

Calling the Birds Back Home

0300.
Today.

Is this a dream? Yes, maybe, it is a dream. But it's a good one. Nobody will mind if I don't wake up quite yet. I'm not on watch for hours still and they'll come find me if they need me first.

Can the world change radically in 100 years? Only if it has to. And it had to.

Geology and energy. We marvel at our roots. It used to be the *best* jobs with a geology degree were in petroleum. Or mining. But who wanted that? Well, almost everyone for a time - stable was stable and the reason to study the earth was to find where and what it contained that had that value. Or so they told us, anyway, applying that calculus so faulty they never stopped to wonder why it all looked so much like a mirror. Why it all somehow always reduced so neatly to that convenient binary: for us or for them. If we don't take it to build with, launch from, arch over, use up or destroy, then they will. Us or them. Some simple you can trust; other simple you never should, but even knowing that, it took this country a long time to wake up. But it had to. And it did.

And the petroleum and the ore? It's all still out there. Or, more precisely, still out *here* - harder, perhaps, to find than it used to be, but not gone. No. So what changed? The ability to tell ourselves the stories that justified its extraction. The calculus, if you will. What rippled the surface in 2020 with the idea of sanctifying the Atlantic seabed⁽¹⁾ has overflowed in that incremental-and-then-sudden way that we all recognize: drip by drip of the ice as the melting begins; grain by grain of the pile as it collapses; whether the foundation went first or the structure washed away from the top, I don't know and I'm not entirely sure I care. The need to understand that distinction might just be another one of those stories we tell ourselves. Maybe all we need to know is what we already know: give things time and erosion works.

So no. Or, maybe, yes: we're not out here to extract from the seafloor anymore. That is holy space now. That's not what we're out here to survey. We're out here to ask: what do our questions look like when they don't rise out of global conflicts and competition? what does our field look like when the tools aren't driven by the industries that have never understood that sometimes to subtract – to accommodate, to sequester, to retreat – is actually what creates our security. We all still need to breathe, after all; and to drink; and to eat; and to sleep; we all still need places to care for our families. But what can we leave behind? Where can we take away? How can we turn our energy toward removal and repair?

Energy and geology. What the field itself has learned how to do in the past 50 years – and in doing, has learned how to teach – is how to leave the things alone. How to make the calculus so inarguably match reality that decisions regarding the extraction and the mining and the waste have already been made and the efforts have become unjustifiable. *Done been done*, as they say. In that Us versus Them, they never bothered to account for the damage and we all pay for that now. As geologists – as scientists of the systems of our Earth – we have some combination of being given and taken on this accounting. This is our platform. This is where we're going.

And this platform? Right here? We're a drifter; we're a small, small part of a great big plan to slowly, slowly clean the oceans. In 2024 – the year they started – they said a cubic meter of seawater contained over a 1000 pieces of microplastic. We all know the real number is larger than that. It has to be. We all know how to see a continuum when we've been handed a step function. So when word came around and we signed on, we bought an oil rig and we built our platform and we started filtering. And, sure, there are a thousand other things we could – and probably should – also be doing, but isn't that impulse to not act until we can pick the best, most fanciest possibility from that list of almost infinite opportunities also a part of the problem?

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1230

Today

The heel to toe they call this. 6 hrs on. 6 hrs off. Every 10th day, skip a watch and sleep straight through. That's your stutter step. A Watch and The Other. After a while at this you come to understand that if it's alertness you need, it will be adrenaline that provides. Ask and ye shall receive. Don't ask and it might still come calling, but mostly it's okay out here to drift. It's really only the weather we worry about. Forewarned is for-armed, as they say, so we keep an eye on from where and how fast these systems spin up. For a while folks were on about this endlessly, but by now, yeah – just storms. The warmer it gets the faster they come and the steeper they hug that rising curve. Nobody's out here for the thrills, but differences and all – steel and sails and salt and stars: we're sailors. We tumble up into the rig and batten down as fast as any ever have.

My favorite place to ponder the truth of all this? High as I can climb and looking straight down. Now and again shadows still rise from the deep. From my vantage – kicked back up here with my feet swinging – I get to see them first. Sometimes I shout them out; othertimes they rise then fade - back down and away and I bid them fairwell in silence. I'm a lucky little shit out here – luck being all in the being where you want to be and knowing it's good while it's happening. We saw a chance and we took it and 10 years on we haven't once looked back: catch the sun rise every morning and set every night and at midnight on the watch change, check the wheeling of the stars as we drift on south. (this time). It's not at all that there isn't anything of value ashore. It's that we all came in on this together because we like it here. Sleep. Eat. Run the filters. Fix what breaks. Read books and play cards. Keep your eyes on the horizon. Watch the batteries and keep the juice flowing. Scheme. Be a patient, patient little shit and feel lucky that the whales still come calling sometimes.

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1615

Today.

The questions that come our way are pretty much always about the hows. And the what. Not the why - nobody ever really asks us about the why. Maybe the answer there is one part obvious and one part irrelevant, who knows. Those questions just don't ever come our way. But the hows –

they're interesting: How do we power? How do we water? How do we weed (for those who partake, haha!)? How do we communicate? (That last one's easy: we're all more than a little anti-social when it comes to the shoreside world. The radio does just fine out here for the two-way).

The what has always been the biggest challenge: what the h*ll do we do with everything we scrape and pull from the filters? That shit accumulates. I have zero problem admitting we started this endeavor with an idea more than a plan, but slowly, slowly, you know? New crew = new ideas = new tools and technology and now we're rolling. The thing is this: folks used to freak about the Garbage Patch as though the worst thing in the world was a floating island in the middle of nowhere made from bleach bottles and porch furniture. I mean, add an umbrella, right? and what you're describing is somebody's idea of a paradise. The macro-plastics, then – or the idea of them, collecting there so thick in the middle of the gyres that you could walk on them – isn't the worst part of the problem. So, what if we try to do something useful with that mess we're collecting? What if we could make somebody's idea of a paradise?

What got us rolling, what cracked it (if you will) was crab shells and a table-top printer. And a question: how do you make something out of nothing?. We'd been thinking about that one for a while. You know, something like Styrofoam, but stronger and not about to come apart all over your everything. So, maybe something more like a pancake and the way it pocks with holes before you flip it, but sturdy too... I don't know who called up the crab shells, but there we were adrift in pieces and polymer and we had that printer and so, okay: what do you need to make this work?

Well, first – it turns out – you need a lot of it. Like, a lot, a lot of it. And then you gotta figure out how to lay it down layer by layer so it doesn't come apart again. And it's good, isn't it? Large-scale printing out of micro-scale scrap. With the right gear, enough juice and a little heat, you can print big shit. Heavy shit. Shit that sinks to the seafloor in large ass chunks to get taken down ultimately by tectonics. Does this wind back the clock to the time before the world went crazy with polymer science? Of course not -we're not stupid. But might it speed up the engine of the future present? Maybe to a time when polymers unlinks their way back to the precursors from whence they came? Maybe. We wax all ecstatic and arm-waving about this sometimes, but the truth of it is that the

shit's not going anywhere at any great speed and it feels better to be trying to make something change than to be sitting shoreside watching the chatter wrap round and round the why. You could power friggin' circus lights with the current that that winding makes. Better to spend the time scheming bigger printers and better designs and newer ways to rig the platform on the workingdeck.

Our latest idea? Island arks (yeah, I know – good, huh? That was my idea; 2nd place went to worldwidewebbing – the vision there was good, but the rimshot doesn't land it). 2 × 2s to 8 × 8s and up: hook the printers to the juice bar and print seedling grids. Mangroves always win this race – they don't sweat the salt (well, yeah, I mean, they *do* actually, but, you know what I mean) and so they style it every time. We print them (grids), plant them (seedlings), link them (islands) and set them adrift (*bon voyageee*, as Bugs Bunny used to say). We name them all: *A. marina* after the first seedlings we started with. Together, they're The Fleet. We bless them all and we set them free. We didn't invent this idea – not by a long shot and we don't do much to try to claim the credit – we all just like to work on projects and to try new things. We've long since gotten the message that as work to do, this here is plenty.

So, we drift too, our own *A. marina* island. A month or so ago, someone broke a bottle of home-brew on deck and we were like, okay, then– waste not, want not and all – we'll consider ourselves renamed. Huzzah! and we had a little party. And it fits, you know? We don't sweat the salt either and, like I said, we're drifting too. Would you believe me if I told you the mangroves are taking over our rig? Would you believe me if I told you we might be making our own little weather now? Drop by drop in under the leaves where the puddles have started tasting like mud. No joke. Would you believe me if I told you that since we started with this project, we work in that greatest of all luxuries now: shade. We don't have songbirds yet, but that dream isn't a crazy one – I hear them in my sleep these days and I know I'm not the only one: working in under the trees, someone's always whistling now.

So, we haul down and in when storms come through and shake out and open when they pass – we keep a sharp eye on the weathercasts. Our goal: close enough to keep things watered, but not so close that the scramble to stabilize is constant. We got a smooth routine right now and it's steady

and I tell you nobody loves that combo like a sailor. I'll take two, and like I said, we all get that this is enough and that adrenaline is way the fuck over-rated. We're good. And for those other how we do's: Sun and wind - funneled right down into the battery bank (also fry grease when we get it – filter that up a bit too and nothing makes a blender drink like an I.C.E. – top of the list of useful inventions, that one). Water comes courtesy of the 2.0 -our second still. When a chemical engineer came asking to join our crew we had a little party on the afterdeck then too. The first one we'd built there had been a lark (nobody's really that interested in going blind, after all) and she declined the offer as the bottle went round; the new one, though: it's aces. She showed us what we could do and how and set to work on making it happen. Water is our joy. There is nothing softer in this world than fresh water. Want to make a grumpy person happy again? Cart them off to the shower. Seriously. 2 minutes and all is forgiven. With the water maker now off-line, we have more juice for printing too. This is how you join a crew, we all agreed. How the hell did we get this lucky?

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2130

Today.

(Yeah, I know. I'm on watch. I know, I know, I know. I had a something I wanted to saaaaay but somewhere between the weather deck and here I done forgot it. Damn. Damn. Damn. Gonna play it backwards now, as they say, and maybe it'll come on back...)

2150

Today.

Oh right right - crab shells. Yup. Yup. That's what got us going on the printing, first, and now the island arks. Crab shells and the idea of enough. What if we already had all the polymer ever needed for the rest of the world, please, thank you, and amen? And what's a crab shell if not a Swiss cheese made of a polymer? And how does the world sit different when you scale that idea in your head: a massive fuckin' crab shell the size of an island; Swiss cheese laid down in printed polymer and set free out there packed full of seedlings? Can you see it? I can. We're doing it. *A. marina*, this world is yours. We're all cheering you on. And we're drifting too. Sleep. Eat. Clean the filters. Fix what breaks.

Top up the batteries. Read books and play cards. Watch the horizon. Climb the rig and sing my morning song. Dream in green. Honor our commitments to what we do without. Call the birds back home. Hope like hell we're making something beautiful.

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0145

Today.

(and four-armed? Well, that's half an octopus. I have no idea why that joke's still funny, except it is. It still makes us laugh. Maybe it just reminds us to keep it simple. Roger that. Later, later, my gator.)