

Notes from the sea, 2218: Post-human scenarios & participatory design

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RAM:

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SM:

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RAM:

Two years ago, we worked two classmates to create an activity for a Designing Futures class at IIT Institute of Design. But instead of just explaining our activity, we'd like you to engage with its first steps. I need to ask two favors of you: first, that you play along. It's interactive. You'll want a place where you can jot down a note—maybe this is a scrap of paper, maybe just a blank document on your computer screen. Don't worry, we'll explain what it's for when you need it. And second, that if you have questions or comments, that you make a note of them so we can talk about them at the end.



Imagine yourself 200 years in the future. The scientific blockbuster this year is the field journal of a famous marine biologist, full of drawings and handwritten notes describing the plants and animals they've encountered through their travels. No one has done a major ocean exploration since the great ocean storms began over hundred and fifty years ago, and there have been at least two major fish die offs since then.

I'd like to share with you some pages from that journal.

PREFACE:

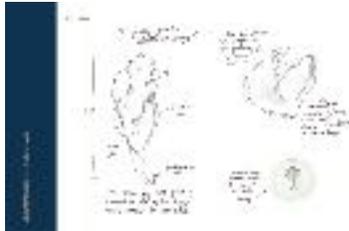
For much of my life, the scientific community believed that the oceans may be almost entirely devoid of life. Years of overfishing, sea traffic, global warming, and ocean acidification had likely turned the vast majority of our planet into one great saline desert. As we waited for the Great Storms to subside, we steeled ourselves for what we might find on our first crewed voyage.



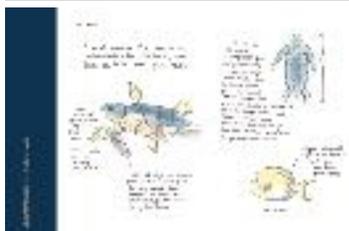
It has been the great honor of my life to be a part of that first expedition. I am humbled by what we found. The impact of humankind is immense. After years at sea, we believe that many of the species that once thrived in our oceans have gone extinct. But the ocean remains, as it always has been, full of life. It's a far cry from the pictures I saw in my history classes, but it's not empty.

On the following pages, I've included some of the sketches of the living things I encountered on our journey. I hope that they spark a sense of curiosity about the world that we share.

Thank you for allowing me to share these discoveries with you.

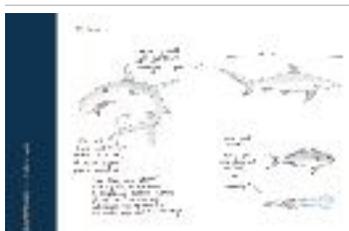


March 2. I finally found an ethereal sea dragon! This little guy was floating around in one of the biggest trash patches in our area. The sea dragon has adapted its form perfectly for the trash patch—its camouflage mimics floating sheet plastic, like a disposable shopping bag.

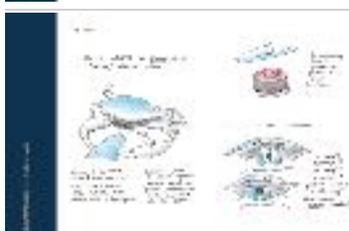


March 5. A great example of a mutualistic relationship: the green sea turtle and yellow tang. This turtle had gotten tangled up in some trash. Marine trash can be deadly to sea turtles. Tangs eat algae and parasites found on the turtle's shell. As they grazed, the scalpels on their tails sliced through the trash, freeing the turtle.

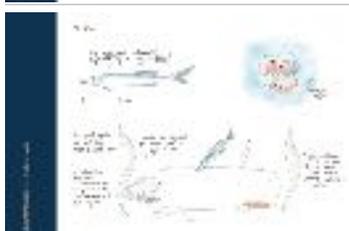
This is a behavioral adaptation from the yellow tang.



March 8. A mature female spot tail shark, aged about one year old. Spot tail sharks used to reach maturity much later, at about 2 or 3 years, and grow to over 95 cm. Over time, they adapted physiologically to the threat of overfishing. Because smaller sharks were less desirable, individuals that reproduced at an earlier age had an advantage.



March 18. Came across a green crab "eating" plastic today. The crab's mouthparts are adapted to consume plastics as well as its major food source (mostly bivalves).



March 30: The smallest saltwater sighting of a needlefish! The needlefish laid eggs inside a glass bottle, an interesting behavioral adaptation to the presence of new predators in the region.



Now, imagine that you're the biologist. What else might you expect to find in a transformed ocean?

Think about the species that you know from the world today. The hermit crab is a crustacean that doesn't create its own shell. They use empty shells of animals like snails. When they outgrow their current shell, they have to go out and find another.

But what if the ocean becomes more acidic? A more acidic ocean softens shells, disrupts fish's sense of smell, and even alters the way that sound transmits through water. If you were that biologist, creating a field journal of your own, what might the hermit crab of the future look like? Now's the time to use that pen and paper or empty notes document on your computer. Take two minutes and sketch or describe a hermit crab that has evolved over two hundred years to thrive in a more acidic ocean. Let your imagination run wild.



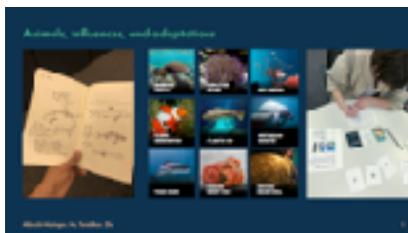
[approximately 90 second pause]

As you are wrapping up your drawings and descriptions, we're going to show you a few images of what other people have imagined in response to this prompt.

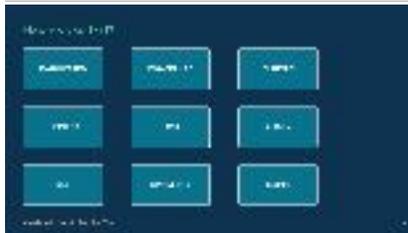


Some hermit crabs that have visited us from possible futures: teeny, tiny crabs; hermit crabs that live in semi-mobile, tubular habitats, failed clone hermit crabs with mouse-like hears; crabs with larger claws, crabs disguised as bottles, crabs living in croc shoes, crabs who have made their homes in boxes, cans, and other trash.

If you'd like to add a description of your idea in the chat, we'd love to see it. We'll also provide a place where you can submit your images to an online gallery at the end of the talk.

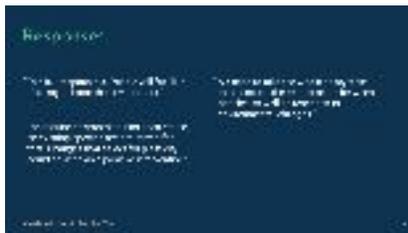


You just engaged in a miniature version of the intervention. In the full-scale version, participants viewed a physical "field journal from the future." Next they created sketches based on several prompts from "game" cards—a species, like manatees, corals, and sharks; an anthropogenic influence, like overfishing or marine debris; and a response, like a change in behavior or a change in appearance. Participants created an enormous variety of evolved and adapted future marine species.



Before we proceed, I want to ask a question: how did the exercise feel? We've got a starter list of emotions here on this slide, which I'll read out in a moment, but feel free to improvise. Pick the two that best describe your reaction and type it into the chat. Did you feel empowered? Concerned? Curious? Inspired? Lost? Angry? Sad? Optimistic? Empty?

If you felt uncomfortable, you aren't alone. A lot of our past participants had mixed feelings, too; while they found the exercise to be interesting, challenging, and even fun, they were disturbed to be thinking about these anthropogenic environmental influences in this way.



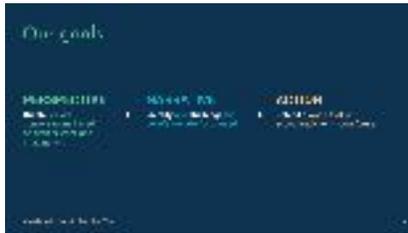
After the activity, participants and facilitators engaged in a critical conversation: they took a deep dive into their experiences of the intervention, their perspectives on environmentalism, and the ethics of engaging in futures work.

One of the responses that came up in the discussion that followed the intervention was, "This is irresponsible. People will feel like it's okay to harm the environment." That person wasn't the only one who was upset or angry after sketching some creatures that would thrive in an altered environment.

But why?

SM:

Part of the reason we developed this intervention was to bring people together to question the source of these feelings. Beneath the surface of our discomfort are some deeply held beliefs and narratives about nature.



And by creating an environment where critical conversation and new perspectives could easily form, we could help people break down these beliefs and narratives, and guide them into stories that they have never encountered before.

Because homogeneous, unquestioned narratives can lead us to a simple, unexamined solution that does not reflect the complexities of reality. Only by identifying and challenging the beliefs we take for granted, we can create and defend a world that is accountable to its own future.



Take nature as an example:

Narratives around the nature are deep-rooted into our culture and society, and are aggressively promoted based on our background, education, social status and political leanings.

Most of us who are listening this talk would feel uncomfortable about the ocean during the activity is because there is a deep-rooted narrative in our belief system. I'm sure you have heard a story like this, "Once upon a time, Mother Nature was pure"



Then she gave birth to us, but we've done nothing but destroy nature. We pollute the air, the land, the water. The Natural world suffers because we're here.



Now we've got to clean it up. We need to drastically alter our behavior and come up with solutions for the harm that we've caused.



But worry not, scientists and engineers are working on it, and they have developed new technologies that could solve the environmental problems. However, if science doesn't work....



We will end up destroying the whole planet, and Mother Nature will have her revenge on mankind.



Do any of these feel familiar to you?

This narrative of the relationship between humans and nature has been formed long time ago. And stories like the one I've told are heavily expressed across different media and cultures. And our perspective towards the natural world, therefore, is shaped by the similar ideas we encounter.



Our intervention, on the other hand, helped participants take on a new perspective: they were no longer thinking in terms of how nature affect them, or even how they affect nature. They had to think in terms of how another species would respond to natural influences. These new perspectives allowed them to engage with counternarratives, which help to break down dominant narratives and deeply rooted beliefs.

Here are a few of the counternarratives that emerged for the participants during the activity and discussion.



In the dominant narrative, we often hear stories that humans are creating an environmental crisis. One counternarrative is that it's not exclusively about human influences, it is about species' adaptation. Living organisms have plasticity: some species will adapt to a change in their environment.

Some species respond to changes physiologically. For example, over generations, as human fishermen pushed their population to collapse, cod evolved to be smaller and less desirable to fishermen.

Animals can also alter their behavior within a single generation. Here, in the picture from the right hand side, manatees learned to warm themselves near the output of a power plant.



Some species benefit from the changes to the environment: blue-green algae, green crabs, and lionfish have been at least temporary beneficiaries of human influence. Because of changes that humans have made in the environment, their territory and population have increased.



Some species will go extinct. This is not a new thing: all of this has happened before, and all of this will happen again.



In the dominant narrative, the earth is often personified, We are used to treating earth as our mother and give her characteristics. But here is an emerging narrative: earth actually doesn't care, it's just a rock spinning through space.



In conclusion, through the exercise and discussion, our participants began to see some of the dominant narratives and counter narratives that lay beneath their thinking. Yes, nature could be pure, and stable, but nature is also dynamic and constantly changing. Some species will go extinct. Other species will adapt. And some species will thrive. Earth is our mother, but at same time she's also a piece of dead rock under us.

What helped our participants to engage with these unfamiliar, sometimes uncomfortable narratives through critical conversation?

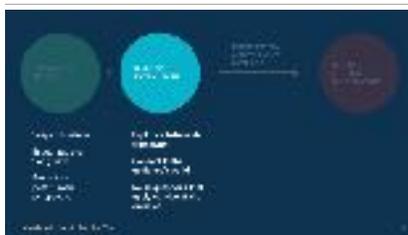


RAM:

To create a space that was primed for this level of critical conversation, we took our participants outside their comfort zone and into an environment that was unfamiliar but still real. The unfamiliar setting plus the factual basis created a foundation. Then we engaged in participatory and speculative methods, which led to a critical futures conversation.



Participants in Notes from the sea are thrust into an “otherworldly,” undersea setting. This makes it easier for participants to suspend their disbelief and encourages the “long view” required for speculative work. The charismatic marine creatures makes it easier to step outside our comfort zone: many of our participants are, by training, human-centered designers. Notes from the sea invites them to take on a posthuman perspective by centering the relationships between the environment and non-human entities (in this case, marine animals).



While the underwater setting is strange enough to promote imagination, it is grounded in science, providing a believable framework for participants to explore. It's still connected to the audience's world. This allows participants to raise questions that apply outside the constraints of the exercise.



The participatory and speculative methods—the field journal, card prompts, and sketching activity—make it possible for people to participate in a variety of ways. It gives everyone time to process and engage with the information before entering the conversation. These methods also help to bring participants' values to the surface and increase creativity and insight.



This turned into our critical futures conversation, an expansive discussion that challenged our view of the natural world and our place in it. Through the conversation we were able to identify and examine previously held assumptions, engage with new ideas, and inspire the audience to broaden their view of “the problem” to include perspectives outside of the mainstream narrative in their work.

Not only was this a critical conversation about possible futures, the discussion critiqued the ethics of the futures work itself: participants voiced not only their discomfort, but a feeling of responsibility to ensure that our actions did not have a damaging effect on participants’ values. And we agree: our futures work must be accountable to the world we want to leave behind.



SM: Each time we’ve done this intervention, we’ve been impressed by the creativity of people’s ideas and their commitment to challenging conversations. But most importantly, we see a new awareness of the attitudes that underpin so much of our thinking. Our participants understood that to do the kind of work that building an accountable world requires, we need to think critically about the stories we tell.



In *Notes from the sea*, we built a space for critical conversation about our deeply-held beliefs about the natural world. There are plenty of other narratives worth questioning, both large and small. We believe there is space to apply this framework in other fields—for example, agriculture, space travel, urban planning, or artificial intelligence.



This particular line of thought is a rich one and can open our eyes to other ways of thinking. In New Zealand, the Whanganui River has been granted citizenship after 100 years of Maori advocacy. It now has a legal identity and rights. In a less grand example, Perdue, a company that raises chickens as livestock, has declared that it would like to be “the chicken’s choice” and has identified five specific targets related to “the chicken’s wants and needs.” The targets are “freedom from hunger and thirst,” “freedom from discomfort,” “freedom from pain, injury, and disease,” “freedom to express normal behavior,” and “freedom from fear and distress.”

When we created this design intervention, we wanted to spark a conversation that would help us to identify and challenge the narratives we take for granted. No matter the industry, the way we envision the future is constrained by deeply, sometimes subconsciously held, beliefs. Critical cultures that promote discussion extend futures work beyond our own, limited perspective into a more expansive worldview.

If you want to take a look at existing work for the hermit crab, please check the link in the chat channel! We’d also love it if you would take a photo of your hermit crab and upload it to the gallery.

If you want to take a look at the full version of the game, we will include this as a link in the chat as well.

Thanks so much for joining us today!

Links

Hermit Crab Gallery: <https://bit.ly/hermitCrabs>

#NotesFromTheSeaGame Print and Play: <https://bit.ly/notesFromTheSea>

Special Thanks to the following individuals, without whom this project would not exist:

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