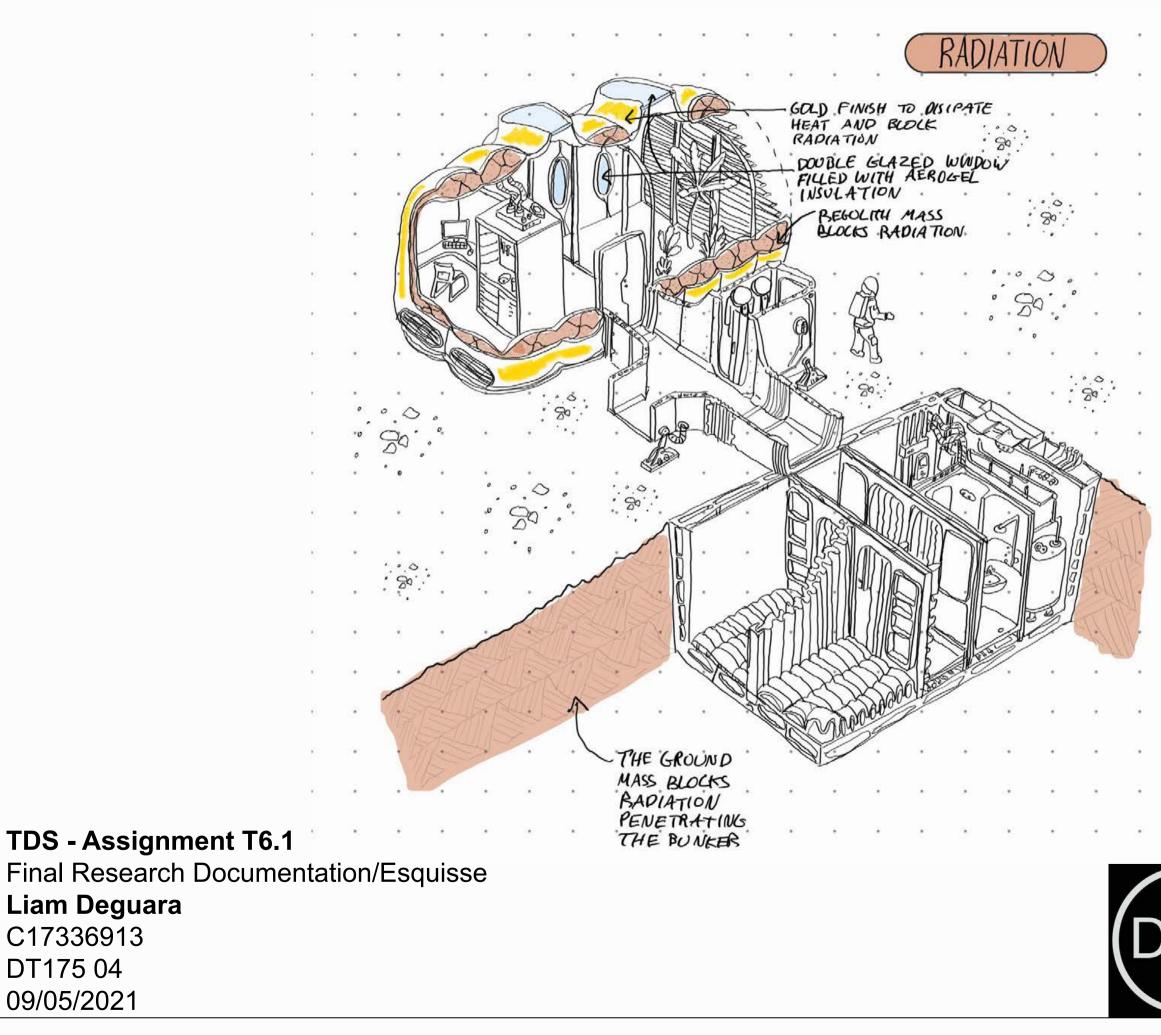
HOW DOES EXTREME CLIMATE CONDITIONS IMPACT BUILDING ENVELOPE DESIGN?



- **TECHNOLOGICAL**
- UNIVERSITY DUBLIN

- OLLSCOIL TEICNEOLAÍOCHTA

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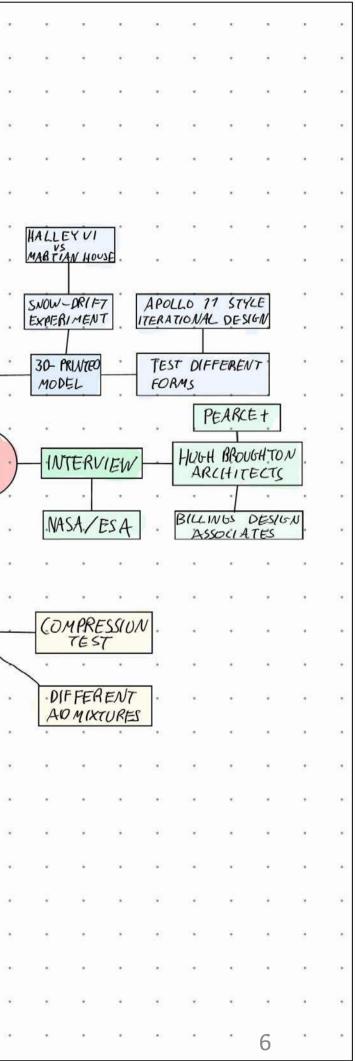
Shakleton HBA Talk 30/01/01 Halley 111? - Antartica population: 2000. - Temp drops for -55°C. - Never above freezing. stops water freezoy within poord. Mars house? - Water usage - recycled water. - Aergonamics of social spaces. - Exercise spaces. - February - November: 105 days of darkness. - Physicigically challenging. - Halley III -IV designed to be burried. - Belgium station = zero-carbon. - Testing - Air tightness. - See it it could all fit together. - Aeroyd in glazing. - Snow driff test - Model in water. - Set a current in water. - Pair card in the mater. - Take model out to see some saftiement. - Blinds to black out 24 your sun in the summer.

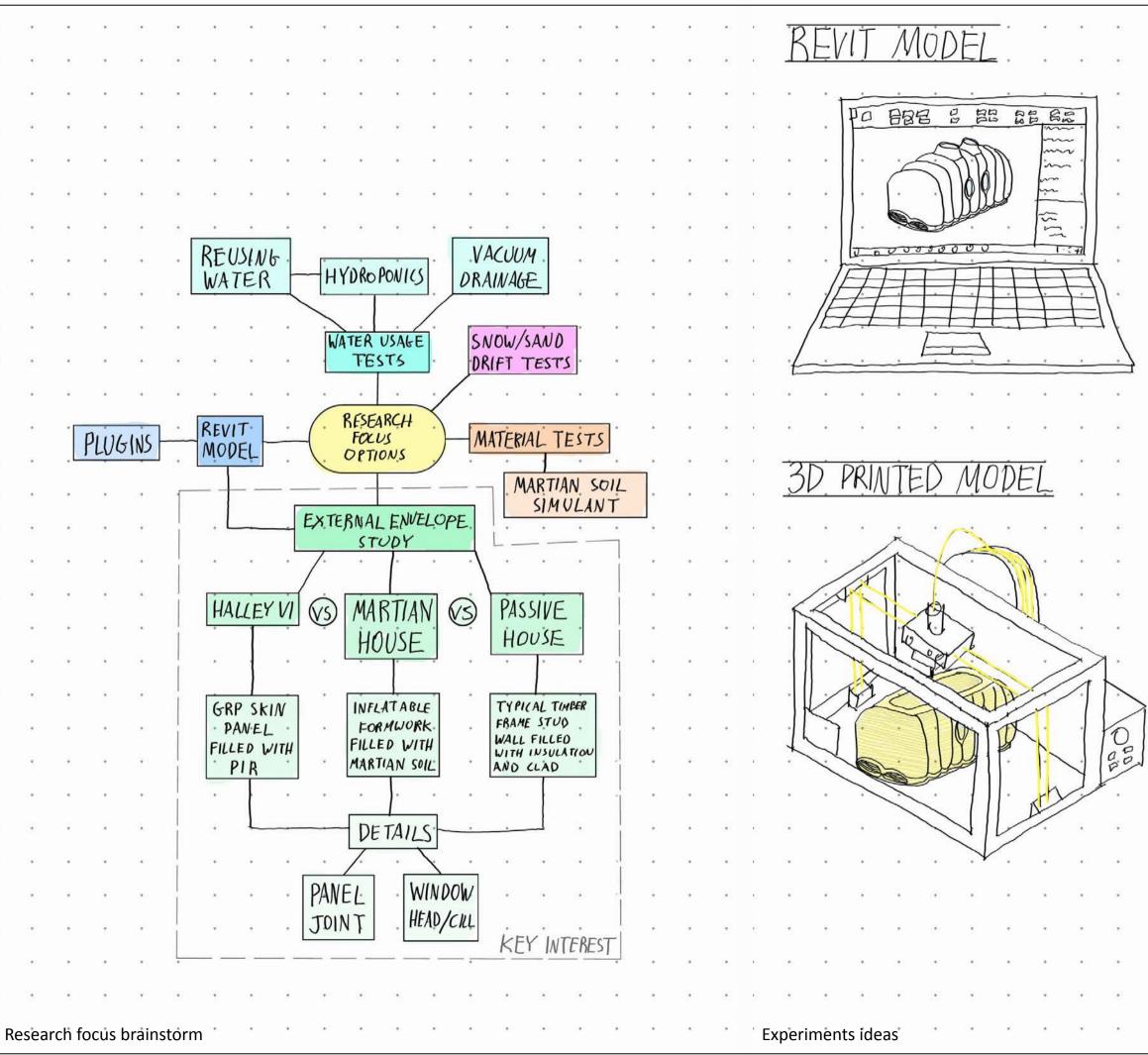
A Case for Mars Architecture Today 2/2/2021 - <u>Tests</u> - Ohe of - O-Im³ PA air fightness. - Mars soil can be used to create bricks. 13 Contains iron, culcium, sulphen - Bride vaults must be covered in soil to pressurise. by 2.5m deep by 1m may be enough. by creates radiation shidd. - Train convige style connections between modules. ~ Double glaced system filled with geogel. - Zinc corrodes slowly. 4 provides thermal insulation - First principals design. BRICK BRICK SOIL SOIL BRICK FLASTIC SEALENT - CHP parte beat and electrify. - Some stations powered by wind turbise form. - Potentialy - Potentialy glow leak air down air leakage - Vacuum drainge. - Low water using fiftings. - Management of recommented shaver time. - Mars dense atmosphere sheilds color flares. - Mars was once covered in water. - Ghould position a base close to Northerny polar cap. Ly 2,000,000 ms of water ice. - In place, soil is 40-60% water by weight.

could freeze a brick instead of bake?	le Stati
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	- Sits on a shift - Subject to high u - Annual burld-up of & Burnied previou
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	record: -55°C.
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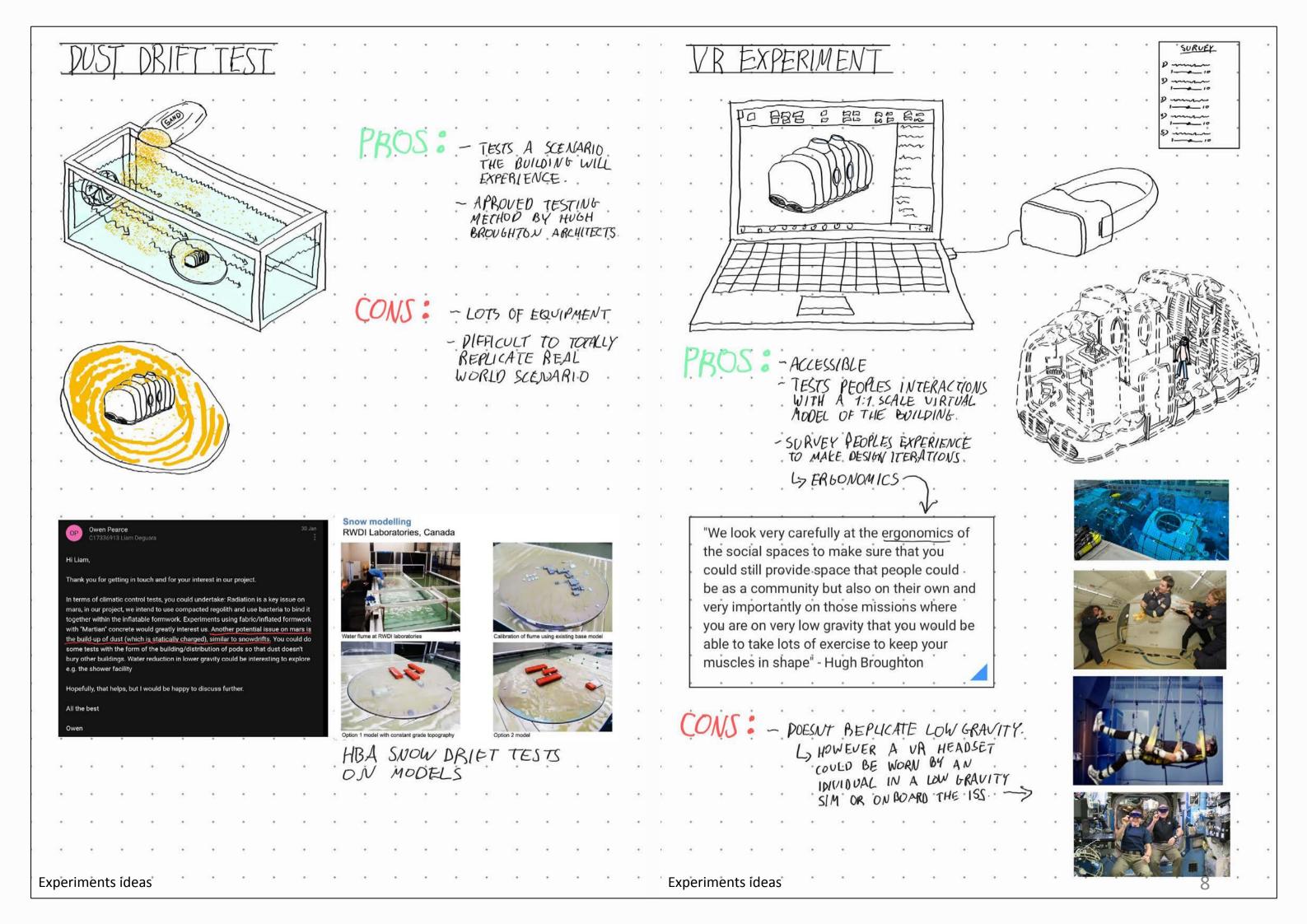
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Capacity: Summer: 16 Ut Africa Winter: 52 - Modular construction - Protobicated SURVEY PEOPLE EXPERIENLING VIRTUAL LIFE IN THE HOUSE Les 12 week summer construction period. - Sledge tow max weight: Q.S. toms C3.S toms in the sledge) REVIT PLUG-INS ERGONOMICS REVIT VR EXPERIMENT - Stis can latin place or rotate. CASE STUDY OBJECTIVES BRAINSTORM EXTERNAL ESQUISSE - Hydraulic legs. ENVELOPE RE-USING MATERIAL By mante erected in Cape Town to test hydraulics + air - tightness. TESTS WATER + HEAT AIB-TILHTNESS MARTIAN SOIL SIMULANT TEST - 7.5% - average damage of materials on construction sites THERMAL PROPERTES Les Must account for His by bringing additional matarials. - Trelleborg connectors between modules. - Water sarred by melting snow is a melt tank. **Objectives brainstorm**

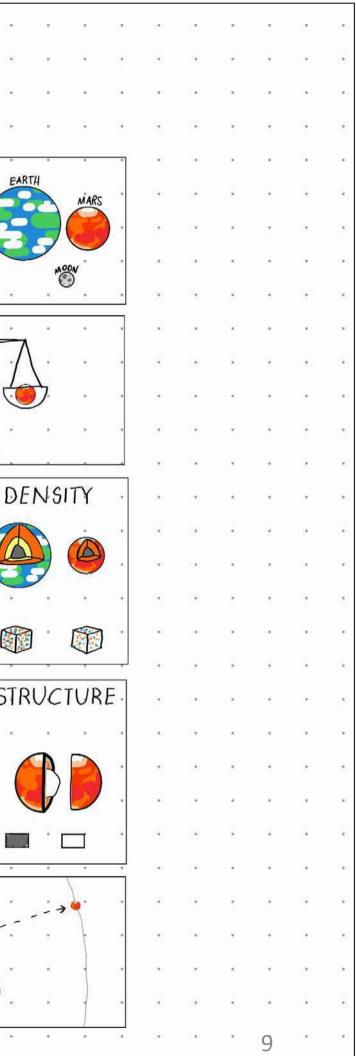


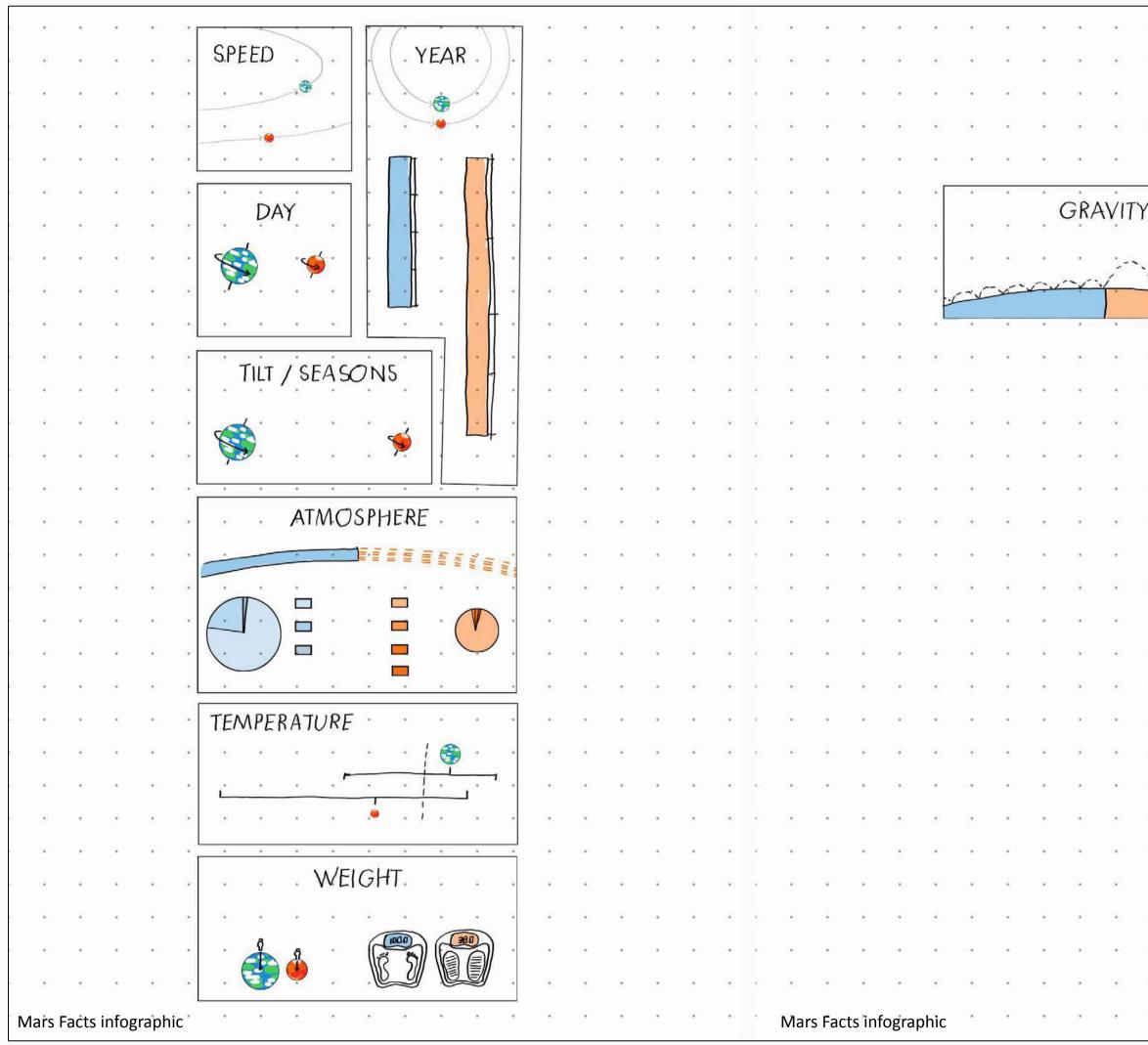


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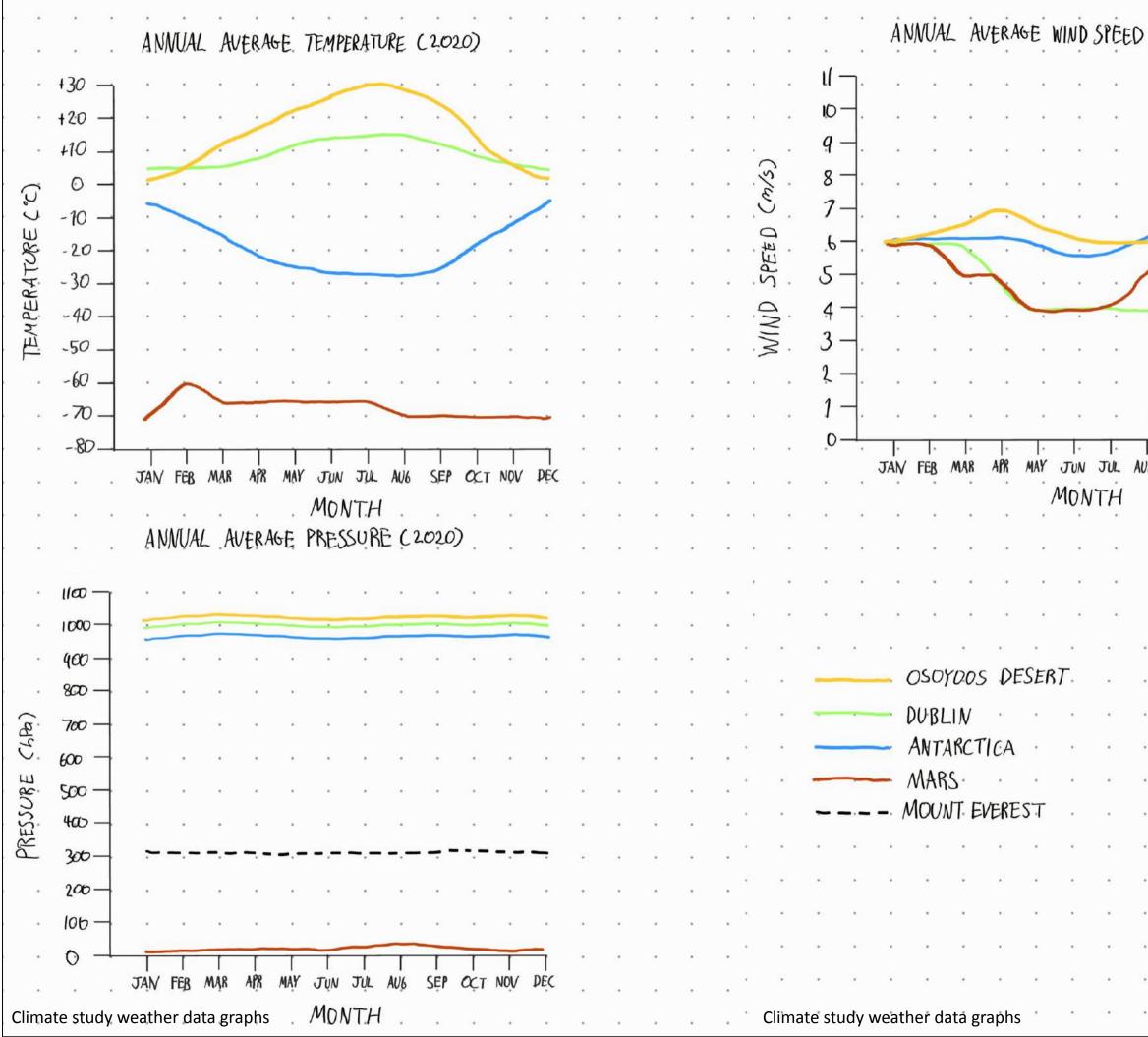


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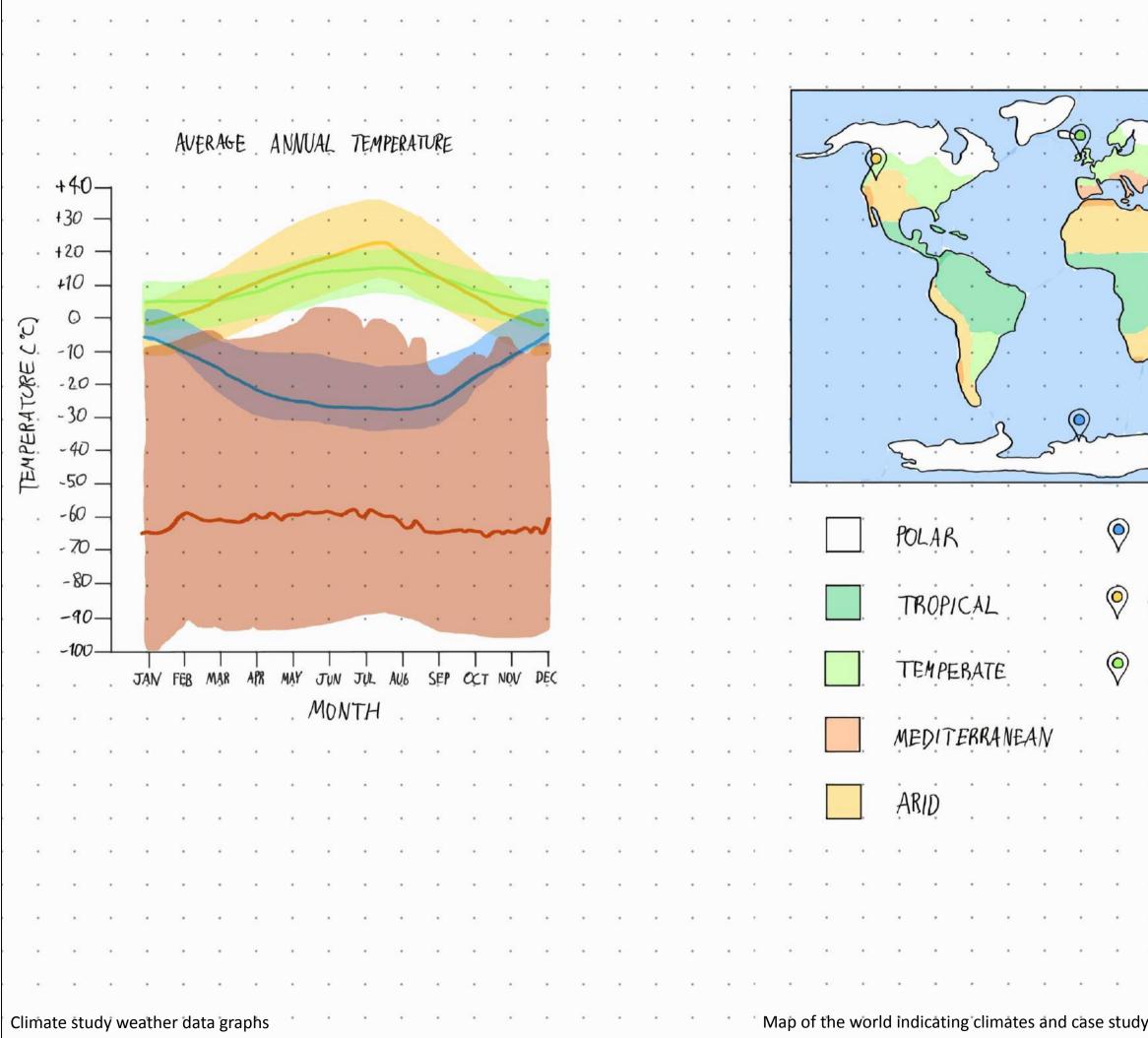
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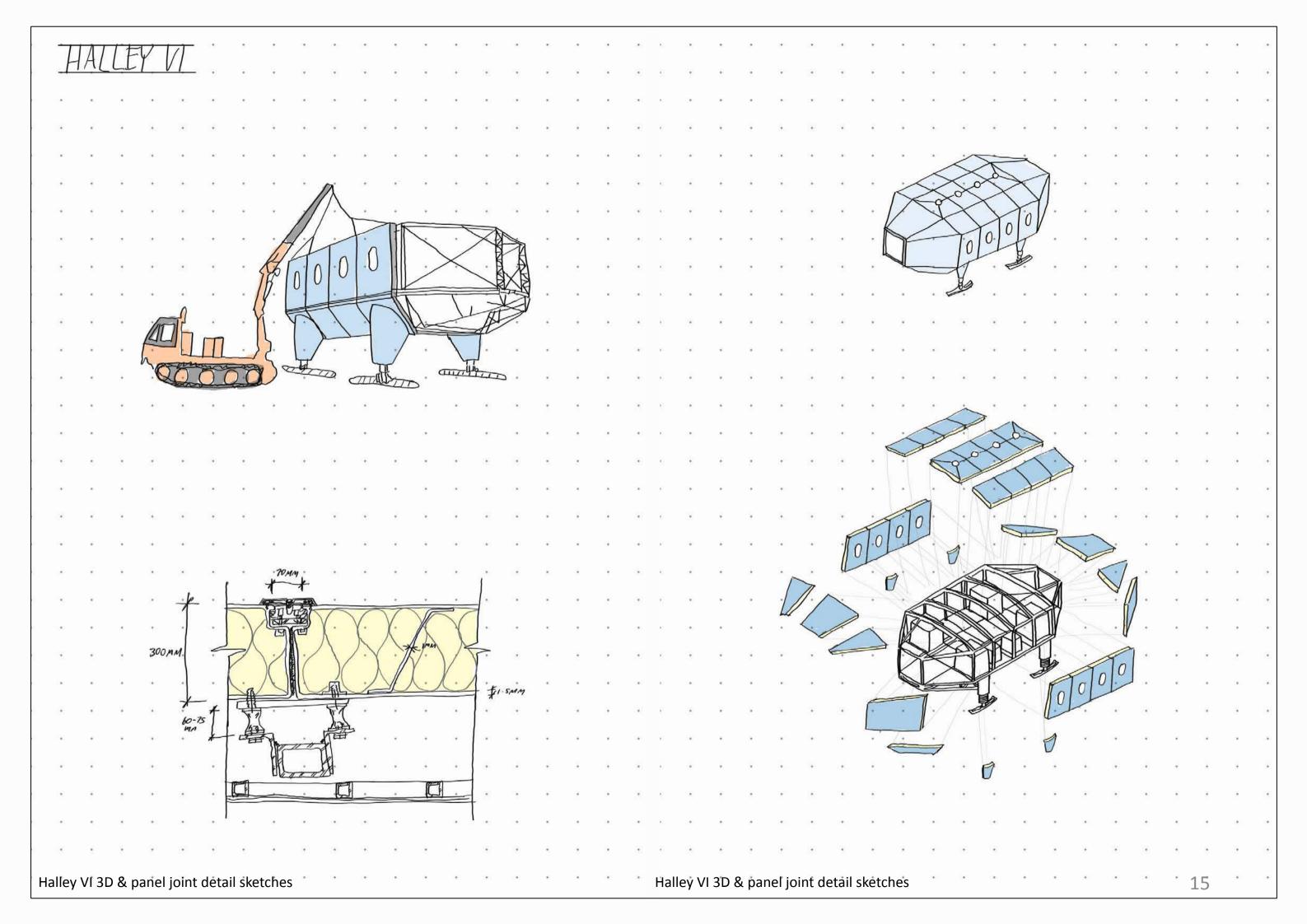
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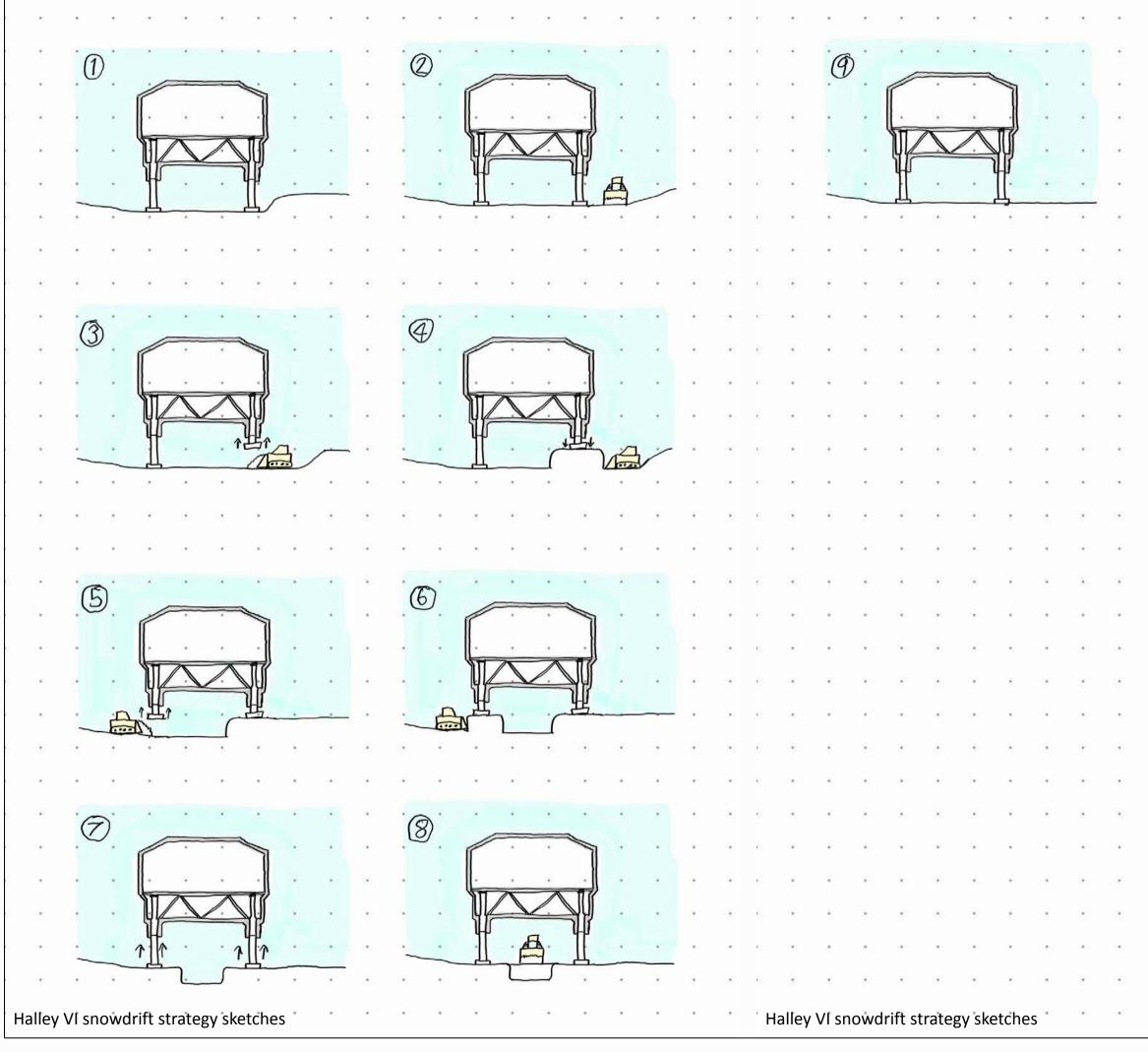


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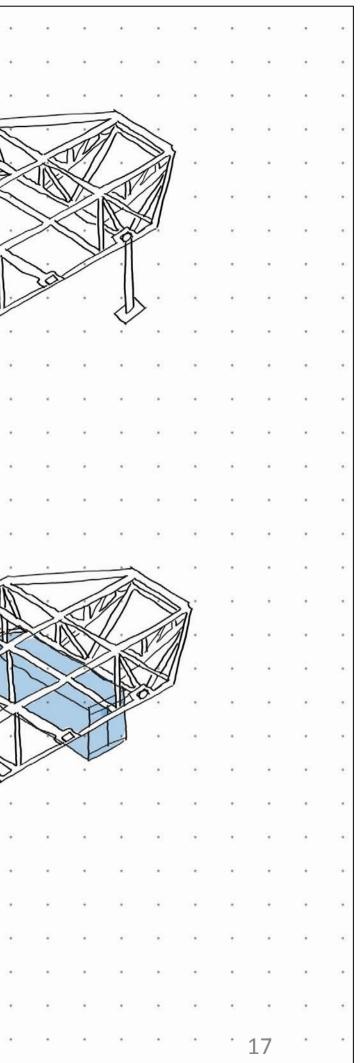
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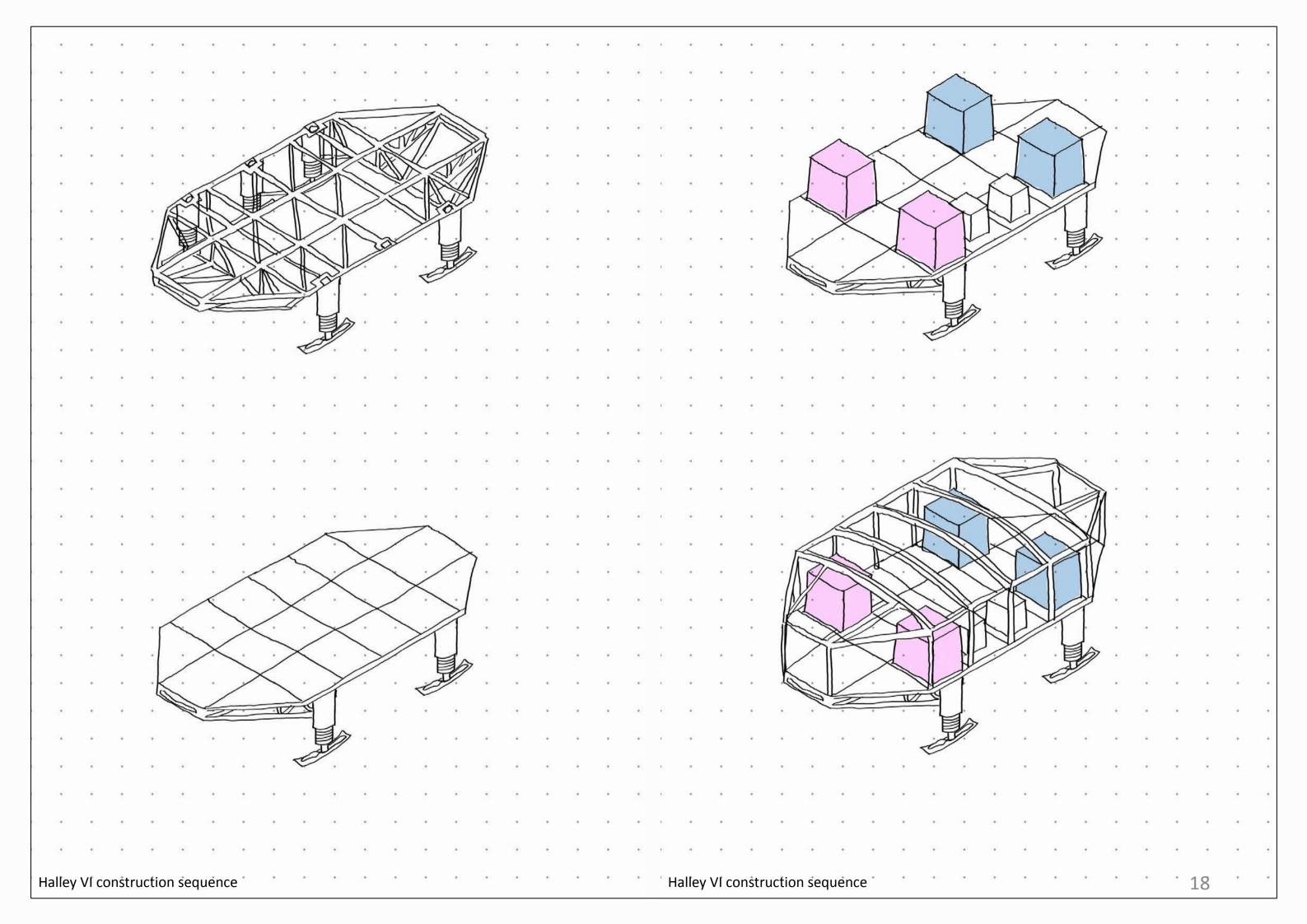




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