
FUTURE
HOPES

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FUTURE HOPES

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WALKER
BOOKS

CONTENTS

Foreword 7
by Nicola Davies

Introduction 11
by Lauren James

Eyeballs, Tentacles and Teeth 15
by Oisín McGann

Saving Olumide 43
by Tọ́lá Okogwu

Float 63
by Eli Brown

The Lighthouse Keeper's Garden 79
by Rebecca Lim

Dump Devil 105
by Neal & Brendan Shusterman

The Invisible Girl and the Impossible Otter 149
by L. R. Lam

They Came Back 173
by Louie Stowell

The Drongo's Call 185
by Bijal Vachharajani

Food of the Future 205
by M. G. Leonard

Afterword 231
by Lauren James

How to Live More Sustainably 235
Discussion Questions 237
Glossary 241
Learning Resources 245
Contributors 251

FOREWORD

by Nicola Davies

Climate change is a weird kind of emergency. On the one hand, we hear terrifying headlines about heatwaves, fires and floods, but on the other, nobody seems to be doing anything to avert the disaster. Sometimes it makes me so anxious that I want to stick my fingers in my ears and pretend that climate change isn't real.

Of course, it is real and it is serious, very serious. Humanity has put such a lot of carbon dioxide and other greenhouse gases into the atmosphere that the thermostat of the planet has been turned up. But what the headlines about the hottest day or the worst storm or the melting ice don't tell you, is that this is a problem with solutions: we can change our wasteful habits and use less energy; scientists are inventing new technology so our machines work more efficiently. Perhaps best of all, we are learning more and more about how nature is our strongest ally in fighting climate change – forests and marine plants, peat bogs and soils can soak up carbon dioxide and keep it safely out of the atmosphere.

It isn't a quick fix. We are going to have to change the way we do everything: how we grow crops and heat our homes, what we wear and what we buy, how we transport goods around the planet. But another thing the headlines don't tell us is that these changes will make our world a much nicer place to live in. Less pollution and less traffic, healthier food and greener cities are just some of the benefits that shifting to a "low-carbon economy" will bring.

Getting to our new, greener, fossil-fuel-free world is going to be tough. It's going to take hard work and determination; there are going to be times when it feels scary and dark. But there are already millions of people all around the planet working on things that can get us there. No one can do it alone, but everyone can help. Working together is what is going to make us succeed.

The stories in this book are about people working in all sorts of ways to get us to that brighter future. People who are doing their bravest best to be part of the solution to climate change. You can be part of the solution too, and once you have started to do something to fight climate change, you won't feel quite so scared. You can start in a small everyday way, by doing something like putting on an extra jumper and turning the heating down, or deciding to walk to school instead of going in a car. As you grow up, you could choose to become an engineer who invents a new kind of solar panel, or a biologist who helps to safeguard tropical forests, or a clothes designer who invents jeans that never need washing. What better or more exciting thing

could you do with your life than to be part of this enormous project of planet-mending?

But one of the most important things you can do to help, you can do right now. That is to imagine what you want that better, greener world to look like. What would your house be like in that world? Your street, your town, your nation? Talk about what you imagine, share your dreams and tell the story of the new world you want to build, because dreams and stories are the seeds of real change.

INTRODUCTION

by Lauren James

Dear readers, activists, naturalists, students and humans: welcome to the *Future Hopes* anthology. I couldn't hope for a more joyful experience than reading these stories imagining the future of our planet. This a wide-reaching collection, ranging from a comic about evil fairies to a bug-eating school competition. The ideas stretch from the realistic – a garden on a London skyscraper – to the fantastical – the discovery of a new species of rodent with incredible powers of digestion. But uniting all of the stories is a true sense of hope and creativity and care. It's impossible to doubt that we'll save the planet if we have these dedicated characters as our guiding light.

The talented authors of these stories have all used solutions based in real science. Some of the ideas might seem really straightforward and simple, like growing more trees. A few require more high-tech innovations. And some are a little bit fantastical!

As a society, we do a great deal of *talking* about climate change, but not enough *doing.* We all know that we need to

move to greener solutions such as electric vehicles and solar-powered lights. We've had that technology for decades. So why aren't we using it more consistently?

There is a huge amount of money to be made from fossil fuels, and as a result, governments and companies have been reluctant to pursue more sustainable energy solutions. We have the science and technology available to us for cheaper and more reliable energy production – it's our job to keep pushing for change so that these greener solutions can be put into action.

After each story, I'll be sharing some ideas for the best ways you can make the ideas in these stories a reality.

So join me as we journey from the traditional farms of India, filled with drongos and barking deer, to a lighthouse on the southern coast of Australia, and to the lochs of Orkney, where otters make their home. In these nine stories, our talented writers are ready to show us how we can move towards eco-harmony with nature. It's long past due.



EYEBALLS, TENTACLES AND TEETH

by Oisín McGann

Old Hagerty had lost his anchor again. He offered me a tenner if I could find it and bring it up for him. I'd got forty quid out of him over the last year because the grumpy old curmudgeon, who'd been fishing off boats for half his life, couldn't tie a decent anchor hitch.

Anyway, he was willing to pay, and I had a big sea swim coming up, so I was happy to take money for getting out in the water. Me and Pippa took the RIB out past the Vaughn Life Cycle Plastics processing plant to Scavenger Bay, to the shallows where Hagerty said he'd lost the anchor. It was low tide, the water barely four metres deep here, so there was enough light at the bottom and it only took me ten minutes to find it. It was too heavy to carry up, so Pippa threw me a line and I swam back down and tied the hitch.

As I surfaced, I could hear her shouting from the boat.

"Callum! Get out of the water! There's something out there!"

"What?" I called back, after I'd taken a breath. "What are you ravin' about?"

"There's some huge thing in the water!"

Though it wasn't like her to take fright, there was real fear in her voice. Pippa was twelve, four years younger than me, but we'd lived on the island all our lives and had been swimming off the beaches here since we were toddlers. There was nothing to be scared of, as long as you stayed well clear of the strong currents. Even the sharks we sometimes saw kept to themselves.

"There, look… Over there! *Behind you!* Callum, get out of the water!"

I couldn't see anything. And, I'll be honest, her fear freaked me out a little bit. I might have let out a high-pitched squeal. And maybe a little squirt of pee. There are still a few people on the island who can swim faster than me, but I don't think any of them could have covered that stretch faster than I did right then. Seconds later, I was clambering up over the front of our small RIB.

I don't want to say that my sister looks like a red squirrel, but with that hair, that face and those teeth, some people might see a resemblance, especially when she's gone all Pixar-eyes like that. Whipping off my goggles, I followed her gaze, but couldn't see anything under the shimmering blue-green surface.

"What?" I barked at her. "What was it?"

"I don't know what it was, I just…" Pippa breathed, looking sheepish and putting her hands to her cheeks. "Sorry. I was sure I saw a big, weird … something."

"Jaysus, Pip, you nearly gave me a heart attack! What were you…? Aw, never mind. Here, help me pull this in."

When we started pulling on the rope to lift the anchor, it caught for a few seconds. It almost felt like something was *pulling back*. Something really strong. The RIB tipped as we both ended up leaning out off the side, and we had to catch ourselves and right the boat, still holding tight to the line.

Then the tension gave suddenly, and we jerked back in the boat as whatever was caught came loose. We exchanged spooked looks, but didn't say anything and quickly hauled in the rest of the line. The anchor came out of the water, and I left Pippa to coil the rope as I went to start the outboard.

"Hey, look at this," Pippa said, pulling something off the rope.

It was a piece of pink, fleshy ring, or maybe cartilage, a little smaller than the palm of her hand. The curving fragment was lined with tiny, triangular teeth.

"It looks like the piece of a jaw off some small fish, doesn't it?" she said. "I don't know what kind."

I was surprised that she didn't know. Pippa's like our dad, she's mad into anything that lives in the ocean. She always has her head stuck in some wildlife book or other, and knows all of the local species. I thought about how hard that pull on the rope had been. It was nuts to think a fish with a jaw that size could have done it. Maybe there'd been a whole bunch of them. Maybe that was the big thing she'd seen, a shoal of these fish?

"The anchor must have got tangled in some seaweed,"

I reasoned, shaking my head. "That fish got caught up in it and we nearly dragged it out."

"Poor thing," Pippa said, examining her find. "It looks like we pulled its jaw off."

"That's just gross," I told her.

"Sometimes nature is gross, Callum," she said. "I want to show this to Dad. He'll know what it's from."

"That'd be great," I replied. "Anything to stop him talking about his slime."

We sped back to the harbour, past the towering offshore wind turbines and the low-profile structures of the tidal generators. The island produces far more electricity than it uses, and every islander gets paid simply for having the generators here. It's just one of the major changes that has taken place in the last twenty years.

The island's main industry, however, is rubbish – though it's not as grim as it sounds. There was a freighter moored over at Vaughn Pier, the modern stone and concrete dock on the far side of the harbour, delivering the latest load of waste plastic for the processing plant.

We spotted Dad where we'd last seen him, on the rocks near the South Pier. He was scraping up samples of some exciting new kind of bacterial slime he'd been finding on the shore – it was all he seemed to do these days – and it took some effort to get his attention. However, when we showed him the little piece of jawbone, he took it from Pippa, stared at it, then stared closer – and then he started jumping around with glee like Pippa when she's hyper.

My dad's name is Otto; tall and lanky, he has overly large hands and feet – kind of like me, but not as fit, and with a big gawky head on him. Everyone knows him because he's always out walking the coast, and because he nearly had the island's most important business shut down about ten years back, which would have cost loads of people their jobs.

"This is… I think… It can't be! I can't believe it!" he exclaimed. "Imagine it, an *Architeuthis dux* in our waters!"

"An Archy–what?" I asked.

"Architeuthis dux," Pippa replied. Then she translated for me: "He's saying it's from a giant squid."

"A *what* now? No way!" I said, this time in disbelief.

The giant squid is an A-list celebrity in the world of marine biology. It has a reddish-pink, torpedo-shaped body with two fins at the top and a powerful beak at the bottom. That beak is ringed with ten limbs: eight octopus-like arms and two much longer tentacles. It has the largest eyes in the animal kingdom, apart from its cousin, the colossal squid. The "colossal squid". I mean, seriously, who thinks up these names?

Anyway, if I sound like I know what I'm talking about, I don't. This is the kind of riveting trivia I have to listen to at the dinner table. Another piece of trivia is that every circular sucker on a giant squid's limbs has a hard serrated edge, for cutting into the flesh of anything it grabs.

That little curved line of "teeth" we'd pulled up wasn't from its *jaw*, it was from *a single one of those suckers*. These nightmarish creatures are enormous, and I'd been right there in the water with one.

"This is incredible!" Dad gasped, gripping his thick

thatch of brown hair. "I'd heard some of the fishing crews saying they'd had giant squid interfering with their nets, but it was so hard to believe. And I never imagined we'd see one so close to the shore!"

"We're going to have to tell Bridget," Pippa told him. "Y'know, ahead of the swim."

"Ahead of the swim?" Dad repeated, puzzled.

The Razorbill Rock Swim was the biggest event of the year. Known locally as just "the Big Swim", the 3.5-kilometre race around the nearby islet brought hundreds of swimmers and their supporters to our island every summer for the long weekend. It was taking place next week, and, now that I was sixteen, I was allowed to enter.

"Hundreds of people are going to be swimming in the sea," I said, in my talking-to-nerds voice. "Including me. And there's a big-assed *squid* out there. *In the sea*."

"Squids don't really have asses," Dad replied.

Most of the buildings on the island are clustered around the harbour, including the community hall, which serves as the library and the headquarters for all the island's various clubs. It's also where community meetings are held. An emergency meeting was called later that week to discuss Dad's claims that we had a new, and potentially dangerous, visitor to our coast.

Bridget Vaughn sat at the top of the community hall, a leather-skinned, skeletal figure. She was our unofficial mayor, because she was by far the richest person on our little lump of rock. She owned Vaughn Life Cycle Plastics.

Bridget had been born to a fishing family that was going badly broke. Over nearly fifty years, she had turned their fortunes around with hard-nosed business savvy and a fierce loyalty to the natives of her island. And she did consider it *her* island. We just lived on it.

Oh, and she really, *really* didn't like Dad – which always got on my wick, because it was Dad who'd helped to make her so rich.

There were about fifty people in the hall, mostly islanders, with a few visiting swimmers. All of them had heard the rumours about the giant in the water and it was causing quite a tizzy, so it took a few minutes to get the crowd settled before Bridget could impose her will on the proceedings.

"Can we please keep it to one voice at a time?" she said into the microphone, slapping her hand on the table. That normally meant it should be *her* voice. She gestured at Dad. "Otto here has made a rather serious claim, and we need to discuss it ahead of the Big Swim. As you all know, this is a hugely important event in the island's calendar."

She meant it brought tourists and money to *her* island. This was the weekend when she got to be a big noise in front of all those visitors. There would even be news crews here.

"We don't have time for jibber-jabber. So, let's hear from our resident *marine biologist* and see if this is anything we need to worry about."

She said the words "marine biologist" with the kind of disdain some people might use for "YouTube algorithm".

"How about it, Otto? What evidence do you have that

we have one of these creatures in our waters? Is there any threat to the swimmers?"

Her tone clearly indicated that he was to strenuously deny the existence of any threat to the tourists bringing money to her island. Dad cleared his throat and stood up awkwardly from his seat, so that its plastic feet scraped noisily on the floor. He went over to where Bridget sat with three of the other leading figures on the island, and put a jar on the table in front of them. The sealed jar was filled with formalin, which kept the fragment of squid sucker preserved. The four island elders stared at the toothy bit of flesh in the jar which, now that I saw it presented like this, was less impressive than Dad might have intended.

"Is this it?" Bridget asked, sounding distinctly unimpressed. "We called everyone together for *this* piece of shrimp?"

"That's a piece of a sucker from the limb of a giant squid," Dad told her. "You have to use your imagination to fill in the rest. Lots and lots of these, attached to some very long arms."

"That's asking a lot of my imagination," Bridget grunted. "How can we be sure it's even what you say it is? Maybe this creature's not as big as all that. Maybe it's not even a squid!"

"There's more to it than that," someone spoke up. It was Old Hagerty, looking like a hygienically challenged Captain Birdseye. "Some of the lads on the boats have said there's squid messin' with their nets, doin' damage an' all."

"This is all just snowflake nonsense!" one of the local pub owners shouted from the middle of the crowd. "What

are we going to do – call off the swim because there might be some oversized mop out there somewhere?" He pointed at Dad. "Are we all forgetting what this so-called 'expert' nearly did to our island last time he cried wolf?"

"*Nobody* has forgotten about that," Bridget replied sternly.

There were some nods at this, and some resentful muttering. I swear, some of these trogs are just never going to let that go.

There was a time when Dad and Bridget had been friends. For decades, tonnes of waste plastic had gathered in the gyres, the circular currents out in the North Sea, before eventually being driven along the deep channel between the island and the mainland and piling up on our coast. It was as if our home was being dumped on by the rest of the world.

Then Dad had told Bridget about a group of scientists that had been experimenting with a particular type of bacteria. They'd discovered the stuff had the ability to digest plastic – like, actually use it for *food*. The researchers had learned to manufacture the enzymes those little microbes used, so they could break down different kinds of plastic and recycle them into raw materials.

Living on an island whose shores had this kind of waste piling up from the sea, Bridget saw an opportunity and built a lab as a base for these people. The lab eventually became a processing plant, and she built an even bigger plant on the mainland that created substances out of the plastic. These could be used in manufacturing: foods, medicines and fertilizers. Our island's waste became a resource, and we started importing waste from other places too. It was a really

smart move, and she went from being island-level rich to *actually* rich.

Dad was a passionate supporter of the research early on … but then he found out that Vaughn Life Cycle Plastics had a dirty secret. While they were still trying to get the enzymes to work properly, the company was covertly dumping some of the undigested plastic waste offshore – and those bacteria they were working with had been genetically engineered, which could have some unpredictable effects out in the wild. Bridget denied everything. Fearing the possible damage to our delicate ecosystem, Dad reported the firm to the Environmental Protection Agency. The company was fined and nearly had to shut down completely. Dad was pretty unpopular on the island for a long time after that. And Bridget never forgave him.

"We've faced much bigger challenges than some overgrown octopus!" she reminded everyone now.

"It's a *squid*…" Dad corrected her.

"… Ten years ago, this place was a rubbish tip, and every business on the island was going bankrupt," she pressed on, ignoring him. "There was more garbage in our waters than there was fish, and I … *we* changed all that. We faced up to that bleak future and we turned this island into a thriving community, a *world-leading* recycling facility and tourist destination…"

A new voice called out, "Speaking of tourists, didn't a bunch of squid attack that diver a couple of years ago?"

"That diver was attacked by some Humboldt squid," Dad replied brightly, oblivious to the tension growing around

him. "They're much smaller. They can grow to a couple of metres long, but they are known to be aggressive if they're feeding. There is no confirmed record of a giant squid ever attacking a human being. They normally inhabit the abyss of the deep ocean, so they don't come in contact with humans. In fact, there have been very few encounters with living giant squid. The shallows don't suit them, so something in the environment must have changed to bring one in this close to the island."

Then, after a pause, he added, "However, these are powerful and intelligent predators that can reach a length of up to thirteen metres, and if there's one here, then there could be others."

Bridget covered the mic with her hand, though I'm pretty sure I heard her utter some swear words. She was never going to take this well, but her grudge against Dad didn't help.

"That's it, we have to cancel the swim!" someone called out.

"I'm still willing to do it!" another woman responded.

"You heard the science guy. No one's ever been attacked by one of these things!" a third voice reasoned.

"Do you want to be the first? That animal could be gigantic!"

"Imagine it, though, swimming with a giant squid!"

I did find myself imagining that, and I'll confess, it sent a nervous shiver through me, but how could I back out? This was a chance to prove myself against some of the best sea swimmers in the country.

"What do these things eat?" someone asked.

"Well … fish," Dad answered, shrugging. "And other squid. They can even be cannibals, feeding on their own."

"I say we get out there and hunt it down!" one of the fishing boat skippers said.

"I say we leave it be," a second captain retorted. "It's got more right to be in that water than any swimmer."

"If the swim's cancelled," the first person asked, "will you be refunding the entrance fees?"

Bridget scowled down at Dad. This was turning into a disaster.

"It's brilliant to see everyone taking such a keen interest, isn't it?" Dad whispered to Pippa.

That's my father for you. When it comes to reading the room, he's illiterate.

They didn't cancel the swim. That Saturday morning, a few hours before it was due to start, the three of us had breakfast in the cafe by the harbour. I checked out the news on my phone while Dad talked to Pippa about the fascinating new slime he'd been investigating, the stuff coating the island's rocks. Old Hagerty was coming in as we came out.

"Mornin' all," he greeted us in his croaky voice, tipping his hat. "Grand day for a dip! I just thought you'd like to know there's a dead whale in the Garbage Chute."

"Awesome!" Pippa said, grinning, and I cringed as she and Dad shared a high-five.

First a giant squid, and now a dead whale. For Dad and Pippa, it was like they'd won the lottery. I couldn't miss the

start of the Big Swim, but even I had to see this. Besides, I still wasn't sure I had the nerve to go into the water with that monster out there.

The Garbage Chute is a narrow strip of beach in a V-shaped split in the cliffs at the innermost point of the inlet known as Scavenger Bay, and the strong currents that have carried the world's junk into the bay for centuries often wash stuff onto that beach at high tide. Not only had this crap littered the island, the stuff broke down into tiny particles, microplastics that found their way up the food chain, consumed by everything from prawns to basking sharks. Particles that might last out there for hundreds, even *thousands* of years. The waste had dealt a heavy blow to our local fishing industry, which was only starting to get back on its feet now that the world had finally decided to stop trashing our oceans.

This wasn't the first whale carcass to beach on the island by a long way, but it was the first to end up in the Chute. While climate change was taking its toll on the island's ecosystem, these corpses weren't always a sign that something was wrong. It was ironic, but as super-trawlers were banned and conservation campaigns allowed sea life to thrive again off our coast, we'd started seeing beached whales more often. Put simply, because there were more of them, there were more dead ones appearing on our shores.

This one was a young sperm whale; you could tell immediately by the long, thin lower jaw, lined with teeth, and the square block of dark grey head. At twelve metres, this smelly mound of blubbery meat was the length of

a small bus, stretched out on the sodden sand of the Chute, surrounded by the garbage regularly left there by the sea – though there was a lot less of it now than there used to be.

It had gathered quite a crowd, all of them with their attention fixed on Dad.

"This young fella had possibly left his pod and was on the lookout for new territory," he began explaining, because to him, everything is a teaching opportunity. "He may have been sick, and got stranded and then suffocated when there wasn't enough water to support his weight. It's a sad sight, and I know some of you might find it upsetting, but this is an excellent chance to do an autopsy and learn more about these amazing creatures."

He waved his hand with a flourish over the decomposing corpse, as if it were a priceless work of art. "After that, we can hopefully tow most of the remains back out to sea when the tide comes in."

I nodded to myself. There's a powerful current off this part of the island. Leaving the body here would be a health hazard, but out in the ocean whale carcasses are a valuable part of the ecosystem, forming a base for sea life for years after their deaths.

"What are those marks around its head?" someone asked, pointing at the scattering of deep scrapes and circular scars around the corpse's mouth and blunt brow, some of them the size of golf balls.

"Ah, excellent question!" Dad replied, smiling. "They're injuries from the tooth-lined suckers of giant squid. The sperm whale's favourite prey."

Pippa winced and I put a hand to my face. Some of the people looked suddenly alarmed.

"Do you … do you think a *giant squid* killed this whale?" another voice asked.

"I think that's highly unlikely," Dad said, shaking his head. "Sperm whales are the … the hunter-killer submarines of the animal world, perfectly evolved for diving to extreme depths to battle with squid. Most of these are old scars. Though perhaps he was worn out by a fight with one…"

Several of the onlookers started hurrying away, pulling out their phones, and I guessed that there were going to be even fewer people swimming that day. Staring at the scars on that corpse, I felt a shudder run through me. That creature out in the sea could tear flesh off a sperm whale. What could it do to a bunch of fragile little humans?

Dad carried on, oblivious. He'd brought his bag of autopsy tools, which looked like a collection of butcher's knives and medieval weapons. Most of the islanders had seen Dad carry out an autopsy before, but it was a rare spectacle for the tourists. There was a lively chatter, a mixture of squeamishness and morbid fascination, and people were holding up cameras to record the proceedings. Pippa stood eagerly, ready to assist him. Her squirrel-like face was the only skin showing as, just like Dad, she was covered up in wellies and bright yellow waterproofs.

"I'm going to start by making several small punctures along its side," Dad explained, holding up a long, thin knife. "As bacteria start to break down the organs, gas can build up inside, and if you're not careful the corpse can *explode*, which

makes an almighty mess, so we need to release the pressure slowly. Then, we'll cut in with these bigger tools and peel back the skin and that tremendous layer of blubber that keeps these creatures insulated in the cold of the ocean…"

He started making the small holes, each of which released the stinking gas with a whistling hiss, and dripped pus and blood. I'd once had a whale's guts explode all over me – I even got some in my mouth – and it had taken days of washing before I got the last whiffs of the stench off me, so I moved to the back of the crowd. Now, as the escaping odour spread, there were gasps and the sounds of gagging, the spectators covering their noses and mouths. As Pippa said, sometimes nature is gross.

"Whales are a vital element of the marine ecosystem," Dad went on, as he continued to make little puncture wounds. "The largest whales can take a dump that would fill a bath to the brim, and those faeces filter down through the water. It's a crucial source of nourishment for the plant life in the ocean that absorbs carbon dioxide and creates oxygen, and another reason why large predators are so important to an ecosystem and contribute to the food chain…"

I did get a kick out of seeing Dad all hyped like this – I mean, it beat watching him scrape bacterial slime off rocks – but that was my cue to leave. The smell was rank and I'd decided I didn't want to miss this afternoon, the chance to take on some of the biggest names in our sport … even though the threat of the squid was already freaking me out. The thought of swimming through a bathtub of whale

manure wasn't going to help get me in the right frame of mind.

"I have to go," I said to Pippa. "Do me a favour and keep an eye on the tide, all right? You don't want to get caught in here."

I waved to Dad and headed for the narrow path that would take me up the cliff.

Back at the harbour, final preparations were underway for the swim out around Razorbill Rock. Nearly half the swimmers had copped out, while a few new ones had joined in, and I was sure there were more camera crews wandering around than had been expected that day.

Although Bridget was loving the extra publicity, she was worried that one of her valuable tourists might get dragged into the depths by a giant cephalopod, so she'd offered a generous reward to anyone who captured or killed "that mess of eyeballs, tentacles and teeth". The fishing boats were already on their way out of the harbour, their crews' faces set in thrilled determination.

Pippa was going to follow me out in the RIB after the race started, and I was about to tuck my phone into my bag under the boat's seat when I saw Dad had been trying to call me. I hit Return Call, and his voice was blurting into my ear after the first ring.

"It's incredible, Callum! A miracle of nature. The bacteria I've been finding on the rocks… I knew they were from the processing plant, but they're *evolving*! The bacteria digest the plastic in the water and it becomes *a new food source*.

They're turning plastic into fish-food! The small fish are eating the slime, the big fish eat the small fish… That's why the squid are coming here! But now I've found something in the whale that will—"

"OK, OK…" I said, already shaking my head, though of course he couldn't see it. I really didn't want to hear anything about squid right then. I eyed the other swimmers already gathering in the harbour. "Listen, Dad, I have to go. We'll talk later. You're watching the tide, right? It'll be back in before I'm finished here."

"Sure, yes, of course! This is amazing!"

I hung up and left him there, wallowing in the joy of life and whale guts. Putting my phone away, I spat in my goggles and rubbed it around, and then slipped out of the boat and into the water.

"It eats fish and other squid," I told myself, over and over again. "Fish and other squid. It's not interested in us. There's nothing to be scared of."

I normally relish the first few minutes in the sea. I know these waters, I'm already one of the best swimmers on the island, and I look good in a wetsuit. But that afternoon, the water seemed to have an especially shivery chill, and as the starting whistle blew, the depths seemed even darker than usual. My muscles felt stiff and the rhythm of my breathing was off as I set out with the other swimmers. I had to get my act together or I'd never make the distance.

I gradually found my pace, and nervously tried to stay in the middle of the pack. Up until today, the only risk I'd faced from the local wildlife had been swimming face-first into

a jellyfish. Being surrounded by other swimmers wouldn't make any difference, of course, if a massive sea monster came up from the darkness beneath us, but there was some animal instinct in me to avoid the edges of the herd.

There were more than a hundred of us, heading out past Vaughn Pier, aiming for the wind turbines before the turn that would take us around the Rock.

There were small fishing boats and kayaks all around us too, there to support the swimmers, though they couldn't come too close, so they offered little reassurance. If something wrapped its tentacles around one of the people in the water and pulled them under, I doubted that anyone could get in fast enough to help. The vessels hunting the squid were even further off.

I concentrated on my strokes and my breathing, factored in the speed and direction of the current, and focussed on striking the best course across that open stretch of sea to Razorbill Rock.

I had made it around the Rock with a little more than a kilometre left to cover back to the harbour, but I was feeling the strain. The wind was picking up, making the swells bigger and the water choppy, smacking it into my face. I was ahead of most of the pack, including some much more experienced swimmers, because I'd judged the drift right. Then I saw Pippa motoring towards me in the RIB. She was waving frantically. I waved back at her to keep away. If I touched the boat, I'd be disqualified. Then I heard the screaming.

"Help! Help me! Something's got my feet!" a voice screeched in the distance. "Something's got my feet!"

A cold bolt of electricity went through me, and I turned for the RIB and got my head down, swimming with all the strength left in me. My hand slapped against the inflated plastic and I scrambled up into the boat.

"Are you in?" Pippa cried.

Without waiting for a reply, she gunned the engine, sending us swooping back in the other direction and tumbling me over the front seat. I was too scared to think about anything but getting away, and yet I couldn't help noticing our *very small boat* was speeding towards the source of the screams. Pippa was racing in to help.

"These th—" I panted. "These things fight *whales*…"

A kayaker had already paddled alongside the swimmer and was nearly capsized as the panicked man grabbed at her. The panic spread, and all around them other swimmers were surging away, calling desperately to be pulled out. Shouts and shrieks mingled with the sound of boat engines and frenetic splashing as attempts were made to reach the man being attacked and drag everyone else from the water. Pippa gave me a fearful glance. This was exactly the kind of mass terror that would attract large predators.

"Wait! It's a net!" the victim called out, sounding suddenly calmer. "Sorry! Sorry, it's just a *net*. I'm caught on a net. Someone help me out here."

We were close enough to see it now as Pippa slowed the boat down, a ghostly blue mesh in the murky turquoise. The guy had tangled his feet in a ragged piece of abandoned

fishing net from a trawler, barely visible beneath the surface, and probably caught on the sea bed. More junk in the water. I cursed; I was probably disqualified now, because of a stupid piece of plastic rubbish.

We were about two kilometres out from Scavenger Bay, and I noticed that the tide was most of the way in.

"Hey," I said to Pippa. "Did Dad get out of there?"

The tide comes in fast on that beach and several people who'd been caught by it over the years had drowned when the powerful undercurrents pulled them down along the rocks. Dad knows the place as well as any islander, but anyone can get complacent, and when he gets really focussed on something, it can be next to impossible to pull him away from it. She stared over at the bay and a look of dread settled over her face.

"Pippa?" I snapped at her, the fear rising again. *"Did Dad get out?"*

Her answer was to open up the throttle and we accelerated towards the bay. The tide was already way in, the beach completely covered. And though everyone else was gone, I could see Dad at the dead whale's side, still cutting into it with a carving knife as the water washed around his waist. He was in the shallowest part of the Chute, and he was still barely able to stay on his feet.

Even the whale's corpse was starting to move, and there were what looked like snaking pieces of intestines slopping around my father. The winds were funnelled by the steep sides of the bay, and the heavy waves threw themselves higher and higher against the rocks of the Chute. Dad was cut off

from the path up the cliff. One look at those waves told me I couldn't swim in there and get back out on my own.

"I'm going to take a line, and you can drag us back out," I said.

We still had the coil of rope we'd used to retrieve the lost anchor, and I picked it up, slung it over my shoulder and tied one end to a cleat on the bow.

"Callum!"

Pippa seized my arm and pointed. There, in the water not far from the boat, was a movement of reddish-pink limbs just below the surface. I felt a queasy, dropping sensation in my stomach. The squid had finally decided to make an appearance, only metres away from us.

"It won't go any shallower," she said, breathlessly. "I don't think so, anyway. It's too big – it'd get thrown around in those waves."

"Yeah … so will I," I muttered.

But there was nothing for it. Moving to the other side of the boat, I slid into the heaving sea. Although I was tired, the waves helped carry me in, so I didn't have to fight them. Making it safely over the rocks, I waded up to Dad, shouting to get his attention. He eventually turned round, and he had this feverish look in his eyes, pointing with the carving knife at the long, open gash in the whale's belly. I realized these weren't coils of whale intestines around him – they were the limbs of a dead giant squid, freshly swallowed and pulled from inside the whale. Not a huge one, but large enough that the arms filled the water around Dad's waist.

"This is awesome!" he cried, as if he'd completely

expected me to show up beside him. "Those bacteria have become a new … a new source of food! The … the fish eat the slime, the giant squid eat the fish, and the sperm whales … the sperm whales come for the squid. This squid has the same bacteria in its intestine, and the whale has it too! *The bacteria can survive in these animals' guts!*"

"Dad, look around you!" I gasped. "The sea's coming in. We have to go!"

"Listen. *Listen, Callum!*" He laughed, his eyes wide with excitement as he gazed down at the whale's corpse, clawing at his hair. "Nature has done what we couldn't. We could never have cleared all the microplastics from the oceans, but now the *fish* can do it for us! Our stupid mistake with the bacteria means the fish can eat all that crap. And when the bacteria get to the top of the food chain, and the whales, which will cross entire oceans, they'll … they'll…"

He made an expansive gesture with his arms, mimicking a bathtub's worth of whale poo being ejected, dispersing Dad's new favourite bacteria all over the ecosystem.

"Might be bad news for plastic boats, though," he added.

"Dad, that's fantastic, really," I told him, grabbing the front of his waterproof and holding up the end of the rope. "But you have to snap out of it. We're in real trouble! We have to get out of here!"

He finally came to his senses and, casting his eyes around, a look of shock slowly came over him.

"Oh no. Oh, I'm so sorry, son, I've been a complete *idiot*. Look what I've done! You're right. You're right! We have to get out of here!"

I waved out to Pippa, who put the outboard into reverse, and me and Dad waded out, struggling against the waves, the impact of each one throwing us backwards and nearly knocking us off our feet. We panted for breath between each deluge, the seawater getting into our noses and mouths until the ground went from under us, and then we gripped the rope and let the boat pull us out against the violence of the breakers. Finally, we made it; we were beyond the crashing waves and into deeper water. Pippa started drawing in the line as we kicked towards her. Something pulled on my ankle, giving me a jolt, and, glancing back, I saw a yellowy-pink tentacle caught on the leg of my wetsuit. I let out a shriek, only to stifle it as I saw I was dragging a large piece of the dead squid Dad had found in the whale. Groaning in relief, I started trying to kick it off.

And then the real monster came at us.

It was like being a toddler paddling feebly in the water as a torpedo was fired at you. The squid struck before we could do anything. Its body alone was as long as our boat, the creature appearing out to our left, shooting across behind us, terrifyingly fast, its ten limbs outstretched in front of it. I had an instant of absolute, paralysing panic.

"Dad," I choked, thrashing, swallowing water. *"Dad!"*

I felt something yank on my ankle, a furious roiling of water, the sensation of something huge and savage and unstoppable right there under me, and then a jet blasting against my feet and … and it was gone. My breath came in short, coughing gasps. The creature had snatched the remains of the other squid; that was the tug I'd felt on my

ankle. I remembered what Dad had said: that sometimes they fed on their own kind.

"Right … well … that was exciting," Dad panted, his own breathing strained. "I think … I think we'd better get out of the sea now. For … for a while, maybe."

And so we dragged ourselves out, helped by Pippa, and as she turned the boat around, we all gazed out at the shattered-glass surface of the sea that surrounded our home, knowing those familiar waters might have changed for ever. We had new neighbours, beautiful and strange and maybe a little dangerous. At least the whales would be happy.

It was time to head back to the harbour.

EDITOR'S NOTE

In "Eyeballs, Tentacles and Teeth", the local community inadvertently uses geoengineering to fix the problem of plastic in our oceans. They release a bacterium that eats microplastics, which breaks down waste quickly.

"Geoengineering" is the term used for making a large-scale change that has the potential to affect the planet's natural systems. In China, geoengineering has been used since the 1950s to increase rainfall in the north by billions of tonnes per year. They use planes to spray silver iodide into the clouds to create rain droplets. In Russia, this method was used to clear the radioactive rain from the Chernobyl nuclear disaster. But we don't really know yet what the longer-term effects could be if this silver gathers in lakes and rivers.

Geoengineering techniques can have very positive impacts in the fight against climate change, but with the technology often untested, there is always the potential for unanticipated consequences. The planet's ecosystem is so complicated that there can be lots of knock-on effects from making one change to the environment. And, importantly, we'd have no way of taking it back if it went badly wrong.

In the case of plastic in our oceans, we need to reduce the rubbish that is ending up in the sea. It might take a lot more effort than releasing microplastic-eating bacteria, but cleaning up beaches and rivers to prevent the plastics entering the ocean is a much safer solution.