ISSUE | 48

Conservation • Exploration • Adventure

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RETURN HOME.

THE INNERVIEW

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ON THE COVER

A composite image combining 'Earthset' (photograph by NASA / Artemis II crew) with an image of a diver by ocean photographer Martin Broen.

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REVIEW

Introduction

I REMEMBER THE LIGHT. AND THE FEELING. I CAN STILL *FEEL* IT NOW, MORE THAN 20 YEARS ON.

Off a small island in the Bay Islands, I slipped beneath the waterline for the first time. I had been told what to expect: the sensation of weightlessness, the hues of blue that don't exist on land, the marine life. What nobody told me was what the experience – and the many thousands of revisits since – would do to me. What it would quietly, permanently rearrange.

As the surface receded – that bright, shimmering ceiling moving further away – something shifted. Something I couldn't name. I felt an awareness I had never experienced before. I was entirely present. I saw our planet and my place within it – truly – for the first time.

Until that day, I had been living a half-life. The experience wasn't religious, exactly, though it had the texture of something transcendent. It wasn't simply the beauty of what I was seeing, though the beauty was real. It was something about *relation* – about being reminded, at a cellular level, that I was not separate from this. That I came from this. That it runs through me whether I'm in the water or not.

That awakening, that feeling, is ultimately why Oceanographic exists.

Not the only reason, of course. There was also the urgency of the crisis, the belief that great journalism and photography could move people in ways that data alone could not. But beneath all of it was that unnamed feeling.

But there was no word for it. Not in my language, at least. I didn't even have an awareness of it really; it lived in my subconscious, a silent and unknown energy.

Then, on a clear night in Bilbao last May, Guest Editor Oliver Steeds and his sister-in-law Lulu stood looking up at the stars, talking about the Overview Effect – the cognitive shift astronauts describe when they see Earth whole from space, fragile and borderless. And Lulu asked: *Is there something similar when you go the other way? When you enter the ocean?*

The Innerview.

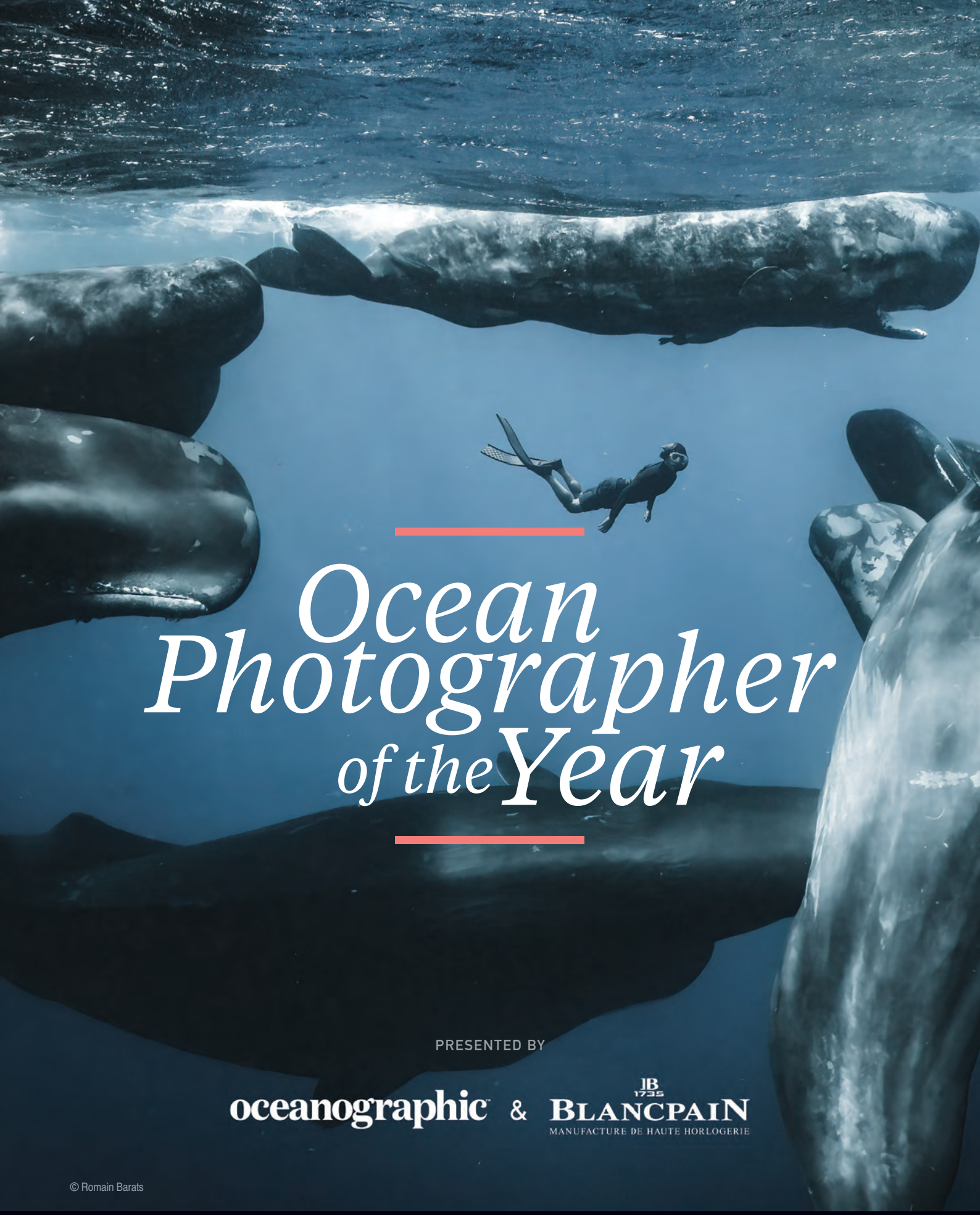
As Oliver relayed that conversation and his thoughts to me, 20 years of *feeling* crystallised. That word – his word – was it.

Then came the question: *Did I want to explore the idea further in a Special Edition of Oceanographic?*

There wasn't a moment of hesitation.

Will Harrison

Founder and CEO of Oceanographic and Ocean Photographer of the Year.



Ocean Photographer of the Year

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Guest Editor's letter

"YOU ARE NOT A DROP IN THE OCEAN. YOU ARE THE ENTIRE OCEAN, IN A DROP." - *RUMI*

We can break the mirror of the ocean's surface and descend into the blue – leaving behind our atmospheric cradle, entering a world of increasing pressure, failing light, and extraordinary life. At this threshold, something shifts. The Innerview. Not a single experience but a multitude: the child peering into a rock pool; the freediver suspended in silence; the scientist encountering a new species; the submersible pilot at the bottom of the Challenger Deep. Each encounter moves us from detached observer to momentary participant in something ancient and flourishing that makes all life possible.

When the Tiktaalik fish hauled itself ashore 375 million years ago, our terrestrial journey began – but the ocean never fully left us. The same minerals that salt the sea course through our blood, our sweat, our tears. In the womb, human embryos develop gill arches. We still hiccup with the same brainstem pattern tadpoles use to breathe. As Neil Shubin showed in Your Inner Fish – we did not leave the ocean. We took it with us.

To collectively imagine what the Innerview means and what it asks of us, we invited fifty-three of the most extraordinary ocean voices alive – heads of state and astronauts, submersible pilots and divers, comedians and theologians, marine scientists and artists, and indigenous leaders who have carried this understanding across generations.

When Picasso stood before the cave paintings at Lascaux, he is said to have remarked: we have invented nothing. The Innerview is not new. It has been held most deeply by indigenous and coastal communities who never needed a word for it because it is simply the condition of their existence. What is new is the attempt to name it, gather its many expressions, and offer it to the wider world.

The Overview and the Innerview are not opposites. They are the same truth from different directions – one from the farthest remove, one from the deepest immersion. And at the furthest reach of both lies the same realisation.

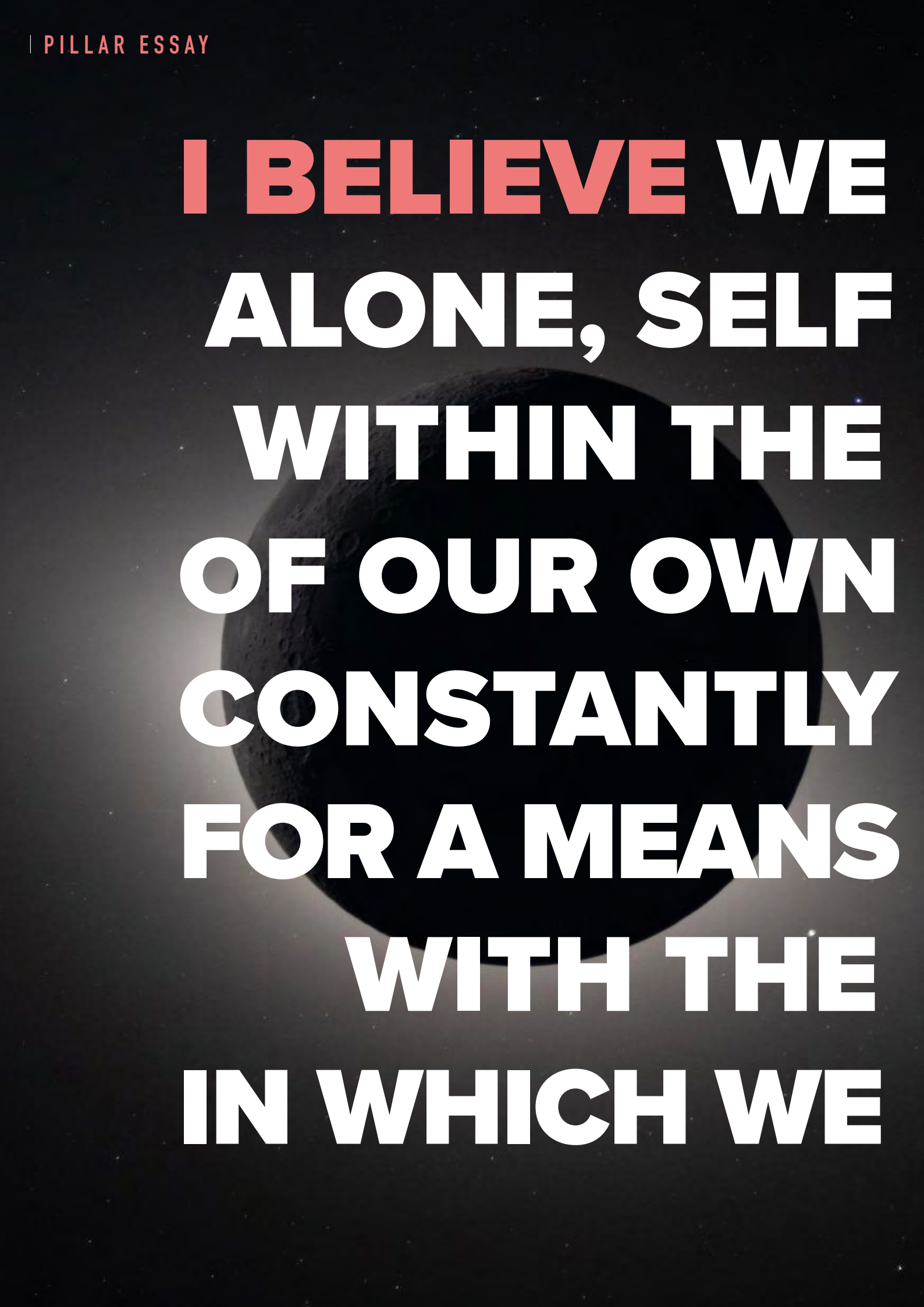
Earth's superpower is complex life – four billion years of evolutionary problem-solving, of which the ocean holds the overwhelming majority.

We do not know how rare complex life is. But we know where ours began. And if the ocean is the only cradle of life we have yet found, then the cognitive shift that occurs when a human being enters it is not merely personal or ecological. It is perhaps cosmic – the child peering into the rock pool is the universe, briefly and beautifully, encountering itself.

We believe the Innerview is a transformative force, capable of reshaping how we understand ourselves, our ocean, and perhaps even our place in the universe. We hope this is the beginning of its voyage into the fabric of our lives and consciousness.

Ad Astra. Ad Profundum.

Oliver Steeds OBE
Founder and Chief Executive of Nekton and Director of Ocean Census.



I BELIEVE WE ALONE, SELF WITHIN THE OF OUR OWN CONSTANTLY FOR A MEANS WITH THE IN WHICH WE

ARE BORN -CONTAINED LIMITATIONS SENSES, SEARCHING TO REUNITE UNIVERSE LIVE.

In the first of five pillar essays, American explorer Victor Vescovo dissects the Innerview Effect, comparing it with its foil, the Overview, and considers how the elemental experience of being submerged in water transforms our perspective on how to protect the planet.

Words by Victor Vescovo

And this, my reader, is why the concepts of the Overview Effect – and now – the Innerview Effect are so important. Two related, but different pathways to achieve just such a reunion and live deeper, more connected, and more meaningful lives.

But what are these two effects? Let us start with the one that came first.

The Overview Effect was coined by author Frank White in the 1980s after discussions with astronauts who described it. Generally, it describes the experience of viewing Earth from space as causing a renewed appreciation of its beauty, its fragility hanging in the vast void of space, and an increased sense of connection to other people and the Earth as a whole.

I have been to space, on Blue Origin's New Shepard flight #21. Even in that very brief time above the Kármán line, floating in space and looking out over the Earth, I did indeed experience the Overview Effect.

I would argue, however, that one doesn't need to get into a rocket and journey to outer space to feel some level of the Overview Effect. As a teenage pilot, I had a more limited experience of it when flying over the United States in small propeller planes. Looking down over the planet from such a high vantage point, one can see no borders or strife. Lately, as a glider pilot, the experience of flight is even more spiritual, though one is still safely ensconced in Earth's protective atmosphere.

And then there was climbing Mount Everest. Have very little doubt: climbing Everest is an epic beat-down – mental and physiological mortal combat with nature that makes you realise just how fragile you, not the Earth, are. But in the act of climbing above 8,000 metres and looking down on the slate-grey-and-white expanse of the Himalayas, you also get a taste of the Overview Effect, in a colder, more brutal way. You can just make out the curvature of the Earth from the summit, and see how thin our skein of atmosphere is – you are so busy trying to breathe however that the lessons of the Effect are drowned out by the howling wind and instinctive urge to simply stay alive.

Both extreme mountaineering and flying were just low-altitude prologues for ascending into space, however. Not 8,000 metres on a mountain, nor 13,000 metres flying a jet, but an order of magnitude higher – into hard vacuum and feeling the full force of the Overview Effect.

What immediately struck me, after floating vertically out of my seat at apogee, was that I saw a white sun against a black, twinkling sky. The Earth was most definitely below me. A shimmering line of atmosphere sliced between Earth and space like a sheet of paper.

Taking all this in, without a word, I did indeed feel the impact of the Overview Effect. Seeing the fragility of Earth. The lack of borders. The void and sheer scale of outer space. The embarrassment of how we treat others on the planet below when it is quite obvious that we are all in this together. Those feelings stay with you, seared into your consciousness during an extreme, out-of-context experience.

You land back on Earth truly wanting to appreciate more, be better, and work towards improving the planet. It is very real, and I believe that it is the most positive aspect of putting humans into space.

So now we turn to the Overview Effect's fraternal, yet very different, twin. The yin to its yang. That which we are – within the pages of this publication – calling the Innerview Effect.

THIS PAGE: Victor Vescovo crosses the Arctic to reach the North Pole. Photograph by Eric Larsen.
PREVIOUS PAGE: The Moon completely occludes the Sun. Photograph by NASA/Reid Wiseman.

“MORTAL COMBAT WITH NATURE MAKES YOU REALISE HOW FRAGILE YOU, NOT THE EARTH, ARE.”

Ask yourself: “Counting the land and sea together, what is the average accessible place on planet Earth? Where, exactly, would you be? What would it feel like to be there, and what would you see?”

It might surprise many that the 'average place' on planet Earth is 2,367 metres underwater – in complete darkness, at 3°C and under 3,450 pounds per square inch of pressure. That is the average place on our accessible Earth. To our terrestrial minds, it is a deep, dark and cold place, under unliveable pressure. Author Arthur C. Clarke related this well when he wrote: “How inappropriate to call this planet Earth when it is clearly Ocean.”

To his point, in order to understand the Innerview Effect, one must first appreciate the sheer scale of the world ocean that encompasses us and dominates our planet. The world ocean covers 71 per cent of the Earth’s surface. We small, evolved primates live on the one-third of the world that is dry.

Like most people, my own first memory of interacting with the ocean came with a family visit to a beach on the Eastern Seaboard. I was fascinated by wet sand, and how the waves instantly and easily refilled the holes I had so laboriously dug. That was mesmerising power. It smelled fresh and salty. It was huge, and loud. It was alien, but wonderful, and more than a little frightening to a small boy. I turned back to land and stayed there a while.

In my early 20s, going to college in California, I was exposed to the sea once more when, on a lark, I took scuba lessons.

Breathing underwater, in the open sea, for the first time was a major awakening. Here I was, in an environment that would kill me if I didn’t have technology strapped to my back to keep me alive. I was no longer near or on the ocean, I was in it: floating weightless in three dimensions, interacting with kelp forests, the occasional otter and more fish than I had ever seen in my life.

The ocean enveloped me. I could feel the cold water, taste its salt, hear muffled aquatic calls in the distance and see the shimmering of light breaking through the surface. Four of my senses were engaged simultaneously and with an absolute directness I found alarming, but completely new and fantastic.

This was a different world. And yet, it was actually the true world in a sense, the majority of it. I just never saw it nor could feel it this way. And that, for me, was my introduction to the Innerview Effect.

Over the next three decades, I dived in beautiful places all over the world, but to just a maximum depth of 35 metres. I experienced the shallows of our ocean, where there is light, corals and an abundance of life. And yet I eventually learned there was a deeper, more profound area of the ocean to visit.

The Hadal Zone. The very rarely visited underworld below 6,000 metres that deserves to be capitalised.

Earthset captured through the Orion spacecraft window. Photograph by NASA.

ARTHUR C. CLARKE WROTE: "HOW INAPPROPRIATE TO CALL THIS PLANET EARTH WHEN IT IS CLEARLY OCEAN."

“SPACE IS BEAUTIFUL, BUT IN VERY GREAT MEASURE, EMPTY. THE OCEAN, BY CONTRAST, IS FULL OF ENERGY AND FULL OF LIFE.”

A blue marlin swims beneath the ocean's surface with scales raining down around it. Photograph by Alex Postigo from Ocean Photographer of the Year 2023.

From 2018 to 2022, I had the unique fortune to dive in 17 deep ocean trenches and visit the Challenger Deep 15 times. I took 13 different people with me to that supremely inaccessible place in the extraordinary two-person submersible Limiting Factor.

From that amazing piece of engineering, I have seen the seam where tectonic plates are slowly colliding in geologic time at the bottom of the Mariana Trench; the absolute absence of light below 6,000 metres, where no photons can further penetrate – a place where one is reminded that, "If you gaze long into the abyss, the abyss also gazes into you." (so said F. Nietzsche)

Let us talk, then, about this Innerview Effect. In my experience, instead of the top-down and outward perspective achieved by the Overview Effect, it is the potentially more profound experience of seeing the majority of our world, the ocean, from the inside and through all of its levels: the bright, dappled coastal areas overflowing with abundant marine life; the midnight zone where leviathans like whales and squid live and hunt; and the Hadal Zone where the Earth moves in time measured in epochs.

In the absolute deepest part of our world, where I have spent more collective time than anyone, I have seen massive hadal cliffs rivalling El Capitan, sheared off in unwitnessed cataclysms, bioluminescent creatures moving in rhythms I can't understand and wrecks so deep they rest like sleeping time machines – nearly pristine from the day they went down fighting enemies almost a century ago.

But going into the depths, whether in scuba gear or a submersible, is quieter, softer, more subtle – but can be no less powerful than going into space.

In the ocean, you are not exploring a foreign world but moving through different rooms of your own home, not just gazing out a window into a vast void beyond.

Embraced in the ocean, you can feel a deeper connection to the fundamental processes that gave birth to us as a species, its sustaining power to life on Earth and an almost Zen-like connection between land and sea.

In diving into the ocean and experiencing all its depths, life and mostly undiscovered wonders, one can feel a deeper connection to our own existence – a connection not afforded by the sterility and black emptiness of space. Space is beautiful, but in very great measure, empty. The ocean, by contrast, is full. Full of water, sustaining and embracing us when we visit. Full of energy, which powers our planet. And full of life, which evolved to become us.

Diving in can awaken something in a human that may not be as rapid as the fast-acting drug of the Overview Effect that happens on a – literally explosive – rocket ride. It's slower, quieter, but fundamentally more meaningful. Most of the life on our planet is in the ocean, not on land. It is the true reservoir and cradle of our planet's life force.

In our earliest stages of embryonic development, we are grown with gill-like features, losing them only at our later stages in the womb. It's a shame because we are not really creatures of space, but of our ocean. In the grand sweep of history, the ocean is actually our home, our birthplace.

In talking with Ocean Elders about how to get more people to care about the ocean, the same piece of advice is always given: "Get people in the water."

The advice is so consistent because immersion in the ocean penetrates into one's psyche and helps us achieve that feeling that we often search for our whole lives: being physically touched, embraced even – and feeling part of something greater than ourselves.

We realise, upon emerging from that elemental experience, surrounded by water, that we treat that extraordinary world no better than our wastebasket or local strip mine. We plunder it like a reckless, drunk gambler and then throw the tailings and toxins of this consumption back with little regard for the consequences.

But the Innerview Effect helps stay the hand of reckless destruction. Like the Overview Effect, it helps us consider the uniqueness of our world and realise that by harming it, we will ultimately devastate ourselves. What we experience, we begin to understand. What we understand, we begin to love. And what we love, we absolutely will protect.

Few of us can go into space, it's far easier to experience water: many can get a snorkel, or strap on a tank and experience zero-gravity on our own planet.

So dive deep. Feel it surround you. Breathe underwater. Swim with fish, otters, sea lions and sharks. You will appreciate how much we lose if we casually obliterate it. If the Overview changed how we see our planet, the Innerview may determine how we preserve it.

Victor Vescovo

American explorer and founder of Caladan Oceanic, he became the first to visit the deepest points of all five oceans and to reach Earth's highest and lowest points.

H.E. Danny Faure

Fourth President of the Republic of Seychelles; African Union Champion for the Blue Economy.

Descending into the deep on April 14, 2019, the surface world didn't just fade; it dissolved. If astronauts experience the Overview Effect – a sense of fragile isolation from a distance – my experience in the submersible was the Innerview.

It was a transition from observer to participant. As the blue deepened into an infinite indigo, the sensation wasn't one of entering a void, but returning to the source.

Where the Overview offers perspective through distance, the Innerview provides it through immersion. I felt an overwhelming sense of belonging; a realisation that we are not separate from this liquid heart of our planet, but inextricably woven into it.

That moment fundamentally recalibrated my moral compass. Seeing the ocean's vastness from within made its protection personal, not just political.

We cannot protect what we view as 'other'; we protect what we are a part of. This profound shift from 'watching' to 'belonging' has turned me into a relentless champion for the seas. Our survival isn't just about saving a resource; it's about honouring our home.

IT WAS A TRANSITION FROM OBSERVER TO PARTICIPANT. AS THE BLUE DEEPENED INTO AN INFINITE INDIGO, THE SENSATION WASN'T ONE OF ENTERING A VOID, BUT OF RETURNING TO THE SOURCE.

SOURCE.

Prof Enric Sala

Marine conservationist and National Geographic Explorer in Residence; Founder and Executive Director of Pristine Seas.

Astronauts who first saw our planet from space experienced a mystical awakening. Through the portholes of their capsule, they beheld Earth as a whole: a solitary, shimmering cell. They saw a planet devoid of the artificial boundaries of man – bound instead by a single, global ocean. That Overview Effect gave astronauts a deep feeling of respect for our common home. The photographs they took – flat snapshots of this blue marble – can make us ground-based people understand that Earth is our only home, but for a shift of perspective to be deep and permanent, it must be felt.

If we can't leave our planet to look back, we can instead look around us. The view from space may terrify some and produce cosmic anxiety. The view from within may also produce deep malaise as we witness the scars of our insatiable consumption. But it can also produce a sense of awe, wonder and reverence as powerful and transformative as the Overview Effect. I have experienced this Innerview Effect countless times, relishing the majesty of an old-growth forest, listening to the soothing hum of a million bees in a meadow, and diving in remote places. It is the latter that has given me the deepest spiritual feeling and driven my purpose.

Since 2008 my National Geographic Pristine Seas team and I have explored some of the most remote places on Earth. I remember vividly the first time – over 20 years ago – I jumped in the water at an uninhabited and unfished coral atoll in the middle of the Pacific. As soon as the bubbles of my entry cleared, I noticed I was surrounded by a dozen grey reef sharks, curious at first then quickly uninterested. Looking down, the seafloor was teeming with life: a thriving coral garden, a green turtle swimming peacefully among a school of convict tangs, a band of unicornfish with a Pinocchio-like nose. When the sharks left, two-foot-long twinspot snappers, with fangs sticking out of their mouths like vampires, approached and timidly bit my fins and ponytail. We were probably the first humans they had ever seen.

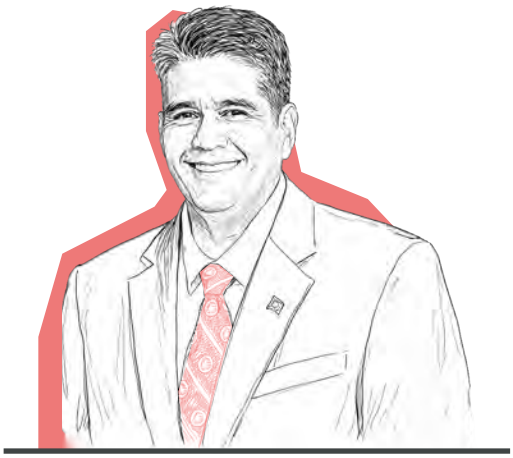
On that first dive I felt as if I had jumped in a time machine and travelled to the past, a thousand years back. Unlike the Mediterranean Sea of my childhood where I was in awe of tiny wrasses and crabs – unaware of everything that was missing – here I could see the ocean web of life at its best: unimpeded, unconstrained, exuberant. I lived a quasi-mystical experience that became indelibly written into my soul: all creatures on Earth are connected. We depend on them for our survival; ironically, their lives depend on our ability to respect them.

We've jumped in that time machine many times, travelling to faraway places: giant kelp forests where diving is like flying through a gothic cathedral, sunlight filtering through stained glass; Arctic islands where polar bears maraud walrus colonies; offshore islands where if you're patient enough you can witness a school of two hundred hammerhead sharks swimming synchronously above you.

These places provide us with an Innerview of what our ocean used to be like, and make us fully understand all we destroyed as our civilisation flourished. But most importantly, this Innerview could also be a blueprint for the ocean we want for the future. At Pristine Seas, we have worked with local and Indigenous communities, partners and governments, to safeguard over 30 of the most vital places in the ocean in marine reserves where fishing, mining, drilling and other damaging activities aren't allowed. In these places – from the poles to the tropics, covering a total area the size of the Amazon region – marine life thrives and helps replenish degraded areas nearby, benefitting both nature and people. It's like the miracle of the fish. It's a miracle and it's real, for I have seen it many times.

If we leave it, the ocean will bounce back to life, faster than we ever imagined. It is now up to us to decide what we want our common home – our only home – to be: the collateral ruin of our folly, or the testament of our hard-earned wisdom.

That is the Innerview for me – the realisation that protecting the ocean is really protecting ourselves and the generations of humans to come.



H.E. Surangel Samuel Whipps Jr.

President of Palau; first world leader to sign the UN High Seas Treaty.

Growing up in Palau, I learned early that the ocean provides everything: food, work, joy and identity. I spent my days with my father taking divers to see the wrecks, the reefs and the wild marine life in our bountiful seas; by night we were fishing for our food or to sell our catch. All of this was made possible by the ocean we were blessed to call home. Immersed in that world, I came to understand that we are not separate from the sea, but part of it. It sustains our lives and livelihoods. It defines who we are.

Today, I go fishing and diving with my own children, teaching them what I know about the same ocean that helped shape who I am. For us, the ocean is much more than an exclusive economic zone with political borders that must be protected. It is a teacher. It is a generous family member that supports our communities and our economy. We are blessed with the honour of being able to use it and take what we need from it, but we do so knowing that we share the responsibility to be good stewards of this precious part of life. When we protect it, we do so out of love, gratitude and an eye to the future, rather than mere obligation.

WHEN I LOOKED BACK AT EARTH FROM SPACE, BORDERS FRAGILITY CAME INTO FOCUS, AND I SAW JUST HOW

Sir Richard Branson

Ocean Elder, entrepreneur, explorer;
Founder of Virgin Group.

DISAPPEARED,

INTERCONNECTED AND VULNERABLE OUR WORLD REALLY IS.

I believe that a similar change of perspective can be found when we look below the surface, and upwards from the deep. Diving into the ocean and exploring its depths, descending through its layers of deepening blue, is always a life-affirming experience.

At the Great Blue Hole in Belize, noises fade as you enter the vast system of caves formed some 153,000 years ago – a time when sea levels were far lower. It is a powerful reminder of how dramatically, and how profoundly, our planet can change.

Swimming alongside whale sharks brings the same clarity. You are no longer the centre of the story, but a guest in an extraordinary, living system.

Exploration has always driven me. I've travelled across the ocean, through the skies and to space, and found a simple truth: we protect what we understand, and we understand what we experience.

If more of us could experience the ocean as a living world, we might act with the urgency it demands – because we are not separate from nature, we are part of it.

I was seven years old when my grandfather taught me to scuba dive off the coast of Nice.

Alexandra Cousteau

Filmmaker and environmental advocate; Co-founder of Oceans 2050.

The equipment didn't fit: mask too big, regulator too large for my mouth, a weight belt that dug into my hips. I shuffled to the side of the boat, looked down at water that seemed very deep and very dark, and spent a long moment feeling conflicted about what I was about to do. But my grandfather didn't seem to notice. He gave me a smile, a wink, a small shove and in I went.

A few minutes later, 15 feet down, a school of silver fish came towards me out of the blue. The sun was breaking through the surface and catching their bodies as they moved, and I was mesmerised – not just by the beauty of it, but by what happened when I reached my hand out. They moved away. I pulled my hand back. They came closer. Back and forth, again and again, a seven-year-old negotiating with the sea. That moment is with me every day.

I've spent 25 years as an advocate for the ocean, and I've come to believe that this kind of encounter is not incidental to the work. It is the work. Or at least, it's what makes the work possible.

Conservation, as we've practised it, is built on the logic of protection: hold the line and keep humans away. That instinct comes from love, and it has saved things worth saving. But it has a ceiling. You cannot protect your way to abundance. The ocean doesn't need us to leave it alone – it needs us to actively restore what we've taken. And that shift, from protection to restoration, requires something the policy frameworks don't account for: the understanding that we belong to this system, not above it.

Those fish that swam around me that first time I took a breath underwater weren't performing for me. They were going about their lives, and for a moment they let me into the edges of theirs. That's what the Innerview does. It dissolves, briefly, the fiction of the observer. You are not watching the ocean. You are in it: subject to its physics, breathing on its terms. And if you're lucky – if the reef is intact enough – it starts to interact with you. A cleaner shrimp moves towards your hand. A small fish defends its patch of seaweed. A curious grouper starts to follow you. Ancient, ordinary life, carrying on.

We will not restore what we only manage from a distance. The Innerview is how distance collapses. It is, I think, the emotional infrastructure that restoration requires.

Sea Change

The safest place a ship can be is moored along the quay
Heave away me bully boys away
But ships were built to brave the storms and navigate the seas
And we'll haul away together, haul away

"So tell me" said the mariner, "I've always wondered why"
Heave away me bully boys away
"There's ten thousand miles of ocean and a million miles of sky"
And we'll haul away together, haul way

CHORUS
We'll all pull together now, the skipper and the crew
All pull together, into the ocean blue
Sailing for the harbour where our voyage had begun
Homeward bound returning from the sea

And when a sailor's dreaming at the closing of the day
Heave away me bully boys away
The sea and sky become as one as daylight fades away
And we'll haul away together, haul away

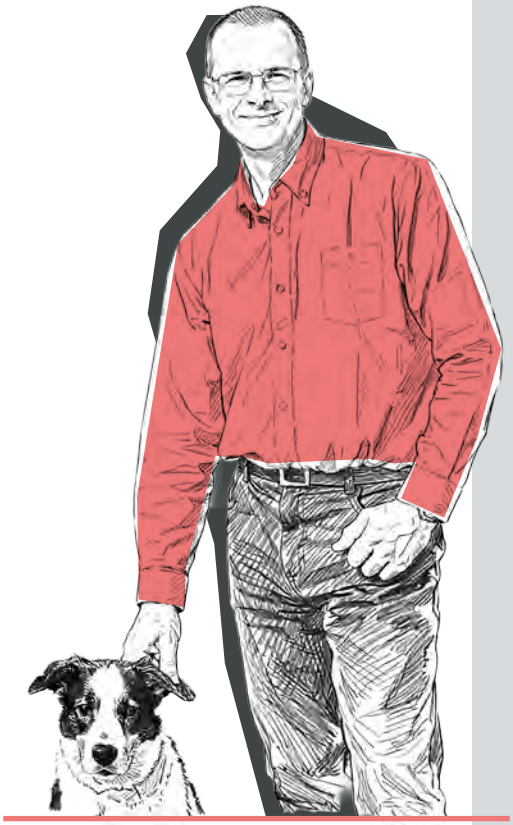
And 'neath the waves another world is hidden by a veil
Heave away me bully boys away
Where coral sings a chorus to the calling of the whale
And we'll haul away together, haul away

CHORUS
We'll all pull together now, the skipper and the crew
All pull together, into the ocean blue
Sailing for the harbour where our voyage had begun
Homeward bound returning from the sea

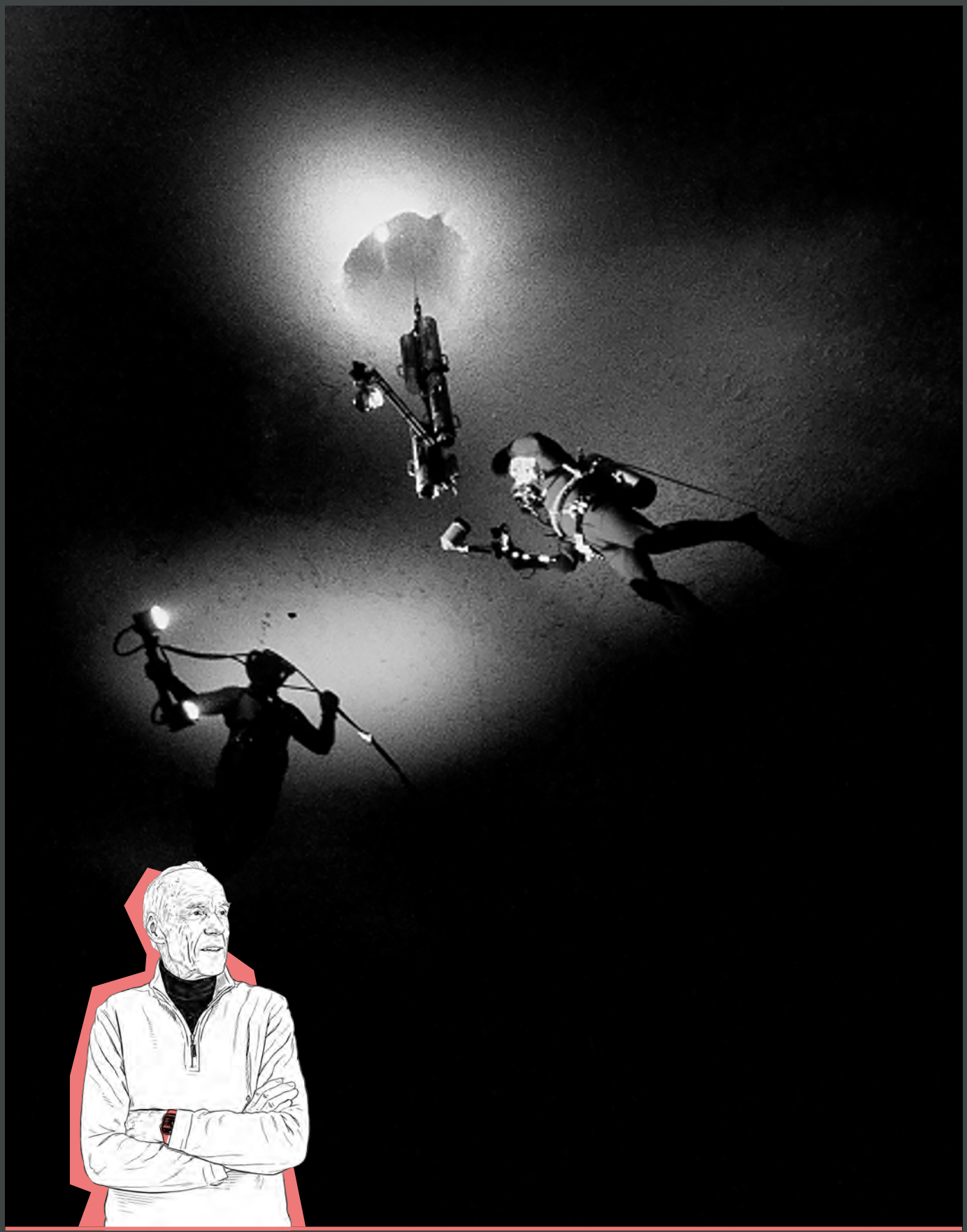
The mind begins to wander midst the silence and the blue
Heave away me bully boys away
As man and sea are joined as one within the Innerview
And we'll haul away together, haul away
Within a time of solitude there lies a hallowed ground
Heave away me bully boys away
A fleeting separation from the world is to be found
And we'll haul away together all the way

CHORUS
We'll all pull together now, the skipper and the crew
All pull together, into the ocean blue
Sailing for the harbour where our voyage had begun
Homeward bound returning from the sea

Repeat Chorus



Trev Munkenbeck
Musical director: Mariners Away



Dr Joe MacInnis

Physician, diver, explorer; first person to dive under the North Pole.

LEFT: Dr Joe MacInnis explores the near-freezing waters beneath the North Pole. Photograph by Emory Kristof in 1979, Lorex Expedition.

At age 16, making my first scuba dive on a Florida reef, I was smitten by sea fever. At the heart of it was mystery offering a challenge: come and find out.

In the 70 years since – as a physician-scientist – my ocean odyssey has taken me from the North Pole to the Southern Ocean, from the Eastern Atlantic to the Western Pacific and from Lake Superior to Lake Baikal.

As a free diver, scuba diver and submersible crew member, I've spent six thousand hours beneath the sea.

My professional passion is safety in the deep – mastering the lethal forces of cold, currents, darkness and pressure. Over the years, my focus shifted from physiology to psychology to leadership in high-risk environments.

My parallel interest is telling stories about the human family and the ocean. It is informed by the 'music' of the ocean before time, a mysterious benediction bridging one consciousness to another. It inspires humility and gratitude and a sea fever that feels like the sun in my heart.

Fire in the ocean

From infinity comes water. Pressing on itself. Creating depths. Fathoms of cold, currents, darkness and pressure.

From infinity comes the synaptic fire of human intelligence. Within the deep it is saturated with wonder, curiosity and creativity.

The two forms of water embrace and co-create each other. For pleasure. For plunder. For the joy of co-existence and the afterglow of gratitude and wholeness.

David Evans Shaw

Ocean Elder, entrepreneur and film producer;
Co-founder of the Sargasso Sea Alliance.

As a child growing up in a mill town in New Hampshire, the ocean was a place I loved to visit, most often at beaches in the cold waters along the coast of Maine. It was a place of exhilaration and mystery, experienced at the water's edge.

That began to change in my teenage years. Inspired in part by the adventures of Jacques Cousteau and other explorers, I became scuba certified. My first descents beneath the waves, while limited to local waters, shifted my perspective from horizon to habitat, and offered glimpses of a larger, more mysterious world that I wanted to better understand.

The next transformation came unexpectedly during my first job out of college, working for a governor in Maine. In 1977, US marine jurisdiction was extended by 200 nautical miles, and I found myself at the intersection of public policy and ocean stewardship. Suddenly, the ocean was no longer just a place of wonder. It was an immense and largely uncharted domain entrusted to our care. We were asked to make decisions with limited knowledge, on behalf of vast living ecosystems we were only just beginning to comprehend. My perspective shifted from fascination to responsibility.

Soon that responsibility, paired with curiosity, became a pathway for exploration. It has carried me to some of the world's most extraordinary seascapes including the Galápagos Islands, Palau, Raja Ampat, Palmyra Atoll, Fakarava, and the open waters surrounding Bermuda. Each place was distinct, yet connected, like chapters in a single, unfolding story of life on Earth.

Amid these experiences, another shift occurred. Descending into these waters no longer felt like visiting. Being immersed in these remarkable living ecosystems – with their captivating atmosphere of movement, balance and time – created a quiet sense of belonging, learning, and being within the ocean's 'knowing'. They revealed that journeys into the ocean are not only outward, into its vast and luminous depths. They are also inward, into the mystifying waters of the human spirit. They call on us to explore, to dare, to engage more profoundly, to go deeper than is comfortable. To move beyond the role of observer. To understand that we are all crew members on this spaceship called Earth.

Now, the ocean feels less like a destination, and more like a way of understanding that teaches without instruction, reveals without proclamation. It invites us to align ourselves with the rhythms of nature, to understand that we are part of it, to recognise wisdom in its balance, and to appreciate awe, not as a fleeting emotion, but as a true compass.

I'm grateful that this awareness is now something that I carry with me… a quiet sense of belonging to something larger, with a deep responsibility to move through the world accordingly.

IMAGINE, WAKING FROM A DESPERATELY NEEDED SLEEP TO NOTHINGNESS!

Phil Short

Cave, technical, and saturation diver; Underwater Mission Lead at DEEP.

Absolute dark – no light at all and no possibility of your eyes adjusting. Slowly, your other senses tune in and you become aware of a slight earthy smell and the occasional drip, drip of water far away. Then you remember, ah yes! I'm at Camp 4, one kilometre deep, and over a kilometre horizontally into the Earth, beyond a 200-metre-long flooded section of cave. I've been here in this camp for five days and in the cave for two weeks. My teammate and I will set off today to explore the unknown – but first coffee!

This is ICE: isolated, confined and extreme. This kind of environment is what I have spent a lifetime training and preparing for: to touch a frontier and walk where no light has ever shone, where no human has been and no surrogate technology could visit. True exploration in the purest sense of the word; standing on the shoulders of giants like Amundsen, Shackleton, Hillary and Armstrong, who have inspired my journey.

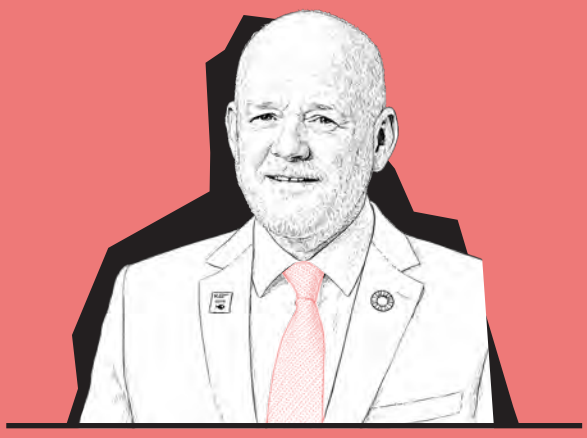
Our home planet has so much exploration potential remaining. This includes areas in forests, deserts, mountains and caves on land, but most importantly in the ocean.

My exploration journey led me to the water and to my desire to learn about and understand our 'water world'. I find each dive as fascinating and magical as my first: whether under Arctic ice, in flooded caves or mines, or on reefs, walls and shipwrecks.

All of this led to the latest chapter of my life, joining DEEP to play a part in the incredible mission to 'Make Humans Aquatic' through subsea habitats. A project that's using the knowledge gained from thousands of hours underwater to engineer a new future of exploration and productive capabilities.

By way of example, I had the honour of serving as diving operations manager on a mission to recover and repatriate a US Veteran from a WWII heavy bomber in 70 metres of water. At that depth, it took us six weeks with a six-man dive team. The same mission using an underwater habitat could achieve that same outcome in three days. The study of marine life, maritime archaeological sites, coral restoration and climate research will all benefit from the increased productivity and safety offered by underwater habitats.

Humans are inquisitive by nature. Some of us have the 'explorer gene' and are even more driven by an urge to discover and share that new knowledge. DEEP's mission excites and inspires me personally as it offers the potential to extend true exploration achievements for generations ahead.



Ambassador Peter Thomson

UN Secretary-General's Special Envoy for the Ocean and former President of the UN General Assembly.

Growing up in Fiji on the southern tip of the Suva peninsula, I remember the outer lip of the main reef as seeming like the edge of our world. The sound of surf riding across the reef at high tide and ocean swells smashing against the reef's ramparts at low tide created a constant murmur. During the activity of the day, this was unnoticed background noise. But, in the hush of the night – beyond the occasional screech of a flying fox or the intermittent barking of bored dogs – there was always that rumble of the ocean breaking on the adamance of the great sea reef.

Sitting far out on Suva's barrier reef, facing the full brunt of the southeast trade winds, is the islet of Makaluva. When I think of Makaluva, I'm forced to think very much in the past tense, for it is not what it once was.

After the big Suva Earthquake in 1955, when a huge crack opened along the length of the main reef and well along the coast, the currents in the area changed and the old Makaluva was gradually devoured by the sea. The same currents that ate away at its northern end formed a sandspit on its southern end, and over some 20 years the island moved the length of itself across the top of the reef. During that process, the buildings and gardens of old Makaluva slipped into the void of never more.

Long ago, Makaluva had served as Suva's quarantine station, hence the buildings; and we'd make good use of these when my parents and their friends would rent the island for a couple of weeks during school holidays. Sadly, with every visit to Makaluva there was less of what had been there the year before.

The flat coral reef sat tight against all sides of the island, except where that southern sandspit protruded, creating in its lee an expansive sandy-bottomed swimming space between the reef and the dazzling beach. From this we'd snorkel out through the reef's narrow channels for much of the day; bronzed kids with flipperless feet kicking through the maze of lavish corals, electric blue starfish, zebra-striped sea snakes and flotillas of fish of every description. Our bodies dappled by wavering stars of bright sunlight, we'd swim on out until the reef's edge was reached. There we would hang in liquid suspension, undulating in the swell, staring down in awe at the big fish cruising by and the blue abyss below.

For the next half century, I lived most years in, on or by the ocean; but this is not the place to account for the bounty of that experience. Just let me say that for more than a decade now I've been working at a global level to bring attention to humanity's increasingly unsatisfactory relationship with the ocean. One need only look at worsening indices of pollution levels, overfishing and global warming to find the veracity of that assertion. Most of that work has been spent in large conference halls, windowless meeting venues and cloistered media rooms – very far from places like Makaluva, where wistful memories are of little use in persuading those standing in the way of logically required action, or indeed in combatting the obfuscations of the unwilling. But where they are useful is in fortifying adherence to the principle of intergenerational justice: in affirming the moral right of our grandchildren and theirs to experience the natural wonders of our planet.

And with what astonishing wonders we are surrounded. We are rightly astonished and baffled by contemplation of the billions of stars out there in the night sky; for though so much of the properties of the universe are now known to us, so much more remains to be explained. But if we turn from the heavens to the ocean, we are confronted by the same truth. And when we contemplate the trillions of plankton drifting in the ocean, we have to make great adjustments of scale to fully fathom that there are more plankton in the ocean than stars in the sky. If we took just one litre of water from the ocean's surface, and had the eyes to see them, we would be looking at some one million phytoplankton and half a million zooplankton.

Scale matters. As large terrestrial mammals, we can relate to elephants, pandas and pangolins and, accordingly, it is about them that we teach our children. But we make little mention of the trillions of plankton with which we cohabit the planet; which is strange when you think that one of their kind, Prochlorococcus, produces 20 per cent of the oxygen of the planet's biosphere. Might our children be more devoted to preventing pollution of the ocean if they knew more about the contributions and living conditions of Prochlorococcus? It is thus that I join with those who say if we are to teach our children well, let us teach them ocean literacy.

In spite of the obfuscations, it is gratifying to live at a time when ocean science attracts more attention than ever before. There's no room for doubt that through a better understanding of the scale of the ocean's properties, humanity's lot on this planet will improve. The doors of perception creak wider, and we begin to appreciate the nature of our own liquidity, our natural place in the hydrologic cycle, our connectivity with – and spiritual reverence for – the watery world we inhabit.

ale atters

As large terrestrial mammals, we can relate to elephants, pandas and pangolins and, accordingly, it is about them that we teach our children. But we make little mention of the trillions of plankton with which we cohabit the planet, which is strange when you think that one of their kind, Prochlorococcus, produces 20 per cent of the oxygen of the planet's biosphere.

I grew up on the shores of Trinidad and Tobago, a child with sand between my toes and my eyes fixed on the horizon. I loved everything the ocean gave freely: the warmth, the colour, the life flickering in the shallows. But it was what I couldn't see that called me. I would stand at the water's edge and wish, with the particular intensity only a child can muster, that I could reach out and pull back that dark water to see what was living in the depths beneath. I had no name for it then. Now I do. That longing was the Innerview: the moment the ocean stops being a backdrop and instead comes beckoning.

Years later, I answered that beckoning in ways I could not have imagined as that barefoot child. I have descended in submersibles into the Cayman Trench, one of the deepest points in the Atlantic, as well as the Tongue of the Ocean and to the Mid-Atlantic Ridge. I have hovered over hydrothermal vents and methane seeps: entire ecosystems powered not by sunlight but by the chemistry of the Earth itself. I have been among the first humans to ever look upon a species. That is a feeling that resists easy description. A privilege so vast that it edges towards vertigo.

And yet, inside the submersible, in those hours of descent and exploration, there is always a moment I wait for without admitting it: the moment when, rising back towards the ocean surface, I catch the first faint glimmer of sunlight filtering down through the water column. Something in me exhales. I love the deep with my whole heart, but that light means I am going home. The ocean holds you, and then it releases you, and both feel like grace.

Not all of it has been grace. Working in the Clarion-Clipperton Zone, a vast abyssal plain in the Pacific that holds extraordinary, undescribed life, I felt something I struggled to name: a confusion close to grief. Here were thousands of creatures no human eye had seen before, living in a place that could be fundamentally altered by deep-sea mining within my lifetime. To discover and to fear for what you have discovered in the same breath is a particular kind of sorrow. It reminded me that wonder alone is not enough. Knowledge without stewardship is merely a better-documented loss.

This is why the question of who gets to know the ocean matters as much as the science itself. Most of the world's nations, including Trinidad and Tobago, have been largely excluded from exploring and understanding the depths of the ocean, including their own waters. The deep ocean has been the domain of wealthy countries and individuals with the ships, the submersibles and the budgets. That is not just an inequality of access. It is an inequality of belonging.

The ocean is, for me now, something like a family member. Ancient, unknowable in full, worthy of understanding, protection and respect. It called me from a shoreline in the Caribbean. I am still answering.

Dr Diva Amon

Caribbean marine biologist, National Geographic Explorer and Founder of SpeSeas.

Prof David Gruber

Marine biologist and National Geographic Explorer; Founder of Project CETI (Cetacean Translation Initiative).

What happens when we immerse ourselves in the heartbeat of our planet?

For decades, astronauts have described the Overview Effect: a profound cognitive shift that comes from seeing Earth from afar – suspended and fragile in the vastness of space. But there is another journey available to us, one that moves in the opposite direction. We can slip beneath the waves and descend into the blue.

This descent is not passive. A descent means crossing into a physiologically and perceptually different world: a world where pressure increases, light dissolves, all wavelengths of the sun except blue are absorbed and sound becomes a primary architecture of life. In these conditions, something begins to change within us. As humans in a more-than-human space, we begin to experience a shift defined by complete immersion.

Over time, I have come to understand these encounters as a form of perception through borrowed senses. To enter the ocean is to begin, however imperfectly, to see and hear as other life forms do and step beyond the narrow bandwidth of human experience.

Years ago, while studying biofluorescence of marine life, I realised that the ocean is filled with signals invisible to the unaided human eye: bursts of colour and light that marine organisms transform from blue light into greens and reds to communicate, camouflage and survive. To witness this hidden spectrum is to confront a simple but profound truth: our perception of reality is partial. Entire dimensions of life exist just beyond our awareness.

That realisation has deepened through my work with Project CETI (Cetacean Translation Initiative), a nonprofit organisation and a National Geographic Society collaboration that is applying advanced machine learning and state-of-the-art robotics to listen to and translate the communication of sperm whales.

Central to this effort is our collaboration with New York University School of Law's More Than Human Life (MOTH) programme – a transdisciplinary initiative that brings together scientists, technologists and philosophers to explore how emerging technologies might help us better understand and relate to nonhuman intelligence. Together, we are asking not only how to detect patterns in whale communication, but how such understanding might become a force for good – reshaping our ethical relationship with the living world.

Within this collaboration, advances in machine learning are allowing us to analyse vast datasets of sperm whale vocalisations – intricate sequences of clicks, known as codas, that structure their social lives. These tools help us begin to identify patterns, rhythms and recurring structures. But what is emerging is not simply a technical challenge of translation. It is a deeper confrontation with the possibility that we are encountering another form of intelligence, one that has evolved along a radically different sensory and ecological pathway.

The question then, is not simply if we can understand them, but if we are willing to change in response to what we might learn.

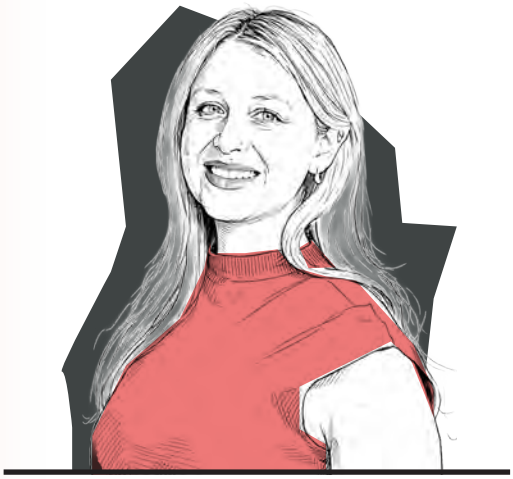
Trying to think and feel beyond our humanness… listening, in this context, is not a neutral act. It requires humility. It asks us to move beyond a long history of treating the natural world as something to extract from, and towards a posture of attention, reciprocity and care. If we succeed in decoding even fragments of whale communication, we will not simply have learned something about them. We will have expanded the boundaries of what we recognise as mind, meaning and community.

What does it feel like to perceive the ocean through whale senses – to glimpse a world structured not by sight, but by sound and returning echoes? What will be revealed about the limits of human perception? What will the click of a sperm whale reveal about the possibility of 'language' in another sentient mammal with whom we last shared a common ancestor 90 million years ago?

These encounters begin to unsettle the idea that consciousness is singular or bounded. Instead, they suggest something more distributed, more relational – something that emerges through connection.

In this way, we see this work and Project CETI as an invitation to reconsider what it means to belong in the natural world. An invitation, ultimately, to the Innerview.

THIS SENSE OF IMMERSION IN THE NATURAL ENVIRONMENT SHOWED AQUANAUTS THAT HUMANS ARE NOT SEPARATE FROM THE NATURAL WORLD, AND SPECIFICALLY MARINE ECOSYSTEMS – THAT WE ARE EXTENSIONS OF THE EARTH AND PART OF A LARGER COMMUNITY OF BEINGS WE SO OFTEN IGNORE AND DISMISS IN OUR EVERYDAY LIVES.



Kristen Kilgallen

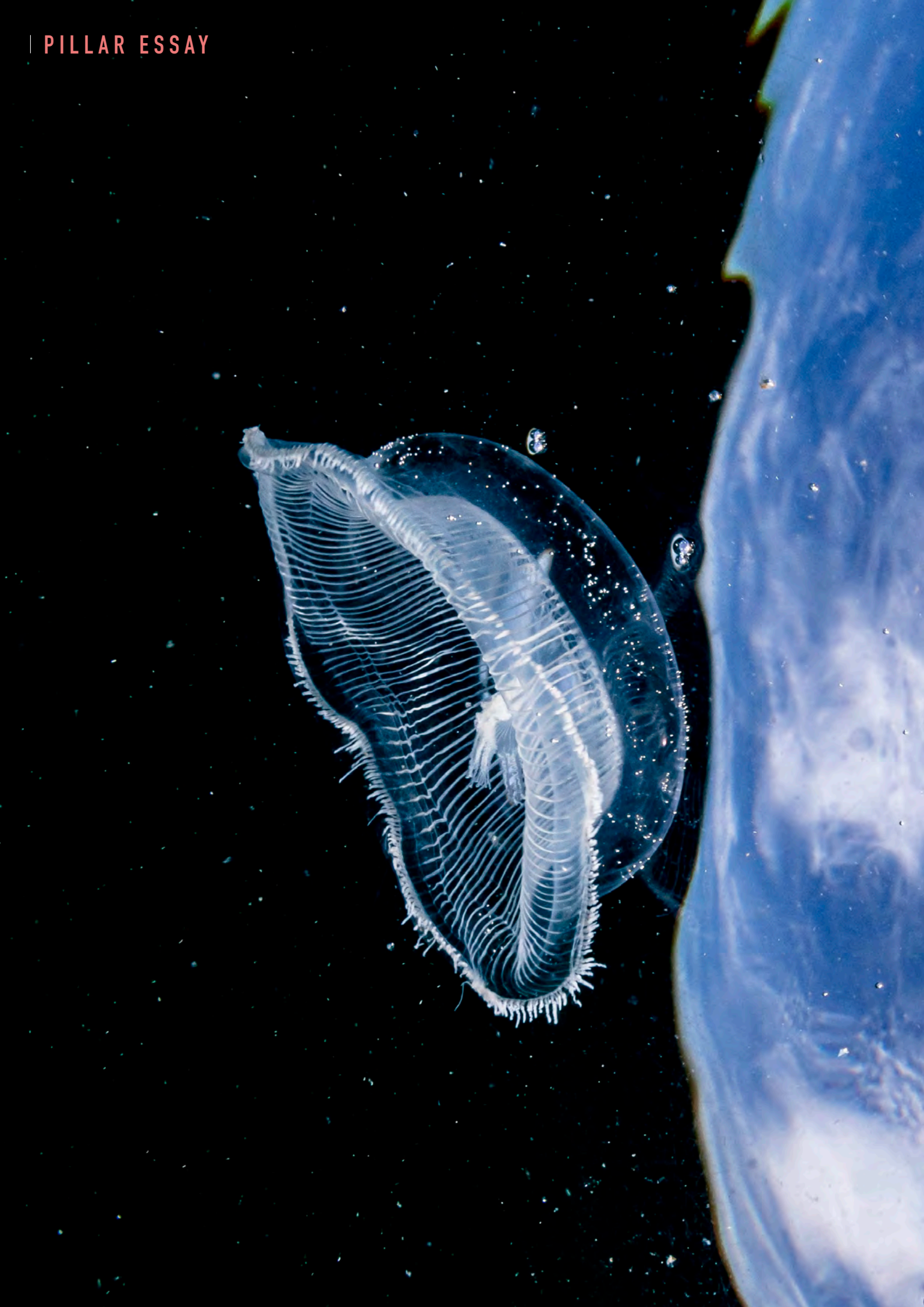
Cognitive psychologist and researcher; author of The Underview Effect.

There is a not so uncommon experience that has just begun to be systematically and empirically investigated by psychologists in the past couple of decades – termed self-transcendent experiences – which are transient experiences characterised by a deep sense of connectedness and decreased self-salience. In these experiences, the sense of self becomes quieter, and the feeling of connection with something larger – such as the natural world around you – becomes prominent in awareness. These experiences can be transformative, are often experienced as ineffable and awe-inspiring, and many report them to be among the most meaningful experiences in their lives.

As someone who researches how to shift ingrained and unsustainable human behaviours, I became spellbound on understanding how these single, transient experiences could have such a profound and transformative effect in so many domains of one's life. While often linked to altered states of consciousness – such as those found in contemplative practices or extreme sports – these profound shifts are also common in those who undergo space missions and view Earth from space. Deemed the Overview Effect, astronauts came back to Earth with a shift in perspective, identity and purpose that was uniquely tied to protecting the Earth and feeling like participants in a global community.

Given the profound experiences of those who have undergone space missions, we explored if similar effects took place in those who went on underwater saturation diving missions, which require aquanauts to live underwater for extended periods – some up to 31 days. Our study indeed found profound shifts in cognitive, affective, behavioural, perspectival and relational domains. The Underview Effect can most strongly be characterised by a sense of profound connectedness to the natural world, along with a sense of urgency, care and commitment to stewarding and sharing the gifts the natural world provides. This sense of connection was not merely cognitive, but included an intimate sense of belongingness, reverence, awe and empathy with and for marine ecosystems and life. As one aquanaut put it: "You know, you just want to stay out there and be one... [the ocean is] so diverse, so large, so encompassing. That's where you transcend, I think, into something, because you're not like a visitor any longer. It's like you belong there. And if you're really comfortable, it's just... all-embracing. And... you're meant to be there."

This sense of immersion in the natural environment showed aquanauts that humans are not separate from the natural world and marine ecosystems – we are extensions of the Earth and part of a larger community of beings we so often ignore and dismiss in our everyday lives. Although the Underview Effect is a profound and somewhat extreme experience, we believe these sorts of shifts are available to everyone and exist along a variety of intensity. Similar to the characterisation of self-transcendent experiences, everyone has had moments when they are less self-focused, get out of their own heads and feel connected to the world around them in a fully embodied way. We believe cultivating an awareness and practice for grounding oneself in the present moment and immersing oneself in the world around you is the foundation for this shift. This allows one to remain open to the profound mystery that always surrounds us, and gives you glimpses into the doorway that we here call the Innerview.



A thread in the web

NASA astronaut, oceanographer and former NOAA Chief Scientist Kathy Sullivan was the first American woman to walk in space, and the first woman to reach the Challenger Deep. She muses on her experience of the Innerview, and what it taught her about our place in an intrinsically interconnected natural world.

Words by Dr Kathy Sullivan

"I have witnessed the ocean from the surface, in orbit and from the deepest seafloor."

Dr Kathy Sullivan

NASA astronaut and oceanographer; first American woman to walk in space and first woman to reach the Challenger Deep. Former NOAA Chief Scientist.

Ninety feet beneath the surface of the Caribbean, on a moonlit night off the island of Bonaire, I did something that – given everything else I have done in my life – sounds almost absurdly simple. I rolled onto my back. I switched off my torch. And I looked up. Through 90 feet of luminous, clear water, the full moon hung above me: perfectly visible and perfectly round, as if I were just lying on a beach on a warm night, watching the sky. The water was just sort of… there. A membrane, not a barrier. A presence, not an obstacle. Lying there in the dark and the quiet, I felt like I wasn't beneath the surface at all, but floating in space again. But more profound than this, I felt a oneness with everything, from the water around me to the moon above me. And a recognition of a feeling I have spent most of my adult life trying to put into words, and have never quite managed to do justice to.

We tell ourselves the natural world is something apart from ourselves. But this is a misperception, the story we have told ourselves about the world around us. A fallacy that there is nature and then there is us. That night off Bonaire, 90 feet down and perfectly still, it was hard to feel anything other than connection and unity.

I grew up in the dry valleys of Southern California, far from any ocean. What I loved as a child were maps – the kind that National Geographic used to produce, richly layered and annotated, dense with information and rich with nutrition for the imagination. I read them the way other children read comic books. Every map was a multi-layered story. At first glance, you just see the different colours of different countries, but it was all richly annotated: little blocks of text scattered around telling you what crop grows there, the population of that city, the ethnicity of those people, the nature of this jungle or that desert. Everything at once. So many dimensions of a place held in a single image.

What fascinated me, even then, was duality. Yes, one page of a map could contain the vastness of an entire country, but look closer and you discover fine details about the people, animals and the plants within it. I fell in love with this idea: that our planet could be vast yet intricate; powerful yet delicate, all at the same time. I didn't have a word for it. I just knew it was marvellous. And I wanted to understand.

I came to the ocean through science – through doctoral research in geology that pulled me toward the sea floor – and by the time I entered the astronaut programme in the late 1970s I was already thinking of this planet as a system of systems, something that resisted being reduced to any single frame. What I didn't anticipate was how profoundly spaceflight would deepen my conviction.

From orbit, you see our planet's power with extraordinary clarity. Massive dust storms. Huge swirling hurricanes. These fabulously vivid illustrations of the forces of nature pass beneath you on every lap around the planet. But if you look more closely, and I always enjoyed looking more closely, you find a complexity of dimensions inside those big, powerful things: a fine elegance within them. Yes, that may be a massive cloud of dust rolling across a landmass. But look closer and you'll see fine tendrils, almost like filigree work, streaming out across the Atlantic. The same image that seems to say 'force' also says 'intricacy' and even 'gracefulness'. Both at once. Always both at once. That is life's duality.

It's the same duality as that which defines us. We tell ourselves we are the storm; the dominant force reshaping the planet. And in many ways, we very much are. But underwater, where I was afforded that perfect clarity, the truth comes out of hiding. We are like a bit of filigree, smaller than the whole, but utterly a part of it. Intricate, delicate, interwoven with everything around us. Not separate from nature, acting upon it. But threaded through it, inseparable from it, as fine and as vital as those tendrils streaming out across the Atlantic. There is not any living thing anywhere on this planet that is not intimately connected to every other living thing, everywhere else on the planet. It is that interconnected. This is as true for the depths of the ocean as it is for the surface. I have witnessed it from the surface, in orbit and from the deepest seafloor.

In 2020, I descended to the Challenger Deep in the Mariana Trench – nearly seven miles below the surface of the western Pacific – with explorer Victor Vescovo. The trench sits hundreds of miles from any significant landmass; the nearest speck of land is Guam. At its deepest point, the water column above you is nearly 11 kilometres. It is, by any measure, the most remote and inhospitable place you can possibly reach on this planet. And yet there is life down there.

LEFT: The view from the Space Shuttle Atlantis, looking down at the Atlantic and the Gulf of Mexico. Photograph by NASA.
PREVIOUS PAGE: A moon jellyfish beneath the surface, framed by a visual phenomenon known as Snell's window. Photograph by Henley Spiers from Ocean Photographer of the Year 2024.

"The microplastic in the gut of a creature at the bottom of the world and the moonlight falling through 90 feet of Caribbean water are part of the same story."

small critters. Not the mega-creatures of science fiction. But life, exotic and improbable (to us), going about its business at the bottom of the world. Members of Victor's team, on subsequent expeditions, retrieved some of those creatures and examined their digestive systems. What they found has become one of the defining discoveries of our age: microplastics, in the guts of animals living at the deepest point on Earth.

I have heard people respond to that finding with outrage that we humans are fouling the ocean so pervasively. I understand the impulse. But I think that reaction distracts us from the discovery's more important message: all of us everywhere are vitally and inextricably connected to every place and every other living thing on the planet. A piece of plastic, discarded somewhere on the surface of the world, finds its way – through wind and current and chemistry and time – into the body of a small animal living in the dark at the deepest point in the ocean. The strands that connect us to the rest of this system are everywhere, even when we cannot see them.

The fact that we can't see those strands doesn't mean they're not there. They're out of our field of view. That's all that means. But they exist. They're real. And they absolutely matter.

I often think about the concept of what we are – in this publication – calling the Innerview; a counterpart to the Overview Effect, the profound psychological shift that astronauts describe when they first see Earth from space. Suspended with the entirety of the universe in the background, the Overview brings down borders and breaks through political boundaries. Every single person you know exists inside the atmosphere's blue line, upon this beautiful, powerful and delicate place. But I wonder whether it is always the most useful frame.

The Innerview asks a different question. What if the ocean doesn't primarily reveal how breakable the world is, but how deeply, irreversibly connected everything in it is? I have watched conservation communication organise

| LEFT TO RIGHT: A larval deep-sea fish no larger than a thumb knuckle. | Two tiny fish beneath the fragile shelter of a candy wrapper. | A larval shrimp stretches out its claws. | An immortal jellyfish with its tentacles relaxed. All photography by Jialing Cai from Ocean Photographer of the Year 2025.

itself around fragility for decades: the bleached reefs, the acidifying waters, the microplastics in the belly of the deep. These are real stories. They matter. But I worry that a single-note message – that the ocean is in peril, and we are the cause – may be less motivating than a message of hope.

Conservation gets dichotomised, in my experience, into two false camps. Either the planet is big and strong and will take care of itself, "We're small, how much damage can we do?" Or it's incredibly fragile and delicate and beautiful, "Therefore I must hyper-protect everything." Neither of those is completely accurate. Neither of those helps us come together to tackle complex challenges.

The truth that I have arrived at, through geology and oceanography and spaceflight and a night dive off Bonaire, is something else entirely. It is interconnection. A web of connections so dense, so extensive, so indifferent to our conceptual boundaries, that once you truly understand it, the logic of how you act within it changes. We get every other breath of oxygen from tiny creatures in the sea. You would need a microscope to even glimpse them. They are absolutely vital to you and absolutely invisible to your day-to-day world. But they matter immensely. And it matters to you (or us, all of us) that they exist and that they are healthy.

I am sometimes asked whether my experiences – the spacewalk, the Challenger Deep, the years of looking at this planet as a geologist and an oceanographer – have made me more spiritual. It is a complicated question. I no longer practise organised religion. But I feel a kinship with the spiritual core of many of the world's great traditions. For all the differences in their sacred texts and rituals, they have a rather small number of fundamental truths in common. And they all aim to guide us to something greater than ourselves. We have lots of labels for that greater thing. Some will call it God. Some will call it the divine. But I think the labels are less important than the underlying truth that there is more to all of this than 'me'. A greater something that I am a part of that cannot be perceived from inside my everyday framework.

What I know is that certain encounters – a grand piece of music, a night dive in moonlit water, a view of Earth from orbit – have the capacity to blow away the self-frameworks we use to navigate day to day, and radically shift our perspective. I think 'small-self effect' captures this experience best. These awe-inspiring experiences open our eyes, hearts and minds to the realisation that our single self is just a small part of a much grander and glorious whole. And that we are somehow, wonderfully, at one with that greater whole.

And that inevitably changes how you act. I think of it this way. Every crew member on a spacecraft needs to understand how the spacecraft works. Especially the life-support system. The atmosphere, the power, the water recycling, the thermal management. Because if any component of that system fails, everything is affected. We are all, whether we know it or not, crew members on this vessel called Earth. I have been fortunate enough to see it from outside – to float above it in a suit, looking down at its weather and its ocean and its extraordinary, improbable aliveness. We need to act more like crew members than mere users.

In the complete stillness of that moonlit night off Bonaire, the small self dissolved. The years of spacewalks, of touching the floor of the Mariana Trench, of collecting extraordinary coordinates across a lifetime – all of it became, briefly and completely, just part of it all. Not an observer. Not even an explorer. Just a thread in the web.

That is the Innerview. Not the fragility of the world seen from a distance, but the irreversible recognition that there is no distance. The microplastic in the gut of a creature at the bottom of the world and the moonlight falling through 90 feet of Caribbean water are part of the same story – and so are you. Every breath you draw is half-written by organisms you will never see. Every choice you make travels further than you will ever trace. The small self, once you truly feel its smallness, does not diminish you. It frees you. And it then hands you back to something vast.

We are all crew members upon planet Earth, not merely passengers. We are threads, not merely observers. We are – every one of us – the filigree inside the storm. We just have to turn off the torch, look up and remember what we are part of. O

THE CURE

Steve Backshall MBE

BAFTA-winning naturalist, author, and explorer; broadcaster and host of Deadly 60, Shark (BBC/Sky), Expedition (BBC).

FOR ANYTHING IS SALT WATER - SWEAT, TEARS, OR THE SEA.

There's a bird called a storm petrel, the smallest and most fragile of sea birds, not much bigger than a starling. In good conditions it will dance on the surface of the sea, paddling its webbed feet to entice plankton to the surface for it to feed on.

Storm petrels spend their lives at sea, tossed by some of the most violent conditions our planet will ever see. They are – to me – the most perfect expression of life at sea.

They appear the most fragile and vulnerable thing imaginable – yet by riding the wind, water and currents they become one with the ocean's tempestuousness, and thrive here.

We humans are considerably less adept. There is nowhere that can make you feel as small as the open ocean. Being out miles from shore in my sea kayak feels as alone as you can ever be in the modern era. Yet every now and then off this Cornish coast, I'll have a legion of dolphins, seals, fulmars and kittiwakes on the wing, a leaping bluefin tuna too. And then, in recent weeks, even a pair of magnificent bull orca.

The ocean is what remains untameable in our world. It is that which puts us in our place, which reminds us of the vast interconnected ecosystems that drive our planet. That we – as one single species – can be impacting it is simply too staggering for many minds to comprehend. Perhaps that's why so many people sneer at the realities of climate change. How could something as small as us affect something as big as this?

But even as our ocean becomes more and more reflective of all that is wrong with our relationship with nature, this is still the place where I feel most alive, most free and most hopeful.

In the famous words of Karen Blixen, written under the pen name Isak Dinesen, "The cure for anything is salt water – sweat, tears or the sea."

Water, to me, has never been just an element. It has been a home, a refuge, a constant challenge. My first connection with water dates back to when I was just over a year old. My parents took me to the pool and from the very beginning, I felt at home. My instructors quickly noticed that I floated more naturally than others, and that innate ability became a part of who I am. Floating felt effortless, but it was also a kind of secret that made me feel safer, more alive.

I grew up in it. My memories are made of chlorine, lanes and silence – that unique silence that exists only underwater: where everything pauses and it is just you, your breath and your thoughts. It was there that I truly learned to know myself.

In the water, you cannot pretend. Every emotion, every fear, every doubt rises to the surface. Swimming has always been a way for me to create order, to turn effort into something positive, to feel free.

Water teaches you respect. You cannot dominate it, you can only learn to listen to it. Every movement must be precise, every gesture meaningful. It becomes a relationship, almost a continuous dialogue, and when you find the right rhythm, everything turns into harmony.

Perhaps that is also why today I feel even more strongly how precious water is, and how much it must be protected. For someone like me, who has built such an essential part of life within it, it is impossible not to recognise the importance of caring for it, respecting it and never taking it for granted.

There have been moments when I loved it deeply and others when it felt like a battle. Yet even in those difficult times I knew it was where I was meant to be, because it is where I built my story, my victories, and above all, my very identity.

Today, after retiring from competitive sport, I am living what feels like a 'second chapter' of life. I no longer feel the urgency to return to the pool every day, but water is still within me. It is a bond that will never end – and perhaps that is why, even now, every time I enter the water, I feel exactly where I am meant to be.

Federica Pellegrini

Olympic swimming champion, world record holder, and broadcaster.

Lieutenant Commander Hugo Mitchell-Heggs

Royal Navy Submariner; record-breaking ocean rower; co-founder of HMS Oardacious.

My relationship with the ocean has changed over time. On the surface, I have been deployed on warships, I have sailed and rowed across the Atlantic – where the ocean felt vast, beautiful, humbling, and deeply connecting. You feel small beneath the Milky Way, carried by something ancient and alive. As an ocean rower, you work with it. It is your environment, and your lifeline.

A submarine is different.

You do not see the ocean. You do not feel connected to it in any romantic sense. In fact, you are completely cut off from it. And yet, paradoxically, you are more dependent on it than ever.

Inside a submarine, the ocean is everything. It cools our systems. It enables propulsion and power generation. It is transformed into drinking water. It is split to create the oxygen we breathe. Every aspect of life onboard depends on our ability to understand and work with it. In that sense, it is less like being a sailor and more like being an astronaut, surviving in a hostile environment inside a fragile steel 'people tube'.

Because that is the truth we never forget: the ocean does not care that we are there.

It is vast, indifferent and unforgiving. If something goes wrong, it can go catastrophically wrong. There are no second chances. Submarine history is shaped by that reality. Our culture, in part, is written in it. So our relationship with the ocean is not one of belonging, but of respect. Absolute, disciplined respect.

That respect underpins everything. Before any notion of adversaries or operations, there is the environment itself. We operate safely not because we dominate it, but because we have spent over a century learning to coexist with it. Procedures, training and culture are all built on that foundation. The elite nature of submarine operations is not bravado. It is humility in the face of risk.

Life onboard reinforces this. A modern nuclear submarine is one of the most complex engineering environments on Earth. A nuclear reactor, high-pressure systems, life-support machinery, propulsion systems, and 150 people living in a confined steel tube. There is no space for complacency. Routine and structure create order, reflected in the Dolphins we earn and the standards we uphold. You become attuned to every sound, every smell, every subtle change. You rely completely on your crewmates. Together, you are not individuals, but a single connected organism, coexisting within the ocean.

And yet, over time, the danger can become normalised. That is the real risk. You must constantly remind yourself and your team where you are: deep underwater, in an environment that would destroy you in an instant. Standards must never slip.

The sensory experience reflects this separation. For most onboard, the ocean is not something we hear or see. It is an absence. Instead, we are immersed in an industrial soundscape, the constant hum of ventilation, the rhythm of pumps, the subtle frequencies of machinery. Silence is survival, so we listen primarily to ourselves. Here, every sound matters.

For sonar operators, this is different. They listen outward, interpreting the ocean as a living acoustic environment. For the rest of us, the connection is indirect, understood through systems, physics and discipline – rather than sight or sound.

Ironically, I feel closest to the marine environment not at sea, but alongside it in Scotland. Living and working within the lochs of Argyll and Bute, surrounded by seabirds, seals and porpoises, you are constantly reminded of what we are there to protect. The proximity to marine ecosystems reinforces the importance of environmental stewardship and the responsibility that comes with operating in such spaces.

This is my submariner's Innerview.

It is not shaped by beauty or visibility, but by dependence, risk and respect. It is the understanding that we do not belong in the ocean, but we can survive within it if we learn from it. It teaches humility, discipline and the importance of collective responsibility.

The ocean will outlast us all. We are only ever passing through it.

Our role is not to conquer it, but to respect it. Because that is what allows us to exist within it at all.

IN CON

Dr Dawn Wright

Geographer and Chief Scientist at ESRI; first Black person to visit the Challenger Deep.

Astronauts often talk about the Overview Effect: how their perspective on life and the Earth changes when they go into space.

The comparison to what astronauts talk about is popular and relatable, especially in terms of one being incredibly humbled – as well as feeling both insignificant in the hostile, alien vastness of outer space yet significant in how unique the Earth is: a water planet absolutely teeming with life.

But the Innerview Effect? That's something a little different. Because now – rather than being up in space with that broad, synoptic view – I am just at one small point on the planet's surface. Astronauts on the Moon witness the entire orb of the Earth; those in orbit see it for its vast expanse. It's different being in a small submersible at one point in a very deep, dark place.

Yet it remains beautiful and jaw-dropping all the same. Being a geologist, I have been thrilled to witness evidence of major plate tectonic activity in the depths. I have gazed upon vast fields of boulders in a region of tremendous collision between the Pacific plate and the Philippine Sea Plate; witnessed the anemones, the sea cucumbers, the arthropods and the myriad tiny creatures that not only live but thrive under 16,000 pounds-per-square-inch of pressure, in complete darkness.

At those depths, alongside my colleague Victor Vescovo, I became a part of the little, deep, dark community.

And that's where it strikes you the most: that we are a part of the totality of life on this planet. In the darkness, the miracle of life on this planet is made all the clearer.

As is the fact that in order for this life to thrive, we must recognise that we are all – somehow – interconnected.

Welcoming the Innerview helps you recognise Earth's duality. Even while freezing cold in the Challenger Deep, it's impressed upon me that the ocean is heating up. That heat is circulated even through these deepest trenches, all the way up to the surface of the ocean. This is why all of the ocean's waters matter – because when it comes to climate change, they are buying us time. The negative impacts of climate change would be hitting us so much faster and more terribly if it weren't for the ocean absorbing some 90 per cent of the additional heat generated from greenhouse gas emissions. The ocean is keeping things at bay for as long as it can, but we are fast approaching its tipping point.

In Dr Seuss's Horton Hears a Who!, the elephant Horton discovers an entire world in existence upon a tiny speck of dust; a world full of creatures and habitats and ecosystems. In acting to protect that world, he is quickly made a pariah in his own, branded by his disbelieving peers as 'insane'. At the moment it counts the most, Horton convinces others of life beyond that which we see.

We are at that same pivotal moment in our own narrative. We all need to be Horton and we need all others to 'hear a Who'. Because all of it matters. Everything we can do to reverse or mitigate the effects of climate change, as well as the hatred and the incessant destruction in our societies, needs to be done.

I truly believe that harnessing that Innerview really is the most important work we can be doing right now.

Wendy Schmidt

Philanthropist and Co-founder of the Schmidt Ocean Institute and Schmidt Family Foundation.

One Saturday morning towards the end of the pandemic, I was late meeting my boat captain for a sail, and getting later. Even though I was at home in Santa Barbara, I was really thousands of miles away: on my laptop screen, I was joining scientists off the coast of Costa Rica, on 'baby watch'. Schmidt Ocean Institute's ROV SuBastian was 6,300 feet beneath the surface, hovering over numerous brooding octopuses, their eggs about to hatch.

I was in the control room aboard R/V Falkor (too), connected with hundreds of viewers from around the world on our 'divestream' broadcast on YouTube. With them, I 'ooohed' and 'aaahed' as the babies suddenly burst forth from their pods. The tiny octopuses whooshed across my screen and scooted away, one by one. Some would become a meal for a predator before they grew beyond infancy; others might seek this spot years later to brood over their own hatchlings.

I couldn't tear myself away. I realised how powerful our deep-sea technology and communications tools have become so that, for the first time in human history, we are able to encounter Earth's creatures in the sea face-to-face in their own domain. Like visitors from another world.

I had learned to scuba dive more than a decade earlier, and knew personally what it felt like to wake up fish with my flashlight on a night dive. I felt like apologising.

As a child growing up in suburban New Jersey, I didn't know the ocean had anything to do with me. I was aware of Jacques Cousteau, but all his explorations seemed as distant from me as the Moon.

It was some 18 years ago, however, that I entered the world of sailing and competitive racing, and it was through this connection that I really discovered what it is to 'be on the water'; a discovery that changed my life.

Being on the water is a state of mind. It breeds curiosity about the forces you encounter on the surface: the wind, the clouds, the atmosphere – and also raises questions about what is out of sight, below the surface.

Most humans only encounter the ocean from the decks of ferry boats or from the seashore or from 35,000 feet. It seems endlessly large, the blue of our blue planet, immune to human activity. And yet here we are, with our life support system, the ocean, under attack from waste, pollution, overfishing and marine noise. In all this activity, our most destructive weapon is ignorance.

My husband Eric and I founded Schmidt Ocean Institute in 2009 as a direct consequence of my sailing and diving. We recognised that the human perception of the ocean came from fear: the gigantic forces of waves, pressure and currents; the corrosive nature of ocean water; the unknown monsters of the deep.

And yet, when we bring the tools of modern science to study how the ocean provides essential support for human life, we see a different picture – one that deeply connects us to life in the ocean. It's something we're only just beginning to understand and to see. For example, we discovered that deep-ocean polymetallic nodules coveted by industrial mining interests actually produce oxygen and contribute to the Earth's climate cycle and to every breath we take. They're as old as the Earth itself.

In fact, the more we look, the more we see and begin to make direct connections. The more we learn, the more it becomes clear humans need a healthy ocean.

We live on one planet, a minor species, in terms of biomass, with a substantially outsized footprint. The scientists that will be coming to work aboard our research vessel in all seven ocean basins over the course of this coming decade are changing the way we see our place in this magnificent, interconnected web of life. A web that begins with what we are calling the Innerview and endures with the ocean.

From a young age, I have carried a persistent feeling that when you enter the sea, when you slip beneath the surface and let the world above dissolve, you are in some quiet way returning to the womb.

Not a memory exactly, we do not possess that. But something deeper, more instinctive. A kind of muscle memory of first consciousness. We know that in the womb there is sound, light, movement: rhythms that shape us before we ever understand them. And so when I descend, especially at night, it feels less like entering somewhere new, and more like arriving somewhere ancient and familiar. A sense of déjà vu in the body. A return to origin.

That predisposition has always made me feel part of something much larger. The sensation is not unlike standing beneath a night sky; aware in a fleeting but profound way that you are embedded within a system that has existed for billions of years. The sea carries that same weight of time, that same quiet vastness. It humbles you, but it also invites you in.

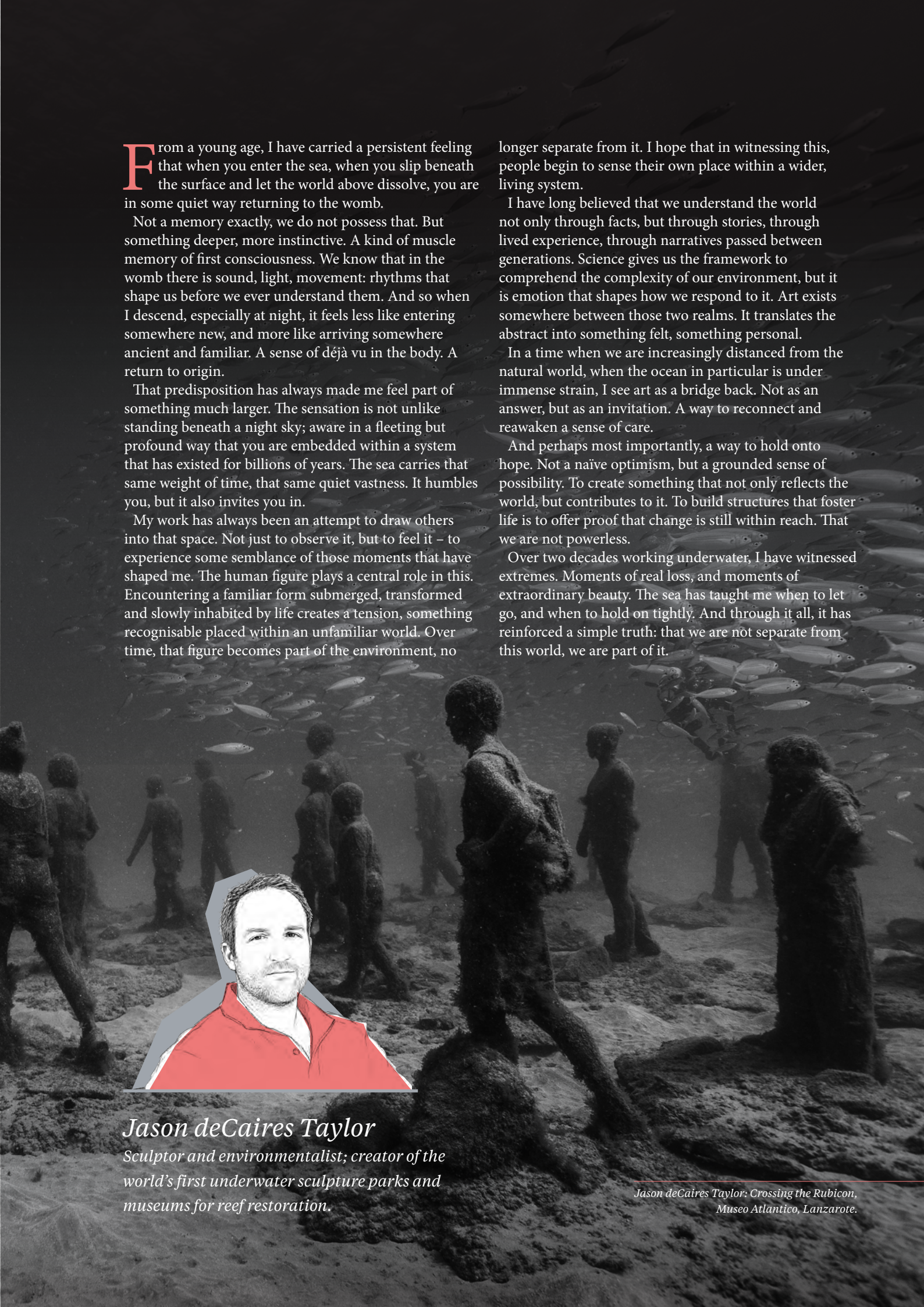
My work has always been an attempt to draw others into that space. Not just to observe it, but to feel it – to experience some semblance of those moments that have shaped me. The human figure plays a central role in this. Encountering a familiar form submerged, transformed and slowly inhabited by life creates a tension, something recognisable placed within an unfamiliar world. Over time, that figure becomes part of the environment, no longer separate from it. I hope that in witnessing this, people begin to sense their own place within a wider, living system.

I have long believed that we understand the world not only through facts, but through stories, through lived experience, through narratives passed between generations. Science gives us the framework to comprehend the complexity of our environment, but it is emotion that shapes how we respond to it. Art exists somewhere between those two realms. It translates the abstract into something felt, something personal.

In a time when we are increasingly distanced from the natural world, when the ocean in particular is under immense strain, I see art as a bridge back. Not as an answer, but as an invitation. A way to reconnect and reawaken a sense of care.

And perhaps most importantly, a way to hold onto hope. Not a naïve optimism, but a grounded sense of possibility. To create something that not only reflects the world, but contributes to it. To build structures that foster life is to offer proof that change is still within reach. That we are not powerless.

Over two decades working underwater, I have witnessed extremes. Moments of real loss, and moments of extraordinary beauty. The sea has taught me when to let go, and when to hold on tightly. And through it all, it has reinforced a simple truth: that we are not separate from this world, we are part of it.



Jason deCaires Taylor

Sculptor and environmentalist; creator of the world's first underwater sculpture parks and museums for reef restoration.

Jason deCaires Taylor: Crossing the Rubicon, Museo Atlantico, Lanzarote.

"You're from South Africa, you must be a good swimmer," he said. "Have you heard of fridykning?" I tried to translate this new word. Fridykning. I immediately thought it was a translation error. One thing I had learned after my first six months of living and studying in Sweden was that not many things are free.

Yet two days later, I'm in a squeaky borrowed drysuit, in a small fishing boat in Gullmarsfjorden in Sweden, I am about to experience freediving for the very first time.

"Just breathe deeply and slowly, then take a big breath in and dive down," my friend said. Eager to please, I did exactly that. Deep breath in, slow breath out. Deep breath in, slow breath out. Big breath in, and I dived down.

The water got darker and colder as I kicked down. Wearing the mask I'd borrowed, I followed the rock face further and further until I found a ledge, a nondescript grey ledge and I sat down. And for the first time in my young life, I felt my heartbeat in my chest, in my arms, in my whole body.

I FELT MY HEART.

BEAT.
BEAT.
BEAT.
BEAT.

And there, 15 metres below the surface, in a cold fjord in Sweden, my life changed forever.

Everything I knew about who I was and where I came from: Hanli, who grew up on a farm in South Africa, who loved nature, who loved horses, shifted into a state of suspension and anticipation.

I opened my eyes, looked at this familiar foreign world around me, and kicked back up to the surface to breathe. I clambered back onto the boat like a clumsy elephant seal and said to my friend, "What just happened to me? I felt something happen in my body I've never felt before."

That question, that day, sparked a journey of discovery: of research, of lying on hospital beds with ultrasound machines aimed at my spleen, heart rate monitors attached to my chest while diving deep in Egypt. Holding sound recording devices while freediving with sperm whales in Sri Lanka, dolphins in Mozambique, tracking the last of the dugong along the Mozambican coast. Hours and hours observing Cape fur seals diving, twirling, playing in the kelp forest.

So, just what happened to my body that day in that Swedish fjord?

The answer is the same thing that happens to your body when you take a breath and dive down. We become aquatic mammals.

We swim back into our skin. Back into who we are. Not only do our minds, emotions and spirit feel this shift; our bodies experience the same mammalian dive responses as whales, dolphins and seals. Bradycardia, the slowing of the heart-rate. Vasoconstriction, the redirection of blood flow to the core where it's needed. The mysterious spleen response, where our spleen constricts to allow stored haemoglobin into the bloodstream. But there is more.

Hanli Prinsloo

World-record-breaking freediver; Founder of the I AM WATER Ocean Conservation Foundation.

Twenty years later, I had my version two. I heard my daughter's heart beating inside of me. I watched her small, fish-like form swimming inside my fluid.

The ultrasound showed her squirming and moving inside of me, just like I had seen my spleen changing and morphing. Just like I had felt my own body adapting inside the ocean.

And my greatest journey into self, into blue, was the day myself and her, seven months fully formed inside of me, slipped off the boat into the crystal-blue water of the Indian Ocean.

No longer a fish-like creature swimming around, but the shape of a girl inside a mother. The bottlenose dolphins I had known for twenty years noticed my entrance. They changed direction, swimming straight towards us. Their click patterns changed, their whistles shifted. They saw what we could not see. Like an aquatic onion, we are layers peeled back in this watery space.

I took a breath, like they take a breath. We dived down together. And as one, they approached my distended belly. They were not talking to me anymore. Their clicks, their echolocation, their sonar, were not aimed at me. They were looking at her.

Dolphins have names for each other, for us. They had known me a long time. And now, they saw me in this final phase of gestation. Matriarchal as they are, I was now dolphin royalty. The large, older females came close, so close – fin to hand, fluke to foot. The babies, curious began circling me, circling me, circling me, their bright eyes following mine.

They scanned my belly. Circled my body. Scanned again. Circled again. I was not only part of the pod. I was aquatic. My daughter inside my fluid. Myself suspended in blue water. We were dolphin cousins, speaking in a language maybe she could understand inside. My body going through the same ancient changes as they do as they enter the deep. We do not only see below the surface, we become.

Since the very first time I dived into the ocean, I've come back and written about what I saw and how it feels to be there. My dive logs and travel journals overflow with the memories and observations I wanted to hold onto from the sea: colours, shapes and movements; hot pink sea slugs; fish so silvery they could be made from a living, liquid mirror; kelp swirling in the current that made me dizzy and tricked me into thinking the seabed was sliding to and fro; returning from a dive to find a rainstorm had broken out, drawing circles on the sea's ceiling overhead.

Then there came a point when I started writing words about the ocean specifically for others to read. I don't remember making a conscious decision to do so. It came as naturally as going to the ocean in the first place, learning to dive, immersing myself in the Innerview and feeling like I belong there. Nobody told me to.

Gradually, writing about the sea became a bigger part of my life until I decided I would make a living this way, and with it my view of the ocean has been expanding ever wider. I began writing not just about my own experiences, but reimagining on the page species I haven't seen and places I would never visit in person, channelling the thrill of discoveries made by others: gossamer worms that spin acrobatic pirouettes through the twilight zone; shrimp with giant eyes that take up most of their head; palm-sized sharks that hide in the deep by glowing blue and matching the dim light that trickles down from above. I became a story seeker, hunting for ideas that fizz in my mind and that instantly I can't wait to tell other people about.

It has always been a privilege to send my words out into the world and to know there are people out there who are devoting their time and attention to reading and listening to them. Then a shift happened when readers started to get in touch and write their own words back to me. People I've never met tell me how my stories have changed the way they think about and see the ocean. I love to read about what it was that resonated most with them in my words. And I love to hear of their own encounters and discoveries in and by the sea, often accompanied by photos and the question: can you tell me what this is?

Everyone I hear from in emails and social media, occasionally from letters in the post, and who come up and chat with me after public events, has helped me to see that my stories, written and spoken, have a particular kind of enduring power. I realise now that I'm passing on secrets from the sea that stay with people. And so, just like me, they feel the joy of noticing things and wondering, and paying close attention to their own Innerview.

Dr Helen Scales

Marine biologist, broadcaster, and author of The Brilliant Abyss and Eye of the Shoal.

Dr Andrew Forrest

Marine ecologist, businessman and philanthropist; Founder and Executive Chairman of Fortescue and Founder of Minderoo Foundation.

The Urala coast is where burnt orange earth meets bright blue water, near Minderoo Station in Western Australia. As a boy, I camped on the beach near the Exmouth Gulf and watched the Indian Ocean at night. For every star above me, there was a light on the water. I asked my dad why there were stars in the water, I thought they were only in the sky. He explained they were prawn trawlers. Dad explained they dragged dredge nets over the pristine ocean floor, turning the clear water murky.

I have spent a lifetime in those waters at Ningaloo, and other great Australian reefs such as the Montebellos and the Great Barrier Reef. My fascination with these complex ecosystems led me to undertake a PhD on marine parks – and whether parks in the 'big blue' can protect highly nomadic megafauna like tiger sharks. (The answer: yes.)

The more I learnt, the more I saw the severity of the problems our great ocean faced, and it was heartbreaking.

Scientists warned us that coral reefs would be among the first great climate tipping points, at a global warming of 1.5ºC. Like clockwork, that is what has happened.

Through Minderoo Foundation, we established the Minderoo Exmouth Research Lab close to where I first saw those prawn trawlers with my dad. One of the lab's first projects was to crossbreed corals to make them more resilient to warmer waters.

However, in 2025, Ningaloo – so resilient for so long – was finally struck hard by climate change for the first time. Large sections of the reef bleached white. Many corals did not recover, becoming algae-covered rock.

During the first coral spawning event following the bleaching, we partnered with Taronga Conservation Society Australia to cryopreserve the genetic material generated from our crossbred corals. This work may give future reefs a fighting chance – but only if the rest of the world rapidly phases out fossil fuels.

Philanthropy has a vital role to play here. It backs science early, scales solutions fast and bridges the gap between discovery and protection when time is the one thing ecosystems lack.

But above all, global leadership matters. Leadership willing to confront the root cause of ocean warming, our continued dependence on fossil fuels. Leadership prepared to act ahead of certainty, to invest ahead of consensus, and to take responsibility beyond electoral cycles or balance sheets. It is asking something of those with influence, resources and authority.

I will personally take any leader who doubts this diving on these reefs, so they can witness firsthand the ocean's greatest achievement – and its gravest warning to humanity.

We can still protect what we have: the area that I once looked out onto as a kid will soon, hopefully, be the Exmouth Gulf Marine Park.

But we will only fully protect our ecosystems the day we stop burning fossil fuels.

Dr Carmody Grey

Philosopher, theologian, and Professor of Integral Ecology, Radboud University; Broadcast: BBC's The Moral Maze.

Tadpoles are swimming on my desk. I collected them carefully from a pond in a local wood, to grow to maturity in an aquarium at home, before releasing them back into the wild waters; froglets ready to take on the world. Their bodies move fluidly in the water, as though it were silk. They are tiny, fragile. And yet their movements have a touching confidence.

The tadpoles are here on my desk primarily for my son Benjamin, because they are more eloquent teachers than I ever could be in one of the most important lessons he can ever learn: his membership of the great community of life. And the tadpoles teach me too, as I take up my task to articulate 'integral ecology'. Because the way the tadpoles are in the water exemplifies what integral ecology is about: unlearning the great lie of our separateness; re-learning the great truth of our belonging to this living world. We are of it. To cease to be of it is to cease to exist.

The Outerview, the view of nature as though it was 'over there', is a useful fiction. It has given us scientific discoveries and unique technological power. But it has only ever been a heuristic device; it is not really true. It cannot be, because we are always already part of what we observe. The Innerview is the greater and fundamental truth: we are first of all creatures of this Earth and these waters. We are only able to 'know' anything at all, because we are nurtured and sustained within this fragile membrane of life. All our projects of knowledge and power are relative to this most basic fact.

Western philosophy over the course of the centuries has gone on its own journey to recover and honour the Innerview. In antiquity, it was taken for granted that to really know something requires a kind of infinite proximity to it. When the mind knows a thing, the ancients thought that it has to, in some way, actually share in the nature of that thing: to know a thing you had to identify with it.

But the European Enlightenment pushed back against this ancient view. Instead, it propounded the opposite idea; that to know something truly is an act of objectification. Real knowledge is premised on standing back from a thing in order to see it from every angle: to have, literally, 'perspective'.

The development of perspectival methods in Renaissance art instantiated this new understanding of knowledge. Antique art did not pretend to present an object as though we really could stand at a distance from it. That's why Byzantine icons look, to us, faintly weird and out of proportion. They were not pretending that objective representation was possible. But in the Renaissance period and afterwards, artists developed mathematical methods to imitate what they thought was true perspective – namely, sight from a distance. In that period, the Outerview became associated both with true knowledge and with real power. In the great age of the scientific revolutions, separating ourselves from nature seemed to be the way that we could most authentically know it, and therefore control it.

But we have come full circle. European philosophers have begun, belatedly, to realise that something went awry in that Enlightenment story. They are starting to celebrate not the view from far away, but the knowledge that comes through intimacy. Rather than seeing sight as the noblest of the senses – sight which apparently commands things from a distance – they have called for a new appreciation for touch: the most direct, the most firsthand and the most intimate mode of encounter.

When submerged in the waters of our planet, we are in a condition of complete enfoldment: an encounter with what-is-not-ourselves which enwraps us completely. To be embraced by the ocean is to experience a distant echo of the first, most all-encompassing embrace each one of us ever experiences: our enfoldment in the waters of our mother's womb. The knowledge a mother has of her child, and a child of her mother, is a knowledge which comes not by remoteness but by closeness. This, the enfoldment in the waters of the womb, is the first and decisive Innerview. It is the first experience simultaneously of our own existence and of our belonging to a world which is more than ourselves. This is an intimacy which on some level each of us longs to recover. In the ocean, we are in the womb of our planet, and we know ourselves as her children.

It is in this enfoldment, in this Innerview, that real knowledge consists. This is the kind of knowledge we need in our desperately precarious moment. Because it is love, not control, that is the true measure of things – and the real key which will unlock a future for all life on this fragile Earth.

Unlearning the great lie of our separateness; re-learning the great truth of our belonging to this living world. We are of it.

Patrick Lahey

Submersible pilot; CEO of Triton Submarines; five-time pilot to the Challenger Deep.

In 1983, on a drilling rig off the coast of Santa Barbara, I made my first dive in a sub to 450 metres, three times deeper than I had been as a commercial diver, but with no decompression, no limits: get in, dive to depth, stay as long as you want, come back up, get out.

In the space of that dive, my life changed and my career pivoted to a focus on creating these magical machines we call human occupied vehicles, or subs. I had a simple belief: the ocean was the most important but least understood place on Earth, and the barrier between human beings and this world was not depth, pressure, or darkness but access.

Since then, I've worked with more than 60 subs, spent tens of thousands of hours underwater, and even made dives to the deepest points in the ocean. I've seen things with no names and visited places no other human beings have seen. But, the thing that's stayed with me most is not what I've seen, as much as what I've witnessed happening to other people when they have the immense privilege to dive in a sub.

Aside from the full ocean depth sub we built, most of the subs I've helped to create have transparent pressure hulls made of acrylic. Acrylic has a refractive index like water, so when you dive in a sub made of acrylic, the hull appears to vanish as you submerge, and you feel immersed in the environment: almost as though there's nothing between you and the fish you're seeing – they could swim into the cabin, or you could reach out and touch them.

A person gets in, gripping the armrests, carrying their misconceptions of the ocean as cold, dark, lifeless, hostile. Then they dive. The light changes. And somewhere between the surface and the seafloor, their grip loosens, their eyes widen and whatever they thought the ocean was, doesn't apply any longer. I have witnessed this hundreds of times and never tire of seeing it.

From inside a transparent-hull sub, the ocean is not what people fear. The deep is not dark and lifeless. Below 200 metres, bioluminescent creatures produce their own light; not darkness but a living constellation, burning since long before the first human being looked up and named the stars. At the bottom of the Mariana Trench, at a depth no human reached until 1960, the ocean is not barren. Life – extraordinary, improbable, endlessly adapted – has been living and thriving in the ocean's trenches for millions of years, entirely indifferent to our stark lack of understanding of it.

To sit in a sub over 10,900 metres deep and see this world with your own eyes is to understand something no book or policy document can convey: the ocean does not need us to exist. She only needs us to stop what we are doing and to begin living in harmony with her.

The Innerview I have built toward, dive by dive, sub by sub across 43 years, is the moment when this understanding stops being abstract and becomes visceral and permanent. Forty-three years of diving has also taught me that the Innerview accumulates. It does not diminish with repetition – it deepens. Each dive adds to the body of memory, compounds the understanding, sharpens the sense of what's at stake.

More than 90 per cent of the ocean lies below 200 metres. In fact, the average depth of the ocean is 4,000 metres. Yet, it was 2019 before humanity had a reusable vehicle capable of diving to any depth in any ocean. In the 40 years since I made that first dive in a sub, advances in materials, battery technology, electronics, and analytical software have transformed what's possible – taking transparent hulls from a few hundred metres to 1,000, then 2,300 and now 4,000 metres in the machines we're creating today.

The next frontier is high pressure glass or transparent ceramics – sometimes referred to as transparent aluminium – materials that could take people to full ocean depth inside a hull that feels like it vanishes the moment it enters the water.

Battery advances are extending endurance and range in ways unimaginable even a decade ago. Communication, navigation, imaging and lighting technologies allow us to capture footage, collect samples, document these observations and share them in ways that amplify the message. They enable us to share this with the rest of humanity, creating advocacy and interest in a place most will never get to see.

Captain Nemo's Nautilus is no longer fiction: subs operating at great depths with vast acrylic windows, capable of becoming seafloor habitats and deploying mini subs, robotic vehicles and autonomous systems, are already on the drawing board.

We're at the beginning of understanding the place, which covers 71 per cent of our planet and makes all life here possible – and the pace of discovery is quickening.

The machine is how we get there but the machine is not the point. The point is the moment the hull vanishes and a human being understands – perhaps for the first time – that they are not just looking at the ocean, but a part of this magnificent place. That's the Innerview. I have spent 50 years building the vehicles that make it possible. Access carries responsibility. Wonder deepens with familiarity. And the ocean rewards, above all else, the willingness to enter…

Few are as connected to the ocean as small-scale fishers. Few are more dependent on healthy and thriving marine ecosystems. For the millions that set out to sea every day, the ocean is a source of sustenance, livelihoods and cultural identity. Their shared history, knowledge, skills and understanding of local coastlines are central to restoring abundance to our seas. It is in this local perspective, an Innerview born in community, where the conservation of our seas and the protection, guardianship and stewardship of our blue planet begins.

With Africa's coastlines spanning over 30,000 kilometres, this relationship is especially profound.

In Senegal, rows of hand-crafted canoes, known as pirogues, launch every morning in search of a good day's catch. In Ghana, women line the beach to preserve fish catch, using traditional techniques like smoking and sun-drying. In Kenya, along the vibrant Indian Ocean coastline, those without boats draw on their deep knowledge of tides, walking the shoreline at low tide to gather octopus and shellfish.

It's fitting, then, that this publication – one dedicated to the concept of the Innerview – should land in the year that, for the first time, the Our Ocean Conference comes to Africa, and to the communities with whom its concept is lived each and every day. In June, government officials and other leaders will gather in Mombasa, Kenya, to discuss the top threats facing the ocean. This matters symbolically, of course. But it should also matter practically. This should be a moment to focus on the people who depend on healthy seas every day, and on the urgent action needed to secure their future.

This is especially relevant in Ghana, where the ocean and fishing have played a key cultural role for generations. More than 21 million people in Ghana rely on the ocean for food, nutrition, or both. Small pelagic fish, like sardinella, are central to food security. Known as the 'people's fish', they are both affordable and nutritious. But the 'people's fish' are disappearing. Over the last two decades, small pelagic fish populations have dramatically declined, by close to 80 per cent in Ghana.

It's not a mystery why this is happening. Overfishing, a lack of good management systems, and industrial and sometimes illegal trawling – especially by foreign-owned vessels – are threatening the health of the ocean, fish populations and local wellbeing. The 'people's fish' are being plundered by profiteering corporations, the food of the many is being taken to create wealth for the few. And this is emptying local seas.

The impacts ripple through the entire community. If a fisher returns to shore with an empty net, fish cannot be processed, traded or sold. Artisanal fish processors, mostly women, lose ready access to the cheap, nutritious food source that they have historically smoked, dried and traded throughout the region. If this decline continues and Ghanaians lose access to the fish they depend on, many will face malnutrition, food insecurity or poverty. When we talk about this collective Innerview, we must acknowledge the mounting threats it is facing.

Across Africa's coasts, communities are facing the pressures of overfishing, habitat destruction, pollution and climate change. Fortunately, recovery is possible, but only with concerted action. We know that when habitats are protected and restored, coastal communities reap the benefits. We also know that conservation is most effective when it is shaped by communities, not imposed on them.

This is a defining moment for Africa's ocean future. It's time for bold action on industrial fishing, stronger protections for marine ecosystems and recognition of community leadership. If African governments act now, the continent's seas can sustain thriving ecosystems and communities for generations to come. There will be challenges, yes. But if our Innerview is harnessed to its fullest extent, our global communities will thrive.

Hugo Tagholm

Environmentalist and Executive Director of Oceana UK; former CEO of Surfers Against Sewage.

Sonia Kwami

Sonia Kwami is head of Oceana's Ghana office and a major voice of influence across African and global policy making.

PILLAR ESSAY

THE *intimately interconnected underwater world*

Marine conservation biologist, oceanographer and author of The Ocean Life, Callum Roberts reflects on his Innerview, the ocean's extraordinary bounty and the collective action it will take to protect it.

Words by Prof Callum Roberts

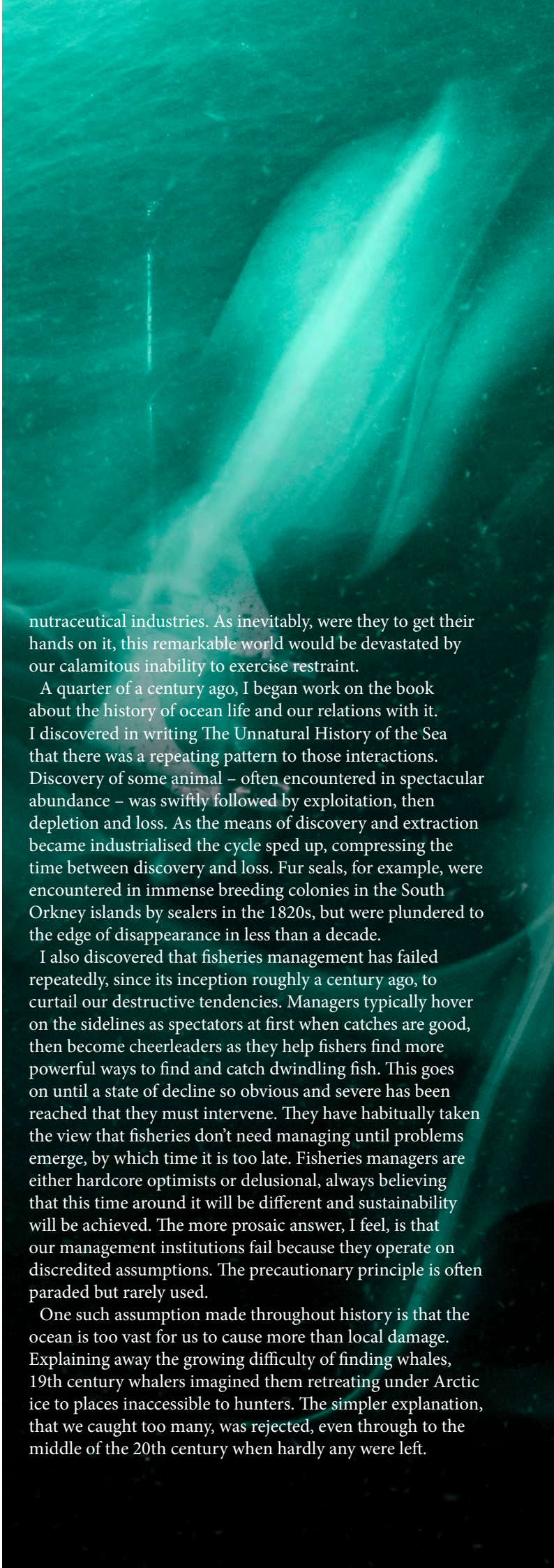
When you plunge underwater, you leave behind the immense vistas of sea and sky that stretch beyond distant horizons. Underwater the world is intimate: like stepping into a room with invisible walls whose size depends on water clarity. In the tropics, the room might be as large as half of a football pitch. Under Antarctic ice, where water transparency is close to the theoretical maximum, it would be about twice the area of London's Trafalgar Square. But in the trawl muddied and sewage curdled waters of Scotland's Firth of Clyde where I made some of my first dives in the 1980s, the visible space was barely larger than my student bedroom.

Wherever you are there is a sense of connection to a greater whole beyond the limits of visibility. Creatures materialise from the periphery or skirt the edges like half seen ghosts. Part of the thrill of diving is the unpredictability of these encounters. One day it might be a great hammerhead, its skin glinting like steel plate, another day a monkfish, all mouth and spread fins. For me, these animals bring with them an air of mystery and make me yearn to follow them and experience the ocean as they do. For dolphins and some reef sharks, those habitual journeys might span tens of kilometres of coasts, visiting seamounts or crossing the deep abyss. Others make journeys of oceanic scales, connecting us across the vast watery steppes – like glossy tunas arriving back from the high seas to feed on prodigious shoals of coastal sardines, or humpback whales shrugging off the chill of polar seas to give birth and mate in the tropics.

We are lured by the bottom of the sea and held near the surface. What fascinates me is that huge slab of inbetween. This place is habitually visited from the surface by hunters. When manta rays or whale sharks disappear into darkening depths, they are diving to feed in the colder, nutrient and food rich water of the twilight zone. Mantas forage to hundreds of metres in this near darkness, while whale sharks and beaked whales go further to hunt squid, even to thousands of metres down. We know surprisingly little of what goes on in this world but the hints are tantalising enough to know it is vitally important. Perhaps a larger biomass of fish lives here than all the other vertebrates in the world put together. A sizeable fraction of these fish and myriad invertebrates here undertake the greatest migration on Earth: up to the shallows by night, back to the depths by day…up, down, up, down, inhale, exhale. It's as if the ocean were a living organism taking deep, planet sized breaths.

This vast migration is indeed sustaining for life on Earth. These tiny, bizarre creatures, in countless numbers, swim up and down – eat shallow, poop deep – shuttling organic carbon from surface to depths, taking it out of harm's way into the belly of the ocean. Without this downward carbon pump, it is estimated that the atmosphere would have nearly 50 per cent more carbon dioxide and the world would be 2 to 3°C hotter.

Inevitably, some people keenly eye the life of the twilight zone as a source of fishmeal and oil, cheap bulk commodities to fuel aquaculture, farming and nutraceutical industries. As inevitably, were they to get their hands on it, this remarkable world would be devastated by our calamitous inability to exercise restraint.



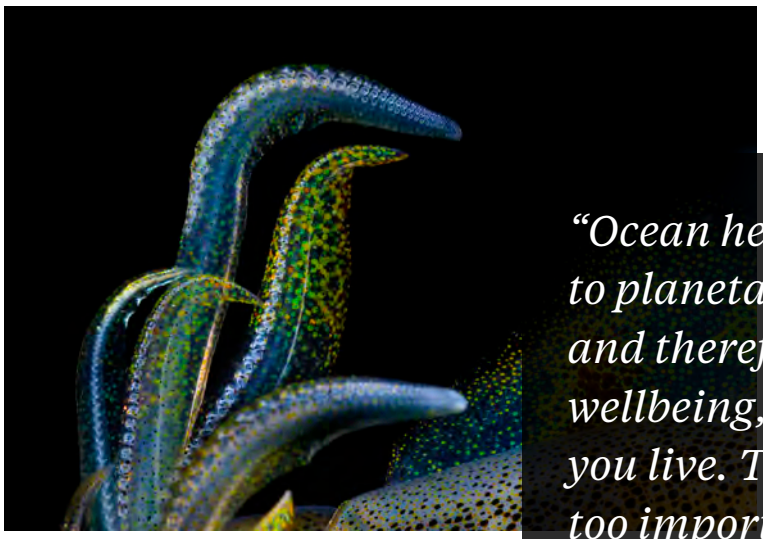
A quarter of a century ago, I began work on the book about the history of ocean life and our relations with it. I discovered in writing The Unnatural History of the Sea that there was a repeating pattern to those interactions. Discovery of some animal – often encountered in spectacular abundance – was swiftly followed by exploitation, then depletion and loss. As the means of discovery and extraction became industrialised the cycle sped up, compressing the time between discovery and loss. Fur seals, for example, were encountered in immense breeding colonies in the South Orkney islands by sealers in the 1820s, but were plundered to the edge of disappearance in less than a decade.

I also discovered that fisheries management has failed repeatedly, since its inception roughly a century ago, to curtail our destructive tendencies. Managers typically hover on the sidelines as spectators at first when catches are good, then become cheerleaders as they help fishers find more powerful ways to find and catch dwindling fish. This goes on until a state of decline so obvious and severe has been reached that they must intervene. They have habitually taken the view that fisheries don't need managing until problems emerge, by which time it is too late. Fisheries managers are either hardcore optimists or delusional, always believing that this time around it will be different and sustainability will be achieved. The more prosaic answer, I feel, is that our management institutions fail because they operate on discredited assumptions. The precautionary principle is often paraded but rarely used.

One such assumption made throughout history is that the ocean is too vast for us to cause more than local damage. Explaining away the growing difficulty of finding whales, 19th century whalers imagined them retreating under Arctic ice to places inaccessible to hunters. The simpler explanation, that we caught too many, was rejected, even through to the middle of the 20th century when hardly any were left.

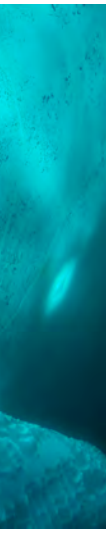
"There is a sense of connection beyond the limits of visibility. Creatures materialise from the periphery or skirt the edges like half seen ghosts."

THIS PAGE: Juvenile Munk's devil rays are attracted by a green light. Photograph by Henley Spiers from Ocean Photographer of the Year 2024.
PREVIOUS PAGE: A whale shark and its entourage of remoras attracted by the bright lights of fishermen. Photograph by Jade Hoksbergen from Ocean Photographer of the Year 2023.



"Ocean health is vital to planetary health and therefore human wellbeing, wherever you live. This is far too important to trust to profit chasing corporates with few morals and less restraint."

TOP ROW: A mahi mahi leaps back beneath the surface. Photograph by Henley Spiers, Oceanographic Storyteller in Residence 2023. | A scuba diver explores the underside of a gigantic iceberg. Photograph by Franco Banfi from Ocean Photographer of the Year 2023.
MIDDLE ROW: A shearwater struggles to pick out its prey in a lanternfish baitball. Photograph by Henley Spiers, Oceanographic Storyteller in Residence 2023. | Clouds of white spawn billow from a giant barrel sponge. Photograph by Aaron Sanders from Ocean Photographer of the Year 2025.
BOTTOM ROW: A portrait of a squid. Photograph by Matty Smith from Ocean Photographer of the Year 2021. | An abstract portrait of a small bay squid. Photograph by Matty Smith from Ocean Photographer of the Year 2022.



Each time a new resource is found (and few remain today), industry would have you believe that we will avoid the mistakes of the past. We have enough experience to know ourselves and our weaknesses. We seem incapable of managing rationally from the outset, instead exploiting recklessly and acting reluctantly and belatedly to repair damage rather than avoid it. Long experience also tells us that collapse happens fast while recovery may be slow.

There are other resources in the deep ocean attracting attention. Polymetallic nodules scattered on the muddy bottom, cobalt crusts that form on seamounts and precious metals belched forth by hotsprings are now in the crosshairs of industry. Over the last few years, the International Seabed Authority has been fast-tracking a mining code so exploitation can begin, against the advice of many scientists and industry experts who think exploitation cannot be undertaken without causing irreparable damage that cannot be avoided or remediated. That damage will spread to affect marine life and ocean health across tens of thousands of cubic kilometres of ocean.

I've spent much of my career figuring out how to better protect marine life. Shortly before the turn of the millennium, on the back of hugely encouraging results of rapid rebound of life in small marine reserves, I began to wonder how much of the sea we would have to protect to expand that recovery to oceanic scale. Within a few years we had an answer: 20 to 30 per cent of the sea. A further decade of research refined the number to "at least 30 per cent", which through the efforts of many supporters became the global target that today is driving ocean conservation toward future success.

But is this enough for the high seas? A few of us have come to believe there is a better alternative. Given that the probability of harm is so great and the expected rewards of fishing and mining so fleeting and uncertain, we proposed last year that we should leave the high seas and its resources alone, forever. International waters of the high seas cover 43 per cent of the surface of the Earth. And with an average depth of 4.1km they occupy 75 per cent of its living space. That makes these waters fundamental to the processes that made and keep our planet habitable. With climate change accelerating, we cannot risk further disruption of the biological mechanisms here that enable the ocean to draw down carbon dioxide from the atmosphere. Life in the twilight zone is far too important to climate stability to grind up into fishmeal.

As for the story peddled by would-be miners, that deep-sea minerals are essential to the green transition, it's nonsense. There are huge, untapped reserves on land that can be mined with less risk, greater oversight and a far lower probability of long-term harm.

And what of the surface fish, like tunas? Surprisingly, fishing in the high seas contributes just six per cent to global catches, most destined for high income countries. These fisheries mean nothing to food security and the financial rewards go to a handful of countries. We could fish them differently for greater benefit. Almost all high seas species straddle national waters and could be caught there instead, generally under better management at lower expense and with the benefits shared among many countries. Science suggests these fisheries would be more sustainable and productive if the high seas was fully protected as a giant reserve.

All eyes are on the new UN High Seas Treaty, which came into force this year, to protect ocean life in international waters. I well remember nervously presenting our first proposals for high seas protection at the UN in 2006, and personally spent much time over the following years urging on negotiators with better and more compelling science. But I'd be the first to admit that the scale of its task today is colossal. Given the scarcity of good data, identifying good places for protected areas will be a task of Gordian complexity. A better, surer, faster way would be to protect all of it. It sounds crazy. Sometimes ideas appear like that on first acquaintance but crystallise over time into shared good sense.

When nothing less than the world is at stake, bold collective action is imperative. We have done this before. Knowing that nobody could escape the effects of atmospheric nuclear tests, regardless of where explosions occurred, the world agreed to ban such tests forever. So far it has worked. The destruction of high seas marine life degrades the world's life support system and has consequences for all. We need the equivalent of a nuclear test-ban treaty to protect it forever, for everyone. Ocean health is vital to planetary health and therefore human wellbeing, wherever you live. This is far too important to trust to profit chasing corporates with few morals and less restraint.

When I am diving and observe the sea from within my visual bubble of proximity, I feel a deep connection to life everywhere else, below and above water. I also sense a connection and responsibility to our future world, and the generations to come who will inherit it. Our choices today will shape that world. We need to practice making better decisions.

Prof Callum Roberts

Marine conservation biologist, University of Exeter, oceanographer and author: Ocean of Life and Unnatural History of the Sea.

Dr Helen Czerski

Physicist, oceanographer and BBC broadcaster; author of The Blue Machine.

We humans live our lives in the shadow of the ocean. It's a strange relationship, because although the physical reality of our daily lives is dependent on the inner workings of our dynamic ocean, we are not natives in the saltwater realm. We can only visit, on scuba, in submersibles, on ships or via remotely operated cameras, to marvel at another world from inside a bubble that we create. But in spite of our visitor status, I think the worst mistake we can make is to speak of the ocean as distant, other, mysterious, or a void.

We learned at school that the great pyramid-building civilisation of Ancient Egypt was successful because the annual inundation of the Nile deposited rich fertile soil. But where did that water come from? The answer is that it started in the Indian Ocean, before it evaporated and then rained down over the Ethiopian highlands, to drain out down the Nile. Many of the greatest cities in history claimed their status because of their access to the ocean – liquid can be much easier to traverse than solid land, and so access to the ocean means access to the world.

The relatively stable temperature of Earth is only possible because of the unusual behaviour of water, making it a critical vehicle for storing and moving vast quantities of energy. The list of causation goes on and on.

Of course, being in and on the ocean offers humans an incredible range of experiences, in addition to a constant and delightful reminder that our view of what's 'normal' for life is actually very narrow. But my point is that we don't need to be touching salt water to experience the ocean. The ocean's influence on our lives is far larger than that, because we are literally part of its sphere: the sphere more commonly called the Earth. The ocean is there every time you step outside in winter and the temperature isn't -30°C, every time you read a history book about geopolitics shaped by ships, and every time you touch concrete knowing that every calcium atom forming its strong matrix was previously collected by a tiny marine organism.

Respect for the ocean is critical, especially because it's not there for us and can frequently be violent and hazardous towards the unprepared. But it's not separate from our world. Good stewardship of the beating blue heart of planet Earth isn't just a moral imperative or an aesthetic one (although both of those would be enough by themselves). It's about preservation of our planetary life support system. Treating the ocean as mysterious or distant allows us to ignore that fundamental fact. It's not somewhere over there. It's right here, part of us, always present. The wonderful moments spent visiting and observing the ocean are important for us to see the reality of our world. I live my life immersed in the ocean, every day, and I am proud to be a citizen of this ocean planet.

I do not belong to the category of fatalists. Quite the opposite. After a lifetime spent alongside the ocean, I remain convinced that human nature carries within it remarkable qualities – among them, the capacity to understand, to adapt and to change course. We are fortunate to live in a time when deep transformation is not only possible, but already underway. A growing societal and political awareness is taking shape. The age of excess is behind us, not the age of hope.

For decades, the ocean was the great absentee of international climate discussions. When climate change was debated, its role was too often overlooked – or, at best, underestimated. And yet, the ocean regulates our climate, absorbs vast quantities of heat and carbon, and sustains life on Earth in ways we are only beginning to fully grasp. Today, the ocean has gradually reclaimed its rightful place at the heart of international dialogue.

In this evolution, the commitment of the Principality of Monaco, driven by the vision of HSH Prince Albert II, deserves particular recognition. Monaco, I think, has played a pioneering role in ensuring that the ocean is no longer an afterthought, but a central pillar of global environmental governance.

But the time for observation alone has passed. Awareness, however essential, is no longer sufficient. Agreements must now be translated into concrete action. The priority is clear: implementation.

For centuries, it remained largely inaccessible, a vast and mysterious expanse beyond the reach of human activity. Today, technological advances are transforming our relationship with it. Exploration is accelerating, and with it, the expansion of economic uses. This new accessibility brings both opportunity and responsibility. It must be guided by a single imperative: sustainability.

Not all forms of exploitation will meet this standard. Some, by their very nature or environmental impact, are incompatible with the preservation of marine ecosystems. This is where the concept of the blue economy emerges – not as a slogan, but as a necessity.

Between two extremes – unregulated exploitation driven solely by profit, and total preservation excluding all human activity – there exists a narrow but essential path. Along this ridge lies the possibility of a model that reconciles human needs with the integrity of the ocean: a strong, sustainable blue economy.

Today, nearly half of the wealth generated from the ocean still comes from hydrocarbon extraction. This reality underscores both the scale of the challenge and the urgency of the transition ahead. The blue economy must become the cornerstone of our roadmap for the ocean; an economy that creates value while preserving the ecosystems upon which it depends.

It is my belief that a small state can do what large ones cannot. There is something in Monaco's particular combination of sovereign authority, scientific legacy, philanthropic ambition and sheer conviction that allows it to act in ways that larger, slower institutions cannot.

Encounters with the ocean in its most remote and extraordinary places – through expeditions that reveal both its fragility and its resilience – remind us of what is still within our reach to protect. These experiences confront us with a simple truth: the future of the ocean will not be decided by what we know, but by what we choose to do with that knowledge.

My relationship with the ocean has evolved over time: from one of admiration to one of understanding, from one of understanding to one of responsibility. What it has come to mean, above all, is a call to act. Not out of fear, but out of conviction. Because if the ocean has taught us anything, it is that resilience is possible, but never without respect. And hope, very much like the ocean itself, remains vast.

Robert Calcagno

Chief Executive of the Oceanographic Institute of Monaco.

TO SPEND 312 DAYS ALONE IN A SMALL BOAT AT SEA MEANS IMMERSING ONESELF IN AN INCREDIBLE RELATIONSHIP WITH NATURE.

I navigated, without human contact, through the great oceans: the Atlantic, the Roaring Forties across the Indian and Pacific, then back into the Atlantic again.

Life was dominated by the winds, and the waves they created. A barometer represented the only modern human invention on board; I compared its readings by constantly watching the clouds, the clouds that indicated how these winds would change my existence from hour to hour. My navigation method would have been recognised by James Cook two centuries before; there were no satellites at that time.

Communication was vague and ceased completely when my radio broke down early on. For long periods no one knew where I was and I had no way of telling anybody. In those circumstances, undistracted by news of the outside world, one becomes as much a creature of the sea as the birds, whales and dolphins. Their visits, playful swimming and flying alongside provided pleasant company and made me feel less alone.

Out in the middle of the ocean bird life was scarce, but storm petrels – tiny fluffy little things that seem too fragile for the harsh environment – and huge, graceful gliding albatross were welcome visitors. I was far more cautious when encountering a blue whale, ten times the weight of my boat. I tiptoed past, hoping it would not become too curious.

The oceans have their own contrasting identities but of them all the Roaring Forties are in a class of their own, only matched by the worst storms of the North Pacific. In these southern latitudes there are no land masses to interrupt the constant flow of the waves so they can roll uninterrupted all around the world. This results in a very large, majestic swell, punctuated by often vicious depressions. The swell is manageable, but when the extreme winds in the depressions produce a more local effect, the steep wave faces these winds create can be extremely dangerous. The combination of swell and waves builds them to heights of 30 metres with spindrift rushing across the surface so hard it can temporarily blind you if you look into that wind.

Caught in one such storm in mid-Pacific, and seeing a huge wave about to break over the stern of my boat, I realised that I would be swept off the deck. There was no time to reach the safety of the cabin so I climbed up the ropes and mast to get clear of the deck. Luckily my boat did not broach – swing parallel to the breaking wave. That would have risked capsizing. Six hundred feet of rope towed behind restrained it. The moment felt like an eternity.

Then my boat disappeared underwater leaving me and two masts the only things in sight; the nearest land 1,500 miles away. The boat shook herself to the surface, the water flowed off, and my home reappeared. I was fortunate.

In a recent solo race, five boats got caught in similar weather. They weren't so lucky. They broached – the boats rolled and then dismasted.

You long to escape the open ocean and reach Cape Horn, even though the winds there are intensified and squeezed between the Andes to the north and Antarctica to the south. This narrow gap accelerates the current which, combined with the shallower waters, can create horrendous conditions. But once that infamous Cape is passed, you are finally in the 'lee' of South America. You are past that relentless swell and into the relatively benign calm of the South Atlantic.

Sir Robin Knox Johnston

Sailor; first single-handed, non-stop circumnavigation of the globe (1969).

John Fugelsang

Actor, comedian, and broadcaster; host of Tell Me Everything and political commentator.

A few years ago, through my friend Jen Hegarty, my radio show on SiriusXM got to be part of a Nekton mission. My team travelled to join Olly Steeds and crew for a record-setting radio broadcast at the bottom of the Bermuda Triangle.

The intention was simple: a comedic live show with celebrity guests that would draw attention to urgent environmental concerns – from trawling to acidification. Mark Hamill, Lewis Black, Rod Roddenberry and the late, great David Crosby all pitched in, their voices travelling 1,000 feet below sea level, to our two-man Triton submersible.

We'd planned the show meticulously, with a focus on the science, but nothing could have prepared me for the spiritual experience of seeing this planet in a way I had never imagined. As we descended from the Baseline Explorer, I witnessed the deepest of blues and beheld such beauty – a part of the creation that a kid from New York City is generally not meant to see.

When we settled on the ocean floor, the darkness, silence and peace were almost overwhelming. As the live show began, I cited many facts, performed our pre-written comedy bits and interviewed our guests as planned, all in the deeply ethereal glow of another submersible's headlights.

But I hadn't prepared for the very real cognitive shift of the Innerview. I realised that I was breathing, working, and cracking jokes in the presence of something that has been here for billions of years – and will still be here long after us.

I could barely concentrate on my job, distracted by this humbling awe that also felt like joy, and the wonder of a world that seemed mysterious and new again. My perspective of the world – and our place in it – changed that day, in ways I'm still learning to understand.

I walked away with a dazzling awareness of the importance of Nekton's work, and a profound gratitude for these compassionate explorers, each of them guided by a love of science and this Earth we share.

WE DON'T STARE INTO THE WATER WITH THE KIND OF VISION THAT WE HAVE WHEN WE STARE INTO SPACE AND WE HAVE NO UNDERSEA TELESCOPE THAT OPENS THE WORLD DOWN THERE TO US.

Lewis Black

Grammy-winning comedian, actor and author.

As we prepare to head back into space, sending astronauts to orbit around the Moon, it is a good time to look back at the extraordinary mission into the depths of the ocean, whose anniversary we are soon to be celebrating. It should get the same attention as our space launches, but it just isn't as sexy as they are.

We don't stare into the water with the kind of vision that we have when we stare into space – and we have no undersea telescope that opens the world down there to us.

I was lucky enough to be able to talk with Olly Steeds while he dove deep into the heart of the darkness of the sea. I felt profoundly moved to know I was touching – in no small way – the depths of the ocean. It was as overwhelming as if I were talking to an astronaut scaling the heights of the heavens.

Truly one of the most extraordinary experiences of my life and I am proud to have been an infinitesimal part of it.

Kanaloanuiākea

Kanaloanuiākea (Kanaloa of the vast expanse)
E Kanaloa Haunawela (Kanaloa of the depths of intensity)
Kanaloa ke ala ma'awe 'ula a ka lā (Kanaloa of the west sky, the setting sun)
Kāne ke ala 'ula o ka lā (Kāne of the east sky, the rising sun)
Kanaloa noho i ka moana nui (Kanaloa residing in the great sea)
Moana iki (Small sea)
Moana o'o (Mottled sea)
I ka i'a nui (In the big fish)
I ka i'a iki (In the small fish)
I ka manō (In the shark)
I ka niuhi (In the tiger shark)
I ke koholā (In the whale)
A hohonu (Of the depths)
'O ke kai hohonu a he'e (The depths transcending)
'O ke kai uli a palaoa (The dark depths of the sperm whale)
'O ke kai kea a honu (White sea of turtles)
'O ka hou ka'i loloa (The wrasse parade in a long line)
'O nā au walu a Kanaloa (The eight currents of Kanaloa)
I pa'a ka maka (The source is stable)
I ka maka walu a Kanaloa (The numerous consciousness of Kanaloa)
Ola! (It lives)
Lana i ke kai (It floats in the sea)
Lana i ka honua (It drifts upon the land)
Lana i ka hopou a Kanaloa (It intermingles in the energy of Kanaloa)
I ka Mokupāpapa (Out to the low laying islands)
Ka papa kaha kua kea o Lono (The low laying coral islands of Lono)
'O Lono ka pao (Lono is the bridge)
Ola i ke au a Kanaloa (Life to the realm of Kanaloa)

'Aulani Wilhelm
Chief Executive of Nia Tero.

As a child I was always drawn to the ocean. I loved the beach, particularly the rolling, soft shore break at Waimānalo. I loved watching the 'ūlili and hunakai run along the sand dodging the water's edge as they searched for food. And to lay on the sand counting 'iwa and wondering why they scared other birds into dropping their food. But most of all I loved tumbling in the surf, struggling to understand the waves and my place among them, then swimming out further where I could simply be immersed in the womb of the ocean. It was here, in the deeper parts of the ocean, where the ocean is darker – more silent somehow – that I felt more at peace. Where I could feel more deeply and hear more clearly, able to absorb more fully what the ocean was trying to teach me.

I understand these deep waters to be the realm of Kanaloa, our deity of the ocean, long-distance voyaging and navigation, deep-sea fishing, and marine life. Importantly, he is also the god of healing who holds knowledge stored in the deepest parts of the ocean where the palaoa (sperm whale) roam. This makes sense to me as I have always felt that I have obtained my most important 'ike (knowledge) from time spent in relationship with the ocean, particularly when I have been farthest from land or in deep water.

Our origin story, the Kumulipō, tells us we descend from the ocean. Our first nonhuman ancestor to emerge out of Pō – the primordial source – was the coral polyp, from which all other forms of nature, including us, descend. As such we are the ocean and the ocean is within us.

We have many words to describe the ocean, the nearshore, the brackish water, the reefs, the waves, the currents and its many inhabitants – and we understand all of it to be within the domain of Kanaloa. Kanaloanuiākea, the subject and title of the opening chant, refers to the vast expanse of Kanaloa, recognising the entire ocean as a sacred space, and thereby assigning us kuleana, the responsibility and privilege of ensuring its care.

This understanding of the ocean as sacred is a very different view than ones historically held in dominant cultures as empty, desolate, mysterious, ominous, forbidding, unforgiving – filled with sirens beckoning sailors to their demise, or worse, the realm of the devil or underworld. With these deeply ingrained perspectives, codified in colonising languages, it is no wonder why the ocean and its abundant life have been relentlessly harmed in the pursuit of wealth, comfort and convenience. And subsequently why Oceanic peoples and cultures have been overlooked and demeaned throughout history despite our mastery of non-instrument navigation, and our unparalleled ability to settle, develop complex societies, and thrive across the vast Pacific Ocean. Like nomadic cultures of the deserts, ice, or grasslands, Polynesians were nomads traversing the world's largest ocean with a territory larger than Russia – over a thousand years before European exploration of the sea.

This deep understanding of the celestial universe and the natural world that made this possible is rooted in kinship, recognising, relating and respecting all living beings as family: understanding the functions of and relationships among all natural elements and all life, including guardians and ancestors.

Kanaloa for instance has many kinolau, body forms, where he exhibits his presence and mastery – some of which are described in the chant [see left]. If we stop to observe and absorb, we can learn valuable lessons from the characteristics and behaviours of these kinolau, and from their relationships and responses to other living beings and the elements around us. Through stories and observations of our own, we learn resilience and how to adapt to ever-changing circumstances so we can make the best decisions possible now and for future generations. And by encountering and witnessing kinolau, we are reminded of Kanaloa, and the reverence and respect we should hold for the ocean and one another.

One important kinolau of Kanaloa is pa'akai, or sea salt. Although I don't remember from whom, I learned as a kid to taste the ocean when I jumped in. Each bay, reef, wave and deep water realm tastes different. Some saltier than others, some fishy, some earthy, some filled with fresh water. Each with a set of signals as to who and what resided within: the kinds of eddies, streams, or submarine springs that fed the area with fresh water; and the type of soil or lava comprising the shoreline and adjacent upland. This practice became so ingrained in me that it is almost involuntary, I taste seawater wherever I am to try to calculate my bearings.

I remember taking this practice with me when I had the privilege of sailing on Hōkūle'a, our cherished double-hulled deep-sea voyaging canoe on a world-wide voyage in 2017. We were sailing off the coast of Colombia where the ocean had a markedly different sound against the hull as we moved through it. The currents below felt like they were contravening one another, struggling for the right-of-way. The ocean was midnight blue with a veneer of deep, olive-green foam mixed with an oil-like sheen. The scent was richer, full of nutrients. Ocean life and behaviours were unfamiliar to me. Although we were at sail and never entered the water in abyssal depths for safety, the desire to experience this water through my taste buds compelled me. I reached for a tethered bucket that we use to clean our dishes and tossed it overboard to draw in this ocean. The water was slightly oily and covered my tongue with the flavour of an omega-3 supplement capsule. It was salty too, but muddled with the taste and microscopic texture of lipids and diatoms released by kelp and their cousins.

In Hawai'i the word for sea salt is pa'akai, derived from the words pa'a (solid) and kai (ocean), literally meaning solid ocean or more poetically, the ocean made firm. The harvest and cultivation of salt is an art form, traditionally practiced at scale in places like Hanapēpē on the island of Kaua'i, and conducted as a regular practice by families to gather what they need from coastlines and tidepools today.

As in many cultures, pa'akai is used as medicine, to preserve food, and in ceremonies for protection, purification, and transformation. Salt is a humble but potent ingredient that can preserve what is good and precious, transform the taste or nature of food, and bring healing both physically and spiritually. It makes sense that as a product of the ocean, pa'akai reminds us of Kanaloa as our god of healing. It also reminds us that we are all connected and nourished by the source from which all life is derived.

Ola i ke au a Kanaloa! Life to the realm of Kanaloa!

Jialing Cai

Underwater photographer; winner Ocean Photographer of the Year 2023 & Female Fifty Fathoms Award 2025.

A juvenile wunderpus octopus. Photograph by Jialing Cai from Ocean Photographer of the Year 2025.

I often find myself suspended in empty darkness, unbound by gravity, completely unable to tell up from down. It is an experience of absolute freedom in the most physical sense. I am not floating through the vastness of outer space, but on the surface of the open ocean at nighttime. I am not an astronaut. I am a blackwater photographer.

Beneath me, the greatest migration on Earth is underway. Every night, billions of zooplankton rise hundreds of metres from the depths towards the surface, and then retreat back to the abyss before dawn.

Thanks to this natural rhythm, we can seek out and document these little-known drifters simply by diving within the top 30 metres of the ocean. We don't need to go to the deep sea. At night, the deep sea comes to us.

Once in the water, I switch on my torch. A narrow column of light cuts through the darkness, becoming the only clearly defined space in my field of vision. The ocean is not transparent in the way air is. Countless grains of sand and flecks of organic debris hang suspended in the water, scattering and softening the beam.

Every so often, one of these 'particles' flashes back in a distinctive way. Move a little closer, and sometimes it reveals itself to be life. It might be the eye of a tiny octopus staring back, or the reflective scales of a juvenile fish. With time, I learn to recognise the subtle movements that distinguish living bodies from the surrounding chaos of drifting matter.

You might already know some classic plankton forms – jellyfish, or perpetual drifters like sea angels and sea butterflies. But here is something less obvious: no matter where a marine creature eventually settles, on a coral reef, in intertidal mudflats or around deep-sea hydrothermal vents, life often begins with a ride on the currents, as a tiny planktonic larva. The planktonic world is a vast, secret nursery, holding clues to the early development of most marine animals.

Take larval crabs for example. The square, sturdy creatures we recognise actually pass through two striking planktonic stages. In the first, the zoea, the carapace sprouts long spines stretching several times the body's length. In the second, the megalopa, those exaggerated spines vanish but the abdomen extends behind the body like a tail. Surprising as it sounds, young crabs do indeed have tails. Countless other marine creatures undergo equally dramatic transformations we have barely begun to document.

Life originated around four billion years ago at hydrothermal vents on the deep ocean floor. We humans, walking on two legs, breathing with lungs, arrived only 300,000 years ago. We had long ago ceased to belong to the deep sea. Yet, the vertical migration of zooplankton feels like an Easter egg that evolution left behind for explorers. As blackwater photographers, we drift through the darkened ocean surface – stars above us, the abyss below. Through these sprite-like plankton, we can cross vast distances and stretches of time, to catch an Innerview of the primordial deep, where all life was born.

Tessa Campbell Fraser

Sculptor and painter.

I can't sculpt what I can't see and feel. I need to be present and listening to reveal what is beautiful. So, to be given the opportunity to free dive in Dominica with what I now call 'my beloved sperm whales' was not only a necessity but an honour.

If I was to do any justice to the interconnectivity between human and non-human species in a sculpture, I needed to be in their environment. In the least intrusive way possible for marine life, but in a manner that opened me up to any sensory experience I might encounter.

What I felt was far beyond what I expected. I thought I was dropping into the water to hear the unique, coda click patterns – that scientists believe are an advanced form of communication between whales – to form a starting point for an artwork.

I didn't quite know how I would feel being face-to-face with these giant creatures in their environment. I'd hoped I would hear them click and, indeed, they did – but it wasn't the sounds that gave me the intense feeling of interspecies communication. It was the fact that I was one female in a group of females; I felt part of the clan. I had no sensation that I didn't belong in their underwater world, or that we were alien to each other or that I was in any way in danger. It was almost as if we had come from the same beginnings. And perhaps we have; after all, they still have finger-like bone digits in their pectoral fins left over from roughly 50 million years ago when whales were walking land animals. Like humans, their bodies are also covered with skin.

One encounter that gave me a particularly strong and special sense of bonding was when a pregnant female swam straight towards me. I didn't know whether to side swim to the left or right, but she passed by gently with less than a foot between us. As she swam by her eye looked at me in a knowing way as if to say, "See…we are not so different, you and I". It was a very intimate female-to-female moment.

These not-so-alien species that I was swimming with facilitated a more knowledgeable conversation within me about myself, my personal views of being a woman today – perhaps I was connecting, like Inuit people do, on a deeper, more spiritual level with these magnificent animals? I certainly surfaced from the water with a clear message from my encounter that to exist in this world peacefully and fulfilled, I would do well to listen to their ancient tongue. It made me realise this world is uniquely special and worth cherishing.

The Romantics believed in 'the concept of the sublime': that every person upon seeing a grand, majestic object is affected with something which extends one's very being, expanding the sense of 'self' to a kind of immensity. The ocean and its occupants certainly does this for me, confirming as the Gaia hypothesis states, 'the breath of every living creature is connected'.

Because of this, my relationship with the ocean leads me beyond myself, to something greater than myself; validating the fact that this wonderful world needs protecting for us all to enjoy.

WHEN THEY GO DOWN, THEY WILL COME BACK CHANGED. AND THAT UNDERSTANDING, IN EVERY PERSON WHO FINALLY ENTERS THE WATER, IS WHAT THE EXPEDITION EXISTS TO MAKE POSSIBLE. IT IS EXACTLY WHAT THE INNERVIEW IS FOR.

Rob McCallum

Ocean advocate, Founder of EYOS; 1,500 global missions including all 10,000m ocean trenches; first New Zealander to the Challenger Deep.

There is a kind of work that is difficult to explain at dinner parties. You are not the scientist who makes the discovery. You are not the pilot who descends to the deepest point. You are not the filmmaker who captures the image that changes a million minds. You are the person who makes it possible for those people to be in the right place, with the right vessel, the right technology, the right team and the right conditions, so that something extraordinary can happen.

Enabling extraordinary feats has been the entire focus of my career.

The Innerview, for me, begins before the dive. It begins with the idea, the concept, the visualisation and the planning. In the months and sometimes years of work that precede a descent. In the decision about which vessel, which submersible, which scientist, which trench. In the conversations with philanthropists about why the deep ocean matters and what it will give back. In the engineering meetings where problems that have never been solved are placed in front of people who have no choice but to solve them. In the moment when the Limiting Factor – the first and only submersible officially certified by international experts to dive to full ocean depth – was ready to dive, the team understood that they had built something that had not existed before, and that it would now make possible things that had not been possible before.

That is its own kind of Innerview. The one that comes to the people who made it possible.

But then there is the water itself.

In April 2021 I descended to 10,925 metres in the Challenger Deep. A rare and special privilege, because leading an expedition means understanding the environment your team operates in. Sitting in my own life-support cocoon at nearly 11,000 metres gave me my first real insight into the Innerview Effect.

Despite the crushing pressures outside the vehicle, we sat in perfect comfort within the titanium sphere. And outside, in the darkest place on our planet, there was life. Microbial mats on the seafloor near mounds of sulphur. Amphipods dancing in our lights. Graceful, jelly-like creatures drifting past, unhurried and entirely indifferent to our presence. Life that had been adapting to this impossible hadal realm since the dawn of evolution. We were visitors, yet we were home.

I was deeply conscious, as I looked through that viewport, of everything above me: every creature in the ocean that has been discovered and the millions that have not. Every whale, every coral reef, every shoal of fish – all stacked in the dark water between where I sat and the surface four hours above. This vast body of water that covers over 70 per cent of our planet is the exact opposite of the dead void of space. It is home to most of the life on Earth. It is the source of much of our oxygen. It provides sustenance to billions and a transportation link to us all. It is the life support system for our entire planet – and there I was, with a front row seat into its very heart. The Innerview of our ocean.

As a terrestrial species we have long looked to the heavens in awe, and aspired to go to the distant stars no matter how unreachable that ambition. Yet, with the exception of fishermen and scuba divers, few of us ever consider what lies within the body of water that comprises most of Earth's living space. Ninety per cent of the ocean lies below 200 metres. It was 2019 before humankind developed a reusable vehicle that could easily explore to any depth in any ocean. An incredible world has been waiting.

But what moves me most is not my own descent. It is what I have watched happen to others.

Over 25 years of leading expeditions, I have had the privilege of watching many of the contributors to this very collection – scientists, explorers, heads of state, advocates and artists – descend to full ocean depth and to the extraordinary places in between. I have watched the moment, in each of them, when preconceptions about the deep ocean – cold, dark, lifeless, hostile – dissolved in the reality of what they were actually seeing. And I have watched what replaced those preconceptions: awe, curiosity, wonder and the particular, irreversible sense of belonging that comes from understanding that the ocean is not something we observe from a distance. It is something we are a part of.

Getting those people into the water is the work. It is also, for me, the Innerview.

The Overview of Earth may deepen as we venture out beyond the Moon. But here on Earth, our Innerview of the ocean will only increase in both breadth and clarity as more human beings finally enter it. The pace is quickening. The technology now exists to explore any depth, in any ocean, repeatedly and safely. This generation will see great advances that bring the deep within reach of more people, more scientists, more communities – whose waters have never been visited by the people who depend on them.

When they go down, they will come back changed. And that understanding, in every person who finally enters the water, is what the expedition exists to make possible. It is exactly what the Innerview is for.

To many, the islands of Tahiti appear as mere pinheads of soil lost in the staggering immensity of the Pacific. Visitors often ask, with a hint of misplaced pity, “Isn't that in the middle of nowhere?” But to those of us who inhabit the Blue Planet, the perspective is inverted. Tahiti is not an isolated speck; it is the centre of everywhere. In the eyes of the Polynesian people, the world is defined by Moana Nui Akea: the Great Ocean. It is not a barrier to be crossed, but a sacred expanse that connects all things.

The Polynesians who first settled these remote reaches performed arguably the most intrepid feats of seamanship in human history. Their mastery of the environment represents a profound divergence in human thought. While European explorers eventually conquered the seas through the mathematics of spherical trigonometry and mechanical timepieces – imposing a theoretical overlay upon the globe – the Tahitians navigated within nature. By reading the stars, the wind, the migration of seabirds and the subtle language of ocean swells, they moved with the rhythm of the planet rather than trying to measure it into submission.

This intimate connection to the natural world has forged a people characterised by a rare, luminous spirit. Polynesians are quick to laugh and are generous of heart, yet they possess great perspicacity. They are extremely observant, able to read a human face as clearly as they read the surface of the sea. This clarity extends to their stewardship of the Earth. Having thrived for centuries on limited island resources, they mastered the art of sustainability long before it became a global buzzword. They did not just survive; they thrived, cultivating a life of mirth, simplicity and elegance.

Despite centuries of cultural assault and the modern pressures of economic dependency, the core of the Polynesian value system remains unyielding. Their resilience is a testament to the strength found in traditional knowledge. In my work across these islands, I have witnessed a beautiful convergence: the Tahitian people can tell you how nature works through generations of observation, while the scientist explains why it is so. Neither is superior; they are two halves of a whole understanding.

We live on a planet that is more water than land, more blue than green. By looking to the people of the Pacific, we see a mirror of our own global reality: we are all inhabitants of a pinhead island floating in a vast cosmic sea.

The true genius of the Polynesian spirit lies in the understanding that we do not exist outside of nature, but as a vital part of its fabric. What we do to nature, we do to our communities and to ourselves. As our troubled planet searches for a way forward, the wisdom of the islands offers us a compass.

To save our future, we must learn to navigate as the Tahitians do: by keen observation, by reading the signs of the world around us with humility, protecting our resources with foresight, and treating one another with the sincere kindness of those who know we are all in the same boat.

Richard Bailey

Ocean Elder; Founder of The Brando and the Blue Climate Initiative.

Dr Tim O'Hara

Evolutionary marine biologist and Senior Curator at Museums Victoria.

You need imagination to be a deep-sea scientist. From the sea surface you cannot experience the grandeur of deep-sea landscapes, the fantastic forms of deep-sea creatures, nor the viscous connectivity of its waters. Instead, you have to rely on remote sensing, underwater video and precious samples brought up from the deep. Research vessels have been traversing the globe, mapping, sampling and imaging. But zoom in on a map and you see their narrow tracks form nothing more than a fine web across the ocean. Only five per cent of the seafloor has been visualised. Research tracks are like gossamer threads of knowledge across a sea of ignorance.

So, I spend a lot of time digging into my innerverse for ways to connect these fragments of data and communicate an understanding to humanity. I have never been in a submersible to explore the depths, so I will leave it to others to focus on the intricate beauty of deep-sea organisms. Instead, I want to dissolve the sea-surface sensory barrier and reveal the large-scale patterns of the deep. The lack of a visual seascape is a gift. We can use our imagination to redraw the oceans to illustrate what really matters to deep-sea life.

I love mapping software. You can smear points of data and create a landscape. You can play thought games with colour. There need not be any conventions. Should the abyss be dark blue? Should the rim of an underwater volcano be red for lava, or white to represent extreme heat? How can you make the jagged contours of a ridge fracture zone stand out? Maybe you should speckle the abyssal plains on a map to mimic manganese nodules.

But static maps are not enough. How do you convey shifts with time, the movements of continents or the drifting of pelagic life across the ocean? For the ocean has changed much in the last 100 million years. The hot climate of the dinosaurs has diminished. The Earth cooled, creating temperate, subpolar and polar environments. Life dramatically increased in diversity and complexity. The great tropical seaways that ran through the ocean thinned and closed, creating barriers to migration. Again, this is not something you can directly experience. You must dig deep to create narratives and visualisations that reveal the evolution of marine life.

I explore evolution through the DNA of marine organisms – and especially DNA from an obscure group of animals called brittle stars. These creatures generally have five long snake-like arms joined to a central disc. They have no centralised brain, no eyes and not even an anus. But these animals are well adapted to living on the seafloor, capturing plankton or detritus with their mucus-covered arms – or occasionally dining out on a carcass. They have been honing their life skills for over 480 million years. They now live everywhere on the seafloor, from the tropics to the poles, from the coast down to the hadal trenches. They are an excellent group to map.

I SPEND A LOT OF TIME DIGGING INTO MY INNERVERSE FOR WAYS TO CONNECT THESE FRAGMENTS OF DATA AND COMMUNICATE AN UNDERSTANDING TO HUMANITY.

DNA encodes ancestry and we have created great family trees of brittle stars going back to the terrible global extinction event, 265 million years ago, when 95 per cent of life was extinguished. From this tree of life, we can piece together oceanic migrations and barriers across the planet, understand adaptations to cold and deep environments, and learn how diversity has responded over time to waves of speciation and extinction. My task is to take scattered samples and a family tree, and weave them into an insightful history of the ocean.

My Innerview is not based on direct sensory experiences but revolves around creating abstractions that can reveal the patterns and tempo of seafloor life, to build understanding and custodianship.

The deep sea is – in its absolute – not a freak show of weird critters. Instead it is a vast, vital reservoir of life on Earth that has never ceased to adapt to an incredibly demanding environment.

Dr Ken Takai

Extremophile microbiologist and Director at JAMSTEC.

I began my scientific career at JAMSTEC almost 30 years ago with a sample of sediment from the Mariana Trench – the world's deepest known point – the bottom of the bottom. I spent decades studying the deep ocean: descending in the Shinkai 6500 to hydrothermal vent fields across the Pacific, Atlantic and Indian Oceans; watching superheated minerals gush from chimney structures at 400°C; collecting organisms that survive at extreme heat and pressure; discovering life forms that exist entirely without sunlight – sustained instead by chemical energy, life that runs on geology rather than the sun. Life that rewrites the definition of what is possible. These are the places and the chemical reactions that could have first sparked life on Earth, 4 billion years ago.

After 30 years, I believed I had a framework and the principles to understand the deep ocean. Not completely of course – no scientist would claim that – but I had, in my mind, a reliable image of what the Mariana Trench was: quiet, homogeneous, ancient, still. The world's deepest place as a kind of final silence.

In 2026, I returned. This time we drove nine giant piston cores down into the sediment, penetrating 20 to 30 metres below the seafloor, into layers that had never been sampled, never been seen. What we found destroyed my understanding of the deep sea entirely.

The sediments were nothing like what I had imagined. The Mariana Trench is not quiet. It is not homogeneous. It is dynamic, diverse and layered with complexity. The deepest place on Earth, the place I had held in my mind for 30 years as a kind of known entity, turned out to be almost entirely unknown.

Was I disappointed? No. The feeling that rose in me when I looked at those cores was the greatest joy of my scientific life.

This is the paradox at the heart of deep-sea science, and perhaps at the heart of science itself: the more precisely you look, the less you think you know. The ocean does not reward expertise with certainty. It rewards it with better questions.

From my 30 years of descending into the dark, of pushing the known limits of life, finding organisms that had no right to exist within what we know, the lesson I learnt was not mastery. Instead, it was humility before the ocean's innate complexity.

What does my Innerview experience feel like from inside those hydrothermal vent fields, watching a black smoker plume rise into the darkness? It feels like standing at the boundary between what life is known and what life could be. The organisms living in those plumes – thriving at temperatures that would destroy human tissue, metabolising hydrogen sulphide, drawing energy from the chemistry of the Earth's crust rather than from the light of the sun – are not extreme. They are simply different. They are what life looks like when it finds another way. And every time I descend to meet them, I am reminded that our definition of life is drawn only through the limited prism of our perception.

The deep ocean is not the edge of the world. It is another world within our world: one with its own rules, its own history and its own extraordinary solutions to the problem of being alive. It represents 4 billion years of evolution. Four billion years of problem-solving, adaptation, survival and thrival. We have barely begun to read it. And what I know after 30 years – more than any specific discovery, more than any new species thriving in the extremes – is that the ocean will keep surprising us, teaching us and guiding us for as very long as we are willing to ask.

That willingness – the willingness to go to the edge of the known world and discover, to be wrong, to be surprised, to hold our frameworks lightly and let the evidence destroy them – is not a weakness of science. It is its greatest strength. And it is, I think, the deepest gift the ocean gives to anyone who enters it honestly.

I have never known anything about the deep sea. After 30 years, I know this more completely than ever. That is my Innerview and a truth I hold dear. And in that truth, I have never been happier.

00.00m

The joy of not knowing

-10,984m

We cannot save the ocean. We must let the ocean save us.

Brianna Fruean is a Samoan environmental advocate, a member of the Council of Elders for Pacific Climate Warriors and a pivotal youth voice in climate diplomacy. Here, she writes about Indigenous communities' innate connection to the ocean, and the central place their wisdom must hold in the fight to protect it.

Words by Brianna Fruean

It is 2001. I am three years old.

All my grandfather's bedtime stories revolve around the ocean. Our two lives are connected by the ocean we both share, generations apart. I do not know of a life without the ocean. Its voice has always been there beside me, a constant comforting whisper, sometimes an assertive roar. The ocean imbues other sounds I hear too; the songs my community sings and the stories my family members unravel for me. These come from a culture in direct conversation with the ocean, a culture that has grown like a reef over generations. Our songs and stories leave the taste of salt in our throats. I am three years old. Already I know that the ocean lives within me as well as beside me.

When I think about my connection to the ocean, it sometimes feels too expansive to fathom. The ocean is foundational to who I am and where I came from. In Samoa, where I grew up, our relationship with the ocean is one of reciprocity. A fisher will throw the first fish they catch back into the sea as a sign of respect. We don't live alongside the ocean. We live because of it, and that acknowledgement informs our entire way of being.

This essential connection to the ocean is not unique to my community. It is a thread that binds Indigenous coastal communities across the world. Generation upon generation of us have lived in careful symbiosis with our maritime neighbour. Everything in our cultures starts and ends with the ocean: the food we eat, the stories we tell each other, the songs we compose, the art we make, the system we use to mark time and the way we preserve memories. From the Haida of Haida Gwaii – stewards over some of the most biologically productive waters on Earth for 13,000 years – to the Orang Laut, once the maritime guardians of the Strait of Malacca, our communities are connected by an innate understanding. To us, the ocean is far more than a resource. It is a companion deserving of love and respect. It gives us so much, and we understand that we must give back in return.

To live with the ocean inside you is not just a spiritual truth. In many communities, the ocean has shaped physical bodies as an evolutionary sculptor. The Sama-Bajau, a nomadic ethnic group who traverse the waters between the Philippines, Malaysia and Indonesia, have genetically adapted to life in the water: their spleens are significantly larger than average, allowing them to boost oxygen levels during dives. They can navigate to depths of 30 to 40 metres and hold their breath for up to 13 minutes, and many spend up to five hours a day underwater. Their bodies have evolved alongside the ocean. It is more than a way of life. It is their lifeforce.

When I first learned about the Haenyeo – the 'sea women' free divers of Jeju island in Korea – I was struck by the way their experience encapsulates what it means to exist in a culture at one with the ocean. This is a community of women whose heritage and livelihoods are built on submerging oneself entirely in the waves. From this solo communing with the ocean grows a broader collective experience in the form of conversations and stories around the bulteok fire, in the form of meals cooked using seafood plucked from the depths by hand, in the form of a way of life passed down from generation to generation. The sea moulds us and our communities. As it changes, so do we.

It is 2005. I am seven years old.

The reefs are changing. The corals are sick, and the fish are disappearing further into the depths of the deep ocean. People on our island talk about the distances they must cover to ensure a decent catch. Distances that not all our village canoes and boats can reach. The places they have fished for generations are now defined by scarcity. Fisherfolk speak of wishing they had bigger boats so they can keep up with the changing tides. I am seven years old. I am starting to understand that what I thought was constant is actually in flux.

Indigenous communities do not operate in a vacuum. Even if some commit to voluntary isolation – like the Sentinelese, an uncontacted hunter-gatherer tribe inhabiting North Sentinel Island in the Bay of Bengal. The ocean carries the marks of human impact to every land it touches. Cultures that have grown up around the ocean are now being eroded, often due to the decisions that we had no hand in making.

The traditional Western world view of 'land versus sea' is one of disconnect. The ocean is treated as a resource to be mined, a territory to be conquered, an economic benefit to be exploited or a threat to be managed. The result is the gradual degradation of ecosystems and livelihoods, as the ocean is pillaged beyond recognition. In my lifetime we have seen ocean warming rates more than double. We have seen the death of 14 per cent of corals. We have surpassed 500 dead zones: areas where oxygen levels are too low to support most marine life.

These impacts have had devastating implications for Indigenous coastal communities like my own, with lives and livelihoods now threatened due to dwindling fish populations, more frequent extreme weather events and the insidious threat of sea-level rise. The destruction of sacred sites, the salinisation of essential farmland and the forced migration to higher land is threatening to erase entire cultures – and with them the knowledge that has been essential to our collective survival for millennia. What we choose to learn from this scenario will determine whether or not we can survive into the future.

It is 2009. I am 11 years old.

I am now old enough to understand that while my home is an island, it is not separate from the rest of the world. I am old enough to grasp that my culture and heritage is far deeper than it is wide. That there are outside forces being carried on the tides towards me, threatening to erase all I have known. I am old enough to fight back. I arm myself with knowledge. I surround myself with community warriors who have the ocean inside them like I do. I am eleven years old, and I am a climate activist.

It is not a mark of ego to say that the world needs Indigenous activists. On the contrary, it is ego that has led us to where we are today, on this precipice. We dared to think that we could master Mother Nature. We dared to think that the ocean would surrender to us. We are learning that neither is true.

Indigenous communities are not resistant to change. We have lived through geological and climatological shifts before, to the extent that these events are embedded within our culture. Take the Aboriginal Australians, whose oral tradition contains stories that describe sea-level rise from 7,000 to 18,000 years ago. Life-altering changes in coastal morphology are communicated in metaphors: the scraping of a magical kangaroo bone creating a hollow, allowing the water in.

THIS PAGE: Tat of the nomadic Moken wielding his spear from the bow of his kabang. Photograph by Cat Vinton.
PREVIOUS PAGE: At the shores of Pulau Bodgaya lives the tight-knit Bajau community Bohey Bual. Photograph by Claudio Sieber.

TOP: A Bajau girl wearing a handmade sunscreen called Borak Buas. Photograph by Claudio Sieber.
MIDDLE: Children perform a traditional dance on Taveuni Island, Fiji. Photograph by Michael Nolan.
BOTTOM: Haenyeo of Jeju Island perform a song. Photograph by John Ko.

Then there are the Inuit people of the circumpolar Arctic who know sea ice better than any climate scientist and hold innate knowledge: no change in thickness, freezing and movement, however small, goes unnoticed. And the Moken of the Mergui Archipelago in Burma and Thailand, whose oral tradition famously guided them away from the 2004 tsunami before the wave arrived, reading signs in the sea's behaviour that no instrument or technology had detected.

We know our environment. We know its fluctuations. But somewhere along the way, the signal has become disrupted. Our traditions are being compromised. We are witnessing change on a scale we have never seen before. We worry we will not survive.

It is 2021. I am 23 years old.

I am addressing a room full of world leaders at the COP26 climate conference in Glasgow. 'A sea of suits' is how some people might describe it, though this is not the kind of sea I am used to. I do not know its currents, cannot guess what is under its surface. I cannot assume that the tide will change. But I am here to try. I am 23 years old, and I am speaking up for my community on the world stage.

I came of age in a time of flux. I was brought up on traditions that have lasted centuries. I have grown old enough to see some of these traditions wane. I refuse to see them die. My experience gives me the clarity to recognise that without Indigenous wisdom, we are lost. For generations my people have known that the ocean cannot be exploited. The rest of the world is only just catching up.

Governments across the world have made a commitment to protect at least 30 per cent of the ocean by 2030 through designating, implementing and enforcing effective marine protection measures. It's not enough, but it's a start. One thing is crystal clear though: these commitments will fail if Indigenous People and local communities are not central to protection efforts, whether in national waters or in areas beyond national jurisdiction.

This is not about saving the ocean. That very concept is a fallacy. It perpetuates the idea that we and the ocean are two separate entities. It ignores the fact that we rely on the ocean for our very existence. Indigenous communities know that we cannot save the ocean. We must instead allow it to save us.

The Western world has prioritised extraction, and it has taken us to the brink. It is time to return to traditional ways of existing in harmony with our environment. Somewhere along the way, we stopped respecting the ocean: what it gives us but also what it can take away. We may have become uncoupled from our heritage, but it is not too late to restore the connection.

There is so much that decision makers can learn from the Indigenous experience, so much knowledge to be applied. They just need to listen to Indigenous communities, yes. But also to the ocean. Just as humans have done for thousands of years. By listening to the ocean – its currents, its ice, its species, its ecosystems – we can understand its needs, and take concrete steps towards repairing the damage we have done. If we get it right, the rewards will be immeasurable.

It is 2026. I am 27 years old.

I am in Samoa, by the ocean we're trying to protect. I am an activist. I was raised by my community. I was raised by the ocean. I will do everything I can to give back what it gave me.

Brianna Fruean

Environmental advocate; Council of Elders for Pacific Climate Warriors and Ambassador for Together for the Ocean.

IMAGE USED IN GRAPHIC: *Rough seas make for spectacular ocean photography. Photograph by Schmidt Ocean Institute / Alex Ingle.*

Dr Asha de Vos

Marine biologist & Founder of Oceanswell.

For the untrained observer, the ocean may seem empty, but I argue that it is simply vast. Vast both horizontally and vertically: the largest ecosystem on our planet and home to a myriad species we have yet to discover. In these waters also roams the largest animal that has ever graced our planet, bigger by mass than any dinosaur to have walked the earth, the blue whale.

As someone with the distinct privilege of dedicating my life to these giants and their cousins, every glimpse is a reminder of how fortunate we are to live side by side with these magnificent creatures, particularly given that we made every attempt to drive them to extinction during the height of commercial whaling. My surprising discovery that the population around my island home of Sri Lanka chooses not to migrate out of our warm waters to the frigid reaches of the ocean remains a reminder that assumptions inhibit our capacity to understand and to therefore protect. And imagine: if we don't yet understand the lives of the ocean's largest creatures, what don't we know about the smallest?

These whales were not merely data points or a stepping stone in my career. They have taught me lessons about the importance of expecting the unexpected – and of understanding that the ocean does not bear the traces of its inhabitants as land does: there are no clues left behind – no broken twigs, no paw prints, no scat samples. If you see it, you see it; if you don't, then you may never know it passed you by. Vigilance is your friend.

These whales showed me my purpose, part of which was to create opportunities for countless others who have been marginalised or told they could not, should not or would not. That's where I began, and I was determined this would not be the origin story of anyone else.

I initially thought finding support in Sri Lanka would be my biggest hurdle due to the field's limited capacity and the patriarchal mentality, but reaching out beyond the waters of my home taught me a crucial life lesson.

While scientists from the Global North were excited about my discovery, rather than offering to collaborate, they asked me to obtain the necessary permits so that they could travel to conduct the research themselves.

This story is not simply an insight into the discovery and protection of a species, but showcases the complexities and realities that exist in research. The Global South comprises 70 per cent of the world's coastline, but we are treated as the minorities. Women are half of the global population, but are also sidelined in the field. The reasons for this are unfathomable, but in my view point to our world's consistent desire to colonise.

I built Oceanswell, Sri Lanka's first marine conservation research and education organisation, to piggyback on the momentum I had created through my blue whale discovery, and to establish myself on the global stage as both a scientist and an ocean storyteller.

I had a responsibility because I knew that, as a member of an underrepresented group, it was not enough for me to celebrate my own goals and dreams, if I was not creating spaces for others who relate to me. History has shown me that if I don't do it, then no one else will.

I know that talent is equally distributed, but opportunity – unfortunately – is not, so I create spaces for others like me. After all, if we are to save our ocean, then every coastline needs its own local hero.

And so it is that nurturing the next generation of diverse ocean heroes has become absolutely central to everything I do.

THE GLOBAL SOUTH COMPRISES 70% OF THE WORLD'S COASTLINE BUT WE ARE TREATED AS THE MINORITIES

twirl twist & tango

Phallon Taylor Joyce

Professional goalkeeper (Manchester United / USA), marine scientist, and scientific diver.

So. Many. Legs. There my catalyst was: a horseshoe crab flipped on its back, its telson working hard to right itself. I was probably still using the bunny ear method for tying my shoes when I stared at the ancient creature before me, watching it make its way back to the ocean. I have been chasing curiosity ever since.

And what is more curious than what lies where we can no longer breathe?

Older, now able to lace up my boots, and well on my way to a bachelor's degree in marine biology, I chased my first mantis shrimp around the tidepools of the Solomon Islands for course credit. Never mind news of a sea snake lurking in the waters, I was armed with my first-point-and-shoot underwater camera and I was determined to capture the eyes of the dazzlingly quick green-carapaced crusader. That snap remains my favourite photo I have taken to this day.

Years later, in the midst of my professional soccer career, I found myself tethered over 5,000 feet of Hawaiian ocean watching larval mantis shrimp twirl, twist, and tango around our bubbles on their nightly migration.

There was something special in feeling small at that moment. Granted, I am over six foot tall, but there, as a visitor in the ocean, dodging box jellyfish and keeping a peripheral eye out for oceanic white tips while filming these larval lobsters, I felt a humbling smallness. Think: "Honey, I shrunk the kids." All while floating among some of the ocean's littlest wonders.

Whether descending in full scuba kit or donning the US Women's National Team kit, there is a sense of being a part of something bigger than yourself. A part of a community with oh so many legs – and oh so many shoes to tie, too.

Jenny Packham
British fashion designer.

STORMY GREYS & GLACIAL WHITES

Stormy greys and glacial whites, godly shades of silver; dappled blues that ripple and dissolve into shadow and light. The ocean gives endlessly from its depths, its beauty refracted through the shifting theatre of the skies above. But can we ever truly capture the awe it inspires? The wild flare of coral, the flicker of gold in unseen trenches, the quiet, intricate perfection of a shell. There's a delicacy to the ocean that I see shimmering in the fabric rolls of chiffon and satin, waiting to slip and swim about a woman's body.

And yet, I do not belong to it. I am always aware of being out of my depth. My swimming is confined to the ponds of Hampstead, where even the brush of a passing reed against my ankle sends me hastening towards the reassurance of a lifebuoy. On holiday, I linger at the shoreline, barefoot and tentative, letting the water only lap at my feet.

I was born in Southampton, a port city shaped by the sea's rhythms and its tragedies. My grandfather drowned; my father carried a quiet apprehension, an inherited respect for the sea's power. The inherited memory of the Titanic disaster that rocked the city still lingered in my grandmother's heart. I was never destined to be a surfer.

And yet, to stand beside the sea, to feel its force and witness its ceaseless transformation, is at once terrifying, beguiling, and deeply stirring. If I cannot inhabit it, I can at least translate it. Creatively, I dive deep, pulling inspiration like pearls, drawing from its starfish and anemones, its intricate flora and fauna. I take the crystalline purity of its Arctic hues and render them in luxurious fabrics, layering gossamer textures to evoke its glistening, fluid surface.

I shape faceted crystals into formations that recall submerged rocks and sculpt sinuous strands of glass beads that echo the rhythm of waves, cresting over the shoulder and cascading down the low back of a gown. In these gestures, I attempt to distil something of its essence, to bring the ocean's language into form.

But however refined the interpretation, however evocative the result, it can never rival its source. The ocean, in all its vast, mercurial beauty, resists capture. It simply wins, every time.

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Sheena Talma

Seychellois marine biologist & expedition leader.

I am from the Seychelles, a large ocean state in the Western Indian Ocean. And if the ocean and I had a relationship status, it would be labelled 'complicated'.

I am not more than five years old, playing where the sand meets the sea on a normal Sunday. Today is different. A rogue wave pulls me in and pins me under, and I cannot breathe. I don't remember much of the rest. My parents say my eldest brother pulled me out. What I do know is that she lost my trust. My first immersion. Involuntary. Terrifying. And the beginning of everything.

My journey to trusting the ocean again is like the course that water takes from the mountaintops to the deep sea.

I grew up at the foot of one of the highest mountains on Mahé Island. My playground was the streams, glacis, forests and highland marshes.

As a teenager, my journey moved from the mountains into the plateau and the shoreline. I spent every holiday on a private island as a conservation officer, taking tourists on hikes, giving presentations, and digging up hatched turtle nests, pretty much smelling like a dead reptile. It would explain my love life at the time.

That island is also where the water leaves the plateau and enters the shallows. I journeyed back into the sea. I was 17. I went off on my first dive, and as my feet left the comfort of the sand, my heart raced and my breathing quickened.

Overcoming that fear, every time I set foot into the ocean and away from the safety of the shore, was one of the hardest things I have ever done. But boy, it was worth it. Not only was I amazed by the colours and the way a porcelain crab blends into its coral home, but also by the patience required to observe it. Breathing underwater is mind-boggling. My second immersion. Chosen this time. And the trust, slowly, began to return.

I pursued a degree in marine science and fisheries, earned a position at the Ministry of Environment, and was entrusted with helping to coordinate the first systematic deep-sea expedition in the Seychelles. And just like freshwater is forced into the deep sea through the action of downwelling, I found myself in a new space.

Close your eyes. Imagine entering a bright yellow submersible – this one feels like a bubble – with a 360-degree view. We are not alone; there is a pilot. We are lifted off the deck and slowly lowered into the open ocean. There is a coralline island on the right-hand side; the vessel is behind us. The rest is just a deep, open, dark-blue ocean. Today, we're plunging to 1,000 metres, slightly deeper than the mountain I grew up beneath was tall.

Water starts to engulf us. The island disappears. Small jellies dance in the water column; fish jet past. Light dissipates ever so quickly now. It is quiet, except for the sound of the radio and a constant, calming ping in the background.

We are past 250 metres and plunged into complete darkness. We flush the thrusters, and a display of light comes alive. Bioluminescence lights up the water column. Our eyes adjust. The seabed comes into view. Cliffs tower over us, and I feel like an ant at the bottom of a very tall tree. Sheer cliffs, meandering ravines and caves. Colours, so many reds, pinks and whites. I cannot decide where to look.

Sponges that look like lilies. Shrimp imprisoned in an intricate glass sponge. Tentacles of corals sieving through the water, catching sea snow falling from the surface. Suddenly, something balloons into view. Something with interesting ear-like flaps, and a light shade of pink and brown. I count them: there are eight arms folded into an umbrella shape. It's a dumbo octopus – my first. And the excitement cannot be contained.

When I looked out through that glass sphere at 1,000 metres, I wasn't just a scientist having an experience. I was a Seychellois, finally seeing what had always been mine but never visible. There is something quietly devastating about that. And something revolutionary.

The ocean that pulled me under at five years old, the one I had to fight to trust, the one I descended into with a racing heart at 17, she had been keeping secrets. Not from the world. From us.

That is what the Innerview gave me that no Overview ever could. Not just wonder, though there was plenty of that. But a belonging. The deep sea of the Seychelles had perhaps been seen, mapped, measured and documented by people who then went home.

What it had never had was a Seychellois looking back at it. The instant of mutual recognition, citizen and ocean, finally facing each other, is the most political act I have ever committed. And the most personal.

The water that started at the top of the mountain, that pulled me under at the age of just five and then pulled me back at 17, had been waiting all this time, patiently, for the right moment to show me what was mine.

Dr Dawn Kernagis

Neuroscientist; NASA-NEEMO Aquanaut; Director of Scientific Research at DEEP.

When you're living and working from an undersea habitat for days at a time, you find yourself fixed inside the planet's oldest ecosystem. However, unlike being in space and viewing Earth from above, you're not above anything. You're inside it. That distinction turns out to matter enormously, not just philosophically from an Overview versus Innerview perspective, but also physiologically.

I have spent years studying what extreme environments do to the brain and nervous system, and I've been a diver for several decades. I thought I understood what I was walking into when I joined a NASA NEEMO mission as a crew member to live and conduct research undersea. I had collaborated on scientific studies and read the literature on how living underwater leads to changes at the molecular, cellular and physiological level in our bodies, on sensory adaptation and altered circadian rhythms in remote environments. I knew how confinement reshapes the social brain and impacts individual and team performance. However, I quickly learned there were other impactful elements of undersea living that hadn't been captured in a scientific manuscript or through data collection.

The particular quality of the sustained undersea 'silence' still sticks with me to this day. Even after an extended diving career, being surrounded 24/7 by this unique brand of silence – a silence that's not empty, but full of biological sound, with the clicks and breaths of creatures living around the habitat – had an almost meditative quality over time. The brain does not treat that type of silence the way it treats a quiet room – it leans into it. The brain's default mode network, the constellation of regions active when we are not focused on a task, seems to settle and expand while exposed to this subsea silence around the clock.

You also notice a heightened level of attention and awareness when living beneath the surface of the ocean. Some of this focus could be due to the mild narcotic effect of breathing nitrogen at depth over a prolonged period of time, but the psychological shift is likely a primary driver. Scientists working across a variety of extreme environments often report their best creative insights happen not during structured work periods, but during the liminal moments when they suit up and move through open water, neutrally buoyant and engaging with the ecosystem that surrounds them. Some of our most profound moments during our mission happened while watching through the window of the habitat or sitting in silence at the bottom of the ocean, listening to and visually observing the teeming life that surrounded the habitat, giving perspective on this 'other' world that we had the enormous privilege to be a part of during our multi-day mission.

At depth, the body's chemistry shifts and the increased breathing gas density brings a heightened awareness of your breath. You are reminded with every breath that you are a biological system operating in an environment that is alien to you, while it's home for every other species that surrounds you. There is a clarity that comes from that reminder – not fear, but precision and gratitude to participate in this shared, otherworldly experience.

I'm now working with a team at DEEP that's building the next-generation infrastructure for continuous human habitation beneath the sea.

People often ask what drives that work. While the human, marine, environmental and engineering science that we can amplify is a major motivator, my primary driver is this: I believe the Innerview is something more people should have access to, what we learn from those who experience it will tell us things about human consciousness that no other kind of surface-based laboratory ever could.

The ocean is not a place we go to escape the human. It is, it turns out, a place we go to find it.

What happens when we immerse ourselves in the liquid heartbeat of our planet?

Dr Wendy Darke

Marine biologist and former Head of the BBC Natural History Unit (including Blue Planet II).

As a natural history filmmaker for over three decades, one message has stayed with me above all others. After watching a programme I produced, featuring freediver Tanya Streeter swimming with whales, a viewer wrote: "I live in a multi-storey block of flats and never get out – and tonight you took me diving with whales. Thank you."

That became my gold standard: to create storytelling that truly transports people.

I know the power of such storytelling firsthand. At 14, watching Sir David Attenborough's Life on Earth, I was captivated by the coral reefs of the Great Barrier Reef – the vibrant colours, the life and the invitation to see the world through the eyes of its inhabitants. It sparked a lifelong curiosity about our connection to nature and a desire to explore and share it.

Over four decades as a marine biologist and filmmaker, I have been fortunate to experience extraordinary moments beneath the surface: swimming with whale sharks in Western Australia, manta rays in the Maldives, turtles in the Galápagos and dolphins in the Azores. One unforgettable dive in Belize's Great Blue Hole saw us film Tanya Streeter descending over 40 metres on a single breath. It is in those moments that the ocean feels pure, vast, and deeply humbling – you never see the world the same way again.

Through filmmaking, we strive to recreate that feeling of 'being there.' And science helps explain why it matters. Stories with a clear beginning, middle and end can trigger the release of oxytocin – sometimes called the 'love' hormone – making audiences more likely to connect emotionally. To reach people, we must engage the heart first with a simple question: why should I care?

The ocean naturally evokes powerful emotions: awe and wonder at coral spawning under a full moon; fear during a night dive with snakes; joy in playful animal behaviour; sadness at reefs destroyed by crown-of-thorns starfish; and tenderness in moments like a sea otter pup resting on its mother. Above all, it can evoke humility: a sense of being part of something far greater.

Storytelling also has the power to shift perceptions. In Sharks with Steve Backshall, we aimed to show sharks as marvels, not monsters – revealing behaviours that invite understanding rather than fear. Likewise, sharing both the challenges and recovery of marine environments, such as the return of whales to the Azores, can inspire hope and action.

When we immerse ourselves in the ocean – the 'liquid heartbeat' of our planet – we step away from daily distractions and reconnect with our senses. We rediscover awe, curiosity and ultimately a sense of belonging to the natural world. Coral reefs, in particular, are not only breathtaking but essential to the wellbeing of billions of people.

At True To Nature, we believe storytelling can help people fall in love with the natural world – and protect it. We share one life, one home and one story that unites us with all life on Earth. By telling it well, we can inspire a future where humanity and nature thrive together.

Dr Nicole Yamase

Marine biologist and first Micronesian to reach the Challenger Deep.

The deepest dive I made was not to the Challenger Deep, but into my cultural heritage as a Micronesian. During my dive, there were moments when I felt the presence of my ancestors and began to see the world through their eyes.

The weight of the journey was not just representing myself, but Micronesia, and more broadly, the Pacific. I carried an ocean of people, cultures, traditions, legends, history and sacredness. That responsibility was overwhelming. Tears were shed, the feeling of not being enough overcame me. And I was asking: why me?

A friend encouraged me to speak with Nainoa Thompson, who had faced similar struggles. His words grounded me: "When Mau came to Hawai'i, he brought all of you. He brought all of us. Bring Mau. Bring a canoe." My heart was settled and I knew I did not carry this weight alone. I carried my ancestors with me and that was enough.

Before the dive, many people asked if I was afraid of descending into a dark, lifeless place. Why would I be afraid? To me, the deep ocean was a place of magic, where life began and where my ancestors live. What about the immense pressure? The thought of being crushed never crossed my mind – I thought I was going to be embraced, and get the biggest hug you can ever get from the ocean. If I was to die, I would do so in the arms of my ancestors; our connection to the ocean runs so deep that even death is not feared.

During the first morning of my dive, I stood on the deck of the Pressure Drop. My internal storms were brewing again. Am I the right person? I'm not Micronesian enough. I asked for a sign to tell me I need to be here. A cargo ship was pulling into the harbour, its name, "Papa Mau". He was listening and came to keep me company. "You are meant to dive. You are enough," he said.

As we descended, Victor asked how I was feeling. I told him, "I feel like I'm going home." It felt as though I was going to visit an aunt I had heard about all my life. Now, I am finally going to meet her, and she will welcome me home with open arms.

After an hour, a string of tiny fireworks ignited outside the window. I felt transported into the heavens, and a sense of familiarity like I had been here before. The deeper I went into the ocean, the higher I went into the stars. The ocean mirrored the universe, and I was in the reflection! The bioluminescent creatures reminded me of the stars that once guided my ancestors home. Were they guiding me home, too? My ancestors were with me, and I was not alone. We were going home.

What was supposed to be the proudest moment of the dive was also the most disappointing. We made it to the Challenger Deep, the deepest place on Earth and the sacred resting place of my ancestors. The last thing I expected to see was trash. I felt disappointment, anger and shame – and culpable because, as part of humanity, I share responsibility for it. What have we done? We have lost our way.

After the dive, I searched for stories and legends that talked about our connection to the deep. Jermy Uowolo from Fais – the closest land to Challenger Deep – shared the legend of Mootigtiig: how his island was pulled from the ocean. Uncle Thomas Raffipiy from Satawal, Papa Mau's nephew, told me it's our turn to create legends, and that I was part of a new one. Many people don't know about Micronesia. Through my dive, I pulled my islands from the deep. One story at a time, they will call us by our names.

This journey taught me that being of the ocean is about remembering who we are, honouring those who came before us,and protecting what will sustain those who come after. To carry this legacy is to continue our journey with purpose: knowing we each serve something greater than ourselves.

The ocean is not separate from us, but within us. It is our home, and finding our way back through the eyes of our ancestors may be the most important voyage of all.

THE OCEAN
MIRRORED
THE UNIVERSE
AND I WAS
IN THE
REFLECTION!

People dream of the ocean for its freedom. I learned to respect it for another reason entirely: its brutal and unforgiving indifference.

In August 2025, I accomplished what no one else on Earth has done before. I spent five days and four nights in the Mediterranean without once leaving the water. The challenge involved swimming 191 kilometres from Calvi, in Corsica, to Monaco. There was no shore, and no escape. Just the sea, my strokes and the slow unravelling of everything I thought I knew about myself.

The ocean does not care if you are tired. It does not care if you are afraid. And it certainly does not negotiate. Which is precisely where its teaching begins.

When you are inside the ocean long enough, it stops being a place. It becomes a condition. It dictates your breathing, your rhythm and your thoughts. Its waves come and go on their own schedule while its currents redirect you without asking.

At night, the horizon disappears and you are left with nothing but darkness and the sound of your own body moving through water. Beneath you is 3,000 metres of open water. Somewhere within that darkness are the low sounds of whale song. Beings you will likely never see – even though they are watching you. Just as thousands of other species do, drawn by your presence, circling something they have no name for. For the first time in your life, you are not the observer. You are the observed.

It's in those hours that something happens which no sport, therapy or summit of achievement could ever replicate. Not fully.

Fatigue strips you down to the person you actually are.

Not the version you present to the world or the one shaped by habit or comfort, but the one underneath it all: raw, uncertain and surprisingly capable. No, the ocean does not build you. It reveals you. And once you have seen that version of yourself, you cannot unsee it. You are changed, permanently and quietly, from the inside.

But there is another transformation that happens in those kilometres. A slower one.

When you cross a sea stroke by stroke, you stop seeing it as a backdrop, and begin to feel it as a living thing.

You notice the silence where there should be life. The debris in the waters that no one watches. The long stretches of blue that feel somewhat emptier than they should. The ocean is powerful enough to break you, and fragile enough to need you. It's that paradox that stayed with me long after that World Record for Nature.

Because when you swim through the ocean, you don't just feel it, you witness what we are doing to it. Plastic drifts in the open ocean, far from any coast, while chemical traces – invisible to the eye – are present in everything you can see. Cargo ships and fast ferries cut through vast swathes of marine protected areas, striking whales in the very same waters where they sing. They are routinely the victims of the speed and blind indifference of a world that never slows down.

I swam to help people experience and feel what lies beneath the surface. Not the picture-perfect seaside postcard, but the truth. After all, how can we protect what we don't know?

We can write reports, sure. We can sign agreements. We can even set targets – and all of it matters. But none of it is enough without something that cannot be legislated: a personal relationship with the ocean and its inhabitants.

People do not protect what they study. They protect what they love. And love, with the ocean, requires contact. Real contact. The kind that humbles you.

My swim was never just about distance or endurance. It was a story I needed to tell. That the ocean is not a concept. Nor is it just a backdrop for a summer vacation. It is the oldest living system on Earth, and – louder and louder – it is asking something of us. Not for heroism or sacrifice. Just presence, and an understanding.

So go and be near it. Stay with it long enough to be changed by it. And then ask yourself what you are willing to do to answer it. Because once the ocean has touched you at that depth, protecting it stops feeling like a duty being asked of you. It becomes a mission, and that mission becomes you.

Noam Yaron

World-record ultra-swimmer and environmental advocate.

Easter 1969 at Chesil Cove and my first ocean scuba dive.

Paul Rose

Explorer and BBC broadcaster; National Geographic Pristine Seas Expedition Leader and former Base Commander at Rothera Research Station, Antarctica.

When that fresh English Channel flushed through my homemade wetsuit, it instantly exposed my poorly taped wetsuit seams – of course they were poorly made, I had no time to fiddle about gluing a perfect suit, I was all about getting into the water. That icy flush brought me something far more important than discomfort. In that instant I felt, with absolute clarity, that I had crossed a threshold. I was no longer just a swimmer in the sea: I was inside it, part of it, immersed in the most powerful, least explored and least protected ecosystem on Earth. That feeling has never left me.

As base commander at Rothera Research Station for the British Antarctic Survey for ten years, the demands were among the highest imaginable, and consequences of even the slightest mistake were always serious – especially in extreme cold and with ice-choked seawater at -2°C. But that is where the new discoveries lay and I was privileged to be charged with setting up the Rothera dive programme in support of marine science.

Autonomy is the key to safe operations and so we built a world-class standalone team, supplied with the very best facilities, including a recompression chamber, the finest dry suits and scuba gear, world-class dive boat support and a powerful base of operations as backup. Every dive was a world's first, the deep life was previously unseen and undescribed, new species were in abundance, and in that inhospitable environment, we found extreme beauty – underscoring the need for us to fight for a healthy, sustainable ocean.

Coming from such a powerful place as Antarctica, home to one of the world's most extreme and crucial environments, our work on climate change, ocean currents and biodiversity delivered the results that proved our responsibility for the ocean and gave us all a sense of urgency. I am excited to be back south next year – I need to catch up with a lot of me that is still there!

The global commitment to protect 30 per cent of our land and ocean by 2030 is not just another target we can miss. Our health and the very survival of the planet is at stake. Every dive I make in my current role as Head of Expeditions for National Geographic Pristine Seas reminds me what we are fighting for. Descending onto pristine reefs exploding with life, discovering new species and witnessing how protected ocean ecosystems rebound are not just scientific observations – they are powerful calls to action.

My Innerview of the ocean has been shaped by a 57-year global journey: diving beneath Antarctic and Arctic ice, exploring complex underwater caves, revealing extremophiles in hazardous waters, teaching thousands of new divers, pushing the outer limits of technical diving, and delivering science by leading high-performing teams in the most remote and unforgiving conditions on Earth.

I don't have a photograph from my first dive, but my eyes would have betrayed my feeling of invincibility and boundless freedom. A lifetime on and under the sea has worn away the illusion of invincibility, but I'm happy to report the feeling of freedom is as powerful as ever.

Dona Bertarelli

Record-breaking offshore sailor, philanthropist; founder of Dona Bertarelli Philanthropies and Sails of Change; Patron of Nature, IUCN.

WHEN YOU ARE IMMERSED IN IT, EVEN BRIEFLY, THE ILLUSION OF DISTANCE FADES.

There is a moment, when you enter the ocean, where the world above recedes. It is quiet. Almost imperceptible. But something shifts.

I have felt it in different ways over the years: crossing the ocean under sail, guided by wind and currents, in constant dialogue with the elements; diving beneath the surface, where sound softens and time stretches; and through my philanthropic work, engaging with passionate people who dedicate their lives to understanding and protecting this vital system.

Each experience reveals the same truth from a different angle: the ocean is not something separate from us.

When you are immersed in it, even briefly, the illusion of distance fades. You are no longer observing from the outside, but part of a living system you can physically feel. One that surrounds you and sustains life on Earth.

That realisation is both humbling and grounding: life does not revolve around us. The forces shaping our planet are vast, intricate, and deeply interconnected. Our place within them is not one of control but of connection, grounded in care and respect.

What stays with you is not only the experience itself, but a quiet shift in perspective. Because once you have felt that sense of belonging, the ocean feels closer. It becomes something personal.

And what is personal changes how we act. It moves us beyond abstract concern, towards something more instinctive. A recognition that caring for the ocean is not only about preserving an environment, but about sustaining a system we are part of, whether we feel it or not.

Perhaps the challenge is simply to remember. We are not separate from the ocean. We never have been.

Dona Bertarelli snorkelling with hammerhead sharks, San Cristobal, Galapagos, Ecuador. Photograph by Chris Schmid.

I FELL INTO THE OCEAN FROM SPACE

Physical oceanographer and executive director of the Schmidt Ocean Institute Dr Jyotika Virmani interrogates why space, not the ocean, has captured the romanticised attention of the masses – and suggests democratising the Innerview could spark a New Age of Ocean Enlightenment.

Words by Dr Jyotika Virmani

"WE HAVE BEGUN TO PEEL BACK THE VEIL ON WONDERS THAT WERE HIDDEN FROM US FOR EONS, FINDING DISCOVERIES THAT CHALLENGE EVERYTHING WE THOUGHT WE KNEW ABOUT OURSELVES."

THIS IMAGE: ROV pilots filmed this glass squid at 1,725 metres while exploring the Colorado-Rawson submarine canyon. Photograph by ROV SuBastian/Schmidt Ocean Institute.

PREVIOUS PAGE: Image of the Blue Abyss in-cave Sinkhole of the Yucatan peninsula in Mexico, Shot from 65m upwards. Photograph by Martin Broen.

Dr Jyotika Virmani

Physical oceanographer and Executive Director of the Schmidt Ocean Institute; former Prize Lead for the Shell Ocean Discovery XPRIZE.

As a child growing up near Jodrell Bank, the world's largest radio telescope at the time, it felt like the universe was right on my doorstep. I was always looking out to the stars, spending countless hours in the back garden with my telescope, dreaming of what it was like out there. My imagination was fuelled by science fiction shows about the adventures of space and time travellers, alien species and strange new planets.

Inspired, I started my journey in physics with my heart set on the stars, fully intending to become an astrophysicist. But somewhere along the path, a course in atmospheric physics pulled my gaze downward and I found myself captivated by the power and beauty of the forces of our own planet – the systems that shape weather and climate.

Our weather is the ultimate universal experience; it touches every soul on this planet, regardless of their position in society, regardless of their society. For the first time I saw this entire connected global system – a delicate and intricate dance of heat and water between the sky, the sea and the land – fuelled by our nearest star, the Sun. Understanding our planet on a scale I'd never realised before changed my trajectory. And that's how I found my way to the ocean.

Space and ocean are antithetically linked, they are the bookends of our human experience: extreme, alien environments that hold a fascination for scientists and artists, engineers and storytellers. Both are environments that, without the grace of technology, we simply cannot explore. Yet, through human ingenuity, we can breathe in a vacuum and in water, survive in zero gravity and under crushing pressures, explore the darkness of realms above and below. We have begun to peel back the veil on wonders that were hidden from us for eons, finding discoveries that challenge everything we thought we knew about ourselves.

But why does the silence of the stars seem to echo so much louder in our collective heart than the song of the sea? It's a question that haunts both ocean professionals and enthusiasts alike. For a long time, the two were equals in our human imagination but something shifted in the mid-20th century when space, although physically inaccessible for the majority, became more appealing than the ocean. An oft given reason is the space race of the era, which triggered greater funding for space exploration and immense fodder for storytelling. Added to this, space is generally considered to be more visible; we look up and see a billion stars in an infinite canvas of twinkling possibilities. Conversely, the ocean remains psychologically distant from the human mind, only accessible to those fortunate enough to be within proximity. Even then, to most, it is a flat blue horizon, its heart beating in a darkness we cannot see from our vantage point – the undersea world of alien landscapes and creatures that lie beneath remain inconspicuous. I believe that narrative can change and, through technology, we can inspire the public with the beautiful unknowns of the ocean.

How we conceive of both the ocean and space is defined by how we speak about these two frontiers. Despite their many similarities, there are many distinct differences which lie at the doorstep of the stories we tell.

A tale of the future versus the past. Space stories are almost always embedded in the possibility of finding new life and seeking new planets. These stories are about what's next, a forward-looking promise of a brighter, more expansive tomorrow. Ocean stories tend to look backward; even our most captivating tales of shipwrecks and sea monsters are relics of the past. While space is a playground for our potential, the ocean stirs the mind as a romantic memory. Popular culture dresses space in the sleek, shimmering tools of the future, sparking our imagination with technology that eventually inspires real-world innovation. But we often see the ocean through the tools of yesterday: sailing masts and brass sextants. We have creatively anchored the sea to the archive, missing the futuristic spark that tells us the deep sea is where our next great chapter will be written.

A tale of wonder versus the mundane. We talk about the magic of alien worlds, yet we talk about the ocean as a mere resource – how many people can it feed? We've traded the mystery of the abyss for the ledger of a grocery store. Not all traditions made this trade. Many Indigenous communities never separated wonder from stewardship: for them, the ocean has always been both a source of awe and a responsibility, neither reduced to resource nor elevated to abstraction.

For many, however – those who did not grow up with the ocean inside them – that connection has been severed. The stories that have shaped our collective relationship with the sea have too often been told from the shore, by those for whom the ocean was a horizon rather than a home. Ocean stories have become a heavy burden of "we are killing what we love." It is hard to stay inspired and take action when you are constantly told you are the villain. Space asks nothing of us but our curiosity; it invites us to dream without the weight of a chore.

“STORIES OF OUR FELLOW ALIENS AND THEIR VAST HABITATS, NOT FICTION BUT REALITY, CAN SPARK THE IMAGINATION OF MILLIONS.”

A rare sighting of a glass octopus – a nearly transparent species whose only visible features are its optic nerve, eyeballs, and digestive tract. Photograph by Schmidt Ocean Institute.

If there is a call to action, it's an invitation to imagine. The ocean often comes with a "to-do" list. We ask people to change their lives or clean up beaches, turning a source of inspiration into a sense of duty which people either don't have the means or inclination to uphold because they aren't aware of the ocean as a part of their daily lives.

A tale of triumph versus the impossible. Space gives us a 'Hero's Journey' storyline to follow through focused missions, like Artemis II, that allow us to grasp the true scale of the achievement. These stories are in a format we understand: a beginning, middle and end. These are tales of the soaring triumph of the human spirit – a collective leap of exploration that unites us all – amplified because the space community speaks with a unified choir, cross promoting every giant leap and discovery so the whole world hears the same song. The ocean, however, is a battlefield of competing interests: of all-encompassing concepts like conservation, and abstract risks like plastic outweighing fish. For many, these feel too vast to touch, with no end in sight. We've traded the thrill of a specific, daring quest for the overwhelming and exhausting scales of a global idea.

Exploring the unknown, whether it be space or ocean, is bigger than any one person. For those who are embedded in either, there is a fundamental respect that there is something much larger than us. In the case of the ocean, it keeps us alive and alters our perspective of what is important – the Innerview. It is worth pausing here to acknowledge that this perspective – of the ocean as something larger than us, something we belong to rather than control – is not new. Indigenous and coastal communities around the world have held this understanding for millennia. From the Haenyeo of Jeju, whose entire way of life is built on entering the ocean with respect and reciprocity, to the Polynesian navigators who read the sea as a living relationship rather than a surface to be crossed, to the Sama-Bajau whose very bodies have evolved alongside the water. The Innerview is not something these communities need to be given. It is something they have always known. The democratisation of the Innerview, then, is not only about bringing technology and stories to new audiences, it is also about listening to the voices that have carried this wisdom across generations, and ensuring they are at the centre of the conversation. Our challenge, therefore, is how do we bring the Innerview to everyone, regardless of their location? There are at least two ways.

First, we need to inspire. By sharing the wonder, the mystery, and the beauty of the ocean, we can remind the world that this isn't just a system to be managed or a crisis to be solved – it is also a magnificent, glowing, living mystery that defines who we are. We are fortunate to live in an age where technology gives us an incredible ability to change minds. We can get incredible, high-resolution imagery from the deep sea; anyone watching will see the strange and magical creatures of the ocean. A newborn baby octopus, a juvenile colossal squid in the deep, the longest known sea creature – a 45 metre siphonophore – floating in an ethereal blue ocean, a one-centimetre orange pygmy seahorse camouflaged among the coral, a glass octopus in the mid-water, a cute chauconocops on the seafloor with a body that looks like a basketball. These non-humanoid lifeforms that live on this planet call it home just as we do. Although we perceive their home as vast and mostly dark, these creatures communicate with each other: they bioluminesce, they conduct electricity, they can hear each other over great distances. Their home has grand canyons, sea mounts, volcanoes, waterfalls, two-mile-tall cliffs, and undersea beaches with waves lapping at the shore – landscapes you would see in the science fiction stories on other planets. Stories of our fellow aliens and their vast habitats, not fiction but reality, can spark the imagination of millions to follow along as we boldly explore the remote and unknown parts of our own planet. Mixed reality technology is another way of taking people from the living rooms to the ocean, changing minds.

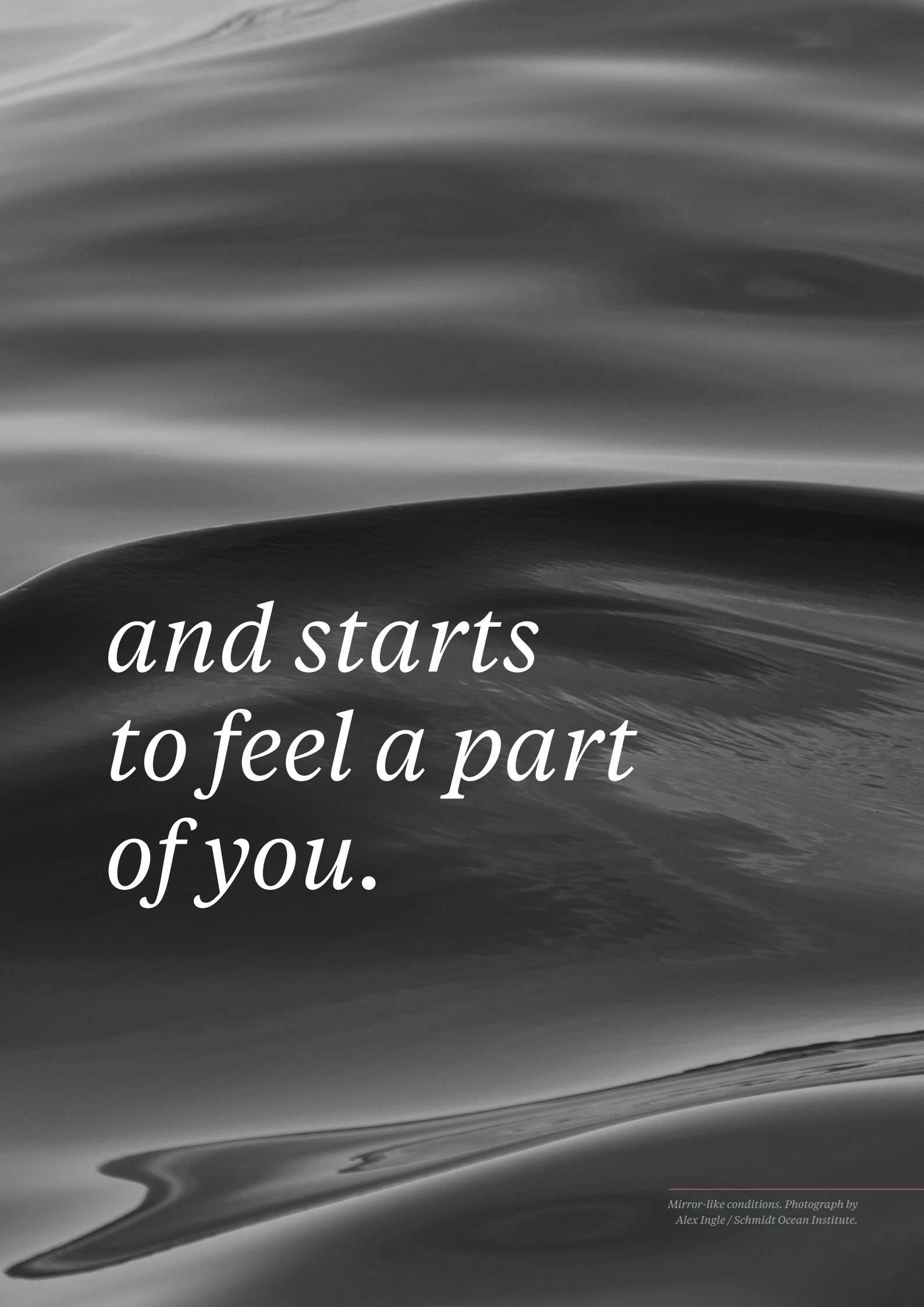
Then we need to meet people where they are. Using this imagery and the storytelling to connect with cultural interests through art, fashion, music, theatre, sports, literature, food and many other avenues. To achieve this, we can partner with experts in those industries: artists and galleries, fashion designers and retailers, actors, musicians and concert organisers, sport management, publishers, restaurateurs. Listening and working with their expertise to ensure the ocean is woven into the fabric of our culture and everyday life. Creating a subtle drumbeat that raises the ocean in the collective consciousness.

It is time to turn the tide. For the sake of the planet, and for the sake of our own sense of wonder, we need to embark on a quest to make the world fall in love with the blue depths all over again. And perhaps, by bringing the Innerview to everyone, we will ignite a spark of scientific curiosity. Just as I was inspired as a child by space. The Renaissance is here – it's the New Age of Ocean Enlightenment.

At some point the sea stops feeling unfamiliar

Ok Kim Ja

Elder and traditional Haenyeo diver, Jeju Island.



and starts to feel a part of you.

Mirror-like conditions. Photograph by Alex Ingle / Schmidt Ocean Institute.