

Continued
research



Utopian

- Organic – building seems like a living entity
- Mystical ambiance
- Spaciousness
- **Escapism**
- Reminds us of the unknown, like looking at a far-away holiday brochure



<https://neocha.com/magazine/reshaping-reality/>

<https://www.dezeen.com/2022/01/06/foster-partners-datong-art-museum-china/>

Moon Village -SOM

- Characteristics:
- Verticality – interlinked by stairs
- Fitting within microgravity – moving vertically costs less energy
- Inflatable structure



Dystopian

Extreme future environments:

- Nuclear disaster
- WW3
- Climate disaster

“Shelters for the apocalypse”

- Desert architecture
- Bunker architecture

Dystopian atmosphere:

- ‘impersonal’ (1); clinical; minimalist
- No room for individuality/ for the greater good



(1) <https://www.archdaily.com.br/br/889083/cinema-e-arquitetura-equals-a-arquitetura-da-impessoalidade>

Dystopian

Bunker architecture

- Bunker for hire in South Dakota
- LED screens to mimic sky

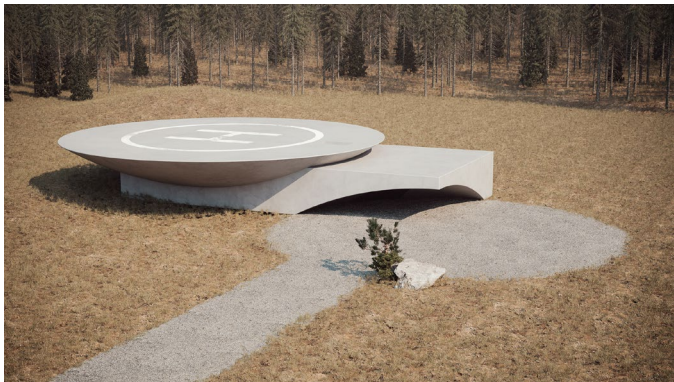


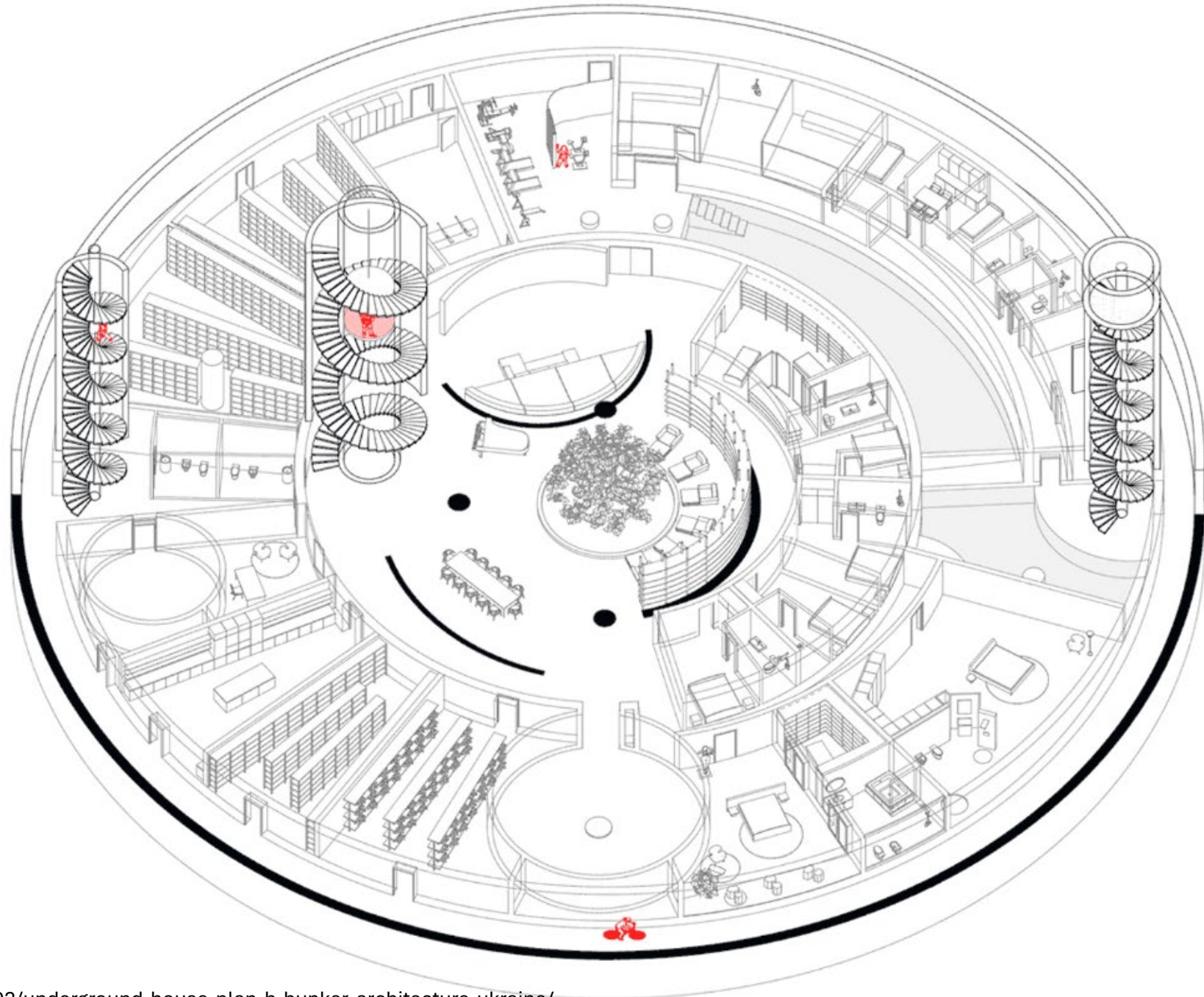
Underground House Plan B

- Sergey Makhno Architects

Characteristics:

- Ukraine war shelter
- Playing with light, screens and (fake) greenery to create illusion of outside coming in
- Round shapes, curved walls
- Gray, concrete-like materials
- Neutral colours, calm/pensive environment





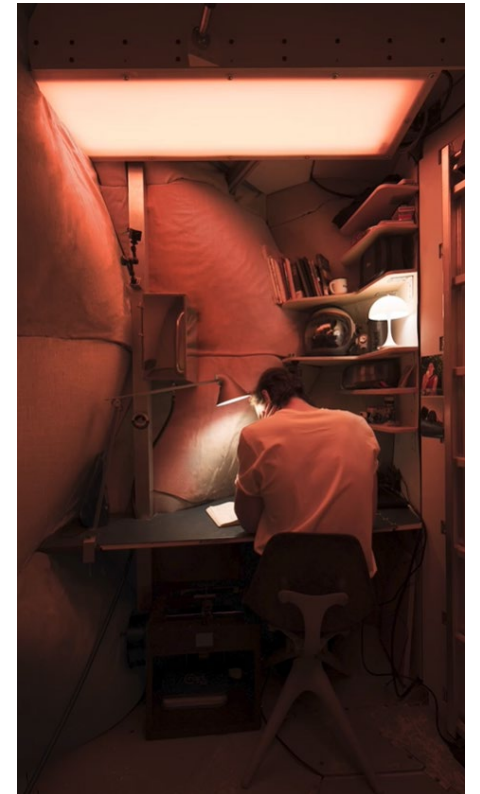
Realistic

Constraints:

- Limits of materials
- Development of technologies
- Adapting to the environment

LUNARK

- Artificial circadian light system
- Solar panel façade
- Expandable, lightweight module
 - Easy to transport
- Can function to -45 degrees, tested in Greenland
 - Should be -175

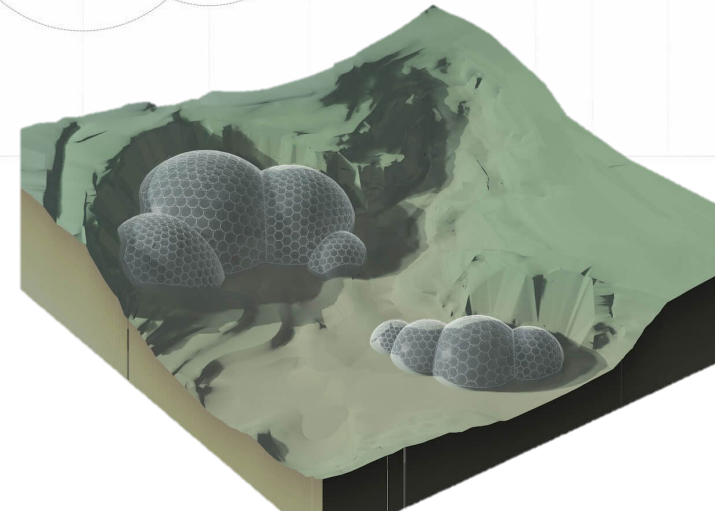
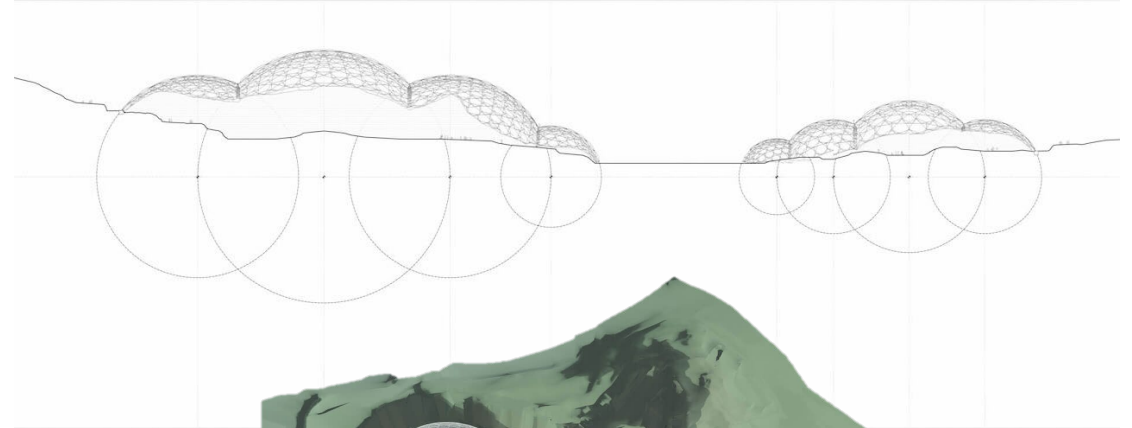
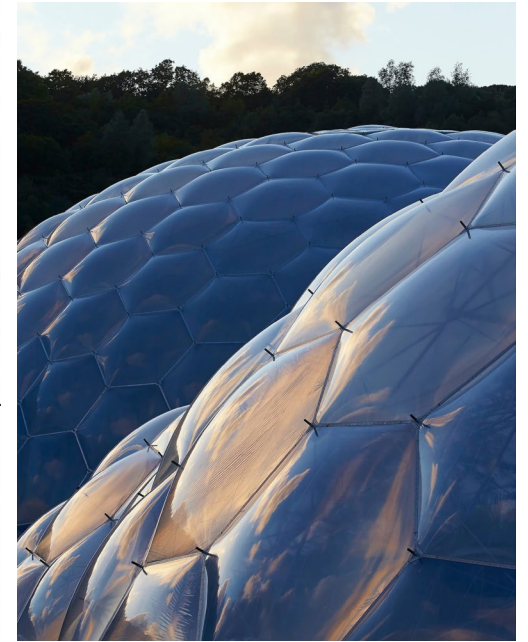


The Eden project

-Nicholas Grimshaw & Partners

Points of interest:

- Materials; ethylene tetrafluoroethylene copolymer ETFE bubble domes
 - Very lightweight, provide protection layer for radiation/secondaries?
 - Used for flexible solar panels
 - Resistance to chemicals, gamma radiation, UV radiation and radioactive radiation -> used in nuclear power plants
 - Ina Cheibas et al. – extracting metals from the regolith
- Placement on uneven ground – old quarry
 - Bubbles adapt to rough terrain, like voronoi

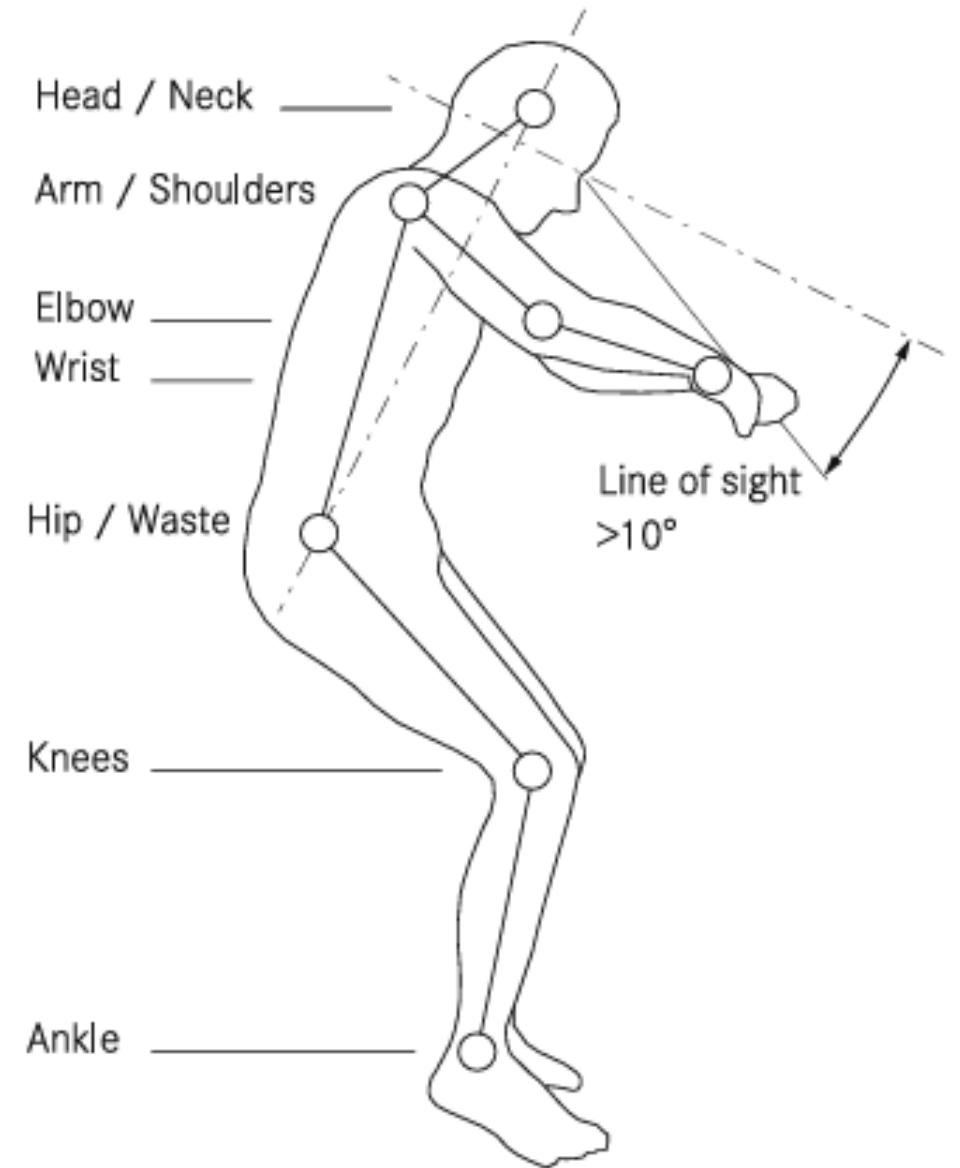


<https://www.edenproject.com/mission/architecture>

<https://amazingarchitecture.com/exhibitions/the-eden-project-in-cornwall-united-kingdom-by-grimshaw>

Microgravity

- Physiological effects of microgravity include calcium loss, fluid shifts, skeletal changes, muscle mass loss and vestibular alterations (NASA [MSIS], 1995 p. 178)
- Most comfortable pose ->
- Ergonomic design necessary, though no chair restraints necessary (like 0-grav)
- Based on MALE body
- Difficulty orientating – using markers/ colours



Microgravity

Microgravity: ideas

- Sleeping in a hammocks
 - From experience: added in Apollo 12
 - Provides more comfort in microgravity
- Exercise
 - Boulder wall?
 - Less heavy in microgravity (less dangerous)
 - Also mentally stimulating
 - Make them demountable and changeable, different routes

