

1000 YEARS

W. Benjamin Bray ~ May 10, 2017

Introduction

When orbiting the Earth, with your back to the infinite subconscious, facing the conscious reality of the world before you, the atmosphere and ocean are thin. We're all confined to this biotic laminate that envelopes the globe, where towering thunderstorms are little more than bubbles in the oil of a frying pan. Viewed from space, the horizontal nature of our everyday concerns are plainly clear. On the ground, connected to our vast communication networks, the vertical is far less relevant than the horizontal - everything is elongated.

Saline

A 1.52m borosilicate tube half-full with seawater is situated on a wall of my studio, to be used as part of a sculpture about time and flow. The ends are capped by white silicone stoppers. By itself, this clear, sealed container of brackish water symbolizes a conduit to our primordial self, or simply a vein, while bringing to mind lab equipment from ocean research vessel, or linearly-oriented food. Anyone who's ever cruised the open ocean has experienced how seawater stimulates our sense of taste, salt perhaps being the most fundamental element of our palate. When I would volunteer on whale watch cruises from Gloucester, hot dogs were usually one of the galley items to sell-out, except in rough seas.

We're drawn to the coasts each Autumn for that first blast of cool, maritime air that accompanies the seasonal change, like a baptism through the pores.

1000 Years

This is 1000 years - long, wet, salty and stinky, and sealed-up in 1.52m borosilicate tubes. One tube depicts the Meridional Overturning Circulation full of wet, salty and stinky flowing poop, and the other a layered collection of wet, salty and stinky poop at a single location.

The Meridional Overturning Circulation is a system of ocean currents spanning the entire globe, driven by temperature and salinity-dependent instabilities, and large-scale wind patterns. Cold, salty water is more dense than warm, fresh water, and when you have this vertical instability in the water column, you have overturning. A complete overturning of the entire world's oceans occurs in ~1000 years.

This is the same amount of time represented by the accompanying long, wet and stinky sediment core. Oceanic detritus that's heavy enough and isn't recycled through ocean biochemistry eventually settles to the bottom, creating layers of sediment reflecting changes in the biogeochemical dynamics of the water column over many years. Sedimentation rates vary very considerably throughout the ocean, and in the Southern Ocean just west of Palmer Land, Antarctica, the sedimentation rate is approximately 1.52mm/per year, or 1.52m per millennia, the same length as the glass tube containing wet and stinky flowing poop.

1000 years is the time scale on which human activity affects the Earth in the Anthropocene. We can't see the depths of humanity's influence at this time scale, but if we could, it would probably look like poop.

Unfathomable

The ocean is deep in terms of biodiversity, but shallow in terms of our ability to leave a footprint in its soggy bottom. The "deep" domain of the ocean, according to many ocean scientists, is below 200m. This is the depth to which photosynthesis can be sustained - the deepest direct influence of natural illumination from the surface (the Sun). In the context of global climate, it is the most dominant reservoir of heat on Earth, a density-driven, multi-layered network of flows connecting the Polar Regions.

The deep ocean is essentially unfathomable, a vast commons for doubt, where our relationship oscillates between rigorous debate and detached ambiguity. Like the Arctic and the Antarctic, it affects innumerable downstream climatic changes, but is far more difficult and expensive for scientists to explore and sense directly. And so, it remains a hiding place, hundreds of meters below the depth to which sunlight can penetrate - a dark, massive, subconscious presence that lies outside the domain of what society generally perceives as under its control or as its responsibility. It's sensed quantitatively to a limited degree, and then we build numerical models from which we can extract conclusions from sensed data.

Relative to human activity, however, the ocean isn't deep at all. If there were an "Anthropic Zone" in the ocean defined by the depth to which humans affect ocean chemistry and habitat, it would extend all of the way to the bottom. And because so much of the ocean is dark, we don't see the profound depths of humanity's influence.

Polarity

This sculpture is an extreme spatial and temporal abstraction to a human scale. I wanted to express polarity and potential imbalance, so I translated a convoluted network of ocean currents to a simple, horizontally-stretched circuit. Formed as goblets, the inputs are meant to be tasted. The use of espresso isn't just because of its thermal properties - caffeine is a metaphor for keeping things going, as shown in photos of coffee cups at NASA Mission Control during Apollo missions. It also makes great poop.