Aquafillia: colonizing the gyre

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The residue of consumerism has invaded our oceans. Trash from packaging and the litter that lines drainage systems is forming a chain of artificial islands in the North Pacific.

The world’s oceans are comprised of five major gyres. These are a series of convergence zones that result in centrifugal currents. Wind patterns as well as temperature differentials and the earth’s rotational pull play a role in the force and direction of current. The North Pacific Subtropical Convergence Zone is formed by four bounding currents in each direction, and covers the largest range of any gyre – 7.7 million square miles – spinning in a clockwise direction. The spinning motion of the gyre pulls marine debris into the calm center.

The Great Pacific Garbage Patch seems to exist within the realm of fiction. Effort to collect data and measurements results in a swinging scale. However, even assuming the conservative figure, this unintentional trash dump is host to an outrageous volume of debris.

The architecture of this site will be grounded in narrative. There are several characters and their parallel built intervention that could potentially occupy this artificial island.

- The Scientist will want a research and development station in order to study and better understand ocean currents and marine debris.
- The Captain will oversee the colony and have an interest in conservation/remediation
- The Mechanic/Pilot will be involved in utilitarian requirements such as maintenance and supply drop-off
- The Eco-tourist will dream of inhabiting an isolated spectacle that requires a wait-list and bonus package for VIP guests.
Mapping the Oceanic Gyres

Series of maps documenting ocean currents. Focus is on the North Pacific. The yellow particles in fig 03 represent the density of marine debris that has been trapped within this convergence zone.

fig 02 North Pacific surface currents
fig 03 surface currents_American Meteorological Society
fig 04 marine debris_NOAA
PLASTIC ACCUMULATION

These diagrams track the amount of plastic debris that now litters the world's five gyres.

The north pacific gyre off the west coast of the U.S. is home to the largest garbage patch.
The Great Pacific Garbage Patch is comprised of micro plastics - invisible to satellite imagery and aerial photography. These conglomerations float below the surface, a soup of neon particles in infinite constellation.
Estimated to be roughly $2x$ the size of Texas (~500,000 mi$^2$) - 6 million mi$^2$

80-90% plastic (not biodegradable) - the sun breaks the plastic down into smaller and smaller microplastics through a process of photodegradation, invisible to satellite imagery

Travel time: 1 year from the east coast of Asia | 5 years from the west coast of U.S.

TRAVEL + DESTINATION

Plastics' staycation in the Away

Utilizing localized materials in fabrication.

fig 07 Indra's cloud
Anne Percoco
SUBMERSIVE SAMPLING

Nautical devices used to collect marine data

fig 08 Bongo nets

fig 09 Cousteau Crew with submersible

fig 10 Jacques Cousteau lowering Calypso

fig 11 Deploying collection trawl
Altered-state
Re-orientation of the Ocean current

Images document the shift between the horizontal and vertical state of FLIP. This 355 foot vessel is classified as a spar buoy. When vertical, 300 feet are submerged below water - allowing the Research labs and living quarters to remain stable in harsh storm conditions. Storage capacity permits a stay of 30 days on board.
Bouyancy

Diagrams of mechanics and operations - FLIP

Reality of multiple conditions (necessary plumbing) - detailed manuals and instructions plaster walls.
OFFSHORE HABITAT

Distinguishing between the anchored and untethered – what is essential for survival?

BOUYANCY///STABILITY
FOOD///PRESERVATION
WATER///PURIFICATION
SHELTER///PROTECTION
INFRASTRUCTURE///HEALTHCARE/EDUCATION
PLASTIC OCEAN

Art as activism - raising awareness of human waste and consumption.

Crew_
+ The Scientist - R+D
+ The Captain - Remediation
+ The Mechanic - Daily operation
+ The Eco-tourist - Spectacle
+ The Pilot - Supplies
+ The Albatross - Narrate
CHARACTER BRIEFS

+ The Captain
+ The Pilot
+ The Scientist
+ The Eco-Tourist
+ The Mechanic
+ The Albatross
**The Captain**

**Device**: compass

**Personality**: introvert; communicates only when necessary

**Duty**: oversee operation of pods

**Documentation**: physical; captain’s logs

**Water-line**: above; below; privileged access

**Spacial Implications**: panopticon views; mobility necessary; override command

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**Gender**: male // **Age**: 55 // **Marital Status**: single

He spent most nights on a barstool amid clinks of ice on glass and the slur of tourists in fuchsia polos and flip flops. The coconut suntan lotion that smells like empty days and margaritas on the beach. Everything is described in shades of blue here. He just happened to be drinking an Aqua Tonic.

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**The Pilot**

**Device**: windshield

**Personality**: situational introvert

**Duty**: resource liaison; transport + communication with land

**Documentation**: physical; itinerary report; cargo inventory

**Water-line**: above

**Spacial Implications**: temporary stay; landing pad

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**Gender**: female // **Age**: 43 // **Marital Status**: divorced

She secretly takes pride in the fact that everything she owns can fit into one military-issued duffel bag - army green with canvas straps and a roll-top buckle. Her life spans and infinite series of checklists. Roger. Copy. (Returning to the checklist) Thrust translation, four jets. Balance couple, On. TCA throttle, Minimum. Throttle, Auto CDR, Prop(ellant) button, Reset. Prop button. (Pause) Okey. Abort / Abort Stage, Reset. (Pause) Attitude Control, three of them to Mode Control. (Reviewing the present situation) Okey, Mode Control is set. AGS is reading 400 plus 1. Standing by for (slight pause?) arming. (Pause).
**The Scientists**

Device
:: microscope

Personality
:: introvert

Duty
:: research; collect samples; analyze data

Documentation
:: physical; research publications; samples

Water-line
:: primarily below

Spatial Implications
:: mobility necessary; storage space; conditioned environment

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**The Eco-Tourists**

Device
:: smartphone

Personality
:: extrovert

Duty
:: recreation

Documentation
:: non-physical; social media; Instagram pictures

Water-line
:: above

Spatial Implications
:: luxurious; high density; shared spaces

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**Gender:**
- Male // age: 32 // marital status: married
- Female // age: 30 // marital status: married
- Male // age: 14 // marital status: single
- Female // age: 11 // marital status: single

He tends to talk loud. She keeps him organized. They both knew that the only way to alleviate the problem would be to prove the immediate impact on mankind. Shelves glisten with the bright red, electric orange, calming blues of data samples. This melancholy confetti of pollution.

This cruise is their last chance at saving the marriage. It was too easy to get caught up in the everyday problems back on land. Here they only worried about re-applying sunscreen and staying hydrated.
The Mechanic

Device :: porthole
Personality :: extrovert
Duty :: repair: maintenance
Documentation :: physical: receipt: work order forms
Water-line :: above + below
Spatial Implications :: increased mobility: convenient location

Device :: n/a
Personality :: extrovert
Duty :: narrator
Documentation :: non physical
Water-line :: above
Spatial Implications :: n/a

Gender: male // Age: 48 // Marital status: single

The job paid well enough, and the accommodations suited him just fine. All he needed were the essentials and some quiet to finish his memoir. He had a deep fear of being forgotten, and without kids there was no-one to save his stories. This job is about living one worth writing down.

The Albatross

Device :: n/a
Personality :: extrovert
Duty :: narrator
Documentation :: non physical
Water-line :: above
Spatial Implications :: n/a

Gender: female // Age: n/a // Marital status: n/a

Circle floating below. Dip. Dive. One stroke - back up. She loved the orange of sunset - the slow drift - speckles of light - particles of plastic - decorate her nest - with blues - with yellows - this home is not bpa free
Debris drift

Microplastic conglomerations float below the surface, a soup of tangled particles in infinite constellation.

When the albatross flew out of sight,
It marked the edge
Of one of many circles.
The colony drifts with the centrifugal current - tracking the ebb and flow of marine debris and marking this edge of convenience.

ARRIVAL

I know noble accents
And lucid, inescapable rhythms;
But I know, too,
That the albatross is involved
In what I know.
21 DEC | shower repair

10:02

15 JAN | at rest

02:33

04 AUG | supply drop-off

07:15

20 MAR | happy hour - $2 drafts

14:50

20 JUN | midsummer celebration

21:44

22 SEP | whale spotting

13:31
The Diver is monitored from a distance. Remnants of mundane trips to the grocery store drift in invisibilia. Nothing but calm seas ahead.
The study of a new aquatic species - commonly known as the Marine Drone. This mechanism was born out of convenience.
A view of microplastics superimposed at an absurd scale. The bacterial ecosystem is magnified through the lens of the harbor.
This day begins with fair to moderate weather. At 10 a.m., there is another sighting. Recovery vessel is deployed at approximately 10:18 a.m. Debris extracted by 10:53 a.m. It appears to be a piece of green nylon netting. Samples collected on site and sent to lab for further testing.

There is something about the weightlessness of the ocean. Here the buoyant body drifts in equilibrium, where the horizon becomes a mirror, you can finally disassociate, the duplication of self embodies this otherness of voyage.

in that brackish salt-slap specks of white of blue of black scatter across soft swells where nets tangle a tattered lot of pieces and plastics.
These living bobbins are classified as spar buoys. When vertical, up to 300 feet are submerged below water - allowing the Research labs and living quarters to remain stable in harsh storm conditions. Storage capacity permits a stay of 30 days on board for temporary visitors.

III
The albatross whirled in the autumn winds. It was a small part of the pantomime.