



PLASTIK

ACROSS THE PACIFIC ON PLASTIC: AN ADVENTURE TO SAVE OUR OCEANS

DAVID de ROTHSCHILD



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AS TOLD TO JIM GORMAN

FOREWORD BY ACHIM STEINER

EXECUTIVE DIRECTOR, U.N. ENVIRONMENT PROGRAMME

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To my family, loved ones, and team, without whom I am nothing. And to those who believed the dream, took the pledge, and doubted we could ever make it! Sail on.

—David de Rothschild

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FOREWORD

Achim Steiner, UN Under-Secretary General and Executive Director, UN Environment Programme (UNEP)

The genesis and journey of *Plastiki* and its courageous crew will surely enter the annals of maritime history as one of courage and determination.

Sailing a catamaran 8,000 nautical miles across the Pacific is no mean feat—but to do so floating on 12,500 plastic bottles glued together with adhesives derived from sugar and cashew nuts makes the voyage doubly remarkable.

But without a doubt, David de Rothschild and his team's lasting legacy will be the global attention they have put on the menace to the world's seas and oceans from humanity's currently wasteful ways.

Despite some successes, such as a decline in radioactive materials and persistent organic pollutants in parts of the Atlantic, the marine environment continues to be all too often treated as a dustbin.

Plastiki has highlighted the threats from plastics, perhaps the most visible symbol of the unsustainable past and ongoing present.

The North Pacific gyre concentrates 3.5 million tons of discarded plastic—one of five such swirling waste patches in the world.

Plastiki has helped to focus the minds of a global public on the way contemporary economies all too often squander and mismanage finite and fragile natural resources.

There is, however, another side to the *Plastiki* story: the change possible through human ingenuity, resourcefulness, and ambition to meet challenges head on.

We are delighted to have been involved in this remarkable story. It was, in David's own words, inspired by a UNEP report on marine litter from 2006—living proof that United Nations reports can make a difference.

A staff member was present at the launch in San Francisco and again as the catamaran entered Sydney harbor in triumph with UNEP's blue flag fluttering from the foremast.

I and many other staff members were also there in spirit through the crew's blogs, which were often gripping and witty—essential daily reading. *Plastiki* has delivered a metaphorical message in a bottle to millions upon millions of people.

UNEP will also be there in the future, supporting *Plastiki's* extraordinary legacy, taking forward our ongoing work assessing trends in the marine environment, and assisting governments toward the actions so urgently needed.



1

THE BIRTH OF A DREAM



AN EPIPHANY—“LET’S BUILD A BOAT OUT OF PLASTIC BOTTLES AND SAIL ACROSS THE PACIFIC”—BECOMES A MISSION, A MESSAGE, AND AN EXPEDITION.

OUT OF THE DARKNESS, A GIFT. OF SORTS. A BIG WET KISS FROM THE OCEAN PLANTED SQUARELY ON MY CHEEK. AND MY HEAD, AND THE REST OF ME. A TRICKLE OF ICY SEAWATER HAS SOMEHOW WORKED ITS WAY PAST MY FORTRESS OF GORE-TEX, DOWN THE NAPE OF MY NECK, AND EVER SO SKILLFULLY ALONG THE LENGTH OF MY SPINE INTO MY HERETOFORE WARM AND DRY LONG JOHNS.

I'm only thirty seconds into a three-hour tour of duty on watch, the tiller and beanbag chair still imprinted with our co-skipper Mr. T's warmth. Just over a week removed from my grand departure from San Francisco, and nothing yet about life at sea—the constant motion, the middle-of-the-night wake ups, the tiger-in-a-cage restlessness of living on a 20-by-60-foot platform with five other people—resembles comfortable routine.

"Did that one get you?" asks Mr. T with a grin. "Nice! Got off just in time." His silhouette dissolves quickly into the red glow of the cabin. Alone.

"Oh, yes! Wet again!" I yell into the night, the sound of my voice devoured by the blackness.

Really, Dave? Really? There isn't even a breath of wind or a ripple on the ocean, and you still find a way to get wet. I guess that's the true meaning of a rogue wave. A stream of phosphorescence pulsing and swirling on the port side catches my eye and distracts me from my situation.

And what a situation! What was I thinking in wanting to sail the entire Pacific Ocean? Can I legitimately use the word *thinking* in conjunction with building a boat from 12,500 plastic bottles and then attempting to sail from San Francisco to Sydney?

My eyes flicker back and forth trying to find some focus in the black void. Our boat is moving along at a speed of less than 2 knots, if you can call that moving. Bobbing is more like it. This is going to be a long journey, I fear.

"Hey, Mr. T! Do you think we'll make Sydney?"

"Not this year," comes the reply from out of the glowing cabin.

I'm sailing the dream: The *Plastiki*, after two years of hard work, is our best and most sincere expression of the fresh ideas necessary to create a better future. A future that avoids the unsustainable waste and environmental damage of our current way of living. A future that sees waste as a resource—like the 12,500 reused plastic bottles I'm floating on right now.

Yet tonight I can't stop thinking I've bitten off more than I can chew. Maybe the doubters and naysayers were right. Surely, just sailing across San Francisco Bay would have proved my point. Be careful what you wish for, I always tell others. Maybe I need to start heeding my own advice.



DAVID DE ROTHSCHILD STEERS *PLASTIKI* THROUGH ONE OF MANY INTENSE PACIFIC DOWNPOURS.

Salt does not course through my veins. I know a jib from a mizzen, and a cleat from a winch, but the extent of my nautical experience prior to *Plastiki* amounted mostly to sailing Hobie Cats while on family vacations as a kid.

It wasn't salt water but ice that was the medium for my first big adventures. On several expeditions across Antarctica, Greenland, and the Arctic, I logged hundreds of days and nights on frozen surfaces. While brutally cold and rife with dangers, polar environments in my estimation offer a distinct advantage over the open ocean: They tend not to pitch and roll beneath you. They're also impossibly pristine and beautiful and, as we're discovering in our warming world, quite fragile.

Plastiki's journey began years before the boat ever touched water. In June 2006, I'd just returned to London from an expedition to cross over the North Pole from Russia to Canada. It had been humbling—rapidly melting pack ice had ended our journey two hundred miles short of Canada. I saw how one of the earth's ecosystems was changing right before my eyes. And while thousands of schoolkids around the world had joined the "Top of the World" journey via the Web, I wanted the expedition to do more than raise awareness. I wanted to make

personal, to make everyone feel connected to the earth's fragility.

After any expedition there is some readjustment. It's an anticlimax. You've been living closely with your teammates in some of the most extreme and inspiring natural environments and then, with the planting of a flag or the last stroke of a paddle, it's over. Back in the real world, the thought kept running through my mind: "What's next? What can I do to keep the momentum going?"



IN 2006, DAVID DE ROTHSCHILD CROSSED THE ARCTIC—WITH MORE THAN 1 MILLION FOLLOWERS ON THE ADVENTURE ECOLOGY WEBSITE.



THE GREAT PACIFIC GARBAGE PATCH, ONE OF FIVE OCEAN GYRES THAT ACCUMULATE TINY BITS OF

Whatever the next expedition turned out to be about, I was resolved that it had to move beyond simply raising awareness of an environmental problem. It needed to touch people's lives, it needed to provoke an emotional response, and it had to point the way toward solutions. I felt strongly on these counts. Here I was, only weeks removed from having spent one hundred days living on the ice, and already I was feeling disconnected from what had transpired in the Arctic. If I was feeling that way, then how could I expect other people to relate to my experience?



EVERY SQUARE MILE OF OCEAN CONTAINS 46,000 PIECES OF FLOATING PLASTIC
GARBAGE. EVERY SQUARE MILE!

While researching potential themes for a new expedition, I stumbled upon a small passage in an obscure report issued by the United Nations Environment Programme (my reading interests can run a bit geeky) that opened my eyes to an issue I was unaware of. Buried within "Ecosystems and Biodiversity in Deep Waters and High Seas" was the astounding fact: Every square mile of ocean contains 46,000 pieces of floating plastic garbage. Every square mile! I thought that this must have been a typo. I even asked UNEP. Nope. The stat turned out to be correct. How could this be?

I dug deeper. From reports by Greenpeace and the Algalita Marine Research Foundation I learned that the vast majority of marine waste is composed of plastic and, further, that pollution congregates in five enormous, slowly spinning ocean eddies. One estimate states that in the Eastern Garbage Patch, a gyre in the North Pacific that's approximately twice the size of Texas, every pound of plankton is outmatched by 6 pounds of plastic litter.

I went online to find out more about these garbage gyres. What was in them? Could you see them from space? What harm were they doing to marine life?

I couldn't find much of anything. Not in academic journals, not in the popular press. "Hard on a second," I thought. "This can't be true." Why doesn't everyone know that our oceans are filling up with trash? Here was this amazing, disgusting manifestation of modern waste and overconsumption floating ominously between Hawaii and California, and it was effectively secret.

The thought of these human fingerprints smudging the oceans both alarmed and inspired me. What could I do to create an energy that would help solve this problem? From that question sprang the dream of *Plastiki*. The details would follow, but I knew then that I'd throw myself and the full resources and passions of the Adventure Ecology team, the expeditional environmental organization I had launched in 2005 for the Arctic journey, into tackling marine

debris.

Plastic pollution is a massive and at the same time intensely personal environmental problem. Although the effects of global warming—caused by colorless, odorless gases—are not yet widely felt, we touch and see plastic every day of our lives. With every trip to the grocery store or takeout deli, we can readily see our waste footprint grow. On the bright side, all of us can do something immediate and measurable to reduce it.

A good starting point would be bottled water, which epitomizes the absurdity of our throwaway society. Each and every day, Americans consume 70 million bottles of water—nearly 9 billion gallons of bottled water a year. This despite the fact that the purity and taste of the water in those bottles is often lower than the water flowing freely from taps in our homes and workplaces. Only one in six plastic water bottles in the United States is recycled. The rest, some 22 billion empty plastic bottles a year in the United States, end up in landfills and incinerators, or as trash in the street waiting for the next rainstorm to sweep them into our seas.

It was a few months later that I had what can only be described as an epiphany. I'd gone to Los Angeles in August 2006 to meet with Jeff Skoll, the first president at eBay and now chairman of Participant Media, the film production company behind *The Cove*; *Food, Inc.*; and *An Inconvenient Truth*, among other movies. I'd talked with Jeff about an idea for drawing attention to marine pollution: I'd take a bunch of artists out to the Eastern Garbage Patch and have them make sculptures of trash pulled from the ocean. The whole thing would be filmed in documentary style. Jeff was unimpressed. "Where's the drama? What's the hook?" he asked. He was entirely right. The idea was flat.

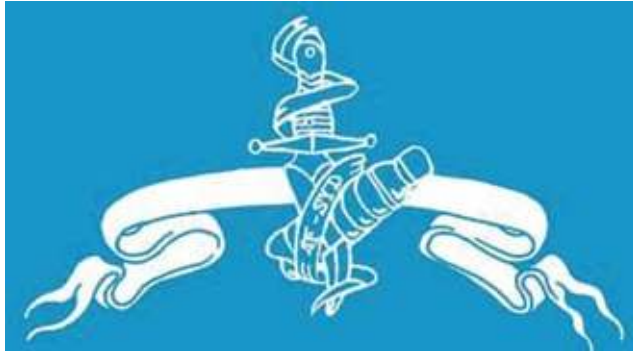


I WENT ONLINE TO FIND OUT MORE ABOUT THESE GARBAGE GYRES. WHAT WAS IN THEM? COULD YOU SEE THEM FROM SPACE? WHAT HARM WERE THEY DOING TO MARINE LIFE?

Flying back to London, I could see the dazzling snows of the Arctic and then Greenland sites of my previous adventures, slide past far below. Then came miles upon miles of blue ocean. My mind went back to Jeff's words. Where was the drama? I started to think about the big, game-changing expeditions of the past. When it comes to oceans, there is only one that comes to mind: the *Kon-Tiki*.

Who doesn't know of *Kon-Tiki*, the legendary balsa raft that Norwegian adventurer Thor Heyerdahl sailed from Peru to Polynesia in 1947? Heyerdahl and a crew of very game fellow Scandinavians lived out his theory of oceanic migration as they traveled the Pacific. I've always considered the voyage of the *Kon-Tiki* one of the most compelling and captivating

adventures of modern times. Heyerdahl followed his dream, and the world has never
forgotten.



THE FACTS

80 PERCENT OF OCEAN POLLUTION BEGINS ON LAND.

ALMOST 75 PERCENT OF THE WORLD'S FISH STOCKS ARE ALREADY FISHED UP TO OR BEYOND THEIR SUSTAINABLE LIMIT.

FOR EVERY 1 TON OF PLASTIC WE RECYCLE, WE SAVE ALMOST 2,000 POUNDS OF OIL.



THE VOYAGE OF THE KON-TIKI IS ONE OF THE MOST COMPELLING ADVENTURES OF MODERN TIMES. THOR HEYERDAHL FOLLOWED HIS DREAM, AND THE WORLD HAS NEVER FORGOTTEN.

{THE EQUATION OF CURIOSITY}

Dreams multiplied by Adventure, raised to the power of the Stories those adventures generate, produces Inspiration. The more dreams, the more inspiration—which leads to more dreams. It's a perpetual-

motion machine—a philosophy rooted in mankind’s irrepressible impulse to explore and then tell compelling stories about those adventures.

“There it is,” I practically shouted out on the plane. *Kon-Tiki. Plastik.* If plastic was the main human fingerprint on the oceans, then why not use it as the basis for a craft, a boat that would highlight this mess. “Let’s build a boat out of plastic bottles and sail across the Pacific. Now that would be dramatic. It would be more than a voyage across the ocean; the boat would prove the point that plastic didn’t have to end up as waste, but that the material was misunderstood and misused.

At Adventure Ecology, I operate on a philosophy called the Equation of Curiosity: $D \times A = I$. Simply put, dreams are the breeding grounds for adventures; adventures spawn stories and stories produce the inspiration needed to seed more dreams. The whole equation is driven by curiosity. It’s a perpetual-motion machine—a philosophy rooted in mankind’s, especially children’s, ability to ask questions and to dream.

Plastiki would do homage to Heyerdahl and his brave team and, if we were lucky, bring ideas and ideals together much as *Kon-Tiki* did to create an epic adventure on the open sea. The adventure of *Plastiki*, from San Francisco to Sydney, would showcase a new way of thinking about waste, and it would generate the stories to inspire more new ways of thinking, more dreams, more adventures.

We should have seen the tugboat bearing down on us, but we were absorbed by the task at hand: trying to fix our boat’s broken steering mechanism. Somehow the bracket holding the tiller and rudder together had popped out. The horn blast caught our attention. Behind the tug came a barge piled high with coal bound for the docks in Oakland. Loads that large just don’t turn on a dime. Without steering and with the motor launch that had towed us out into San Francisco Bay fast disappearing, we were sitting ducks. Our Planet 2.0 solution was about to be undone by cold, hard Planet 1.0 reality. I could see the headlines, drenched in irony: crazy enviro on bottle boat smacked to death by coal barge. Thanks to some spare rope and quick thinking, we lashed together the tiller and rudder and scooted out of the tug’s path at the last second.

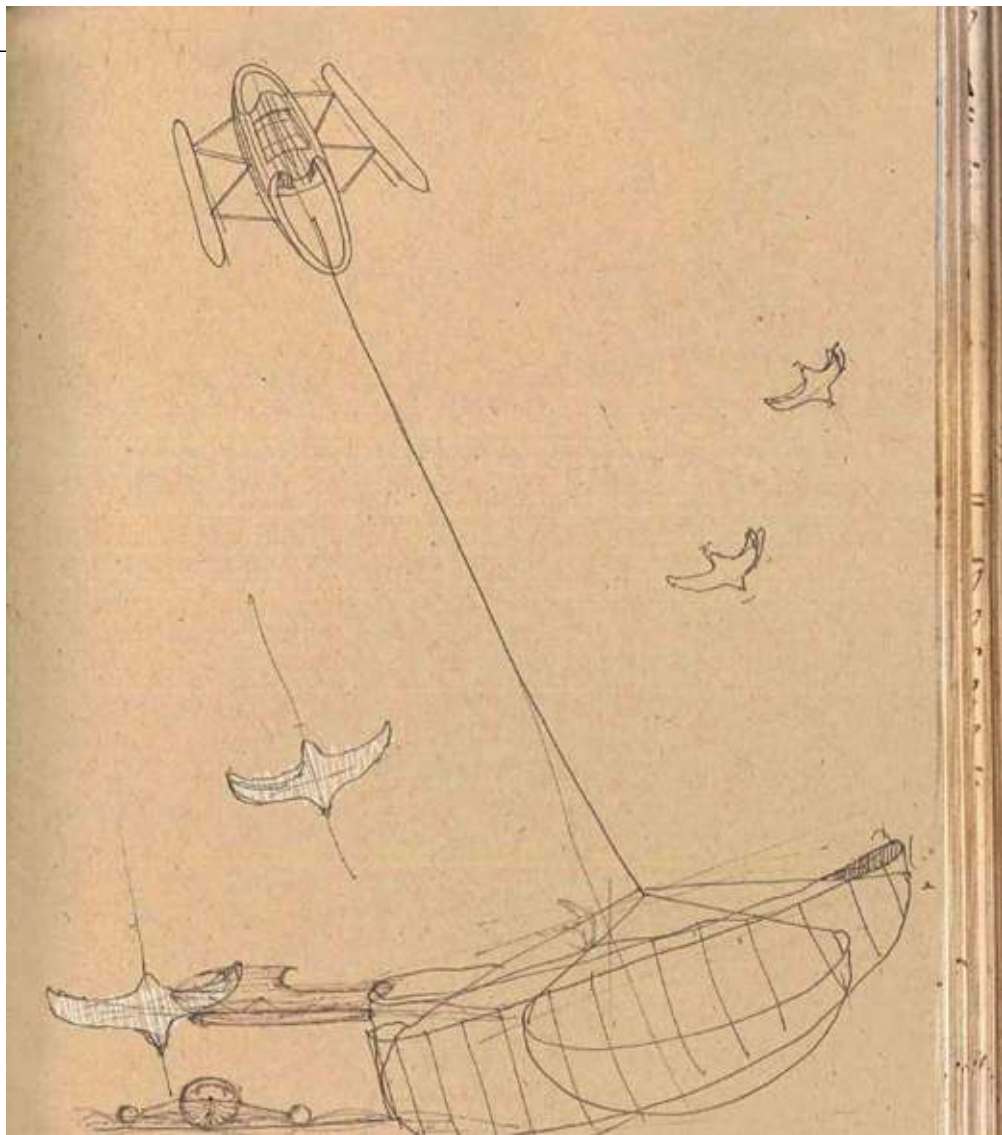


THE ADVENTURE OF PLASTIKI WOULD SHOWCASE A NEW WAY OF THINKING ABOUT WASTE, AND IT WOULD GENERATE THE STORIES TO INSPIRE MORE DREAMS.

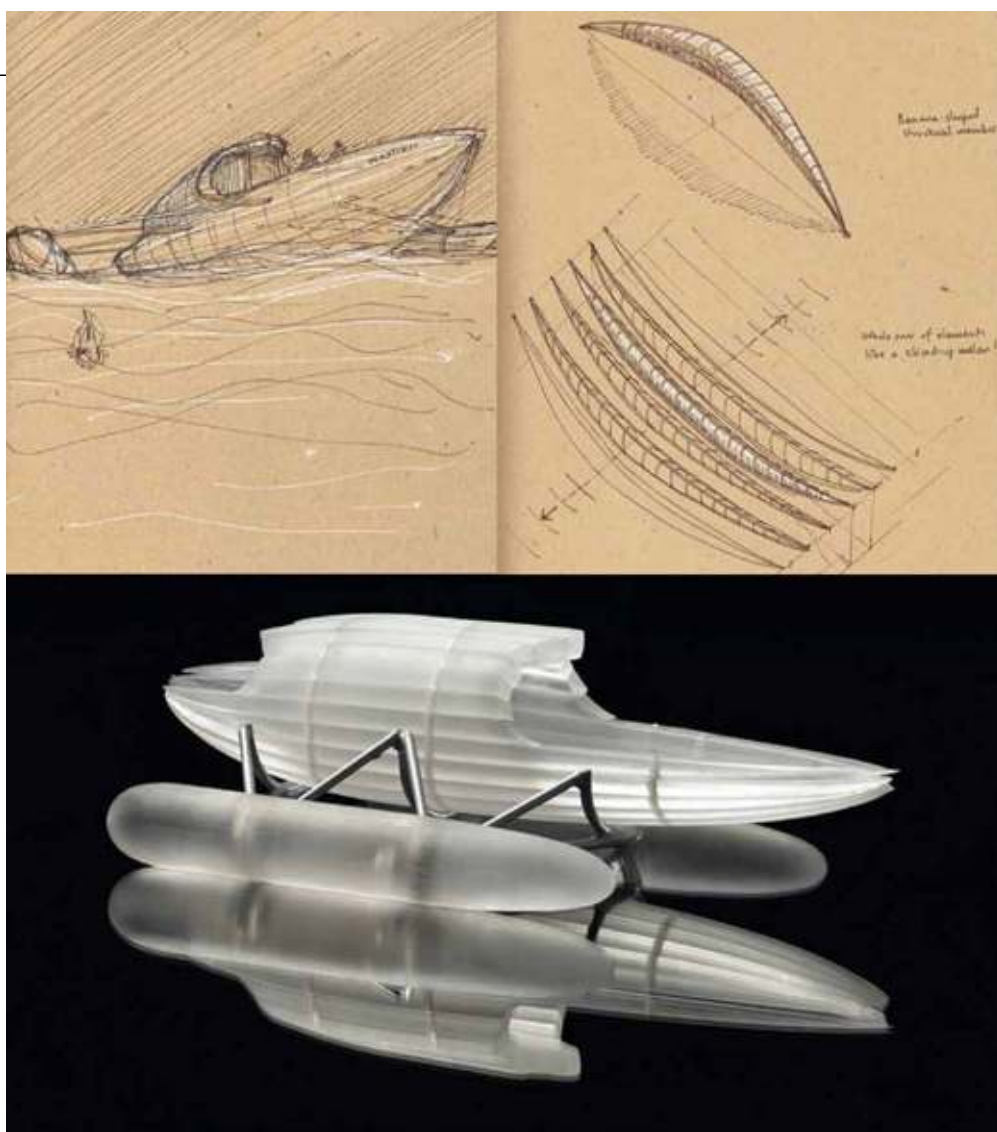
Not every moment of *Plastiki*’s creation was that dramatic, although there were plenty

highs and more than a few lows. That day on the bay definitely ranked up there as a high, you ignore the coal barge. The boat wasn't the 60-foot-long *Plastiki* but rather a 20-foot prototype built of marine plywood. The exciting discovery we made on that maiden voyage in June 2008—besides needing to strengthen the tiller-rudder bracket!—was that our concept of a boat made of bottles was viable. It floated. It sailed. The final *Plastiki* was still far off, more of a twinkle in our eyes at that juncture, but her pedigree was solid.

The first major step forward in moving *Plastiki* from dream to reality came when I met Michael Pawlyn in October 2007 at Google Zeitgeist, a conference of business and media leaders. Michael is a passionate advocate and practitioner of sustainable design inspired by nature, often called biomimicry. His architectural designs include several of the remarkable domed biomes at the United Kingdom's Eden Project and the fantastic Las Palmas Water Theatre in the Canary Islands. "I really like what you're doing," I told Michael. "Rather than hire a naval architect, which I should probably do, I'd like to hire you instead." I wanted someone with no preconceived ideas about what a sailing vessel must be.



IN DESIGNER MICHAEL PAWLYN'S SKETCHBOOK, HE BEGAN WITH THE IDEA OF A CAPSULE-SHAPED *PLASTIKI* PULLED BY KITES.



Michael didn't disappoint. I had only two requirements: The plastic bottles in our bottle boat had to be visible and functional. I had an open mind, but I guess I expected something like a raftlike platform floating atop big pouches of plastic bottles.

When the time came for Michael's first presentation, he arrived at Adventure Ecology offices and set a box on the table. He lifted the lid and pulled out a model of a crazy-looking water bug. It looked like a trimaran, with two pontoons and a fuselage down the middle. Instead of using conventional sails, the boat's propulsion was to come by kite sail. The team was captivated.

The natural form that inspired Michael's solution for housing the soda bottles was the pomegranate. Within a pomegranate, the individual seeds are soft and easily crushed, but packed in pith and sheathed in a tough skin, the whole is very strong. In Michael's design, masses of tightly packed bottles, framed and skinned, would constitute the central hull and cabin as well as the two outrigger-style hulls. Bamboo and plywood would provide support and rigidity. During the ensuing give-and-take of the design process (and realities of building a craft that could sail 8,000 miles across the Pacific), we lost some elements of Michael's concept, but his biomimicry-based notion for integrating plastic bottles into *Plastiki's* pontoon remained.

Finding someone who could translate Michael's concept into blueprints proved demanding. After fits and starts with architects who either couldn't grasp Michael's ideas or our intent, or who declined to participate due to the risks to the boat and their reputations, we lucked out in hiring Andy Dovell, a renowned Australian naval architect whose boats have competed in three America's Cups and numerous other sailing races. He's known for boats that are fast and elegant—and for liking a challenge. That last quality would serve him and the *Plastiki* team well in the months ahead. His first clue that this was no ordinary project came when he attended a design charrette at Adventure Ecology. We had convened a group of thirty people to kick around solutions to the problem of building a seaworthy boat out of an inherently weak material, and making it a floating "closed loop," capable of generating its own energy and water, and able to manage the crew's waste.



"IF WE CAN DESIGN OUR WAY INTO DIFFICULTY, WE CAN DESIGN OUR WAY OUT."

JOHN THACKARA

@DREXPLORE 5:32 A.M., JULY 17, 2009



Andy's initial design for *Plastiki* was a big departure from Michael's concept. We had become very attached to the initial designs, but Andy said we couldn't go forward as planned. The boat would twist and break apart under the incredible multidirectional forces the ocean would throw our way. As a future crew member, I thought these concerns seemed valid! Andy made it clear that we needed more stiffness to the structure, that we had to create a superstructure to hold the bottles. The initial design he came up with that day is almost 100 percent identical to the 60-foot catamaran that eventually sailed the Pacific. Looking back, it's apparent that Andy is a genius—one of the most talented people I might ever work with.

Now we had a new challenge, one that would take us on an adventure that in my eyes was far greater than the physical crossing of the Pacific. We needed to find materials to build this superstructure. Andy proposed building the twin hulls and decking from marine-grade plywood—the crossbeams linking the hulls and supporting the cabin out of laminated, recycled timber—and the cabin out of corrugated iron.



CREW PROFILE: JO ROYLE

You don't mess around when taking on the Pacific Ocean. Which is why Jo Royle, an experienced racer and instructor, was a great choice to pilot *Plastiki*. Jo, 30, has logged the kind of mileage on water—75,000-plus miles—normally associated with long-running vehicles. She has skippered for Formula 1 Sailing, raced the Transat Jacques Vabre from France to Brazil, and captained Earthwatch expeditions. But it was Jo's intense passion for the environment, demonstrated by her recently earning a master's degree in environmental science and society at the University of Central London, that made her the right co-skipper.

WHO TAUGHT YOU ABOUT SAILING?

My dad gave me the passion, and then I learned a lot from sailing adventures with my first boyfriend. In my late teens, I delivered sailing boats long distances with a true salty named Trevor, which gave me really solid seamanship skills.

IF NOT A SAILOR, WHAT WOULD YOU BE DOING?

Trapeze with Cirque du Soleil, although I doubt they'd have me.

ANY SAILING OR ENVIRONMENTAL HEROES?

Many people have provided inspiration: yachtsman Peter Blake, marine biologist Sylvia Earle, and sailor and vagabond Bernard Moitessier.

CHANGES YOU'VE SEEN IN THE MARINE ENVIRONMENT?

Signs of change are much more noticeable in the sub-Antarctic islands, where you see glacial retreat and bird colonies relocating farther south.

OCEAN EXPLORATION OF OLD YOU WISH YOU'D BEEN ON?

Sailing the Beagle with Darwin in the time of the Fuegians, searching for new lands and new species. Imagine seeing the glaciated fjords without having seen pictures of them first.

COOLEST THING ABOUT *PLASTIKI*?

I feel like a caretaker of the product of so many people's passion and creativity.

IS YOUR ACTUAL HOME LARGER THAN *PLASTIKI*'S 14-BY-8-FOOT CABIN?

My home in Cornwall is smaller. I've spent a lot of time living on boats and other semi-outside dwellings. I like to make it a little hard to live. It makes you realize your connection to nature when you have to collect water, make electricity, etc.

HOW'S YOUR DRIVING ON DRY LAND?

Who have you been talking to?

ITEMS YOU TAKE ON EVERY TRIP?

Pen and paper, iPod, turquoise stone, an elephant, a seed, and an angle.
The last four all fit in a tiny pouch.



ROTATSO AFTER 3 YRS OF DREAMS/BLOOD/SWEAT/TEARS 2NIGHT I SAT ON THE PLASTIKI DECK AND REALIZED I WAS SITTING ON A BOAT!

@DREXPLORE 2:46 A.M., SEPTEMBER 17, 2009



A boat of marine-grade plywood and plastic bottles could make it across the Pacific, but would it set the world on fire? The final *Plastiki* looked a lot like Andy's boat, but our eventual materials would redefine *Plastiki's* mission. More on that below.

It was a scaled-down prototype of Andy's design that was very nearly crushed by the coal barge in San Francisco Bay in June 2008, and me along with it. By that point, we had set up a small boat-building operation in Pier 31 along the San Francisco waterfront. The space was cavernous and chronically cold but perfect for what we needed—a boat-building lab. Matthew Grey, Adventure Ecology's expedition director, headed up the effort. A first-time visitor to Pier 31 would swear we were running some sort of bizarre recycling operation. Large bins of clear two-liter plastic bottles covered much of the floor space, as teams of volunteers carefully filled each bottle with a mysterious powdery substance before sealing it closed.

The powder poured into the bottles was dry ice—solid frozen carbon dioxide. It was Matthew's bright idea to strengthen the bottles this way. An empty soda bottle is plenty buoyant but rather flimsy. As the dry ice converted from a solid to gaseous state, the bottles would be internally pressurized and better able to withstand punishment from Pacific waves.

The most critical decision I could make affecting *Plastiki's* chances of reaching Sydney was in the selection of a skipper. My hiring philosophy for *Plastiki* was to let people find us rather than seek them out. I believed *Plastiki* had incredible energy, its own kind of *Plastiki* karma. Jo Royle approached me through a mutual acquaintance at the Royal Geographic Society. Her sailing credentials were impeccable, with many years' experience at sea, but

was her passion for protecting the marine environment that stood out. Having just enrolled in a graduate program in environmental science, she wanted to make a difference. Jo and I instantly knew that *Plastiki* was the perfect match for her.

Jo soon enlisted David Thomson (known to all of us as “Mr. T”) as co-skipper. Hiring an experienced co-skipper like David—a professional sailor for fourteen years and a member of four world record–setting racing teams—would allow Jo to sleep more soundly when she was off-watch, and I knew it would increase our chances of success. Assembling an expedition team is always tricky business, all the more so when six people will inhabit a seriously tight cabin for many months. You want people on board who can not only get along, but who are dynamic, interesting, and bring a sense of magic. Not to mention have sailing skills. Finding candidates with all of the above skills? That would be dope.

My initial plan for the crew was to have a rotating cast of scientists, artists, athletes, and luminaries filling two of the six crew spots for two-week stints. Over time, the purity of a smaller team dedicated to the expedition held greater appeal. After the skippers, the crew we built consisted of Olav Heyerdahl, grandson of Thor; filmmakers Vern Moen and Mark Jourdan; Graham Hill, founder of treehugger.com; Luca Babini, a talented photographer who had been following *Plastiki* for many months; and Singeli Agnew, who would take over filmmaking from Vern. I couldn't have asked for a nicer group.

In the adventure that was the making of *Plastiki*, December 10, 2009, stands out as one of the most historic and emotional days. That's when a giant crane arrived at Pier 31 to slide our 12-ton plastic creation into San Francisco Bay. She floated! *Plastiki* was a full-fledged sailing vessel by this point, proudly displaying her distinctive geodesic-dome cabin and hull filled with ranks of soda bottles. Much more work was yet to be done—electronics, rigging, and energy-generating systems—all of which would be accomplished at a boatyard across from San Francisco in Sausalito. Doubters and detractors of the project, of which there were many, carped about how long it had taken to build the boat and how far off schedule we were. The way I looked at it, the first two and a half years of the project were research and development, engineering the materials to build the boat. But admittedly my mistake was focusing more on the D than the R, which would create a host of challenges that ate up valuable time. The actual building process took only eight months, whereas it can take up to eighteen months or longer to build a typical boat.

Plastiki proved to be a seaworthy if lumbering vessel, as we found out during extensive trials in San Francisco Bay during January and February of 2010. We had no trouble attaining speeds of 6 knots, leading us to believe that with the help of trade winds, we could move at 10 knots. Without a daggerboard, the boat was considered a “downwind” boat. At best, *Plastiki* could sail at 70 to 80 degrees into the wind. Tacking was out of the question. With a tailing wind, which we expected to encounter once we hit the equatorial trade winds, she excelled.

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