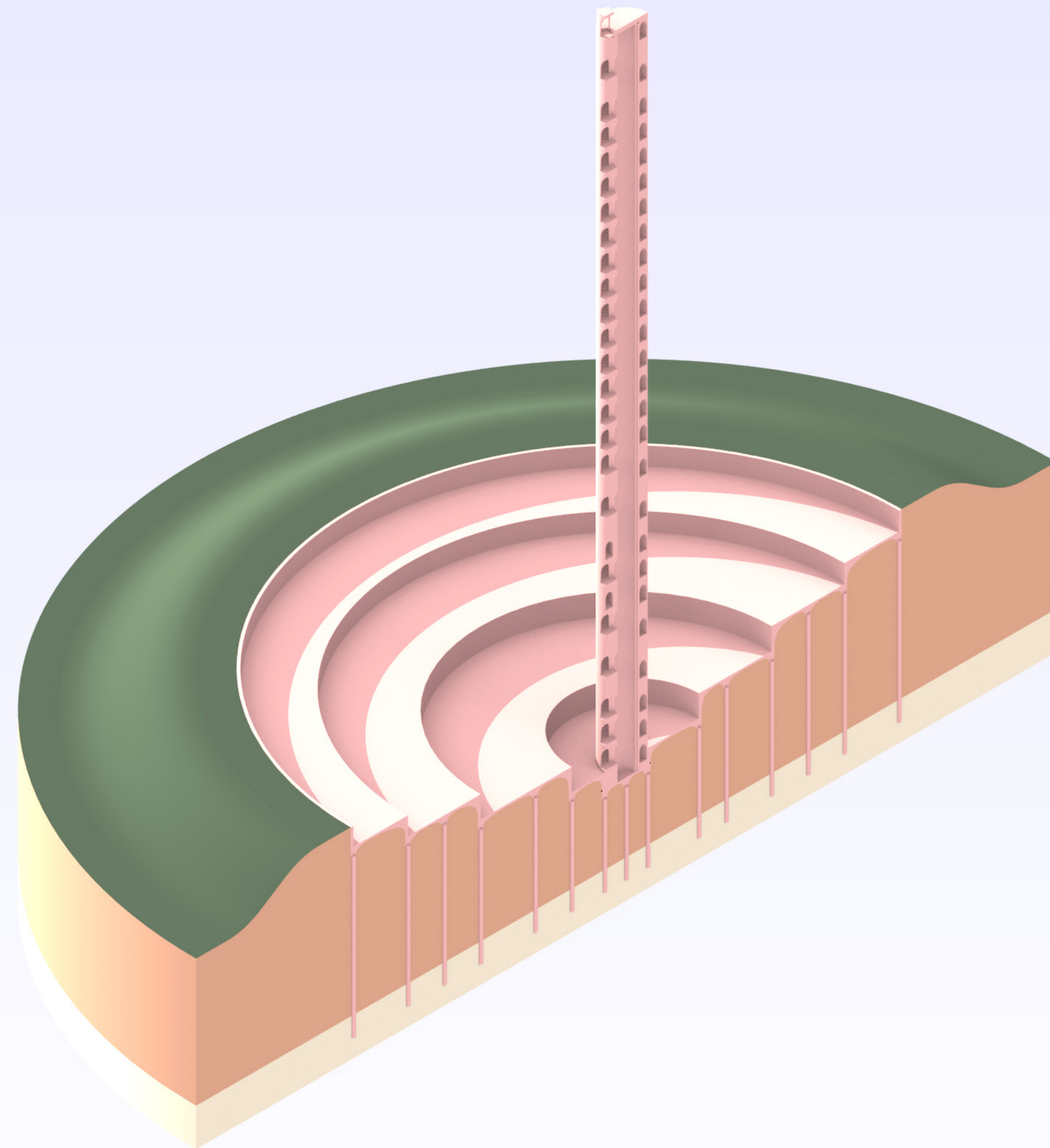


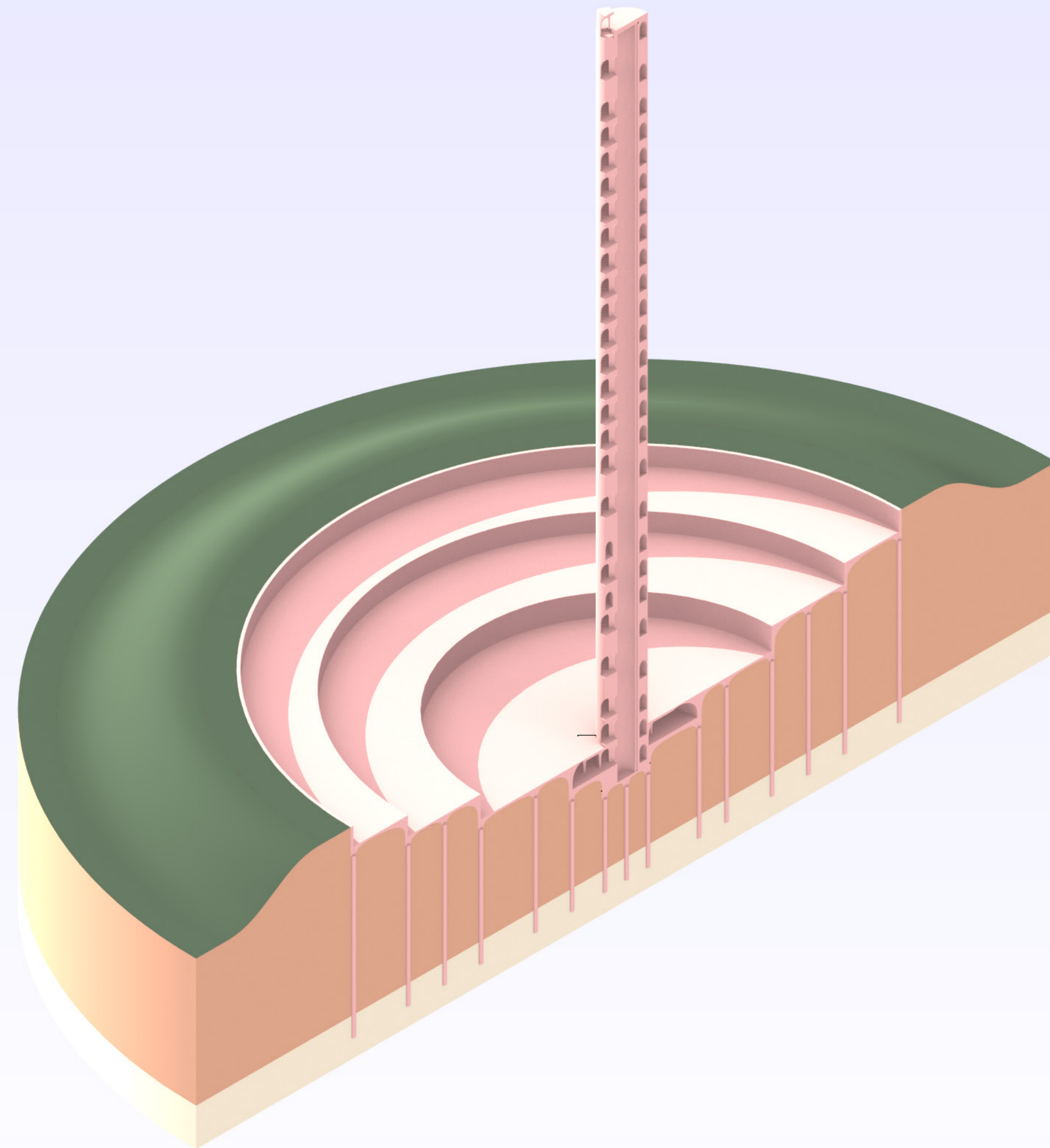


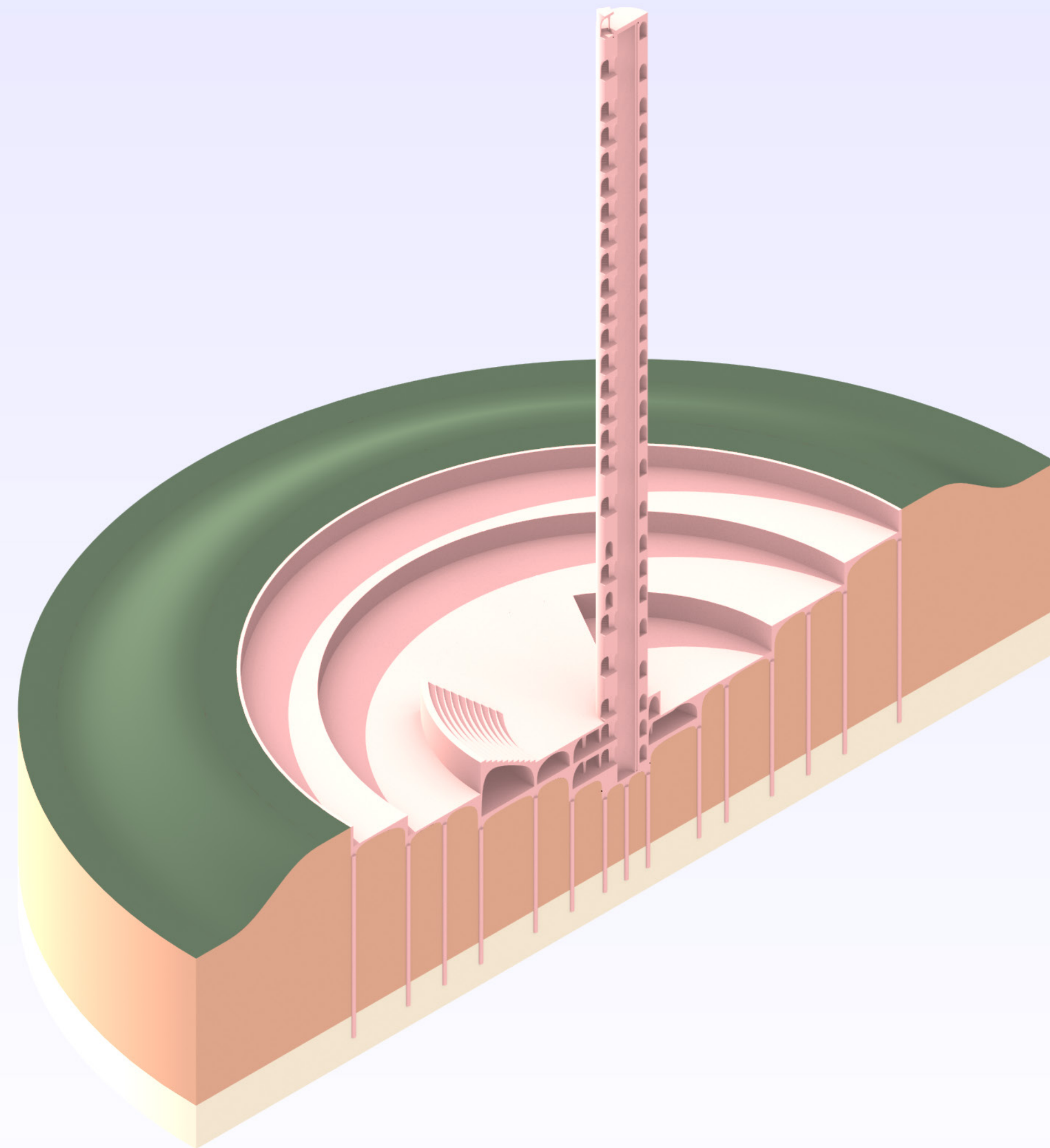


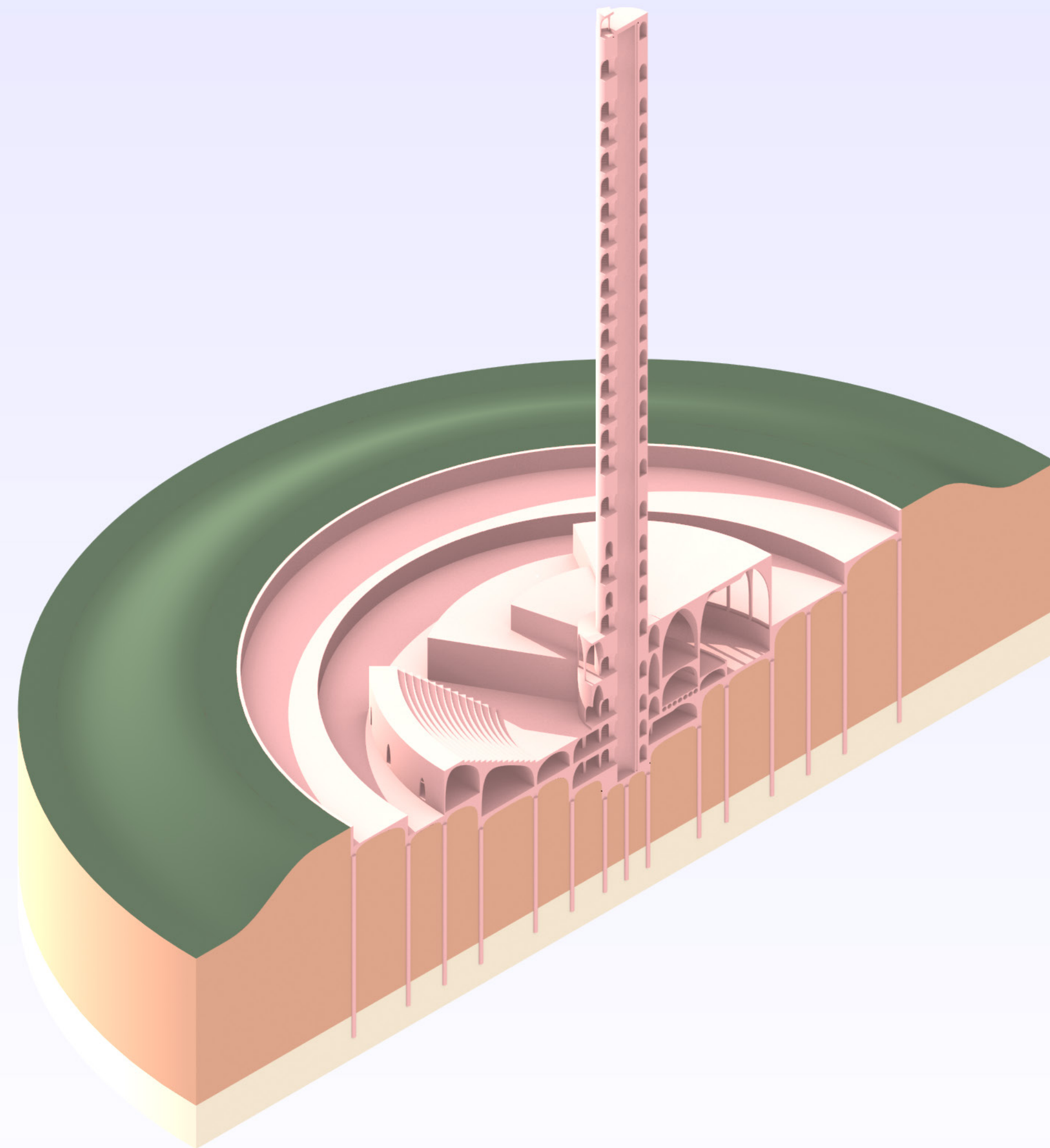


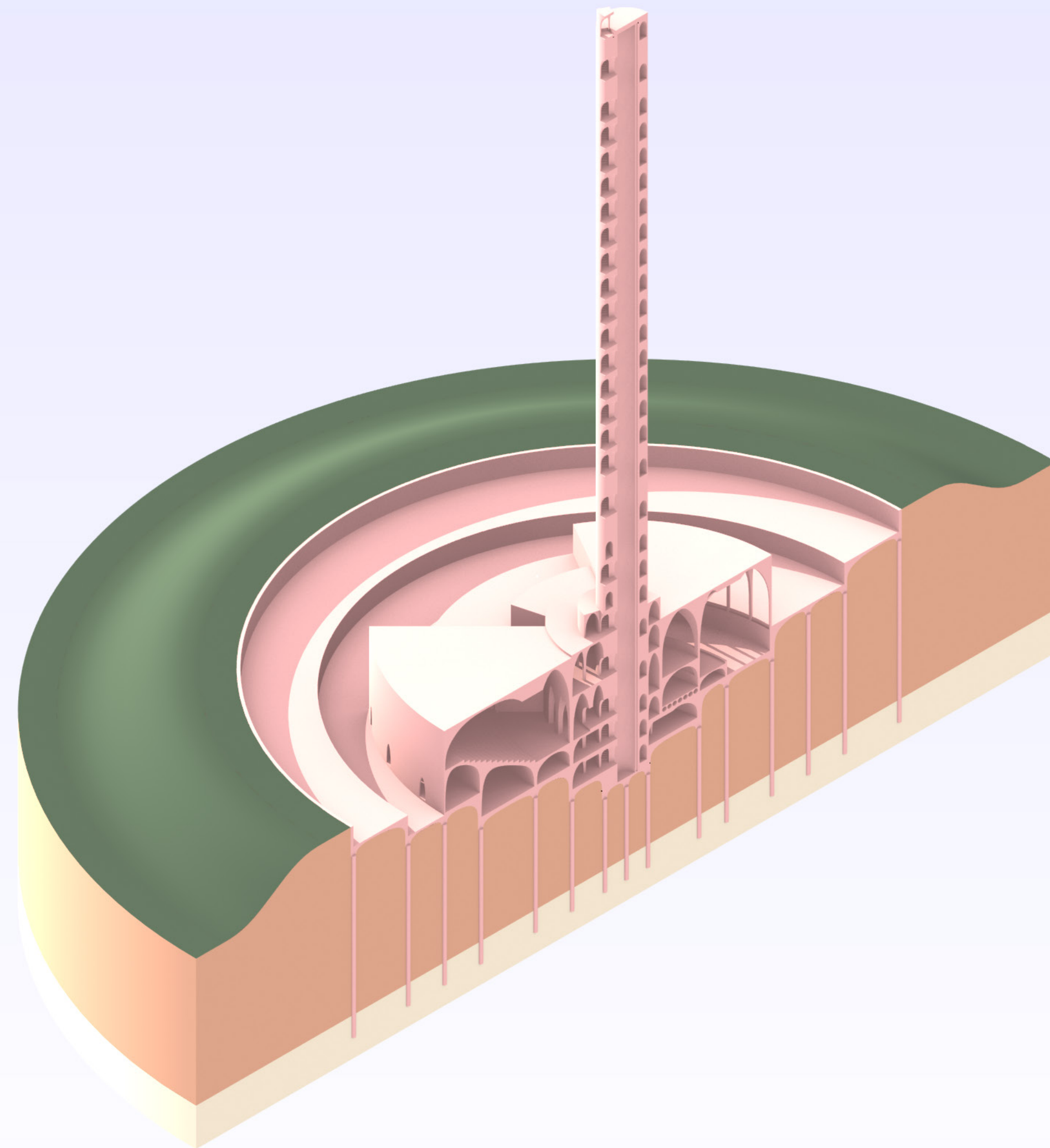


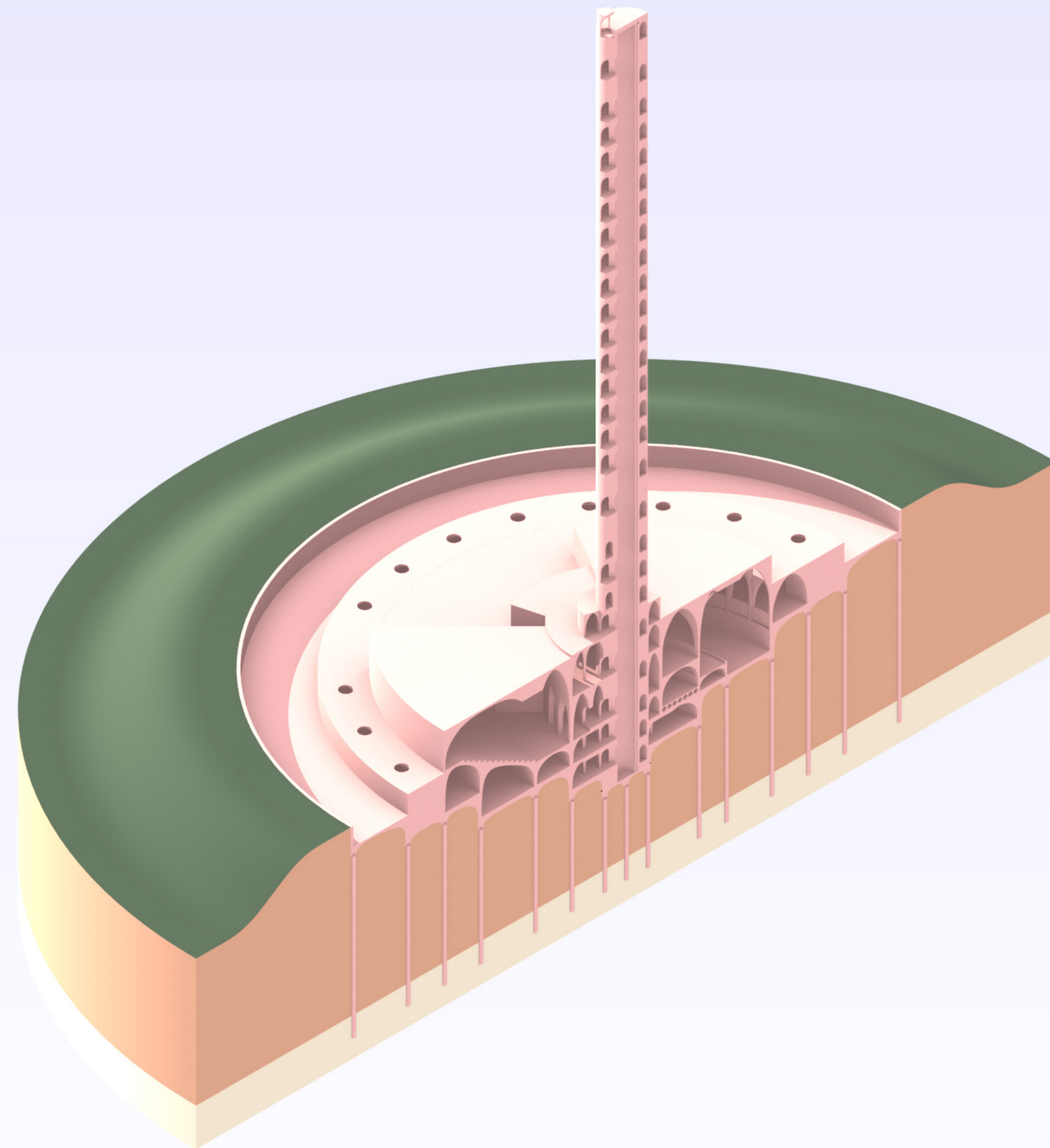


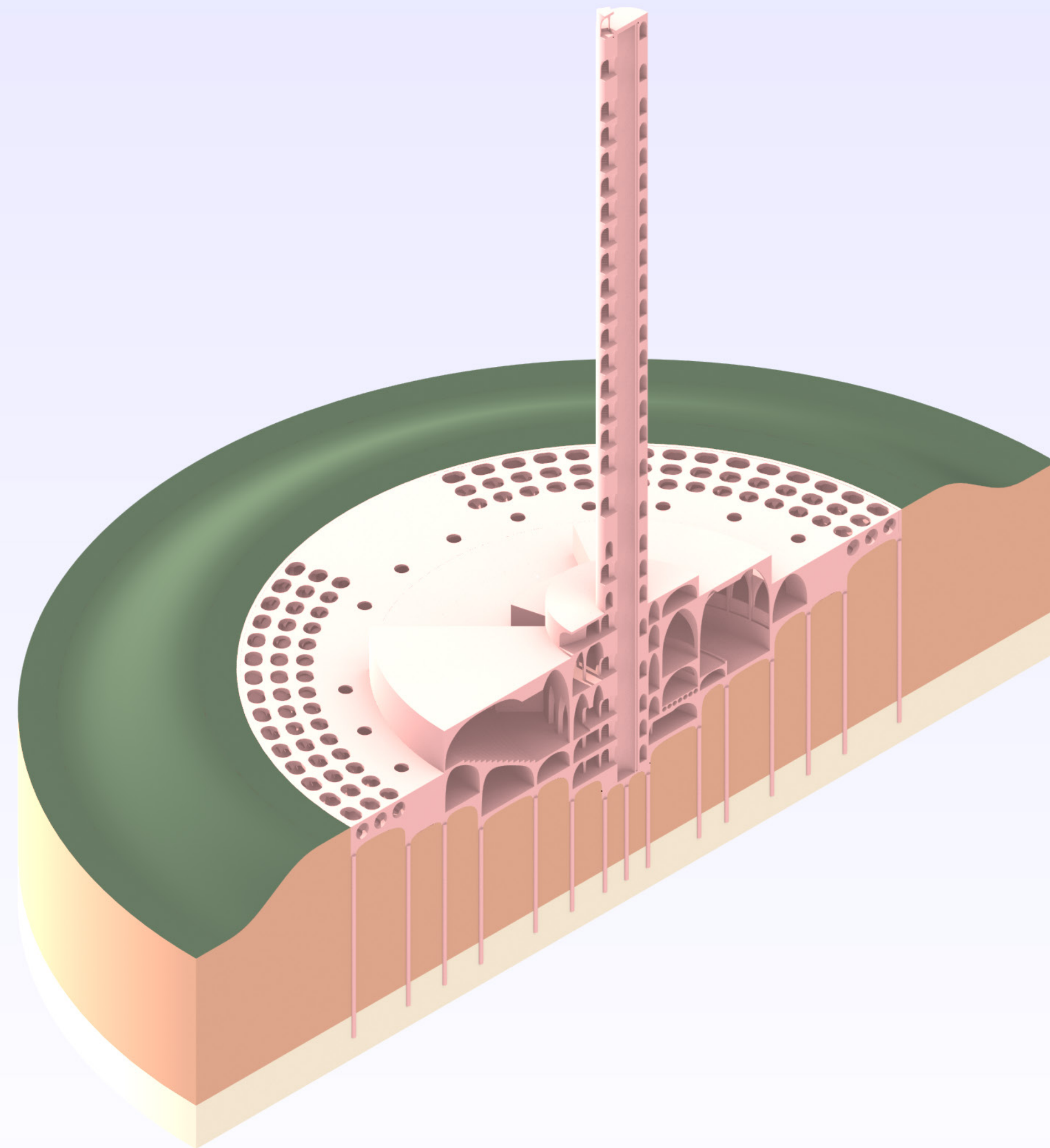


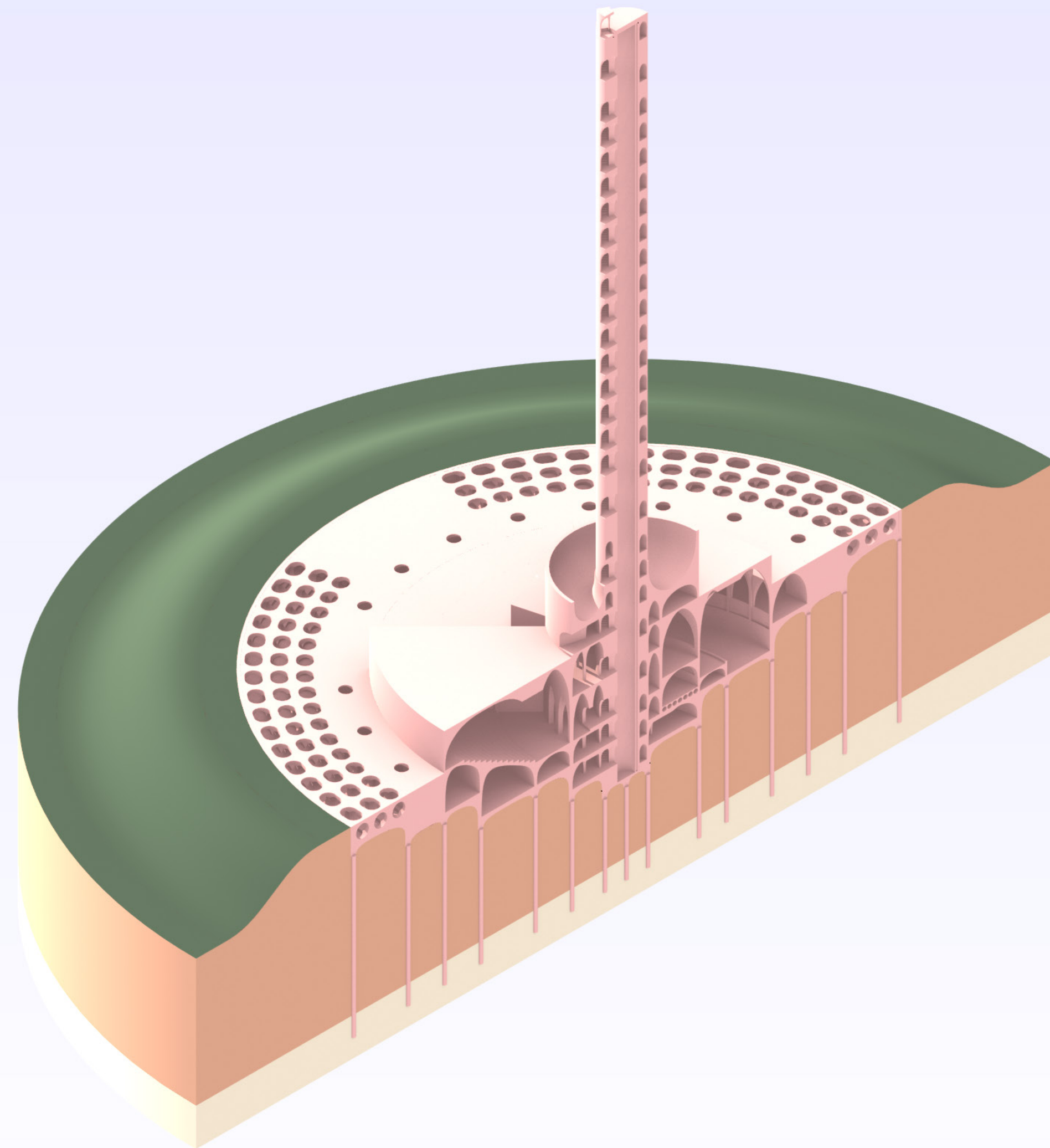


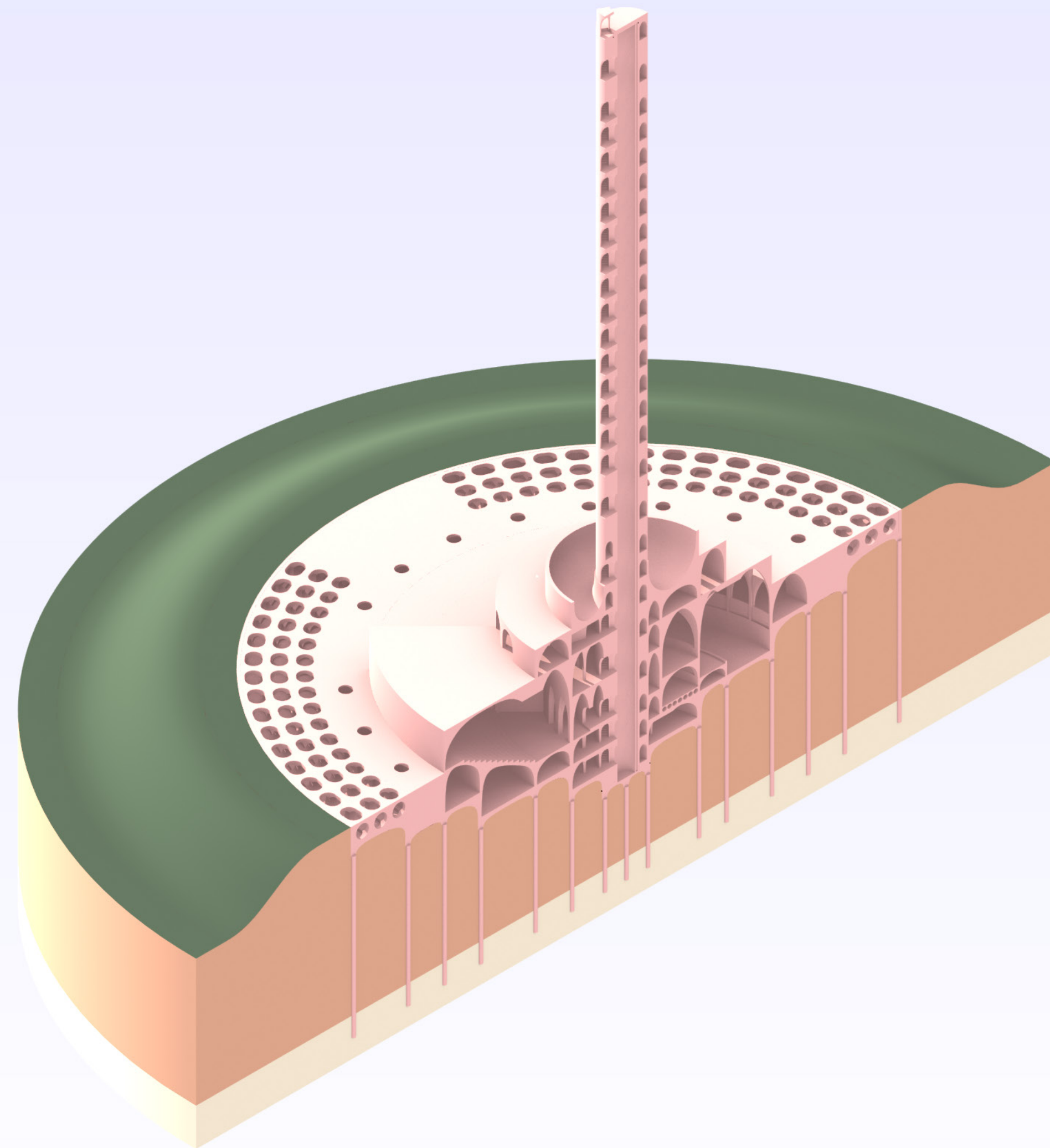


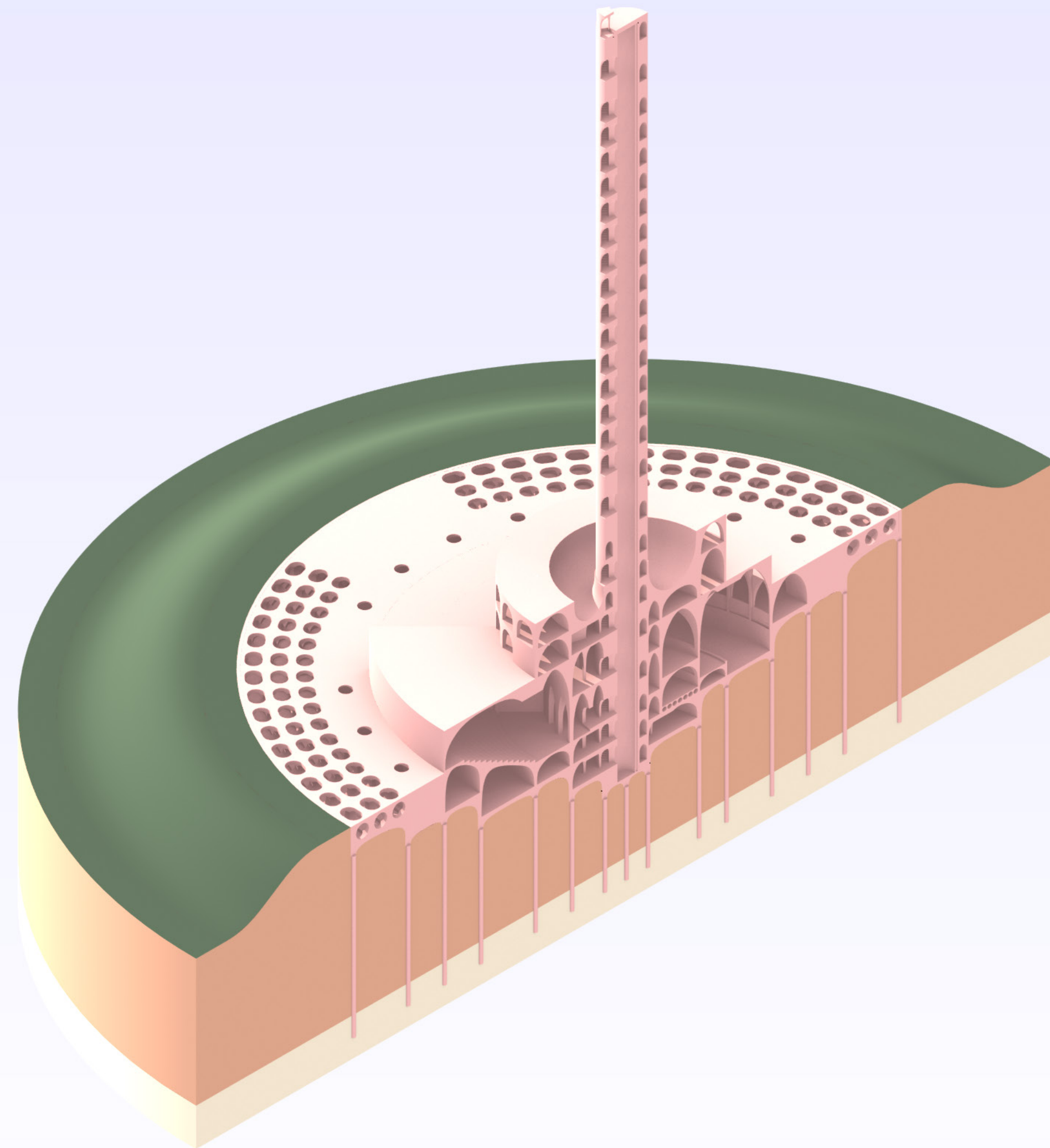


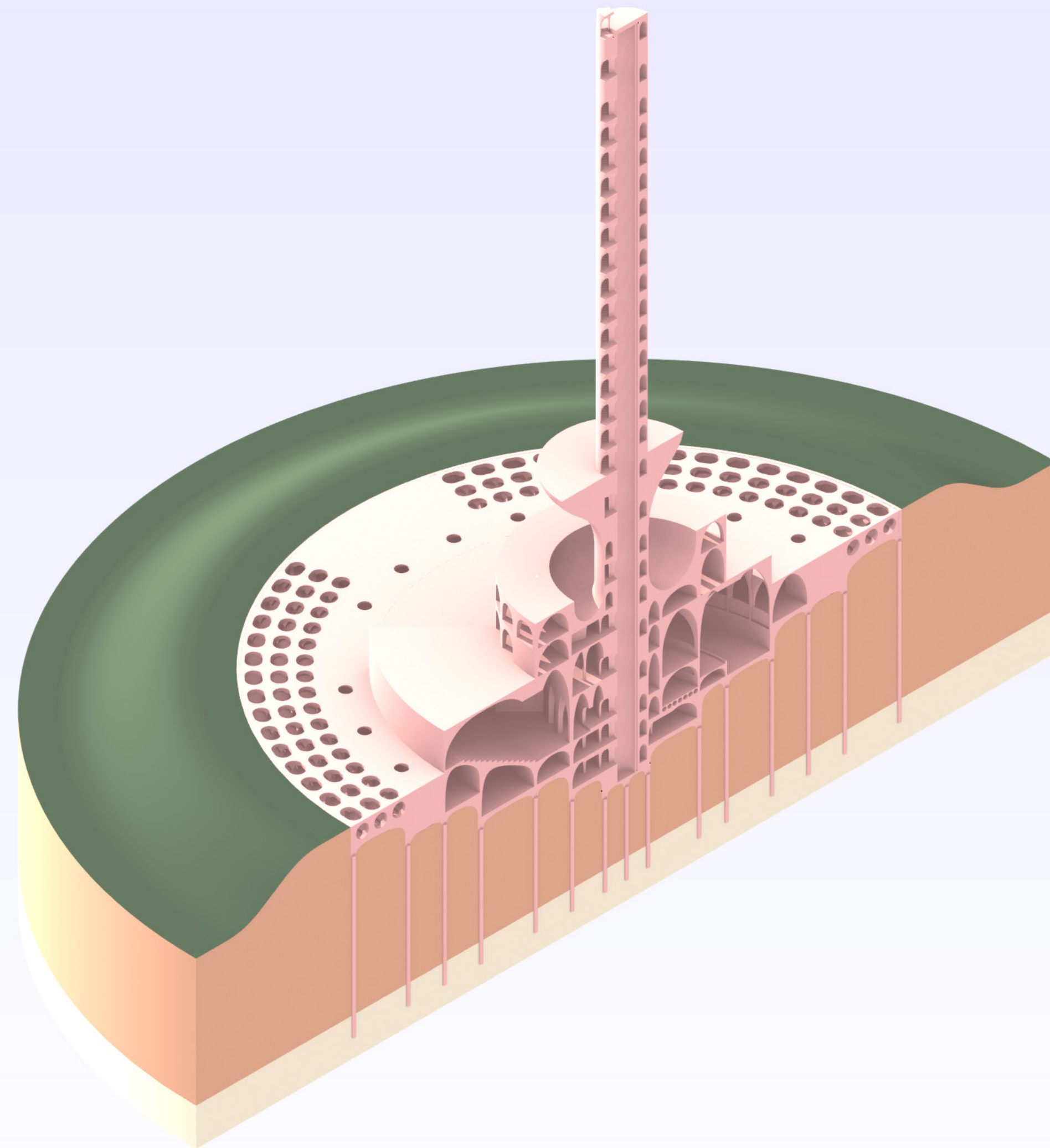


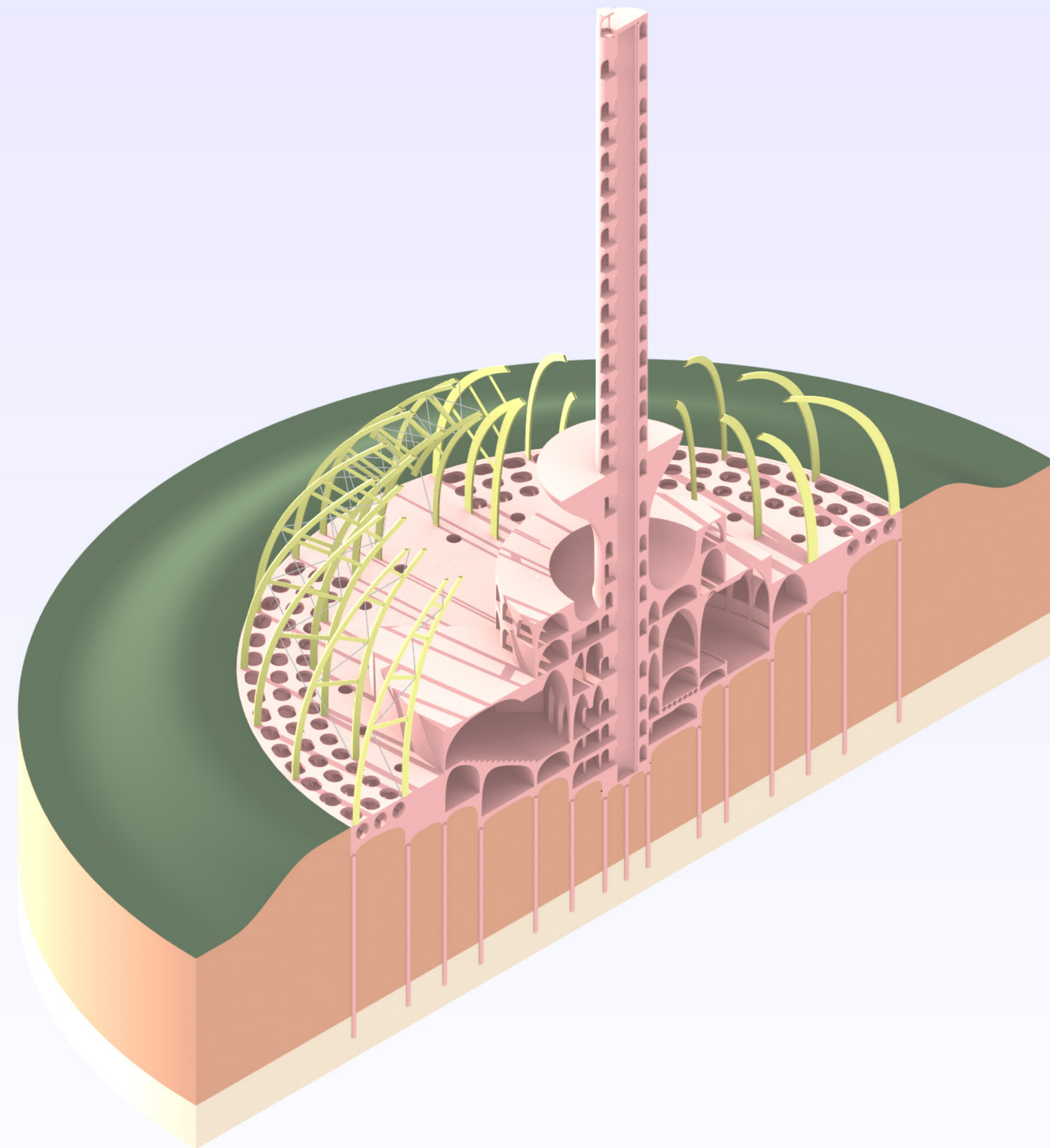


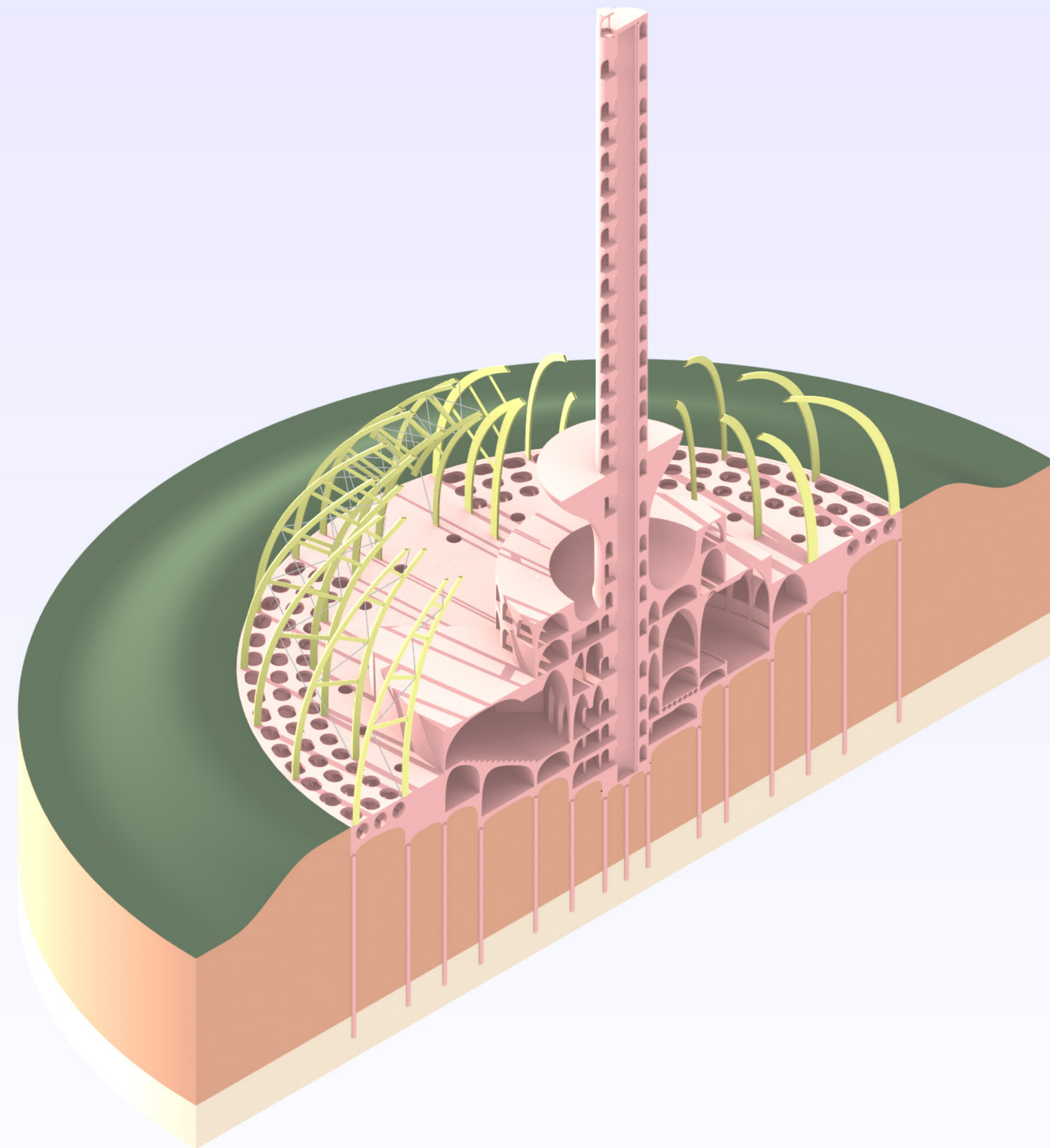


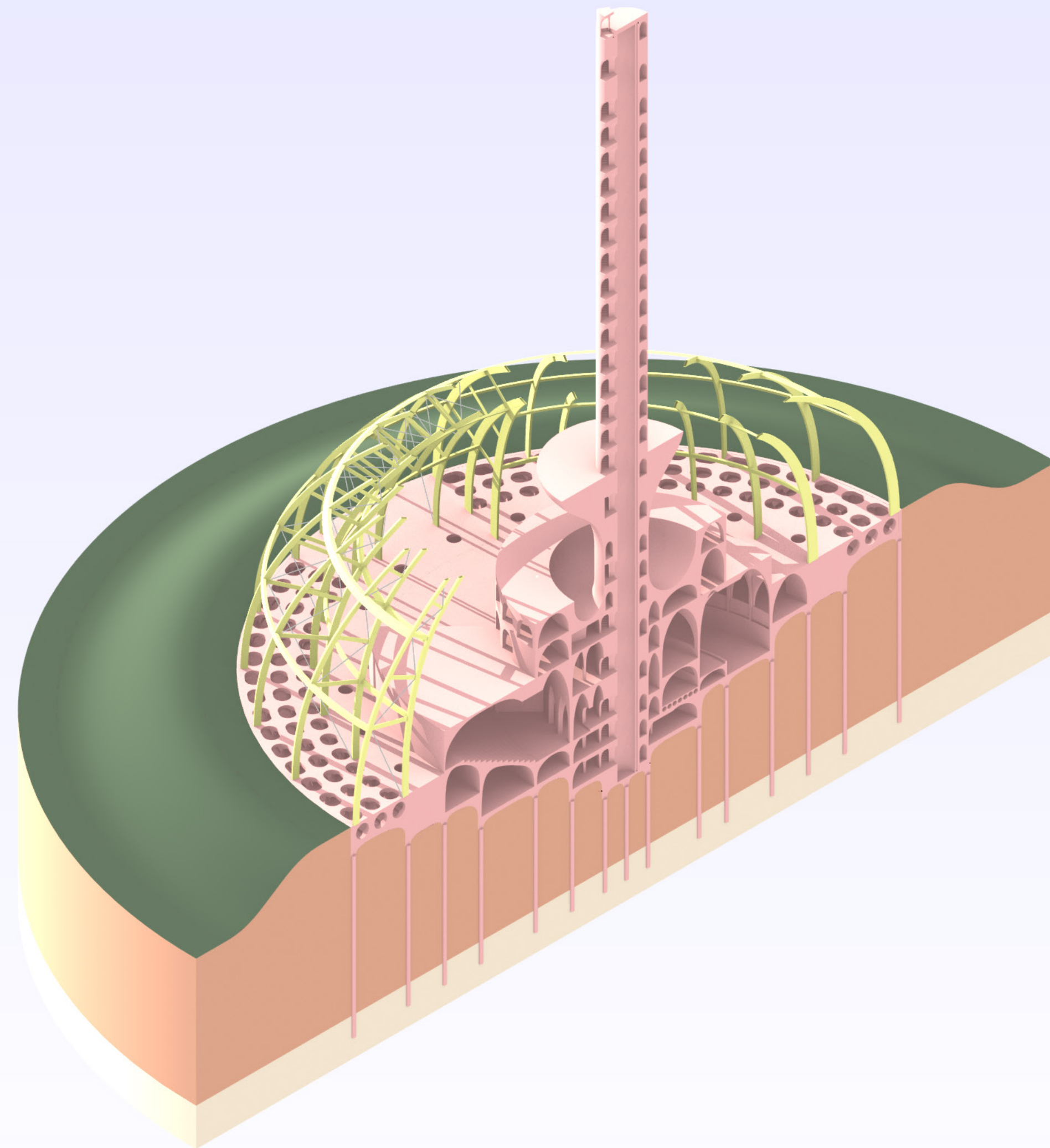


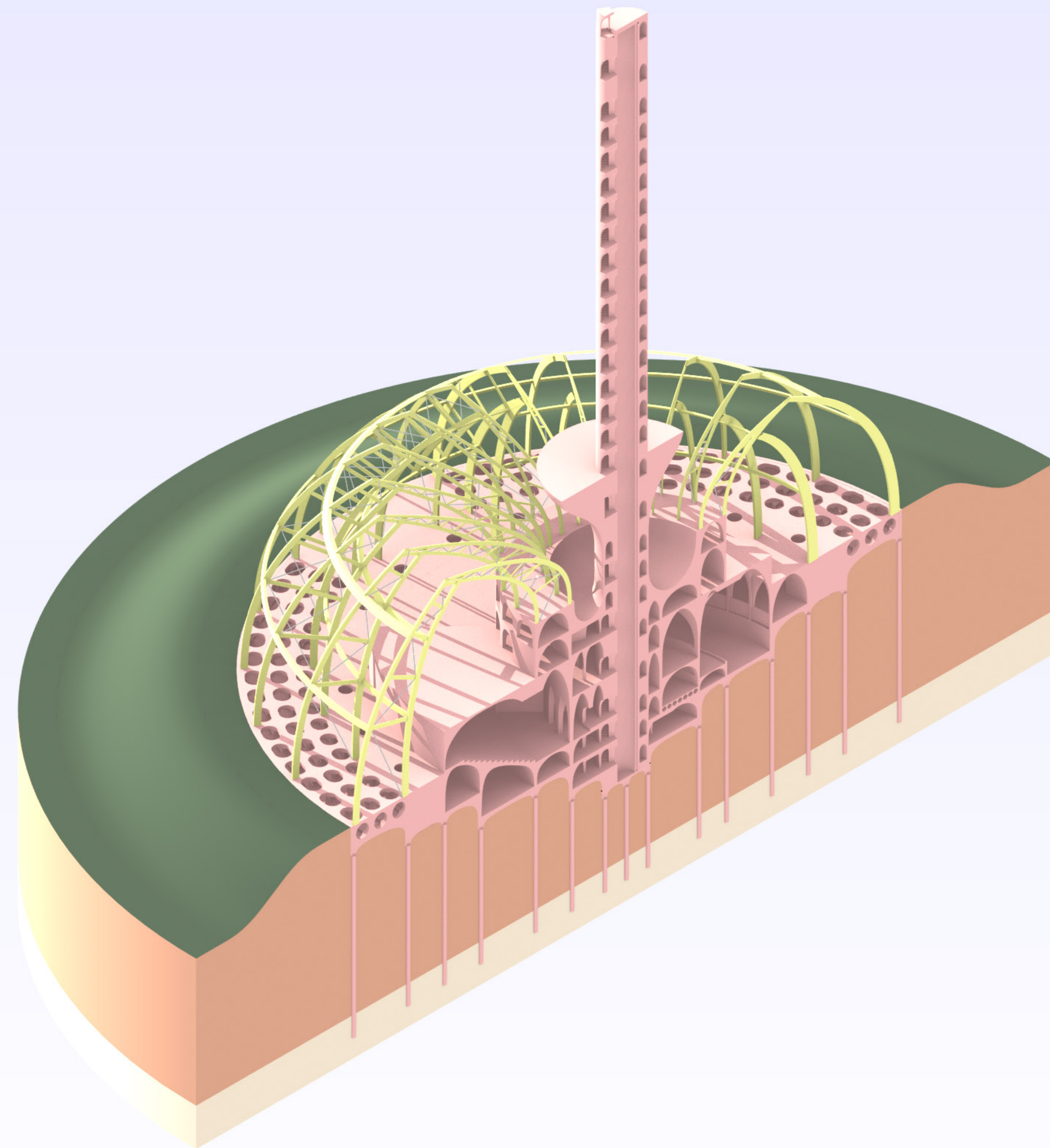


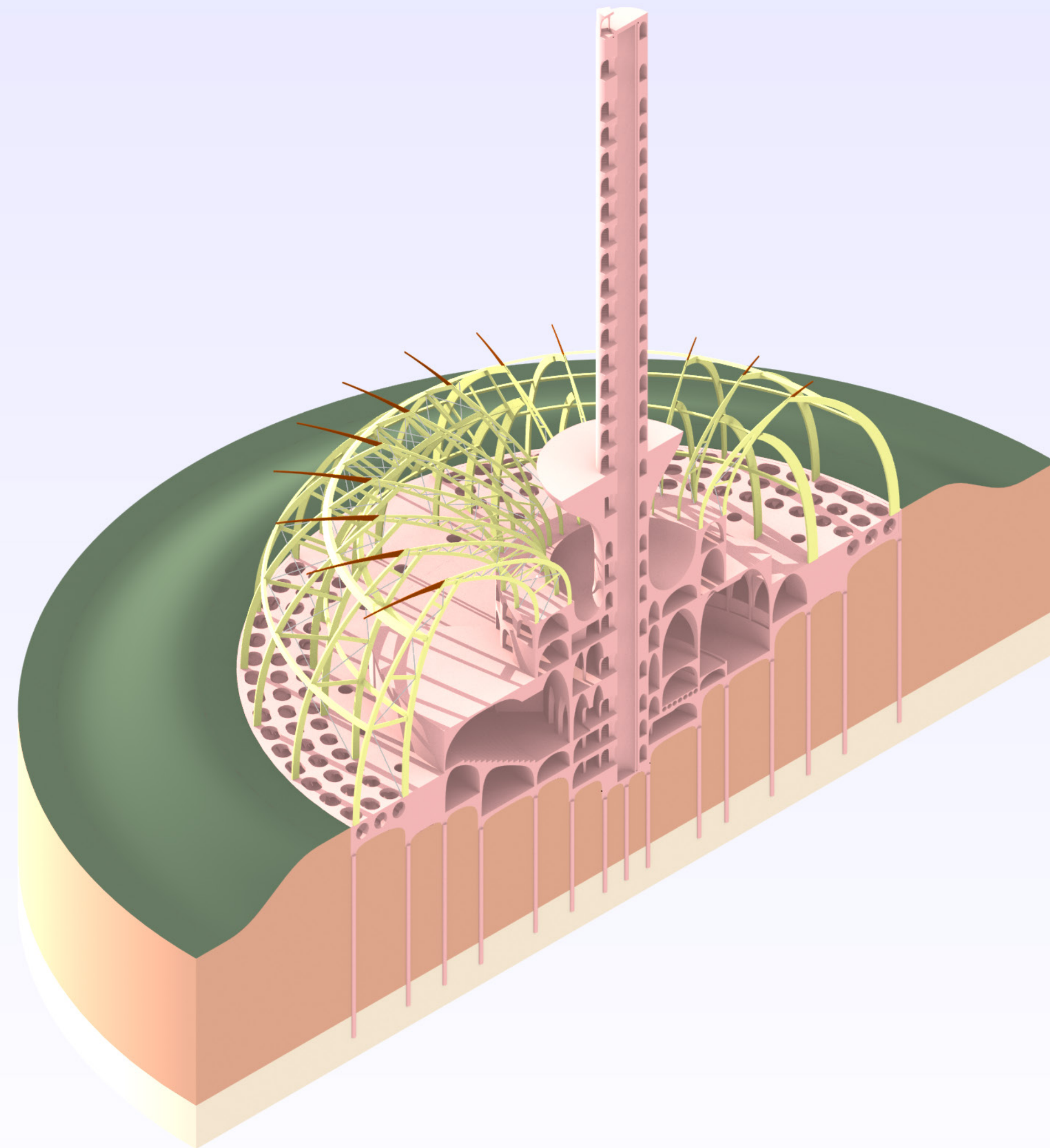


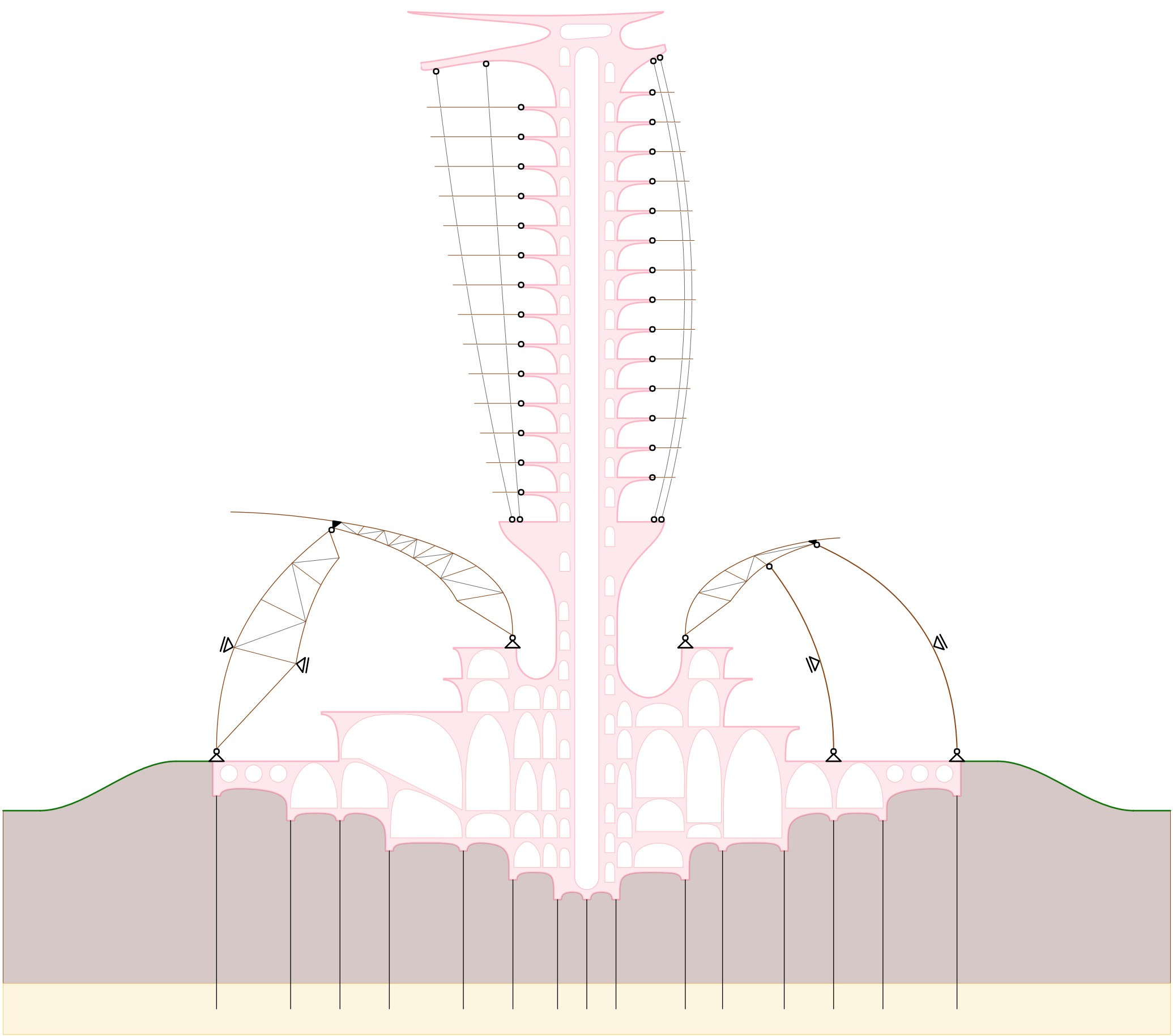


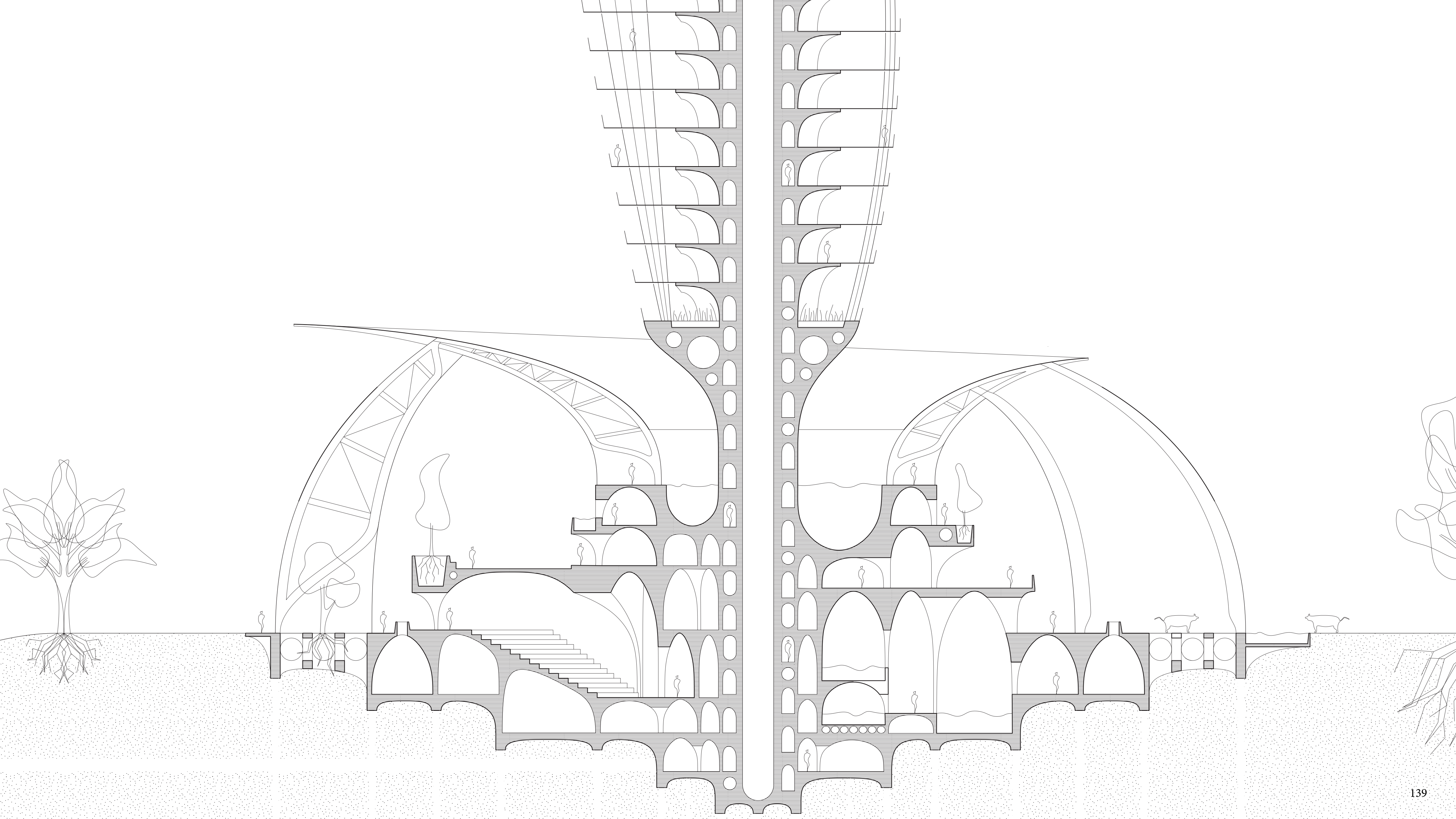


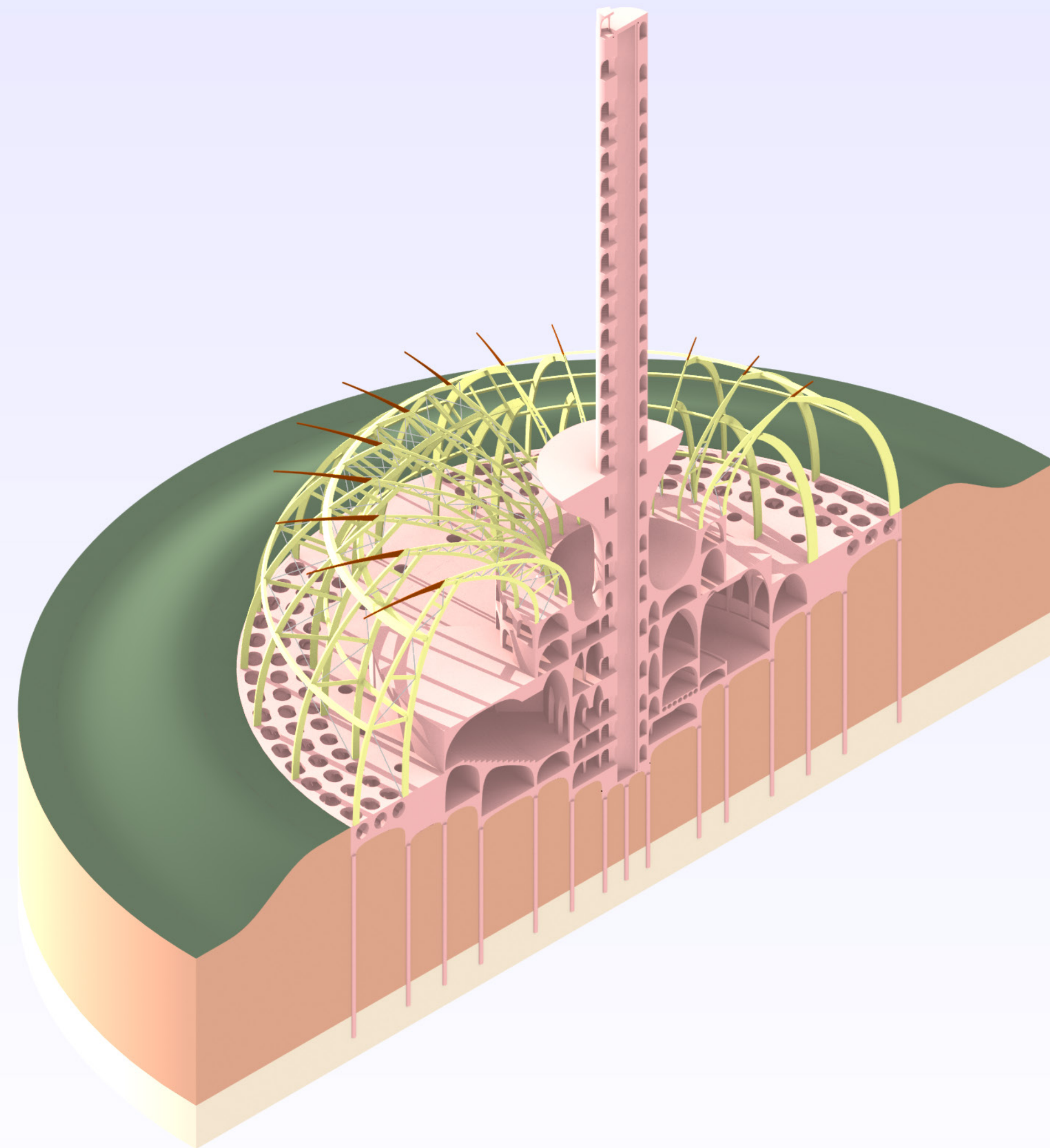


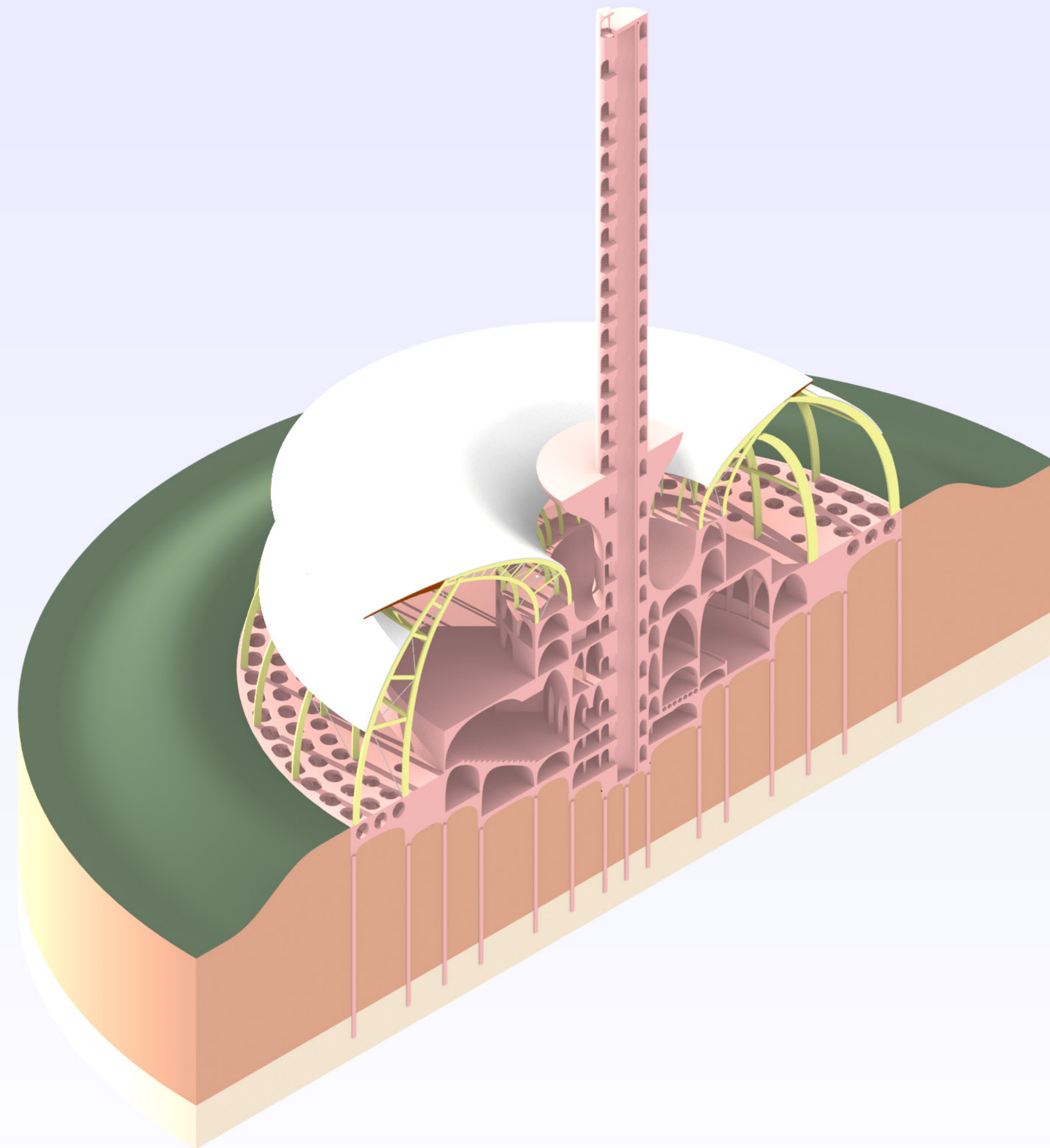


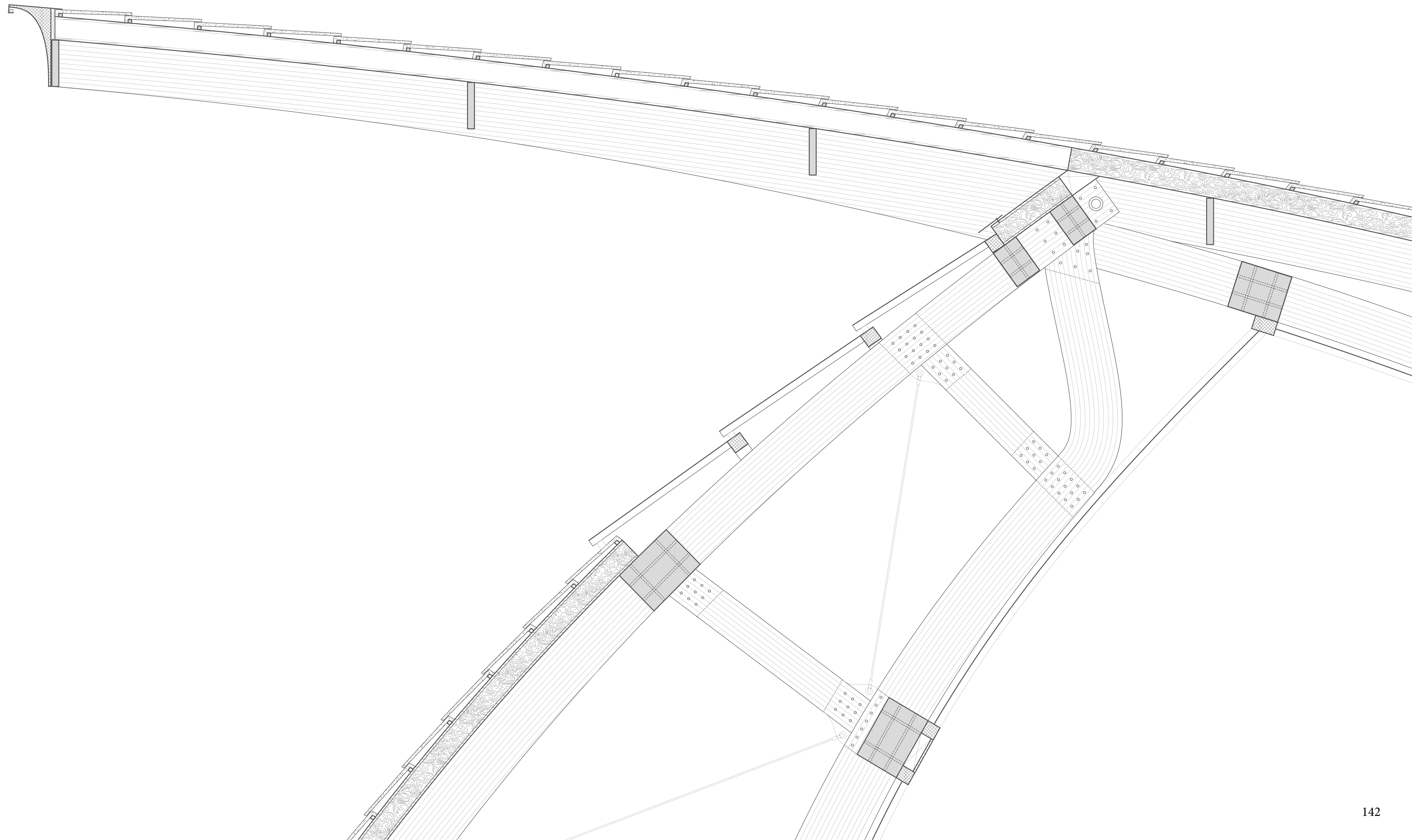




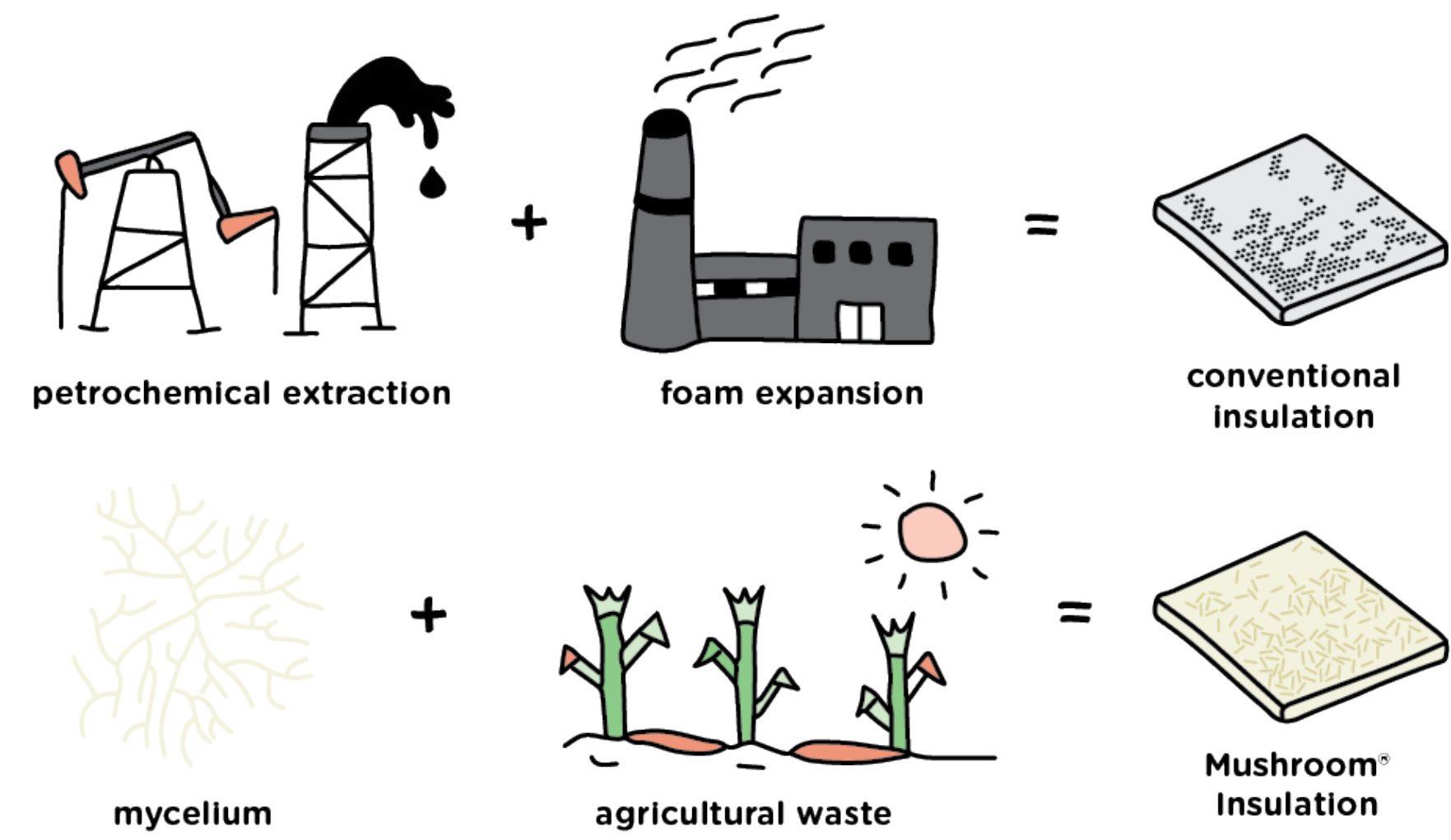


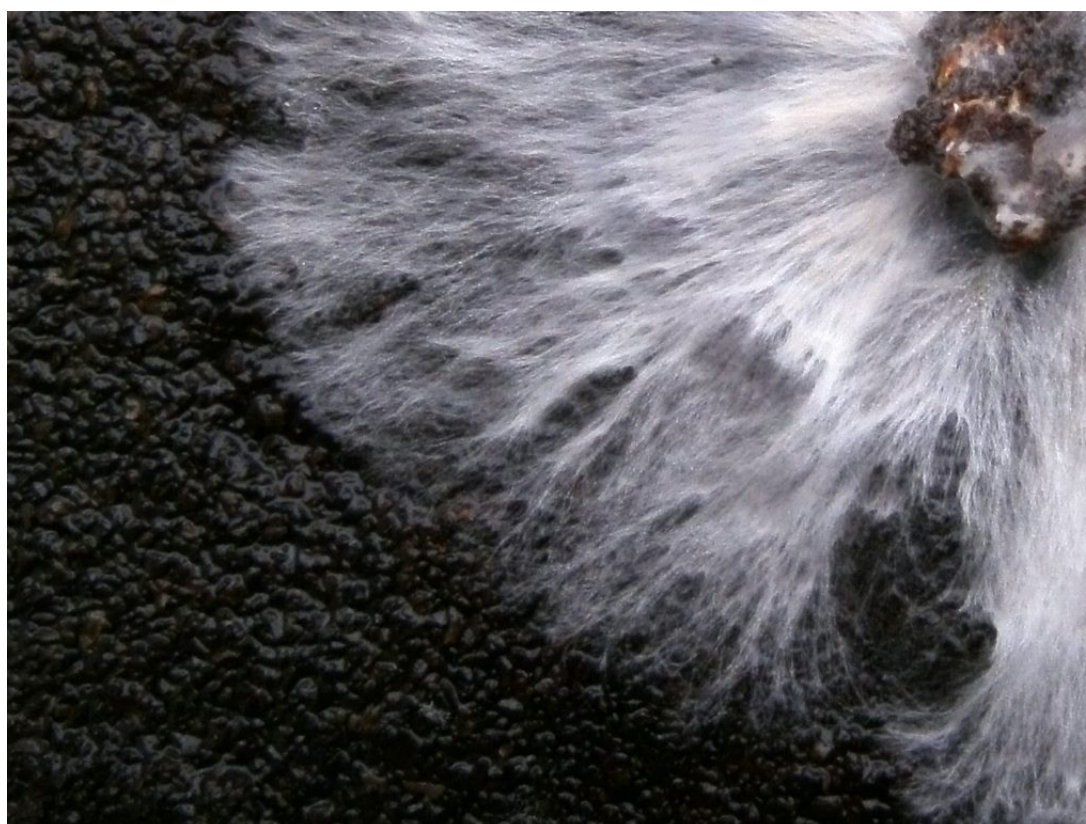




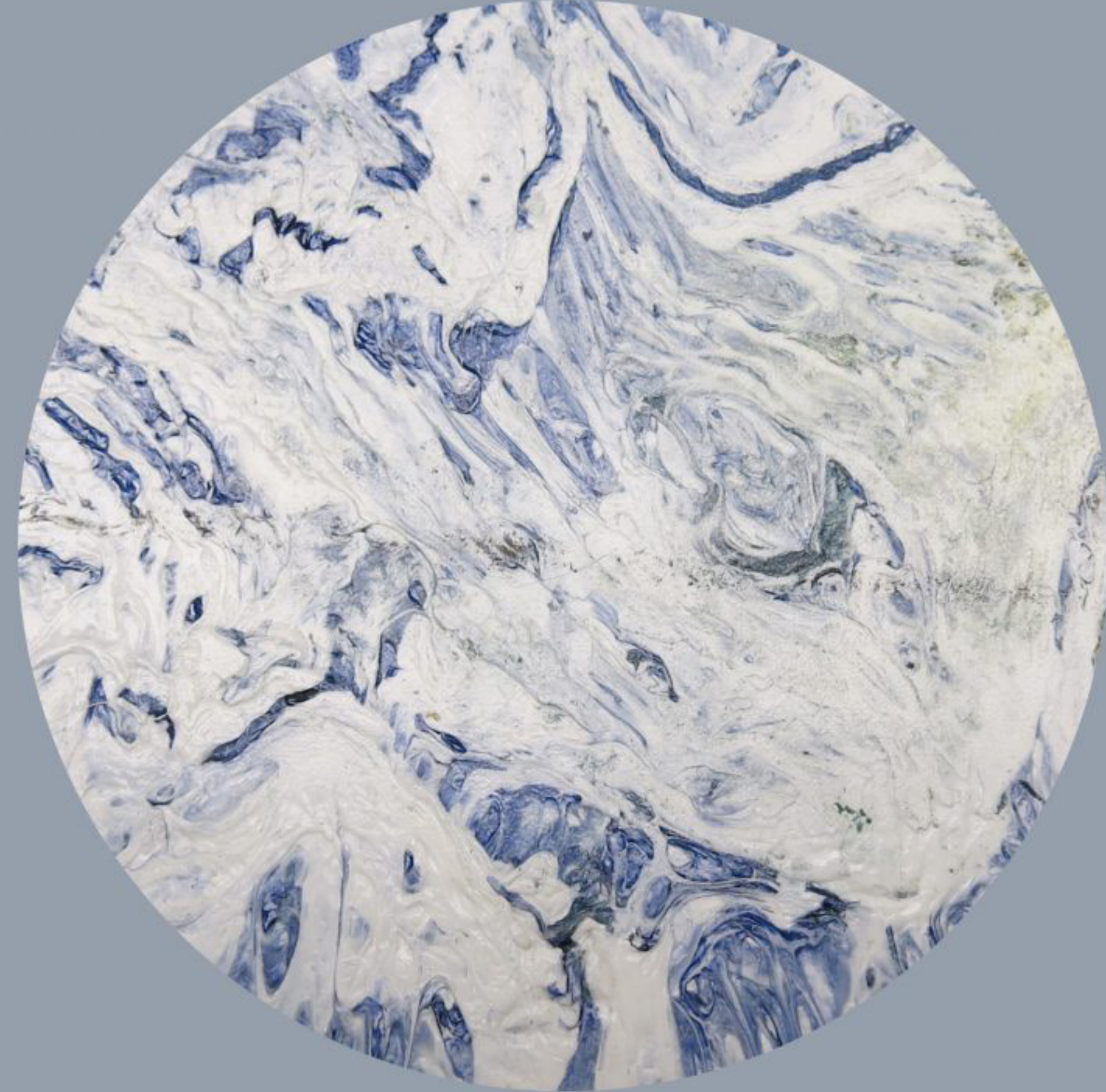




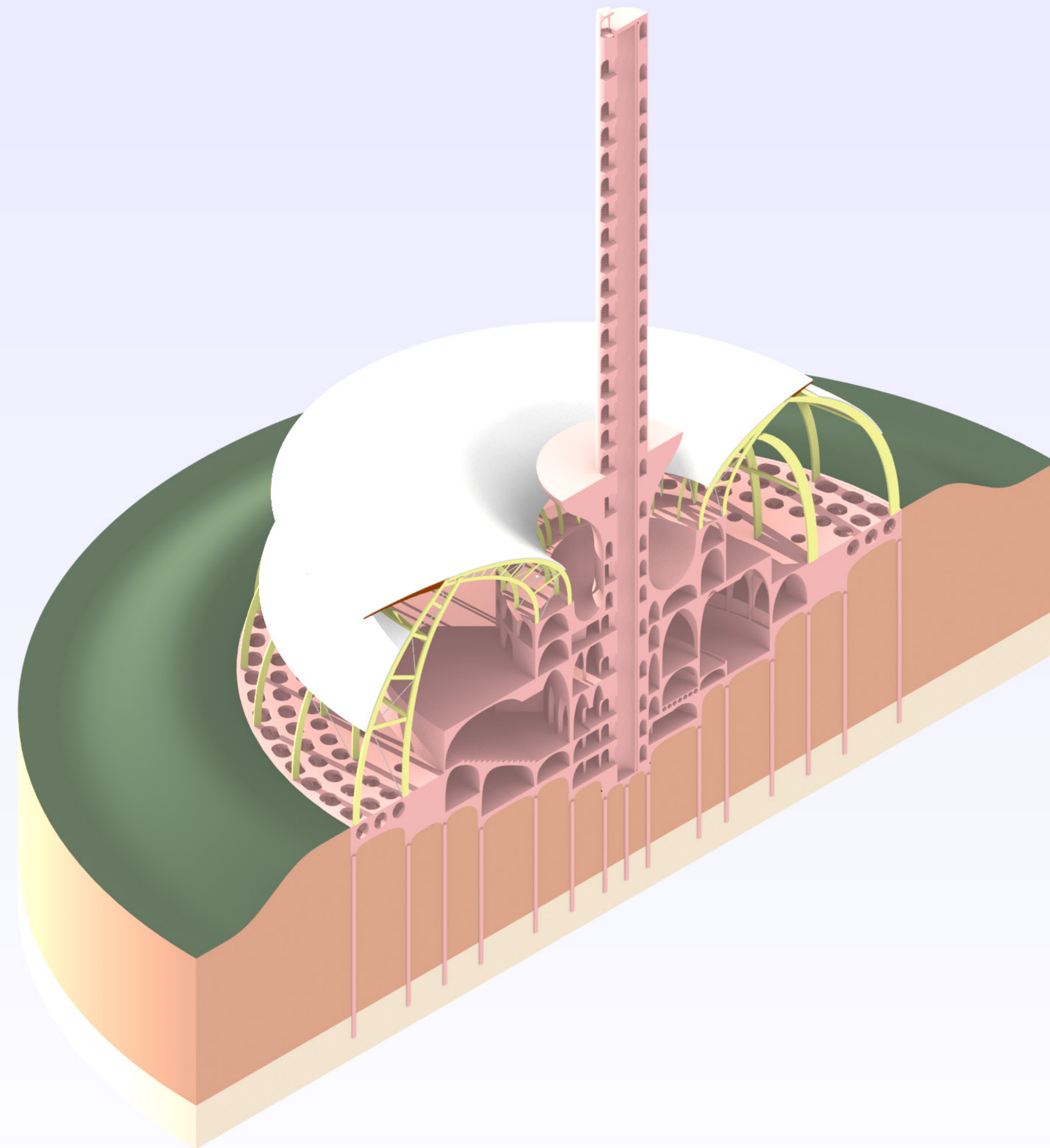


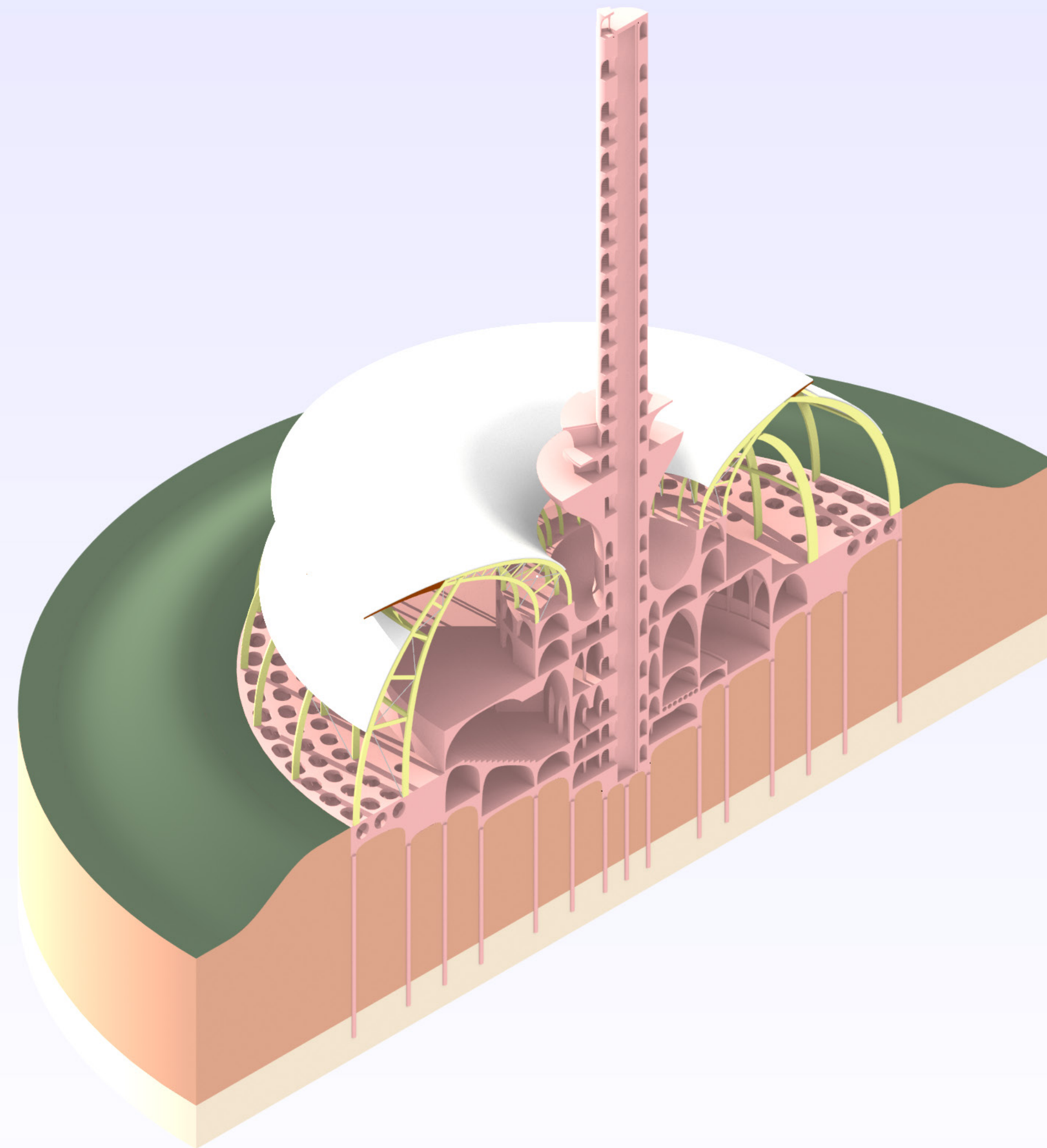




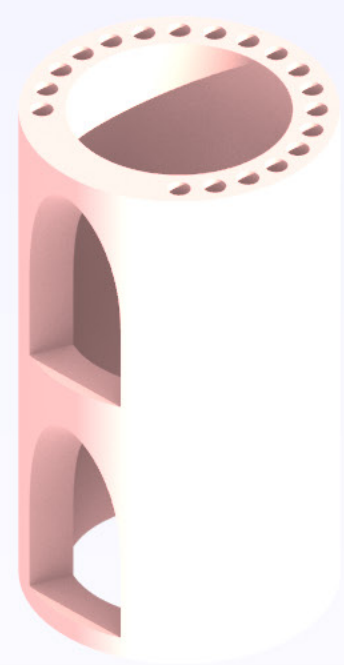


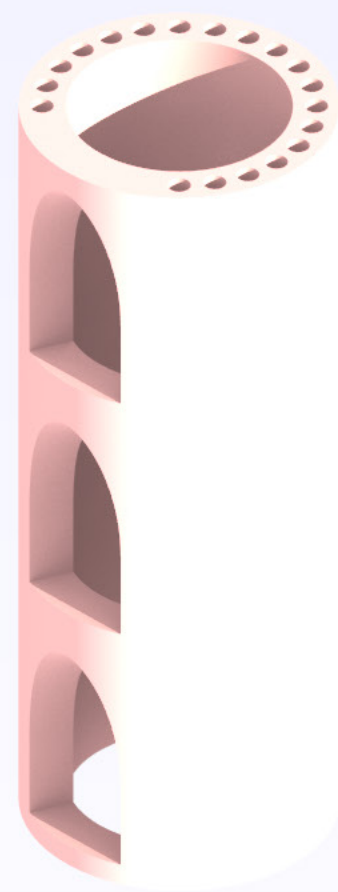


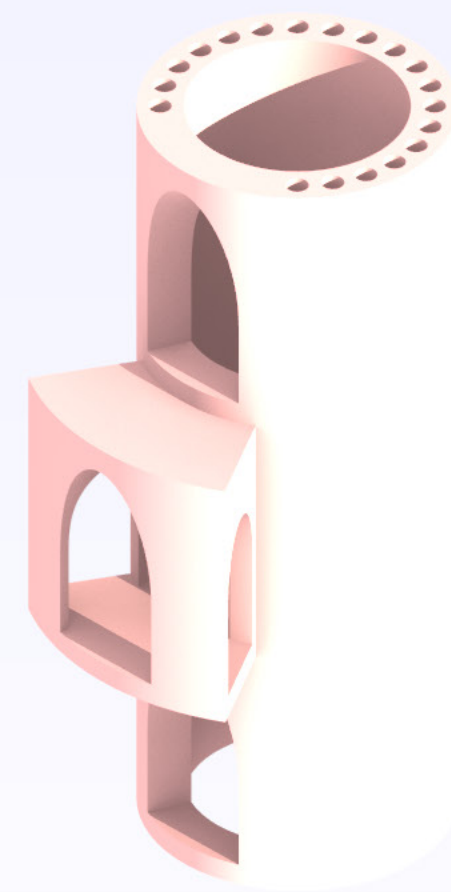


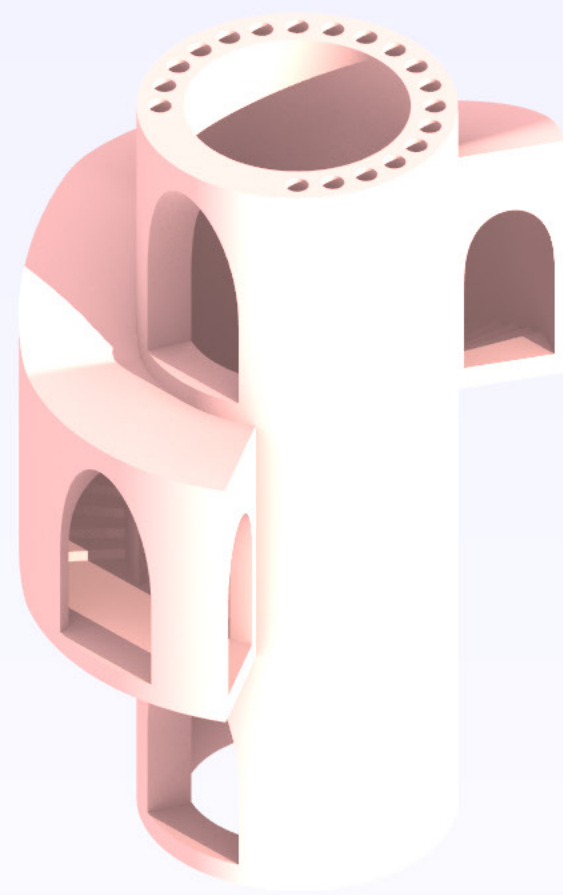


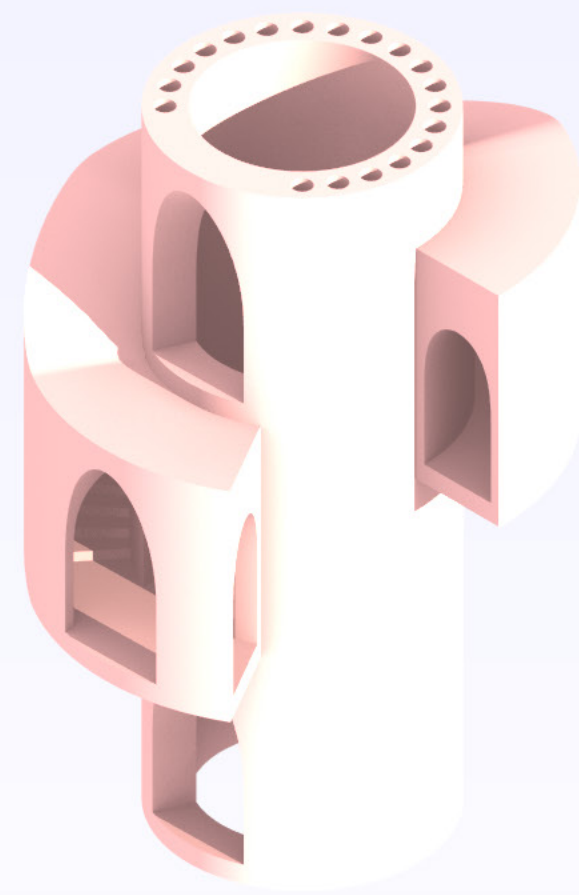


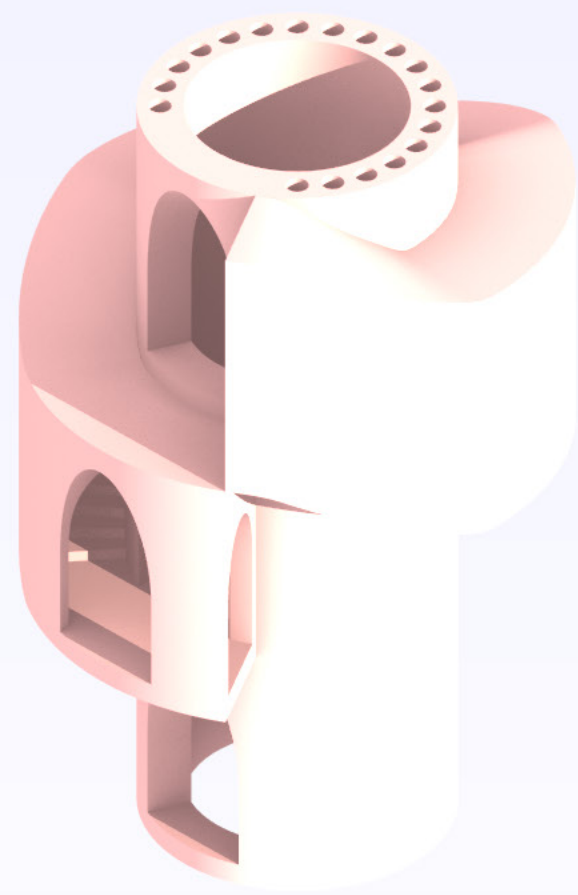


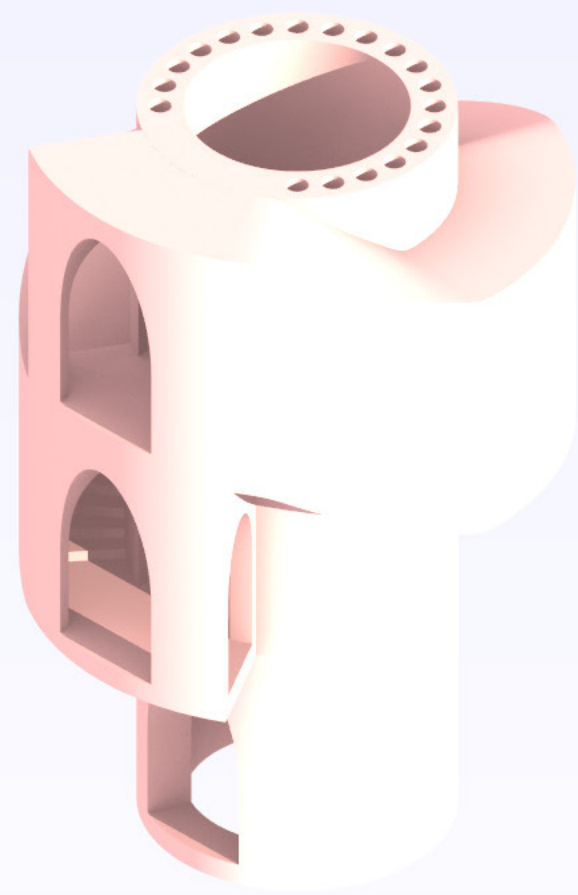


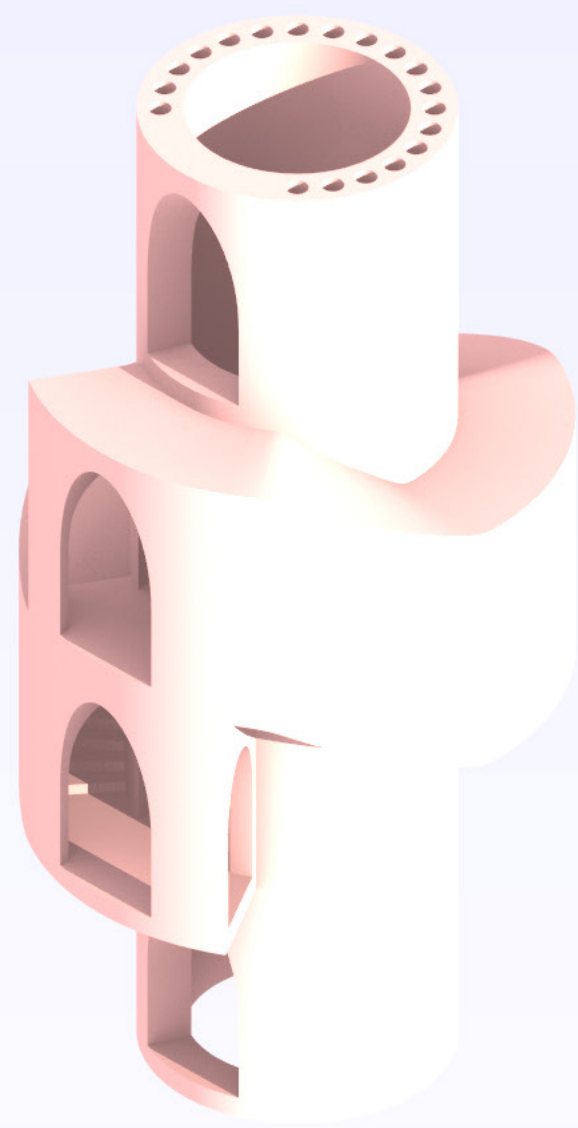


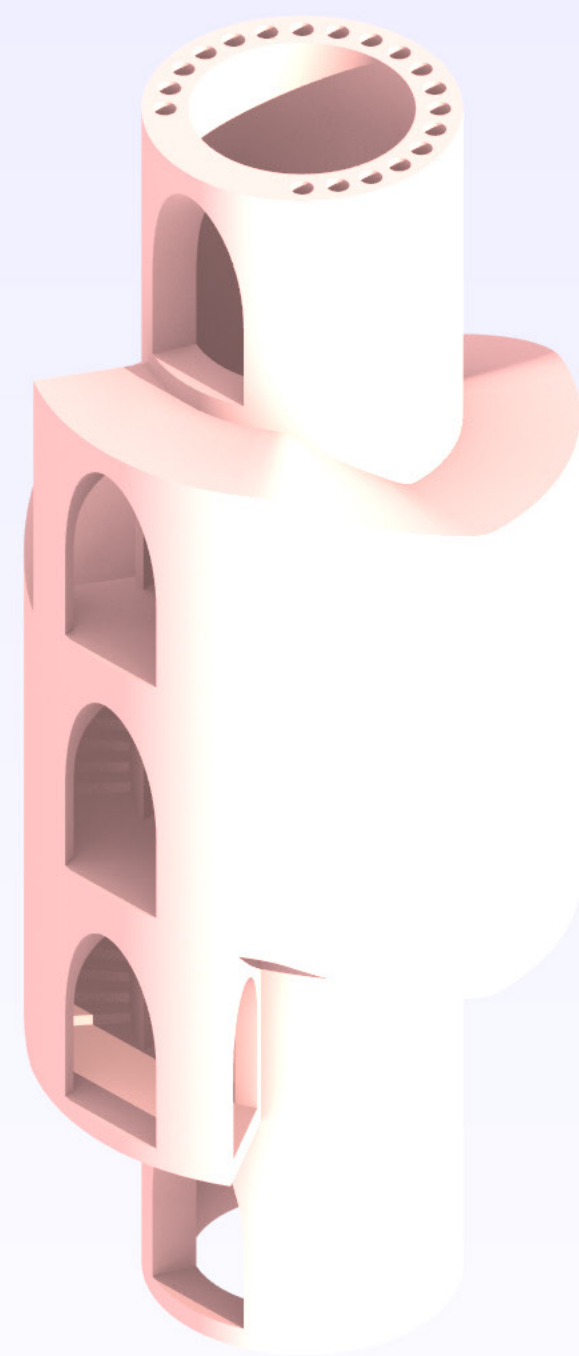


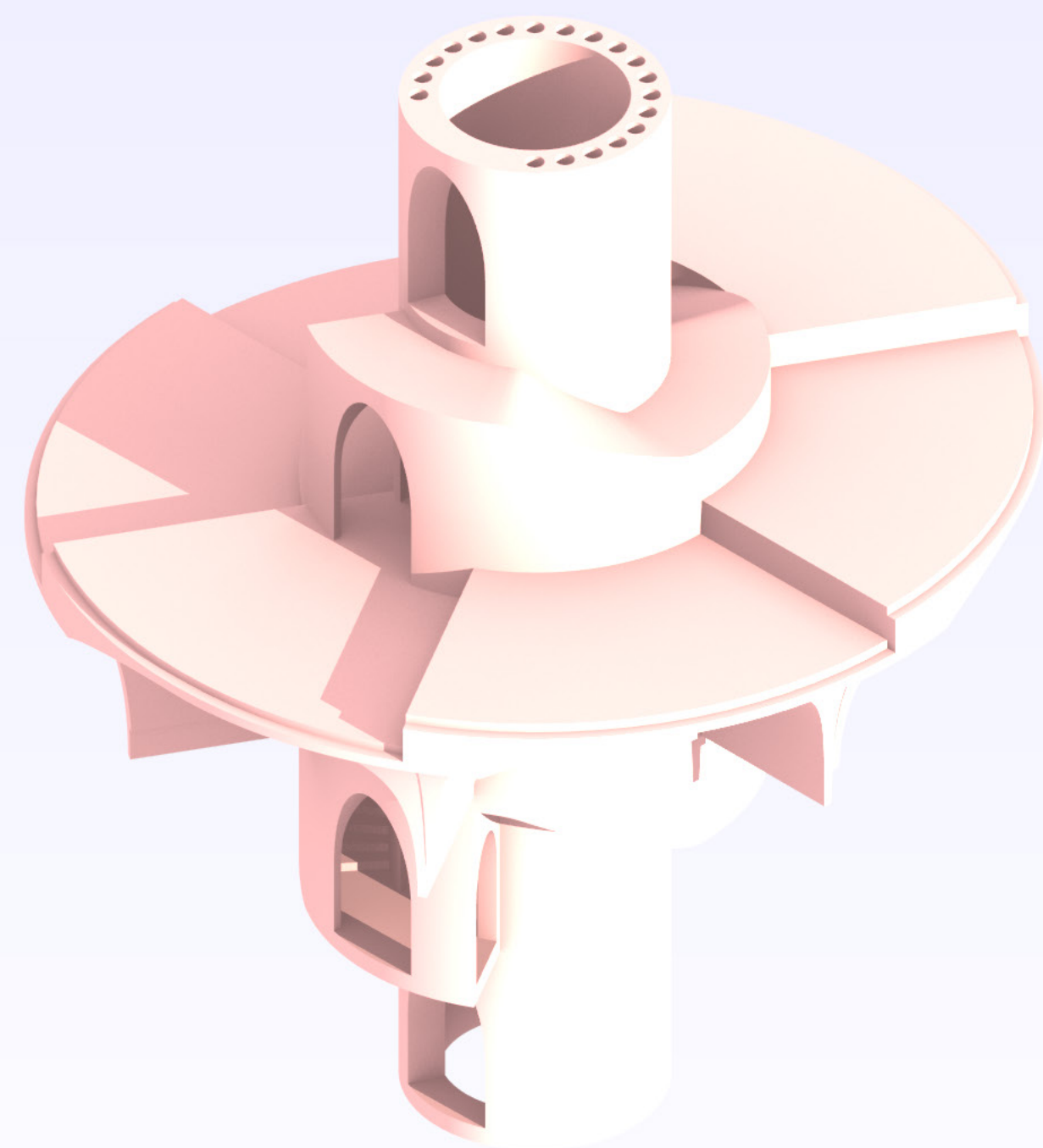


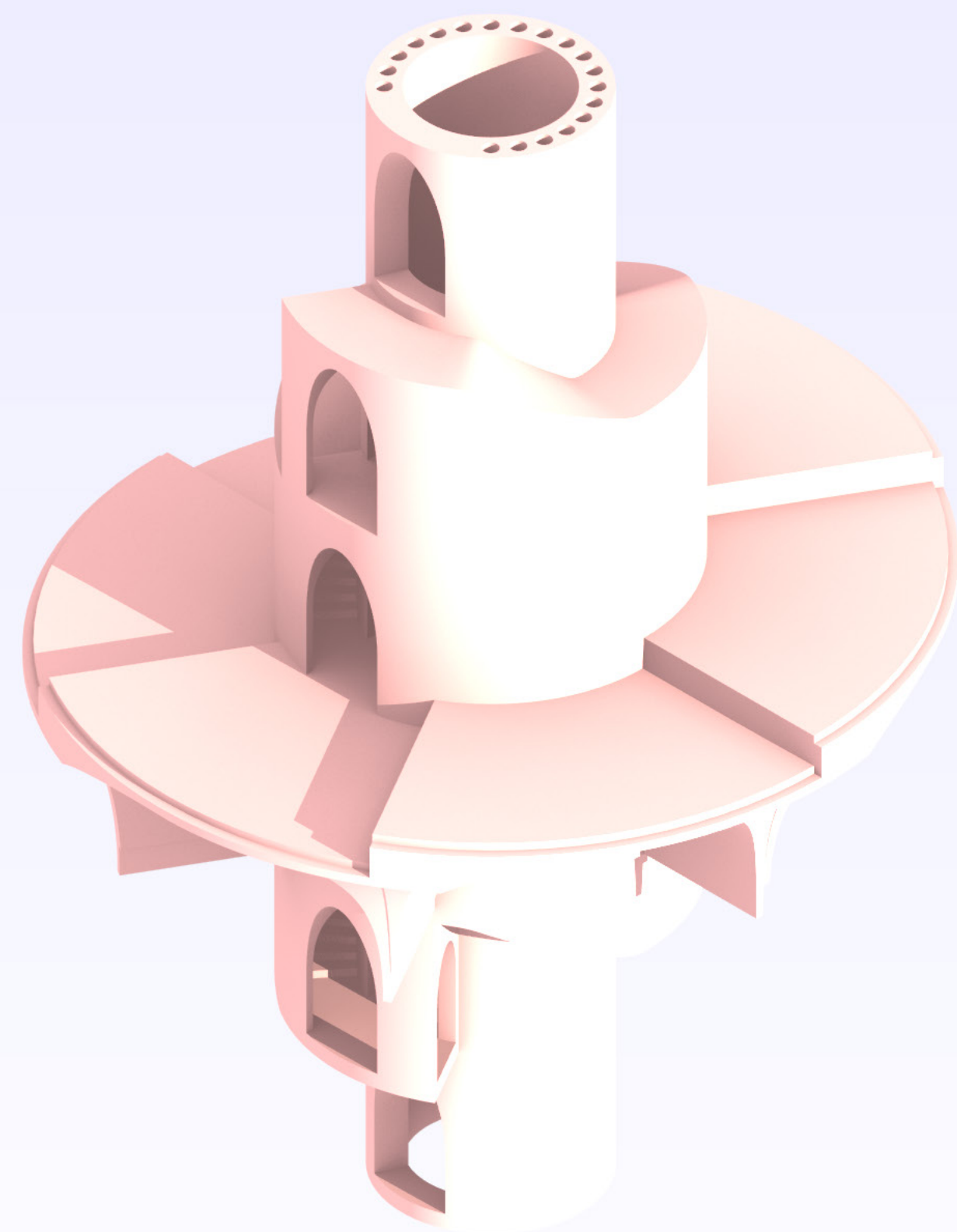


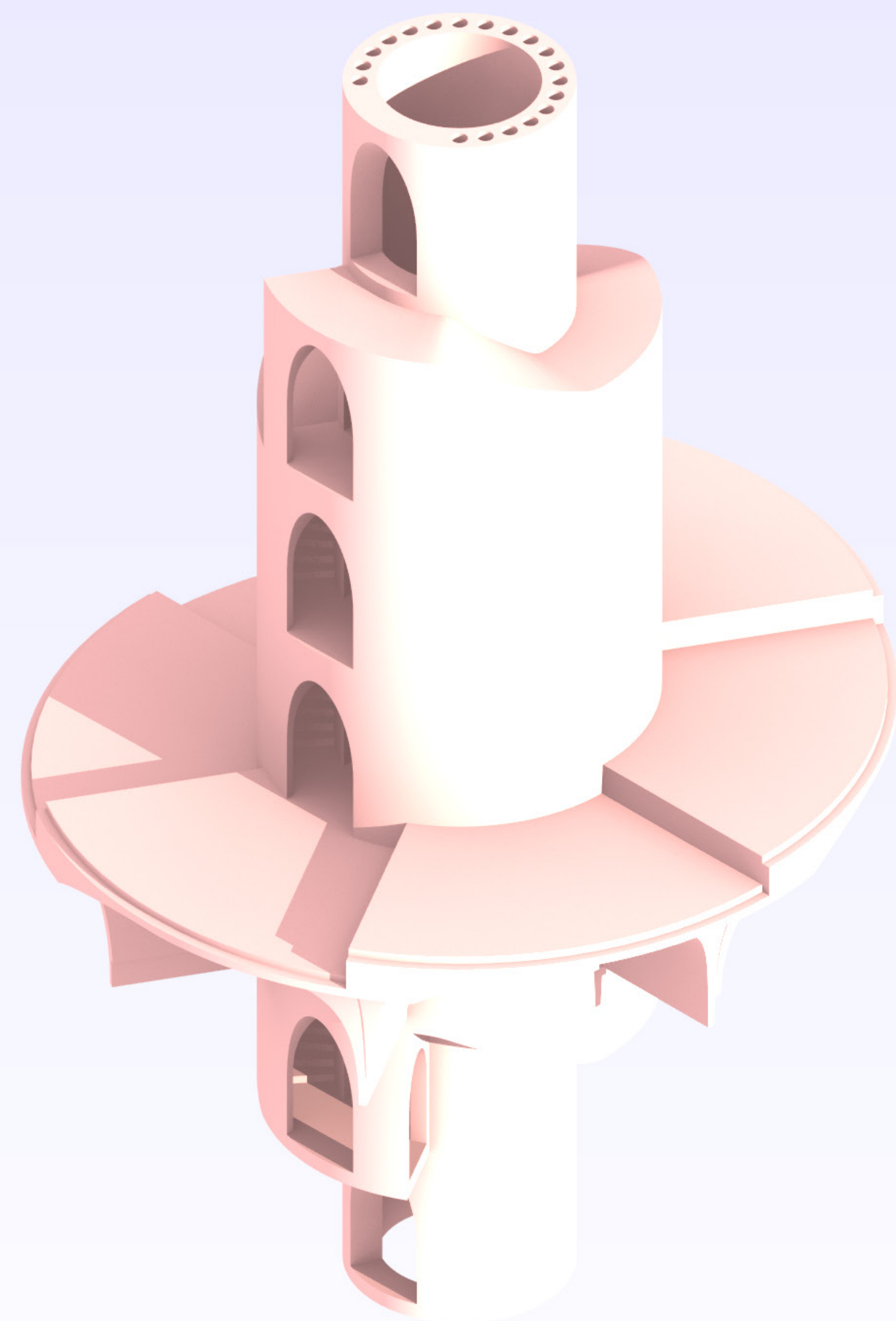


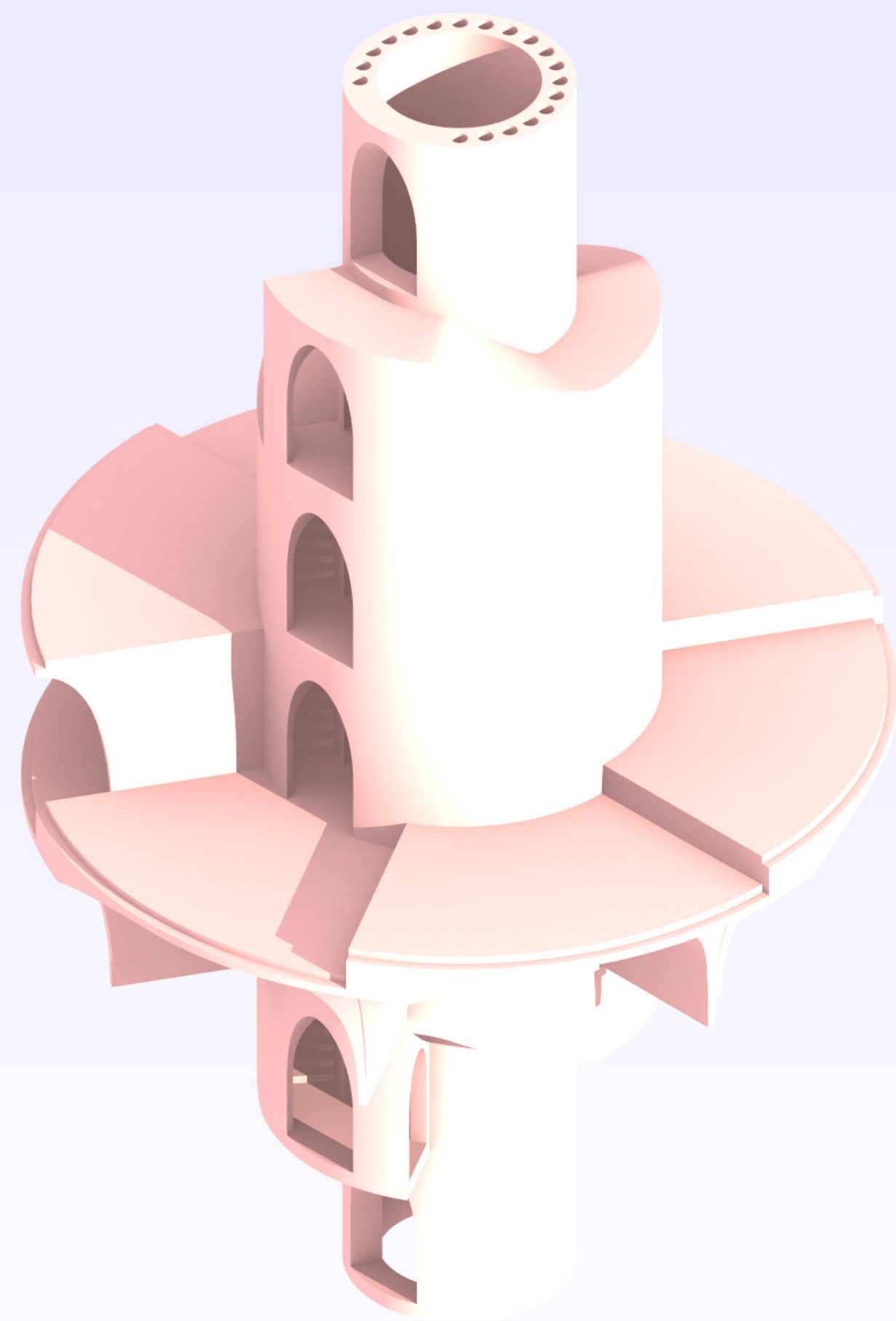


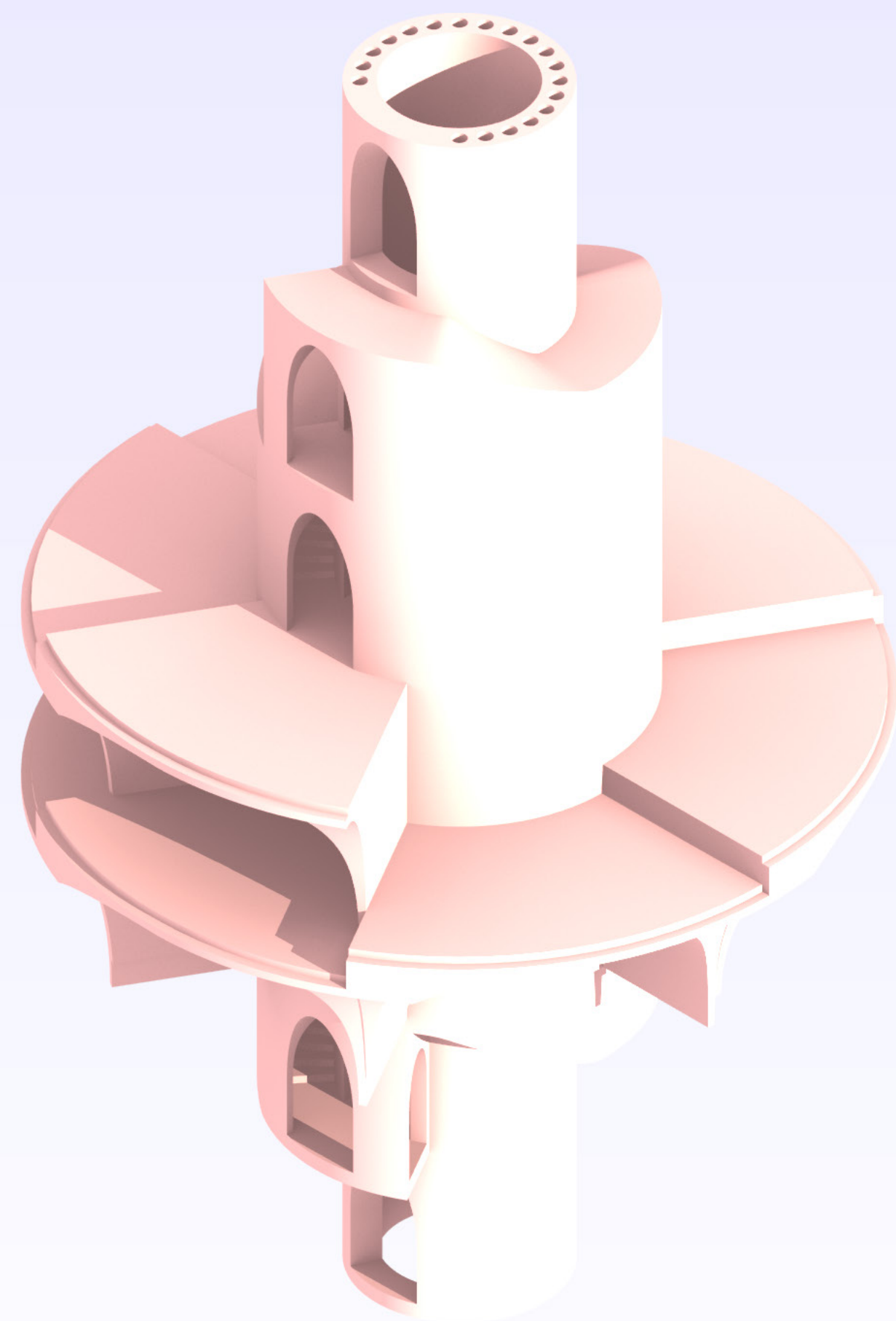


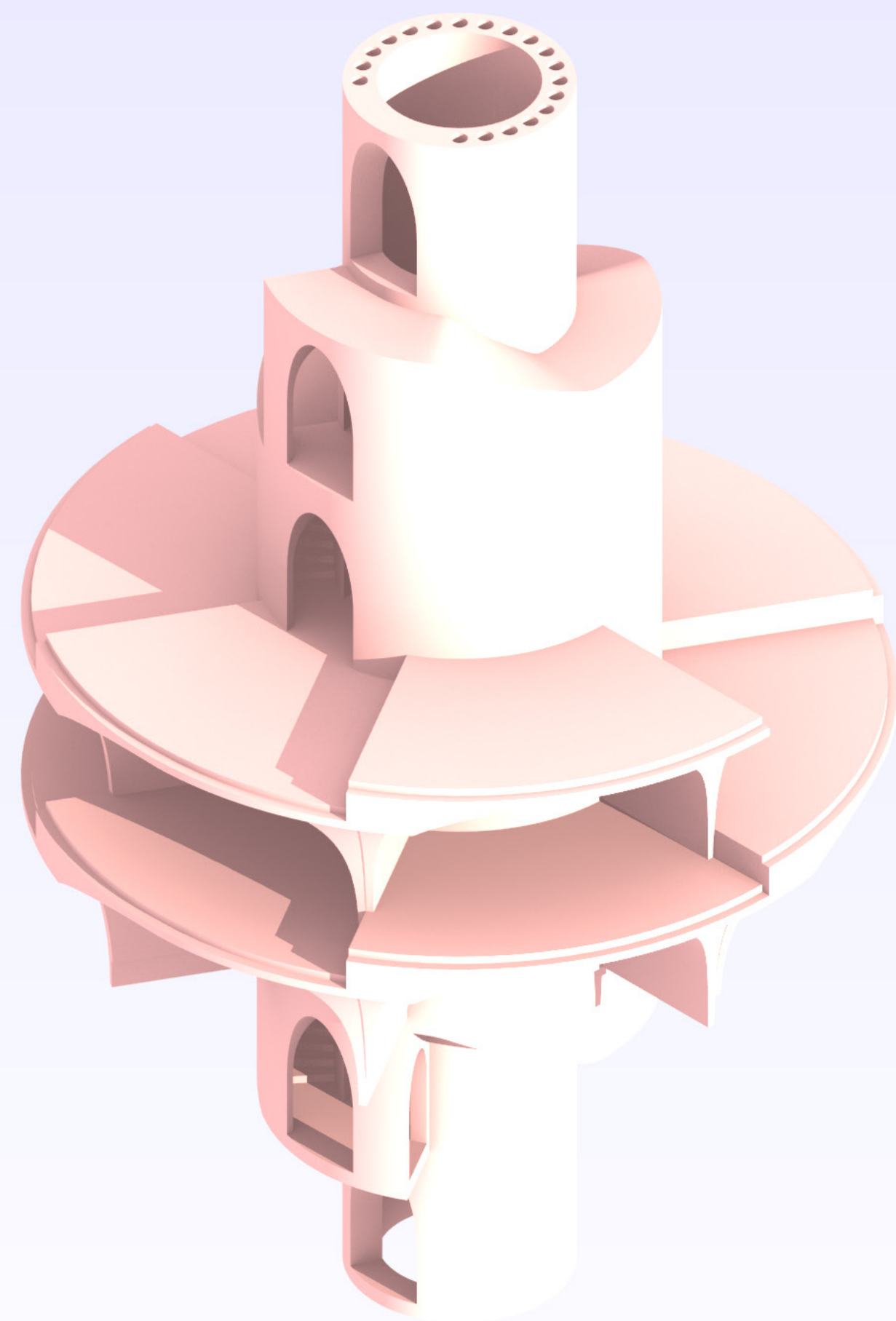


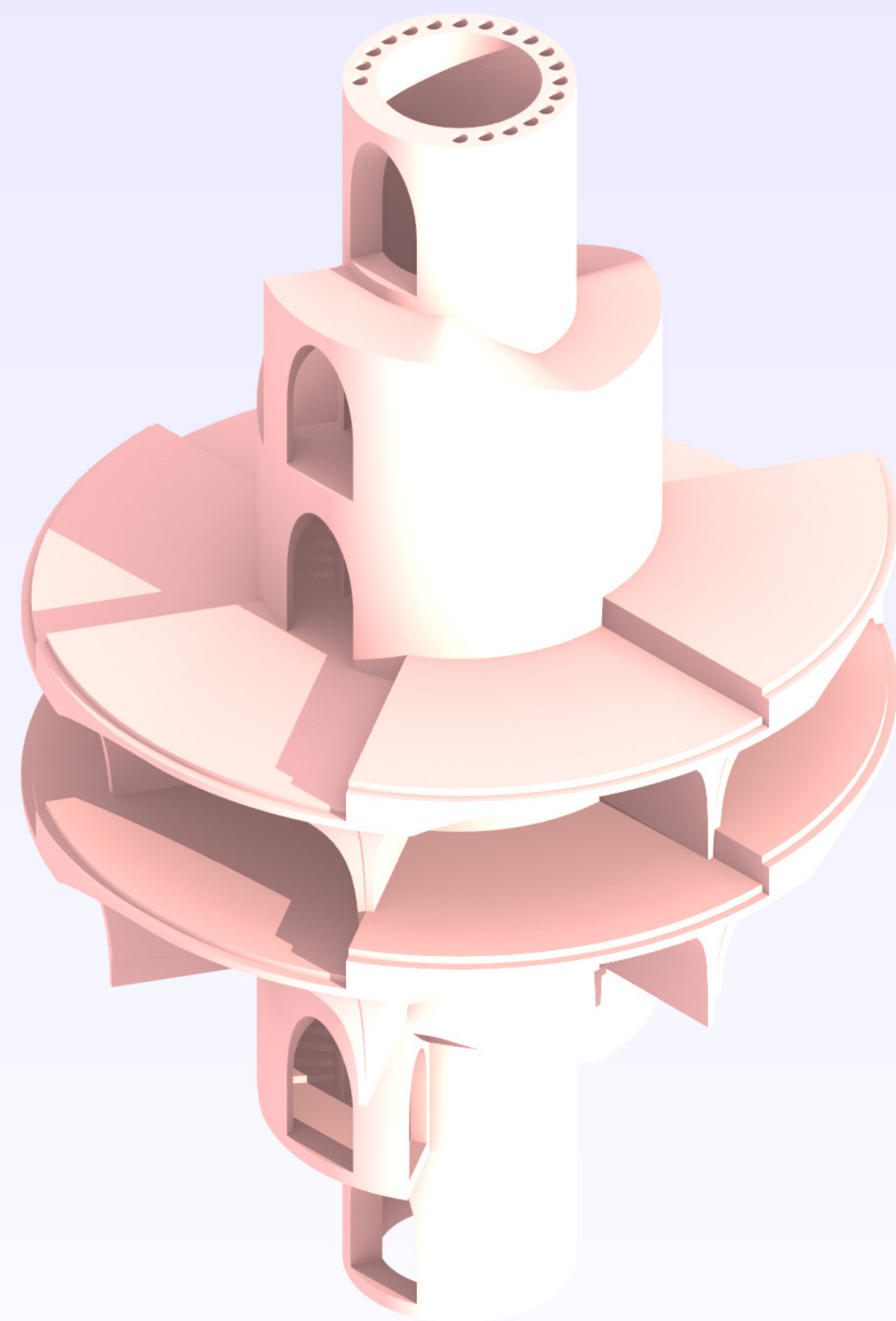


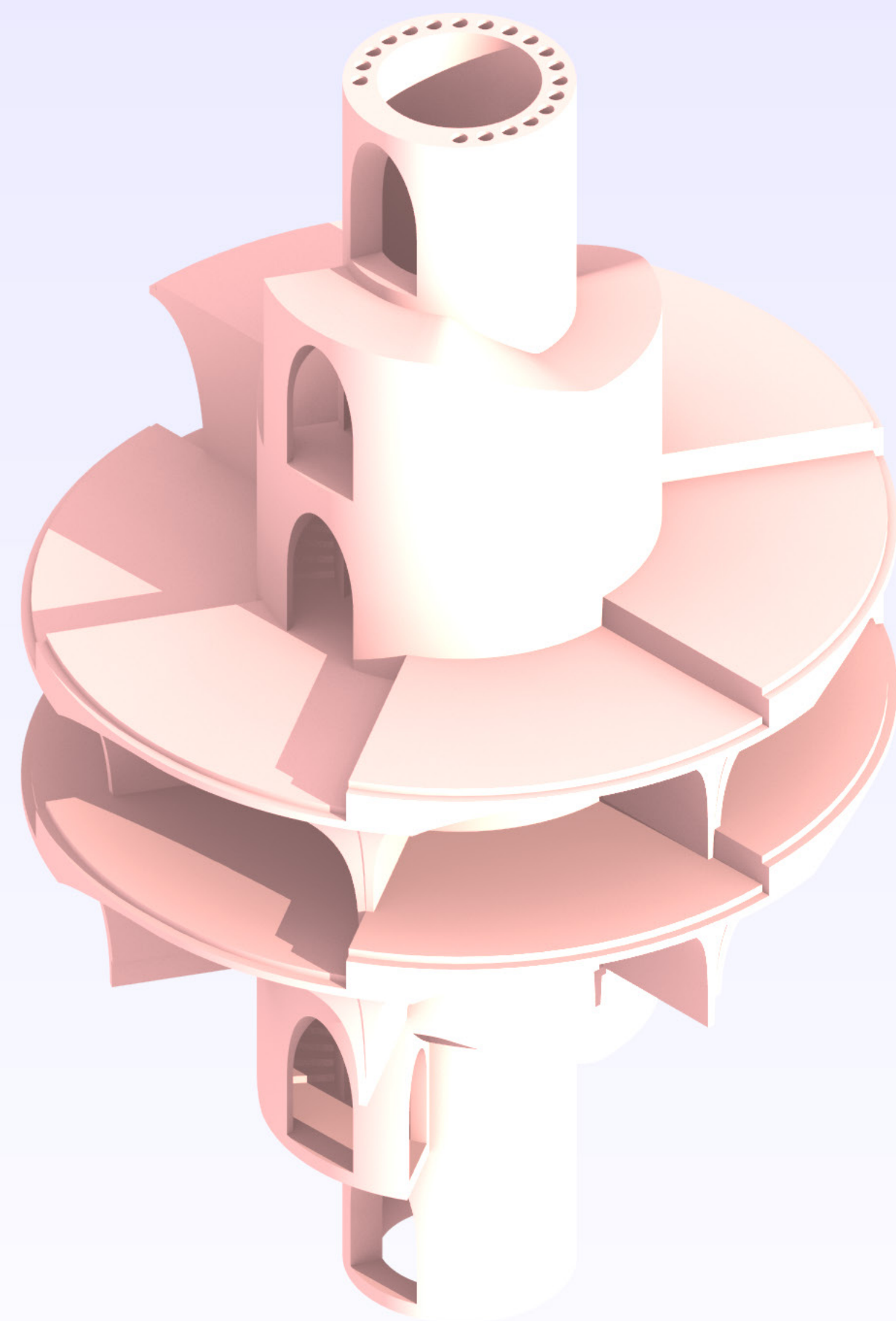


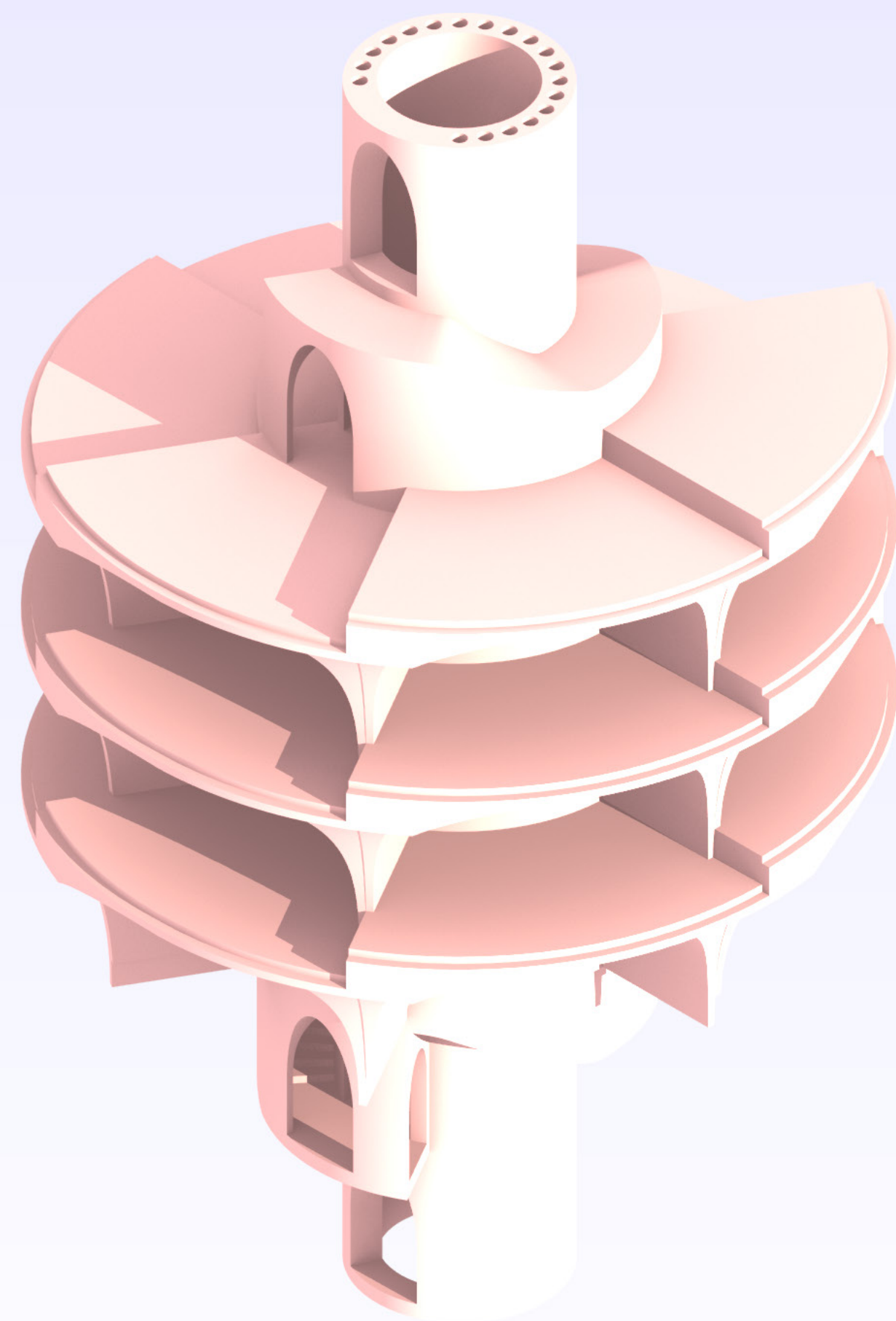


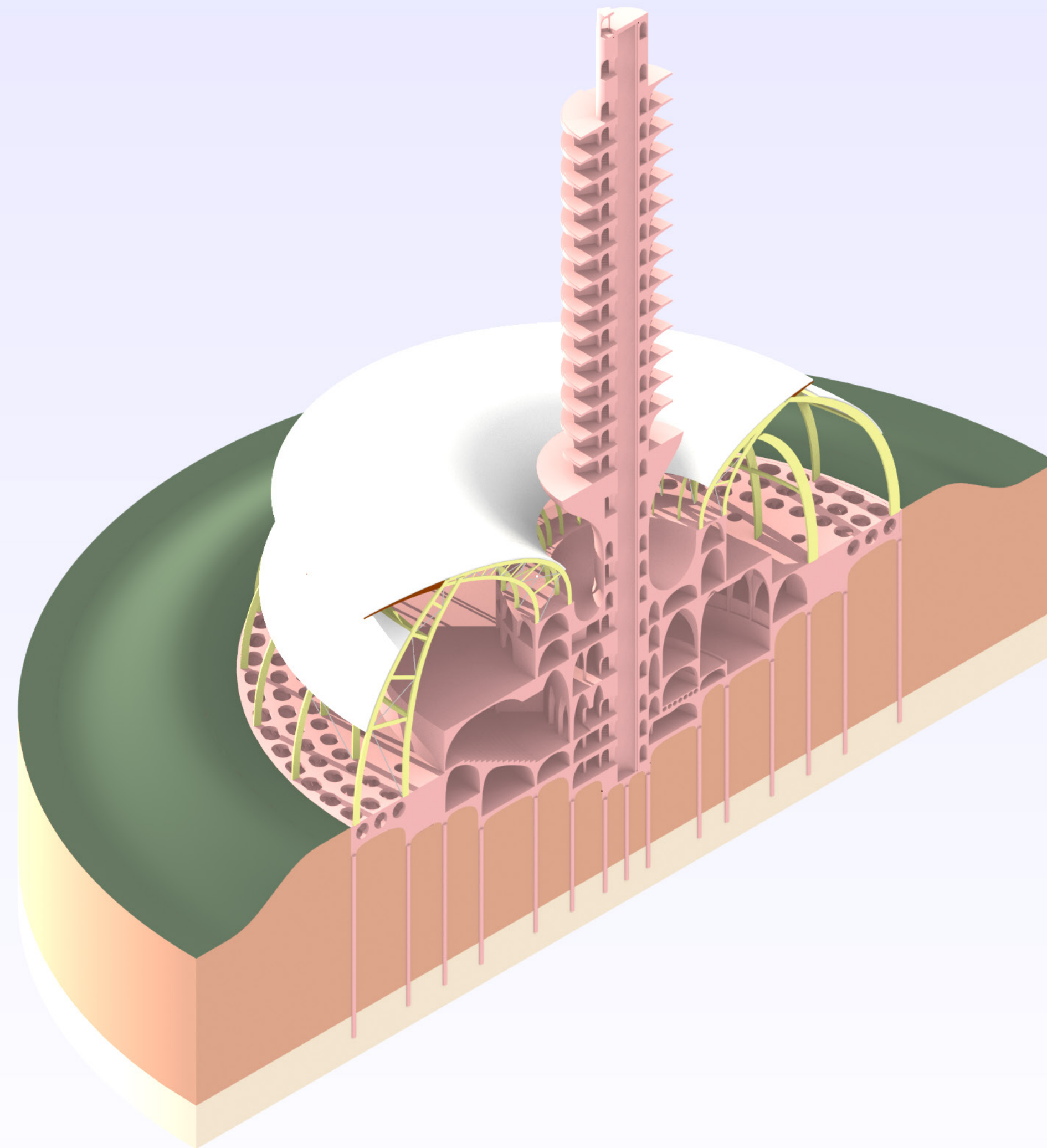


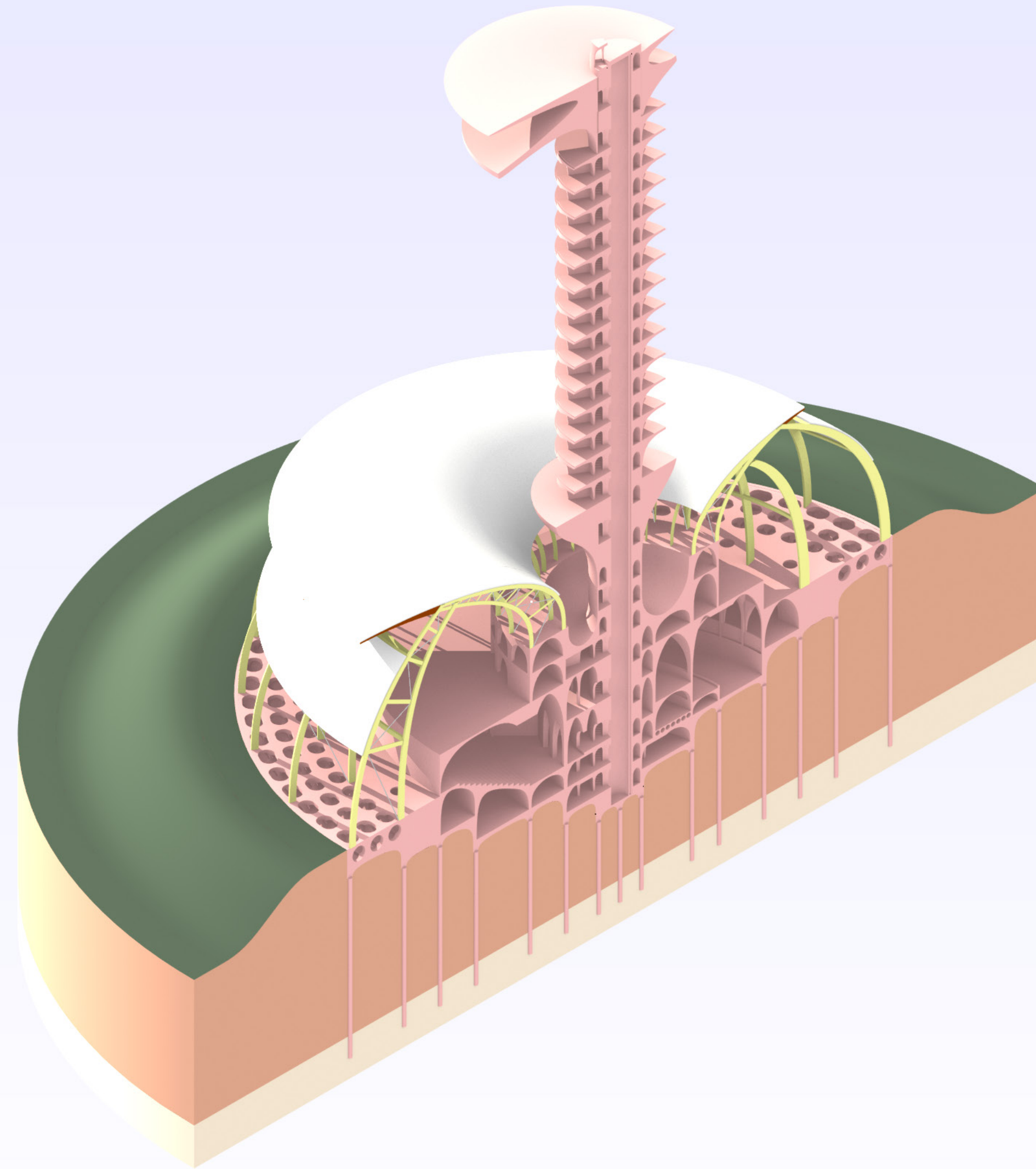


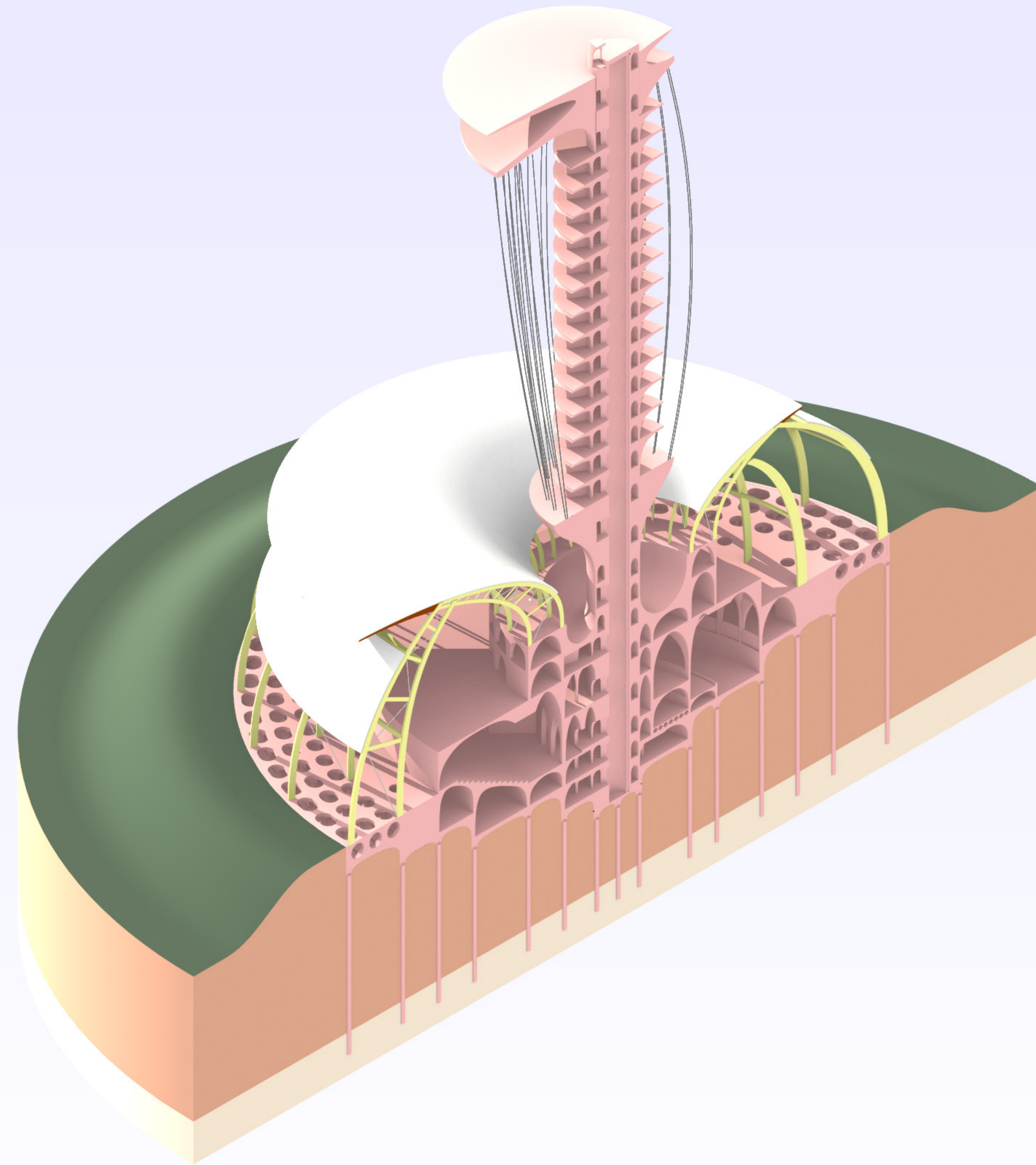


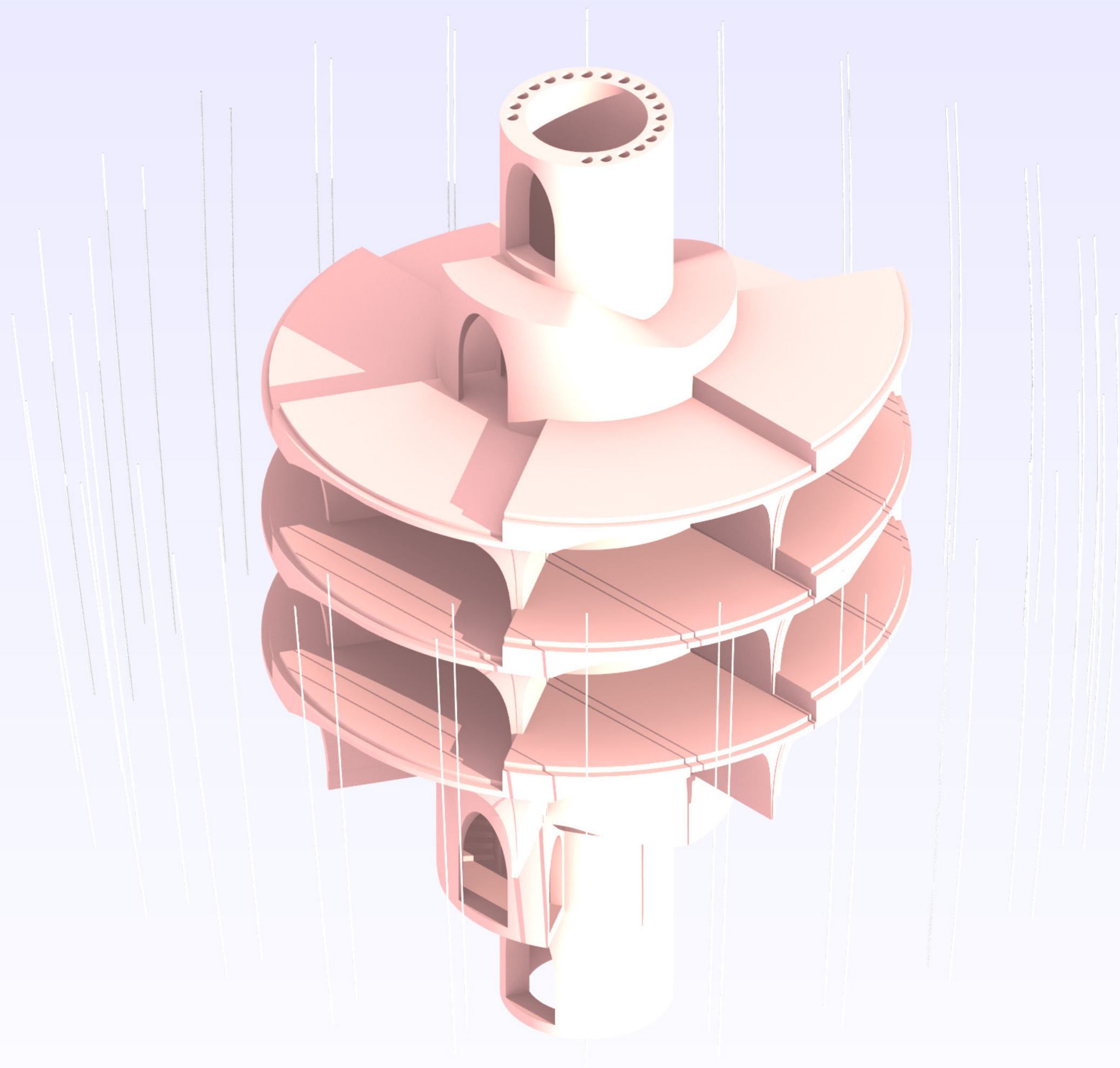








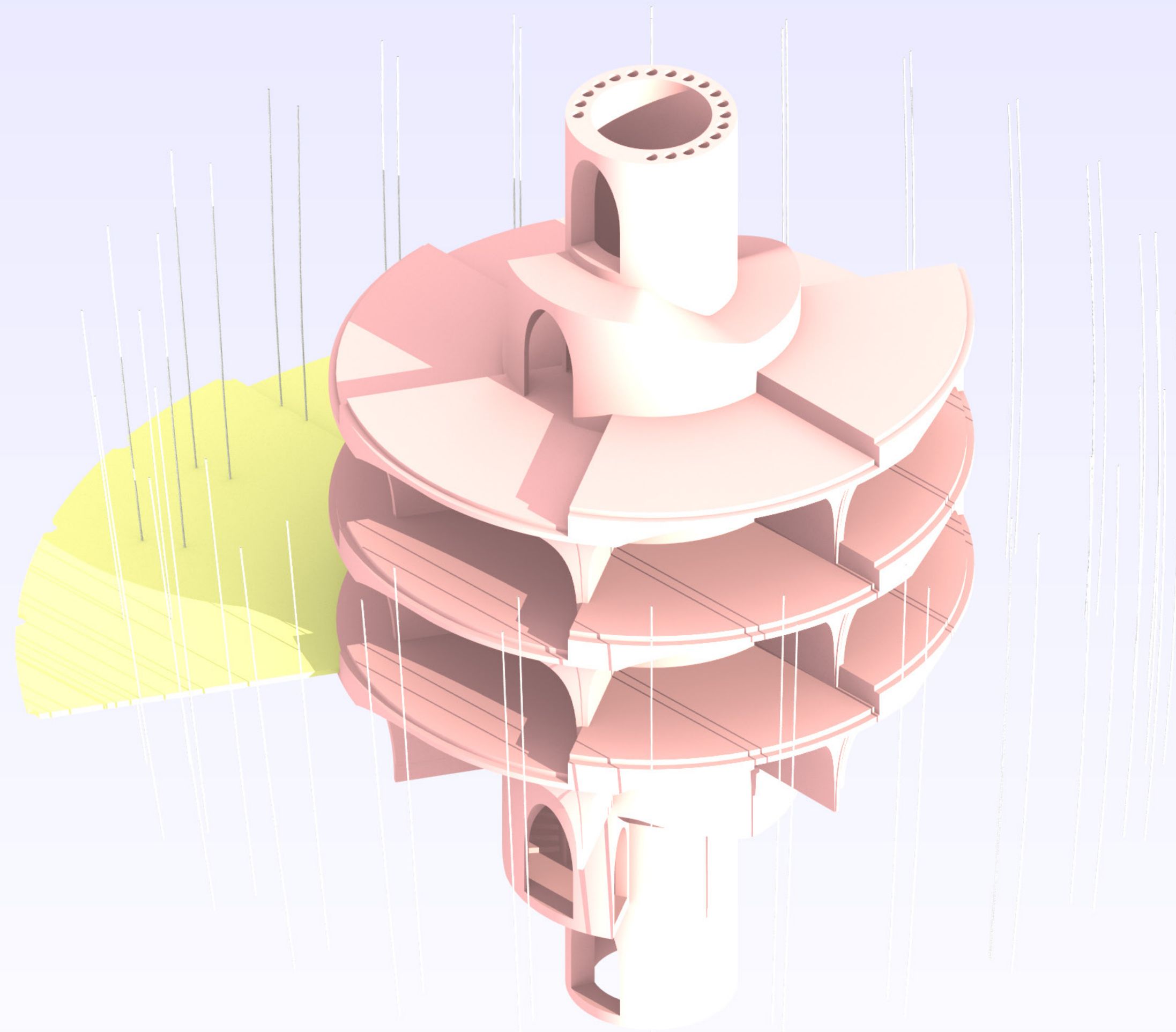


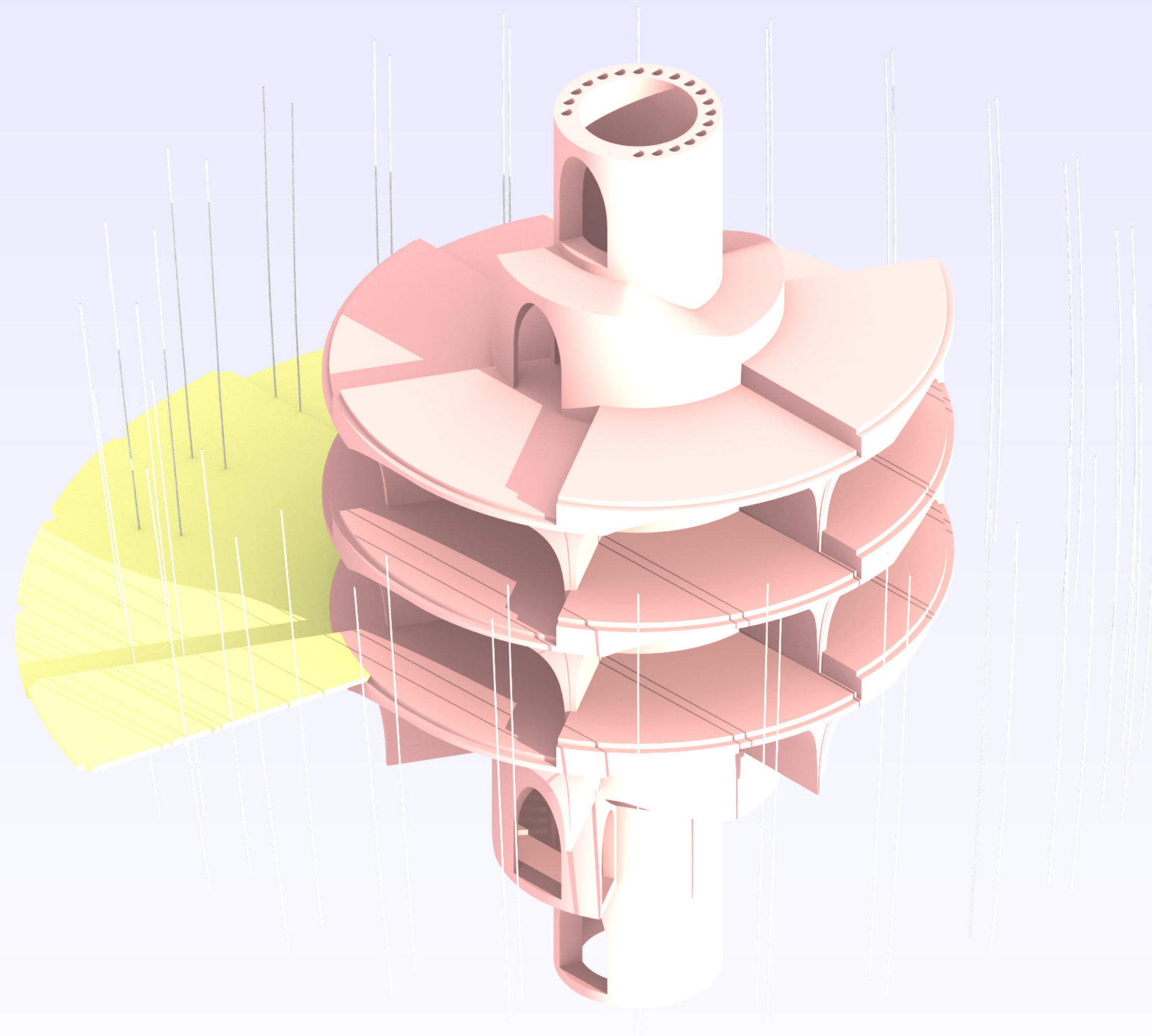


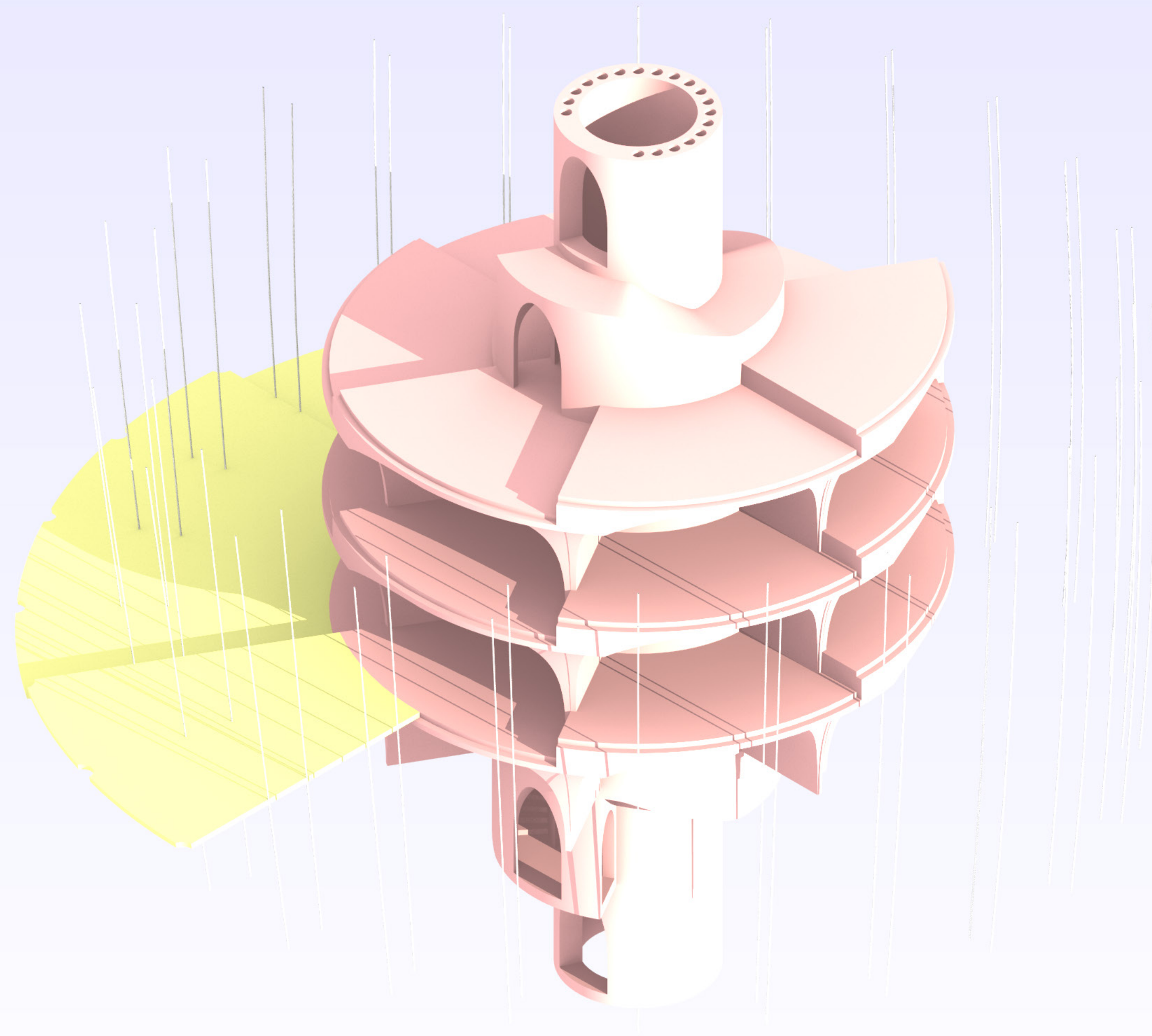
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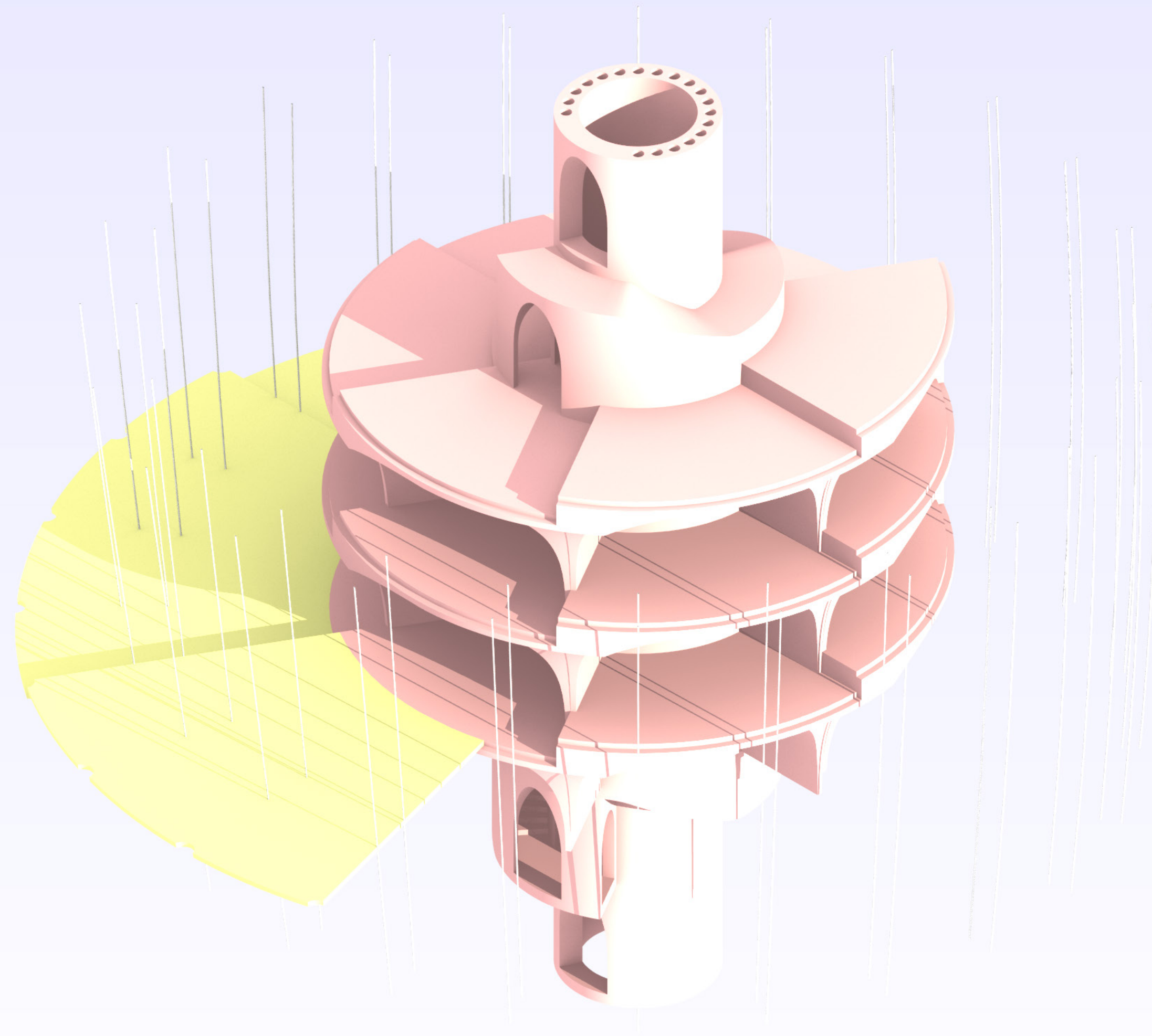


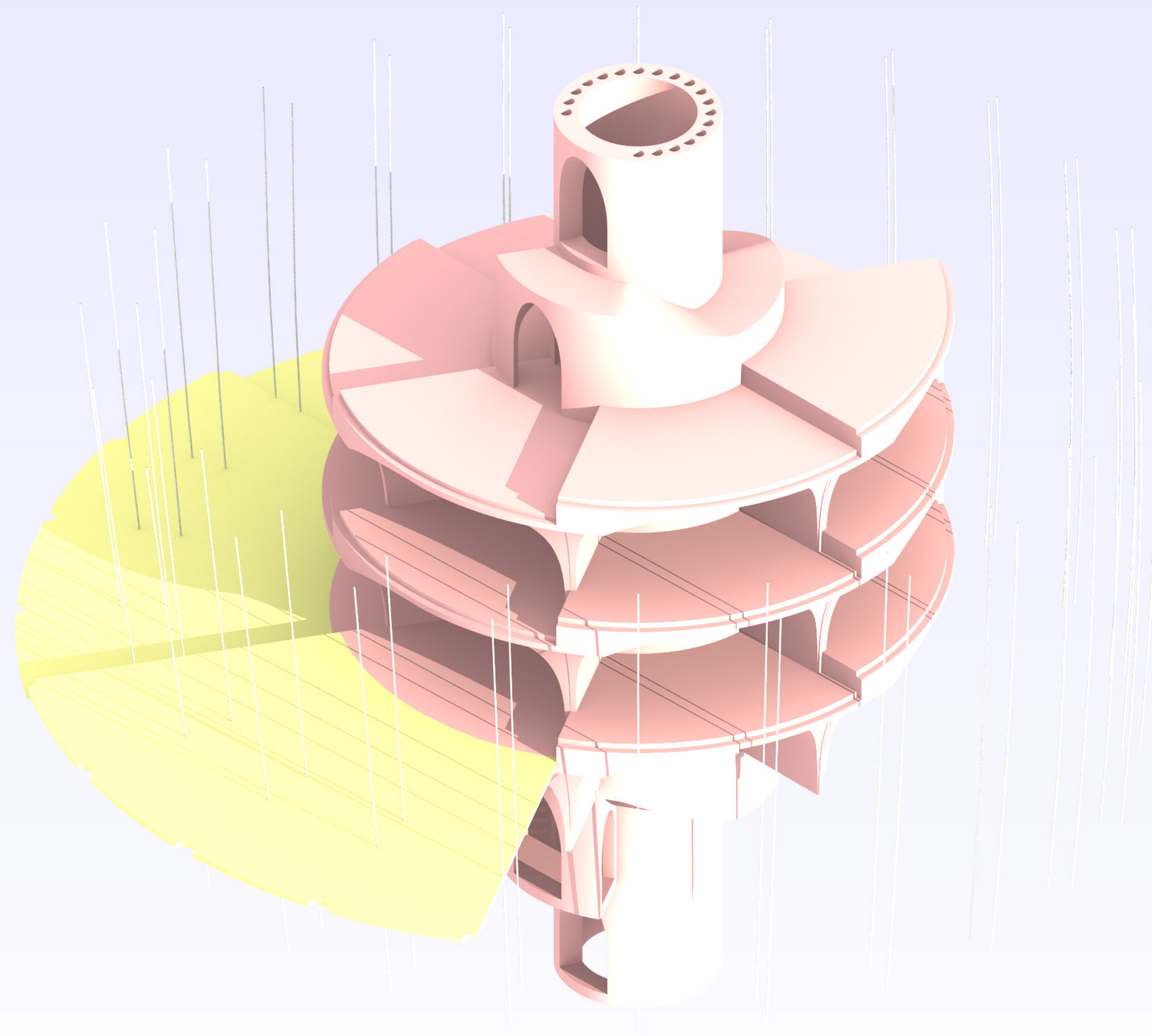
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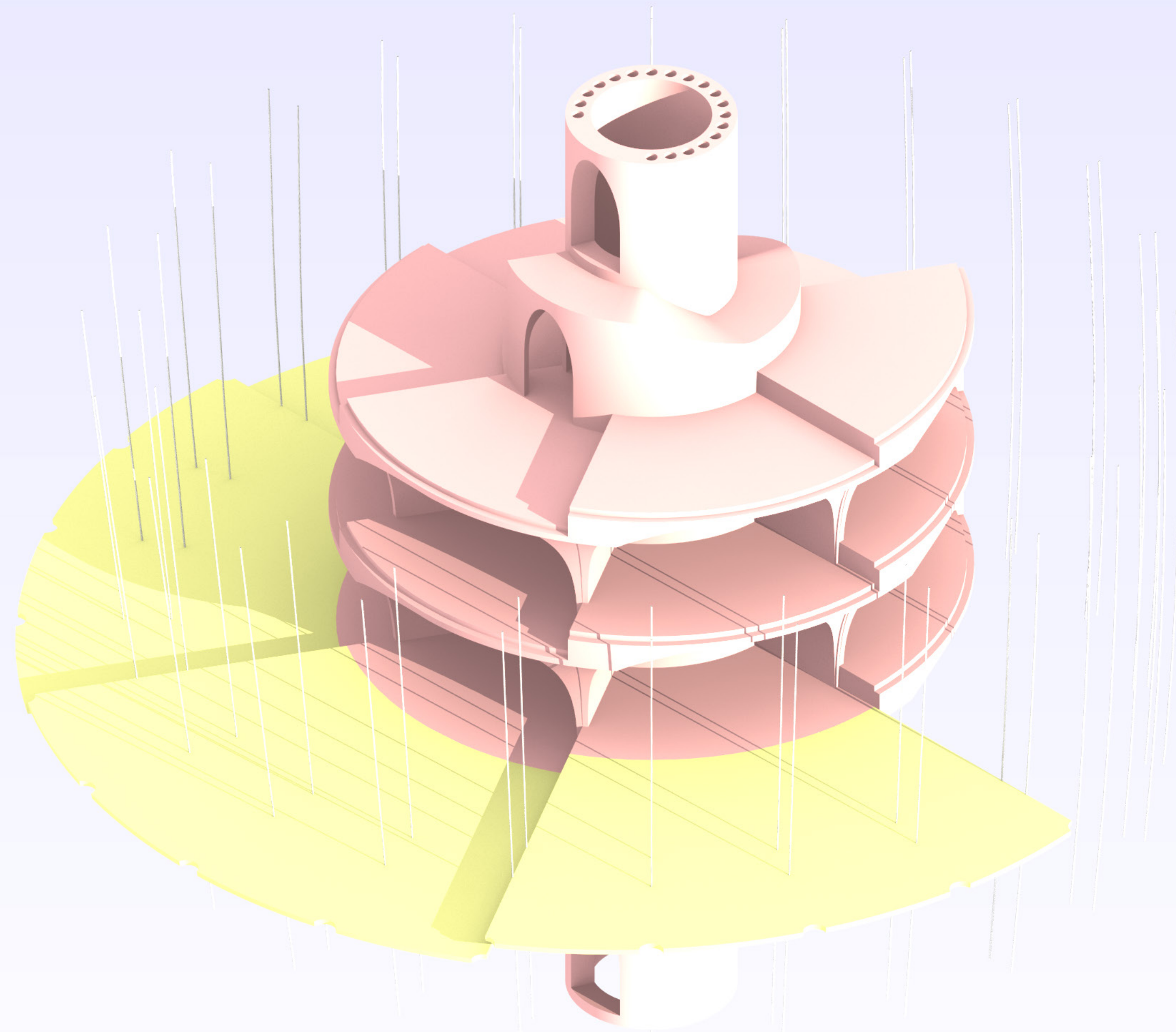


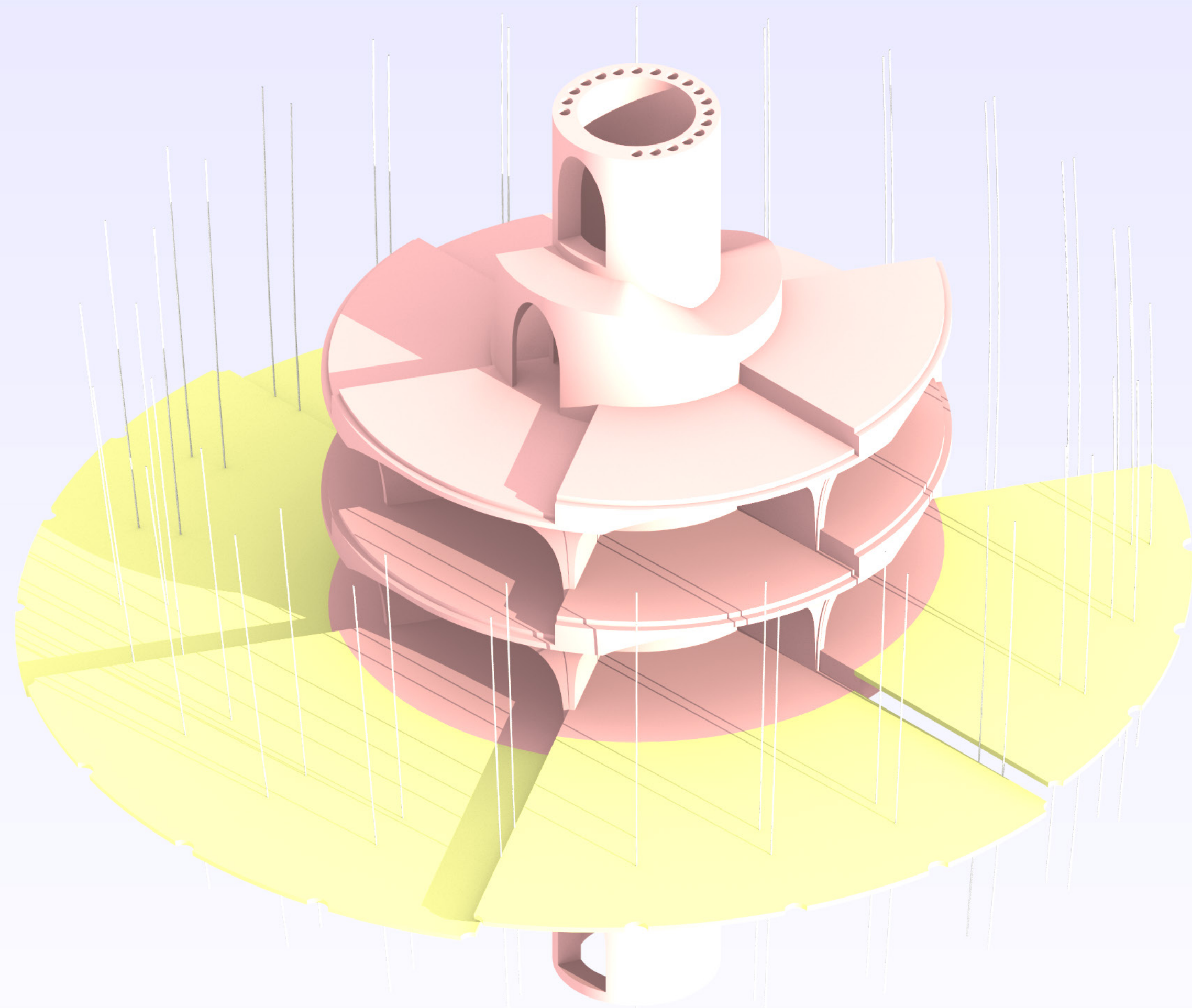


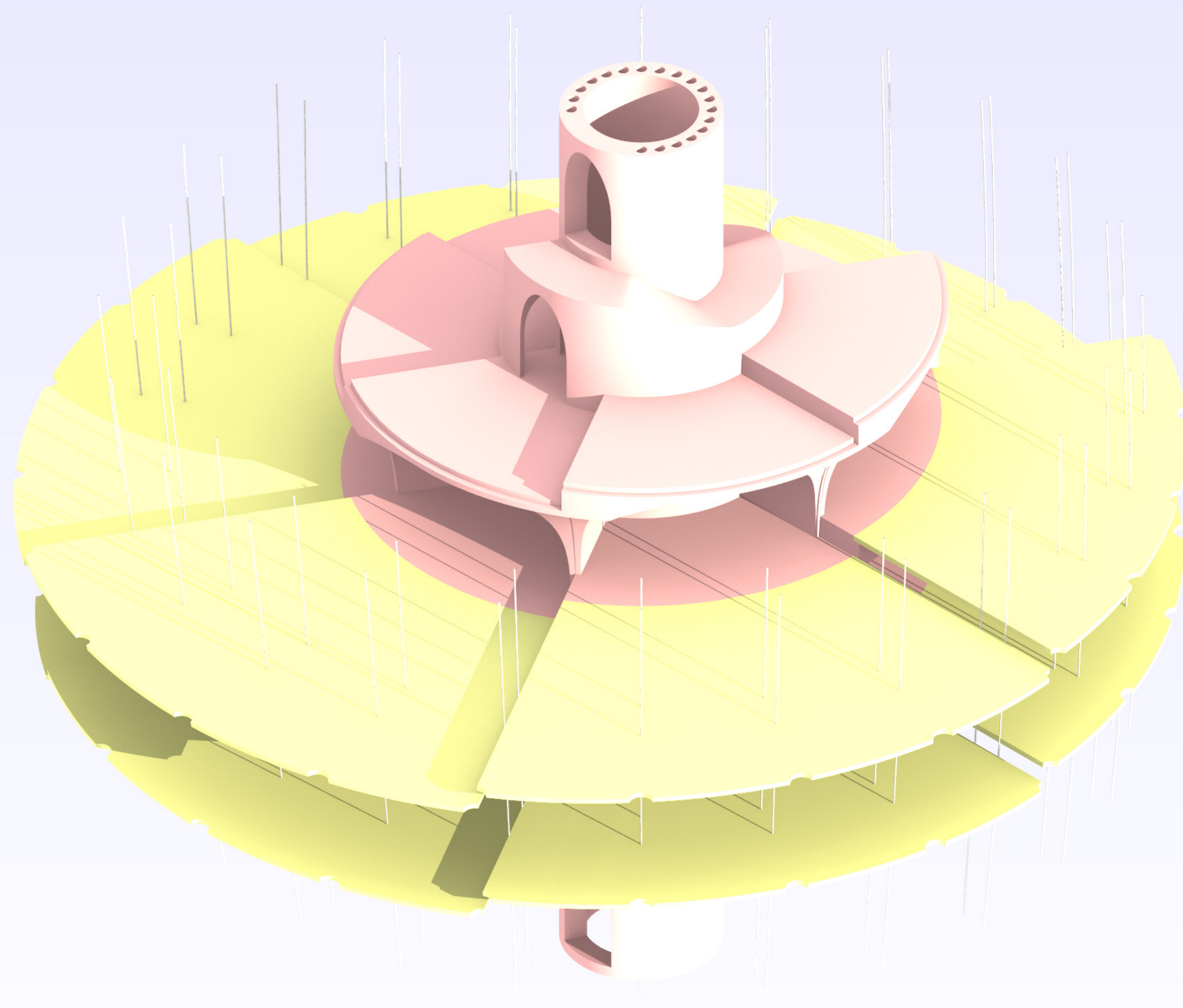


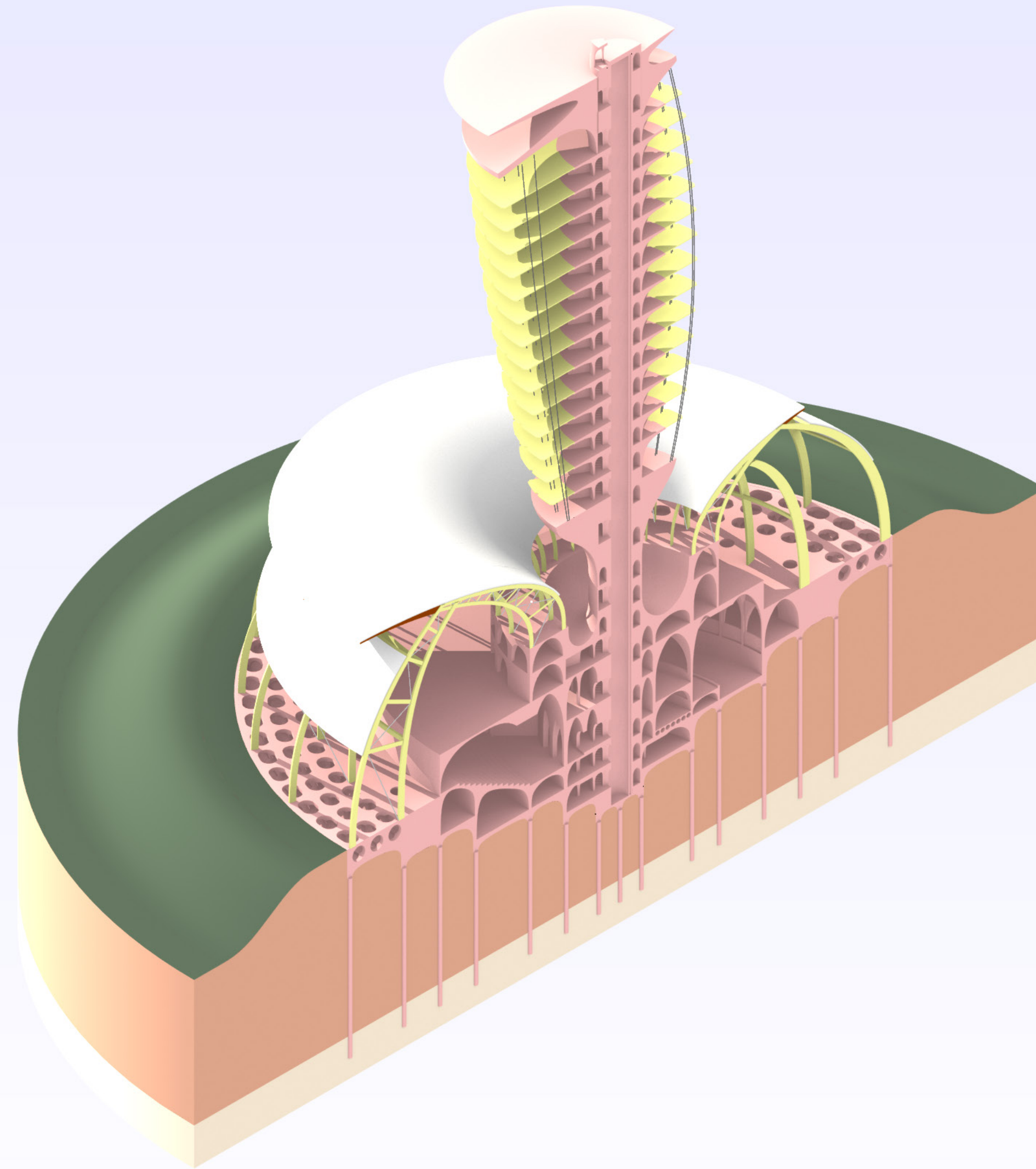


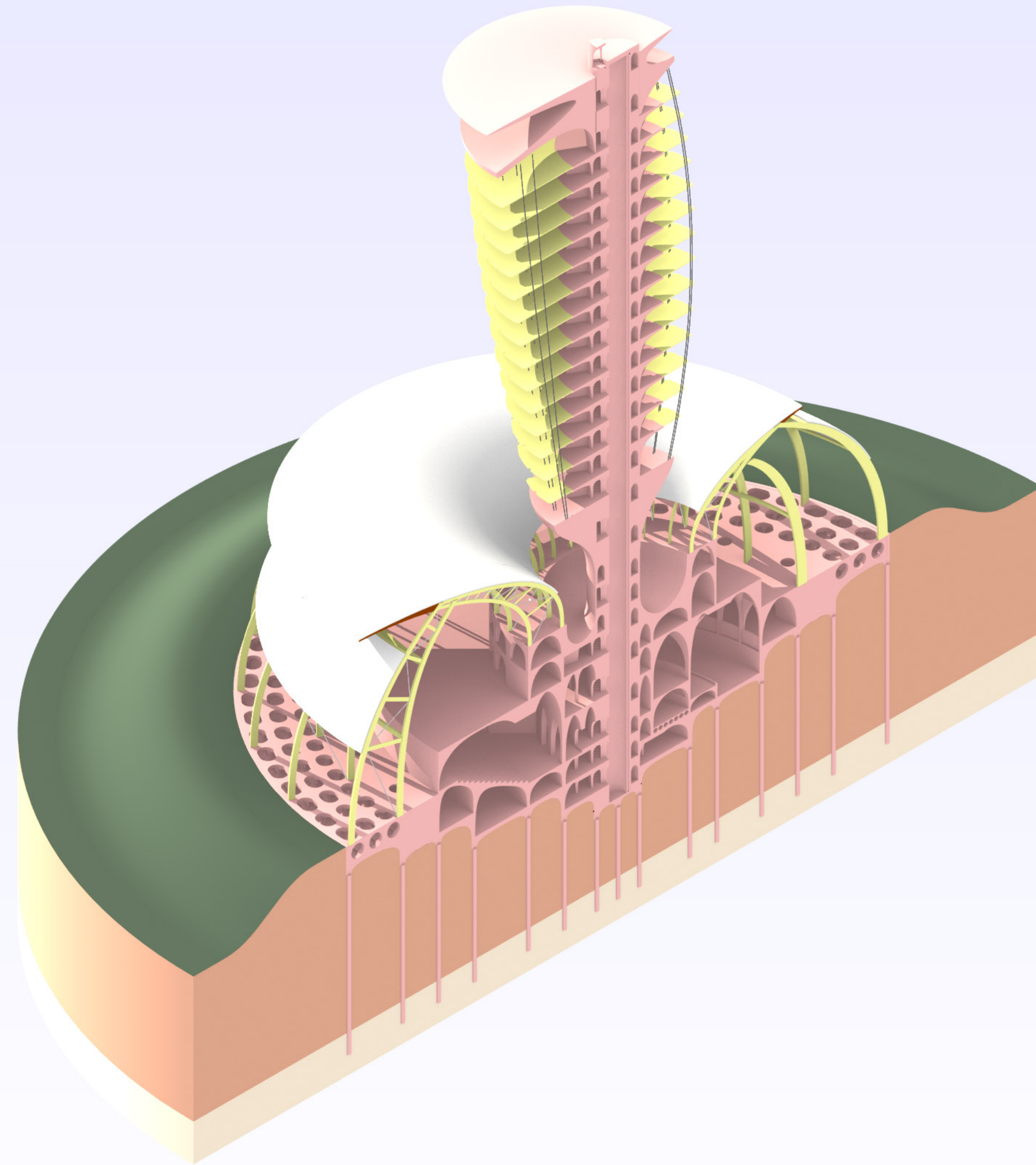


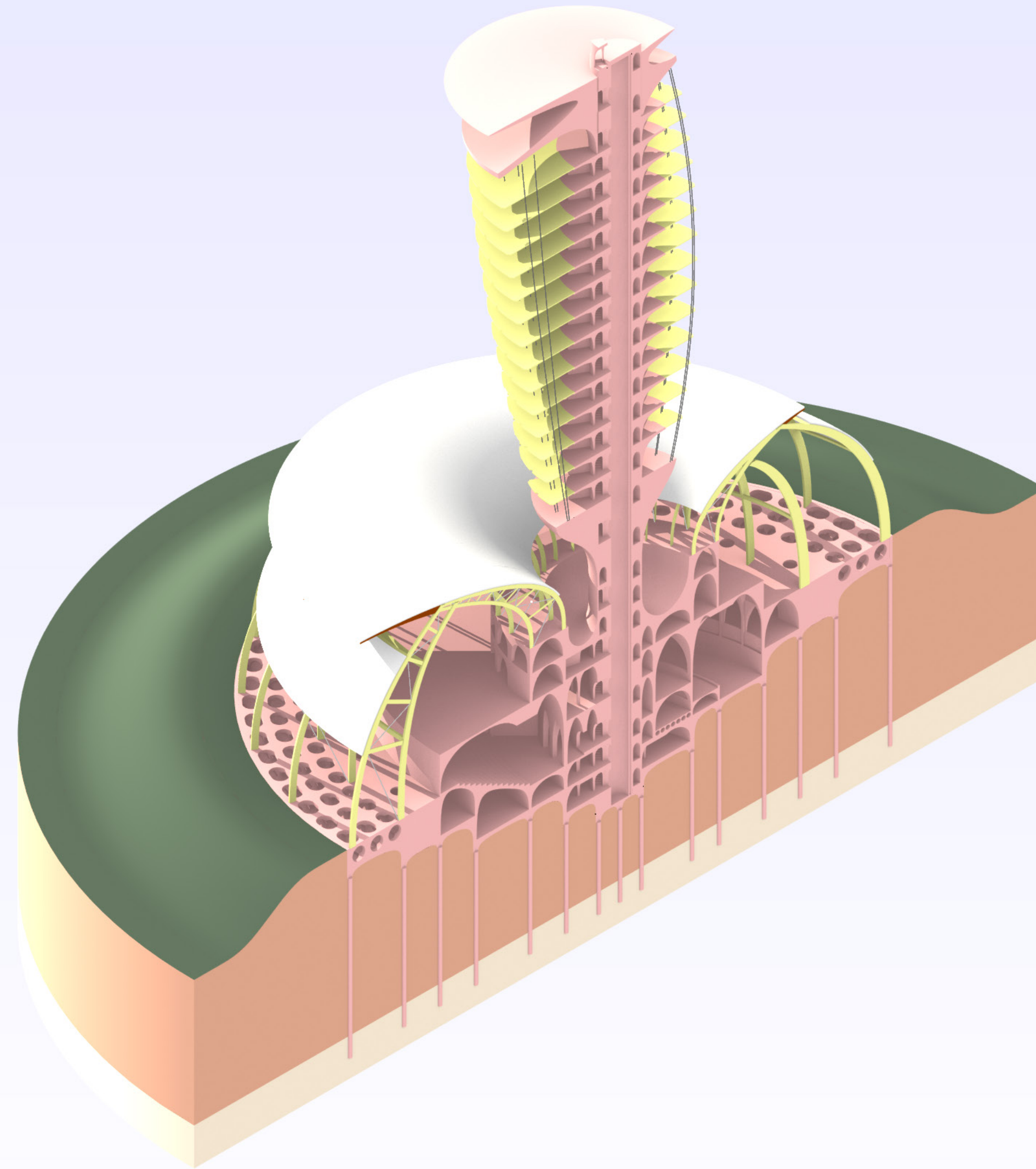


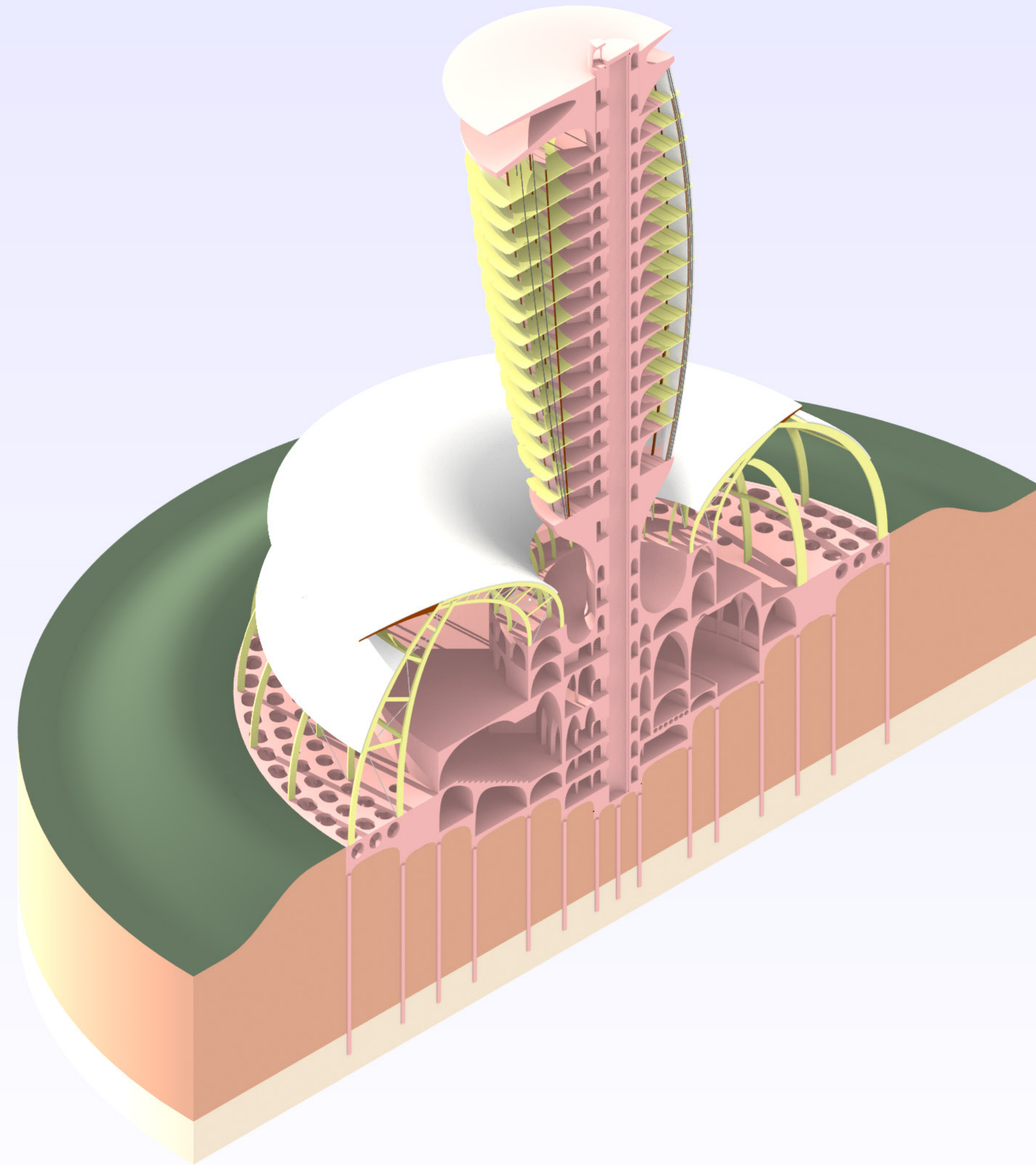


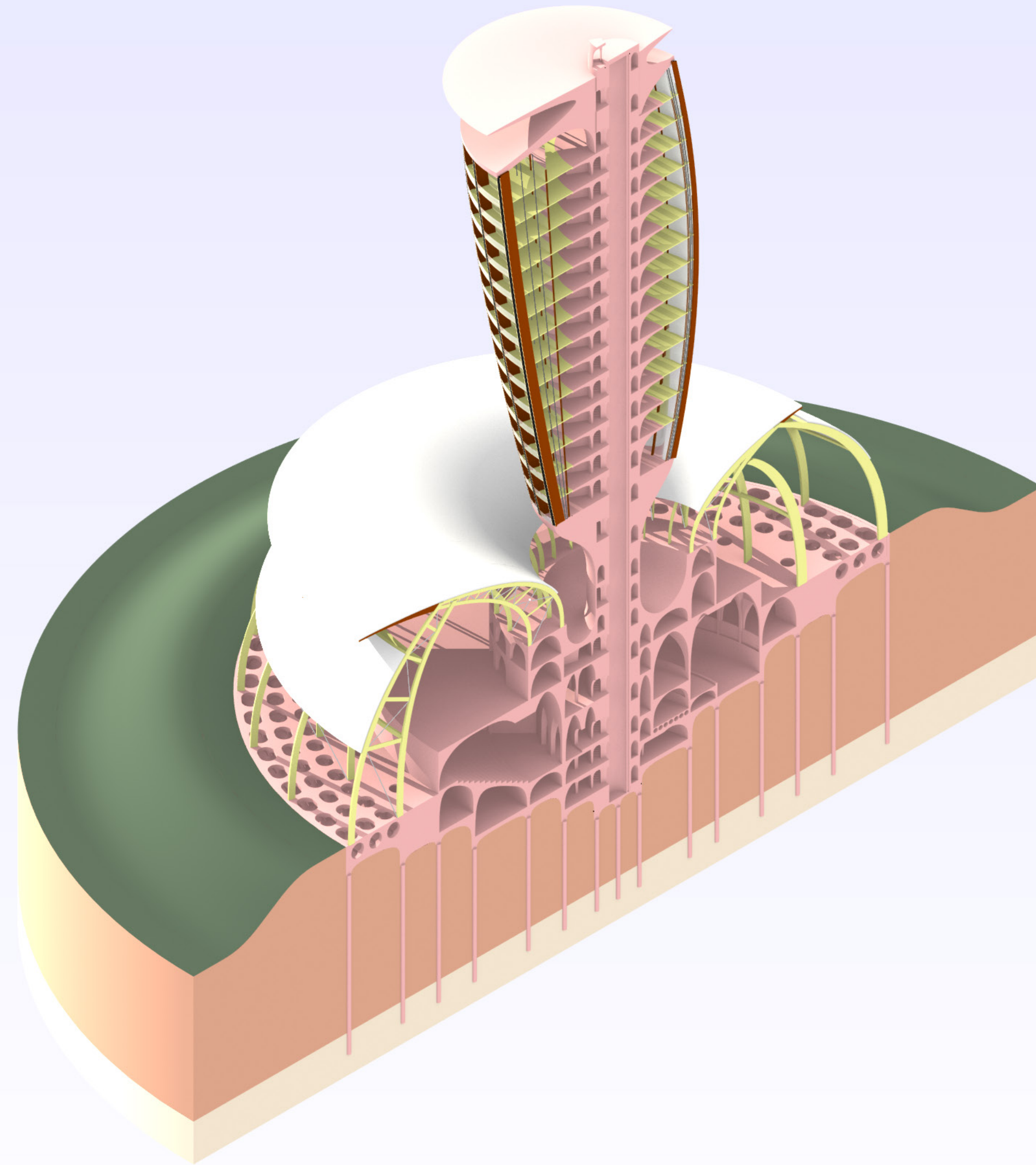


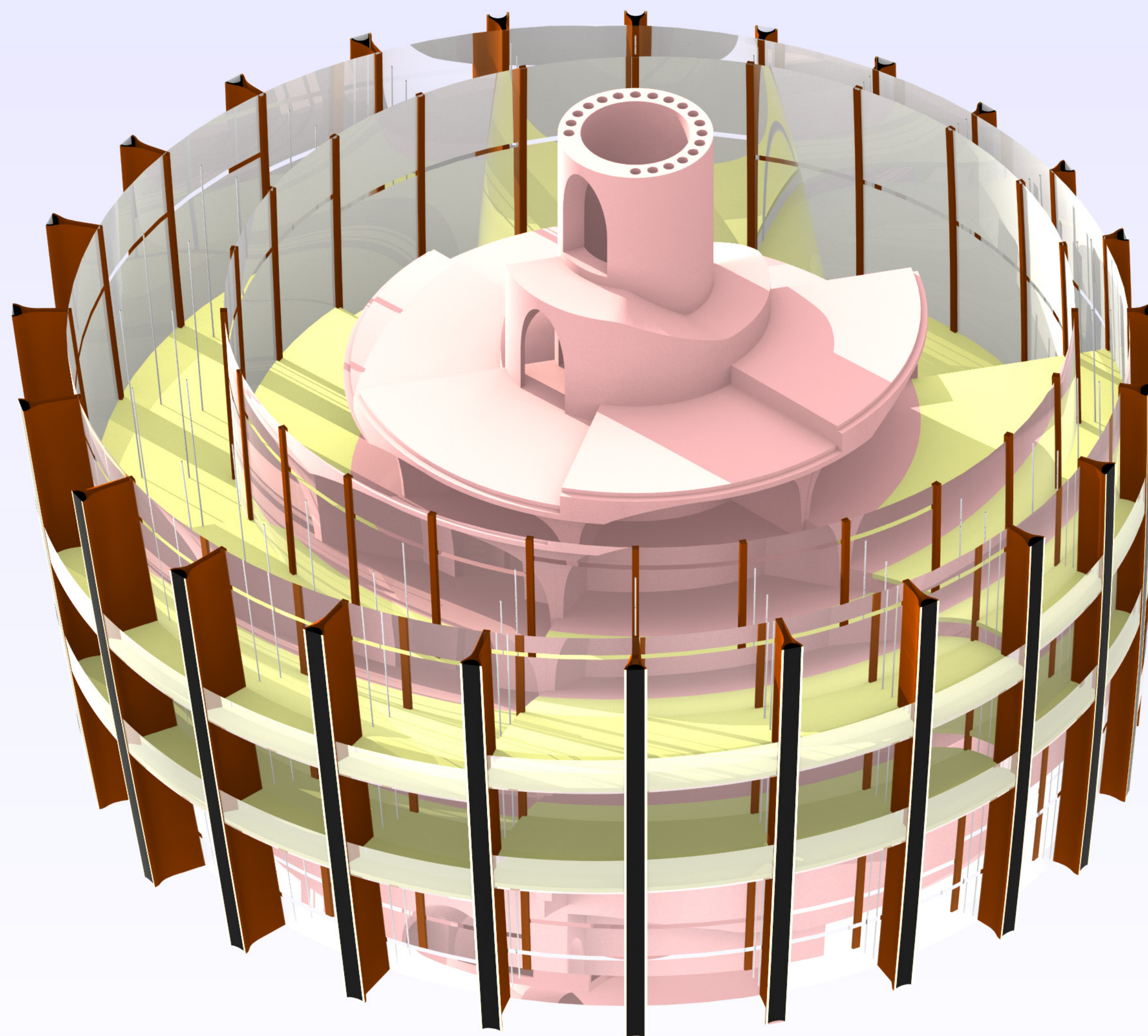


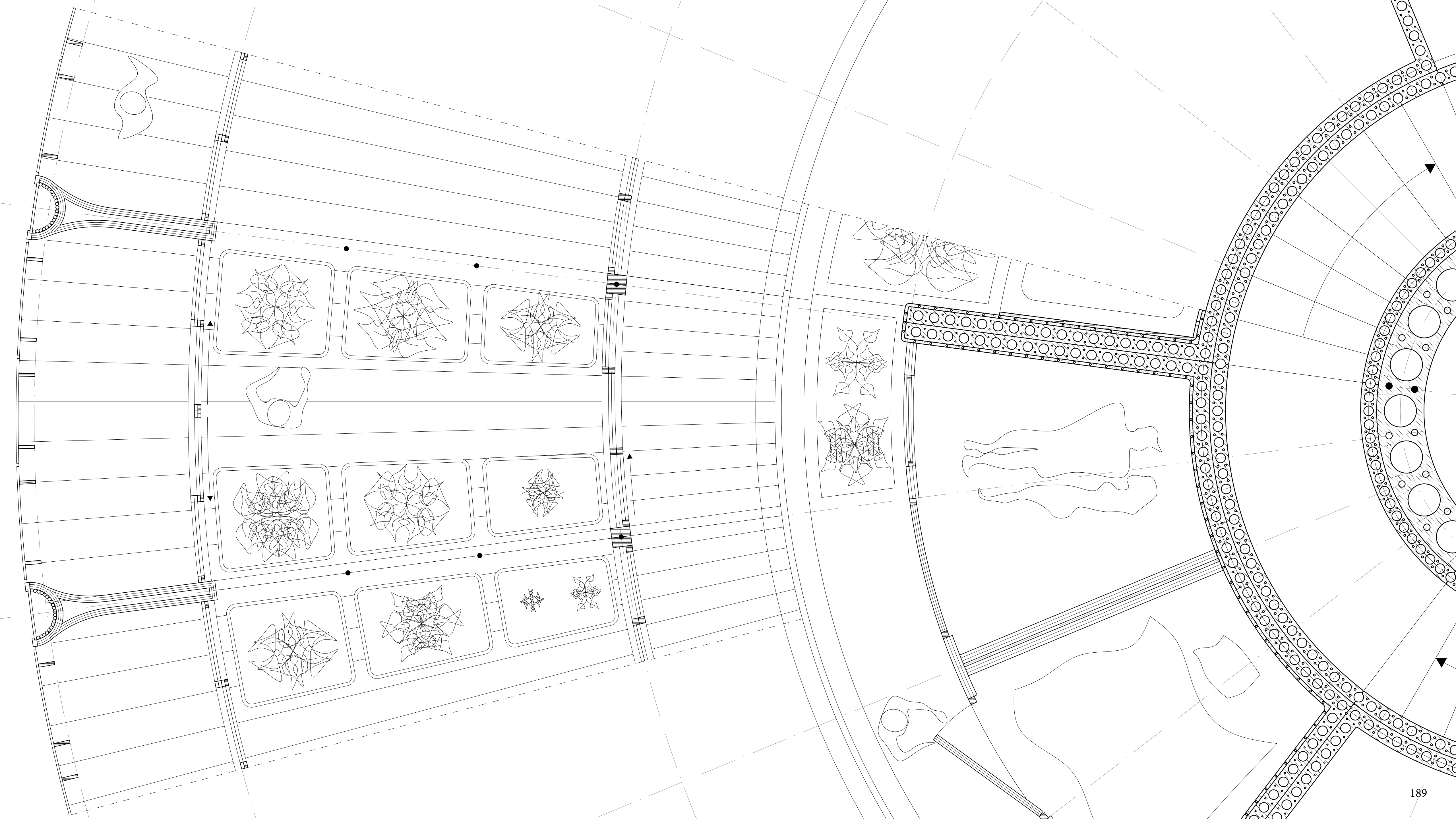




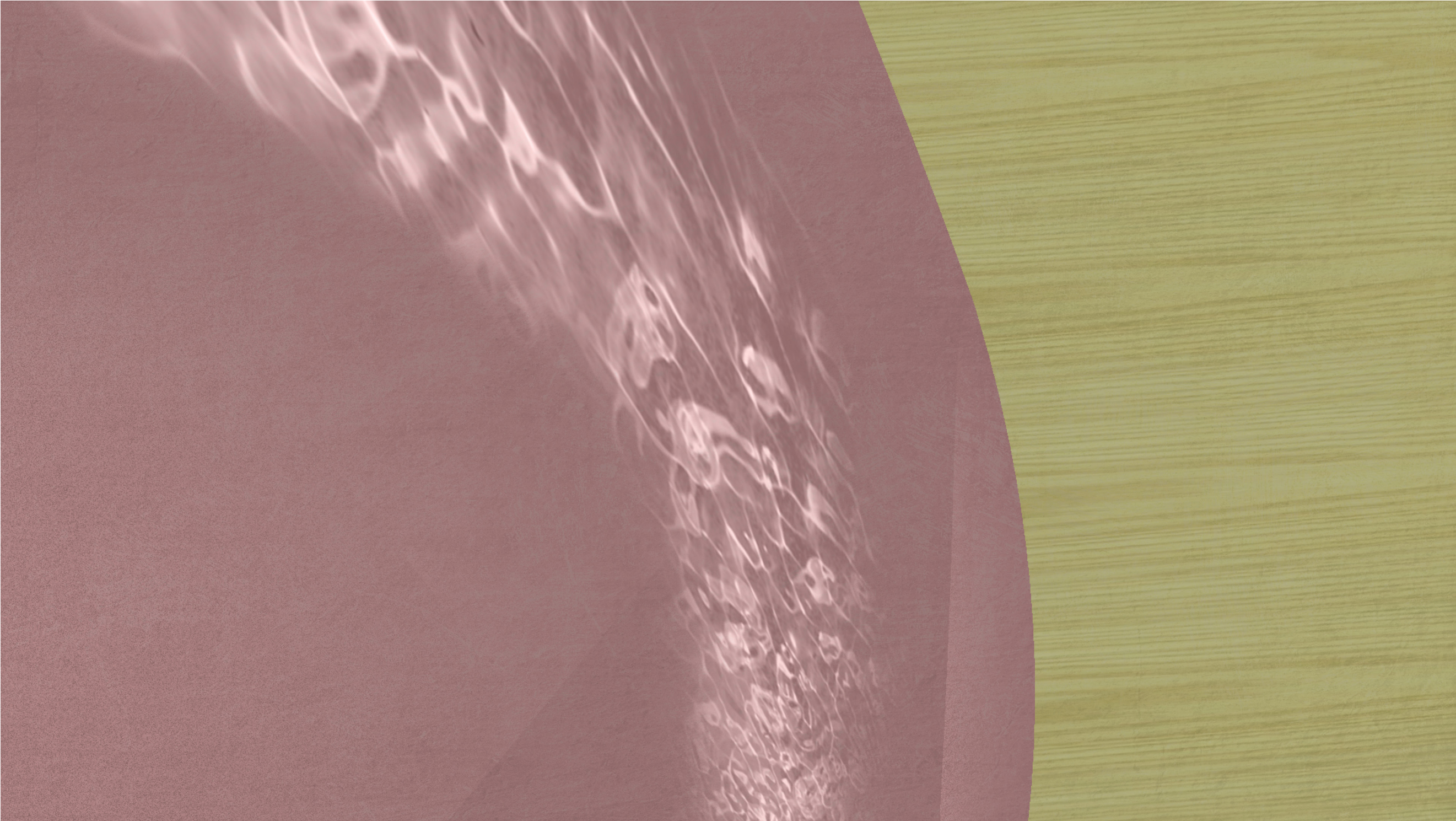


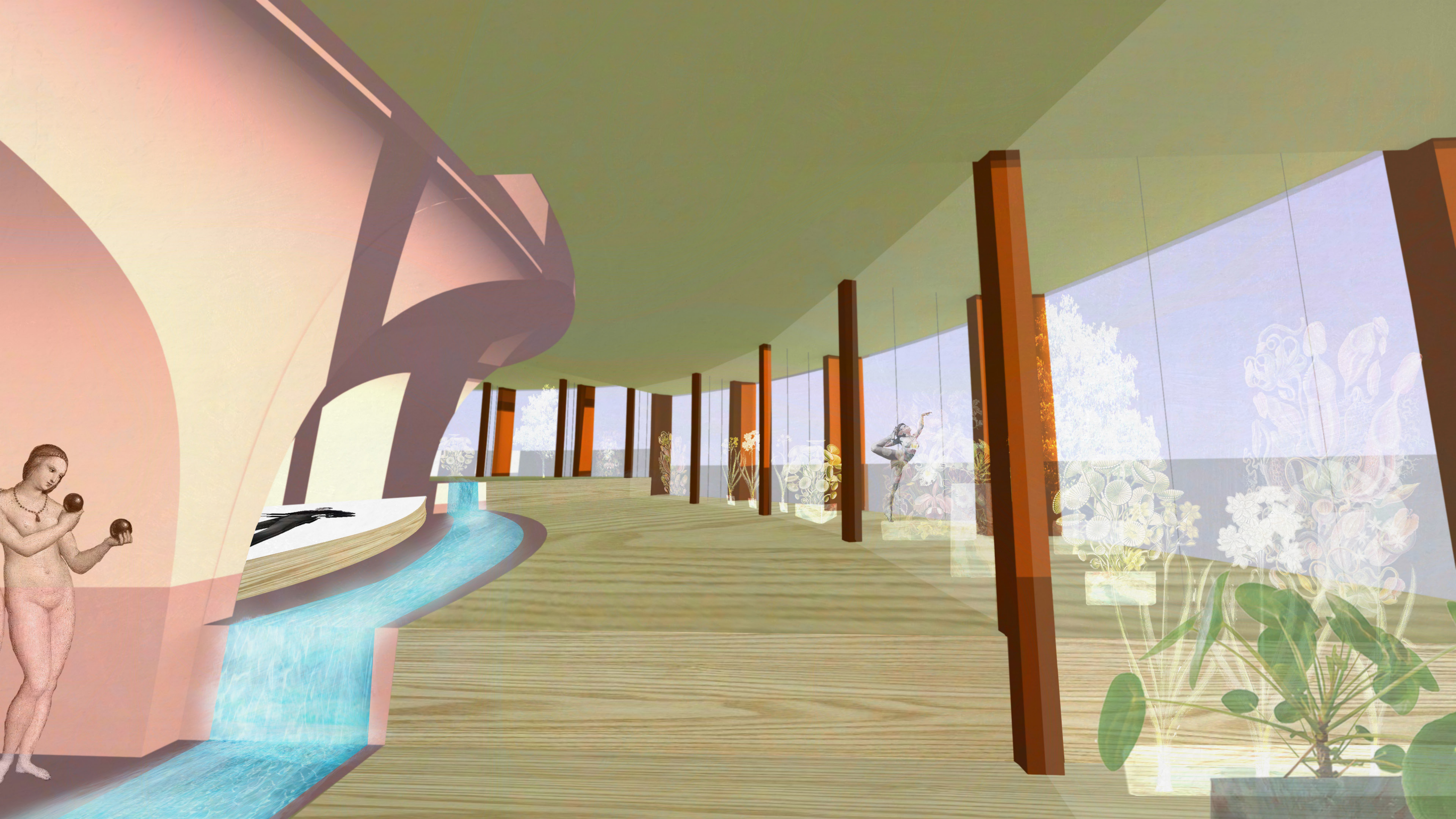


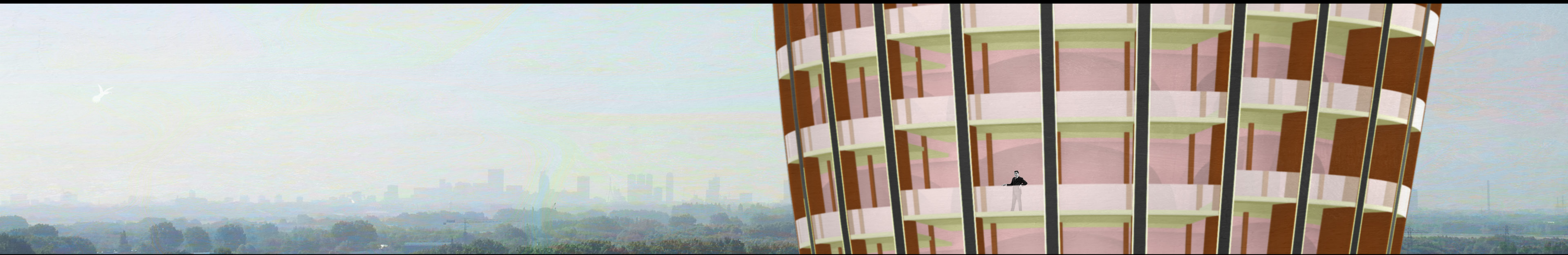




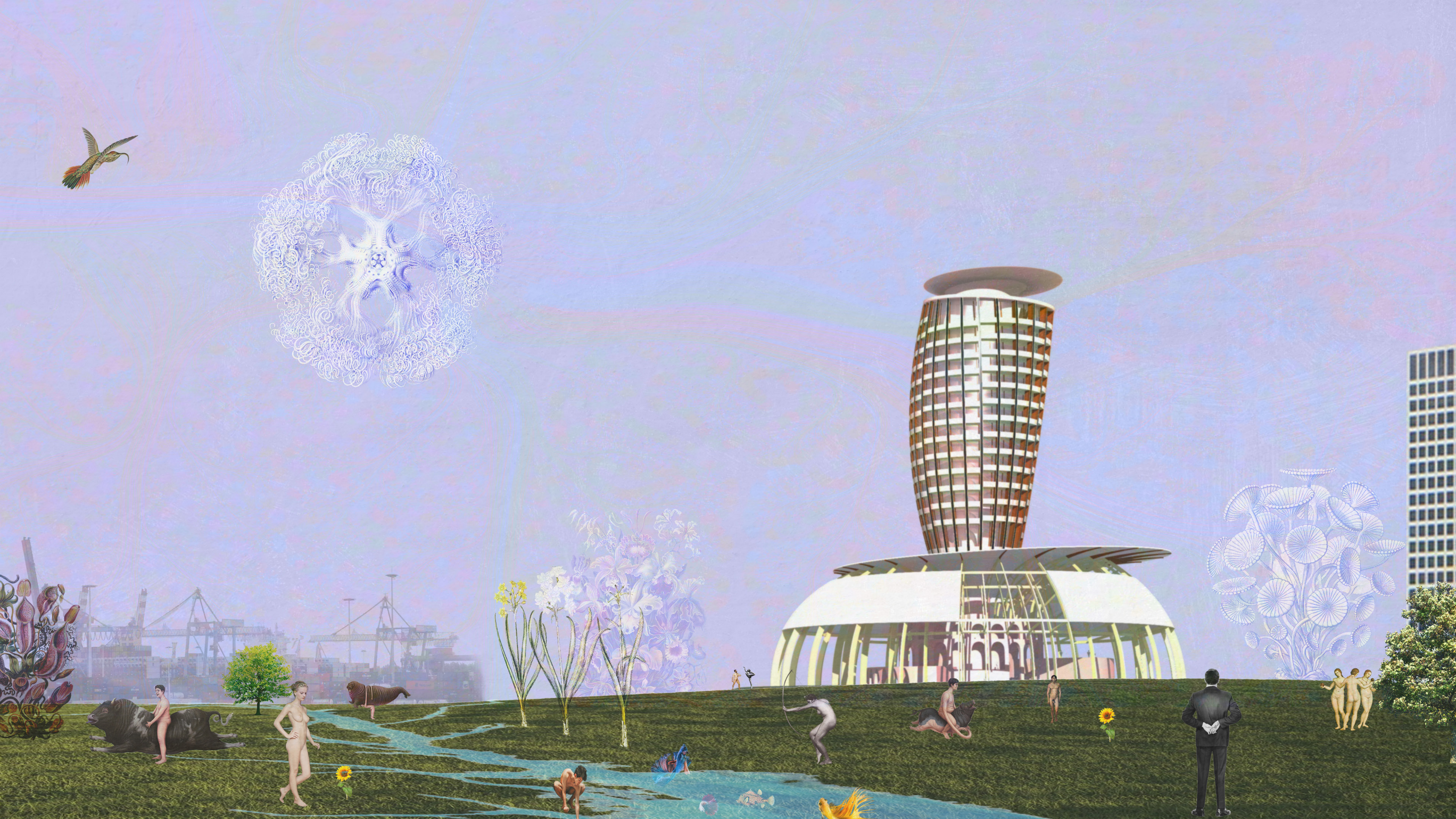














The Temple of the Natural Delights

Florian Nelemans

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