PLASTIKI

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

Table of Contents

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 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 floating on 12,500 plastic bottles glued together with adhesives derived from sugar ar cashew nuts makes the voyage doubly remarkable.

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

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

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

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

Plastiki has helped to focus the minds of a global public on the way contempora 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 huma 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 ow words, inspired by a UNEP report on marine litter from 2006—living proof that United Nation reports can make a difference.

A staff member was present at the launch in San Francisco and again as the catamara 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, whic were often gripping and witty—essential daily reading. *Plastiki* has delivered a metaphoric message in a bottle to millions upon millions of people.

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


PASSIVE

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 WA 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 beanba chair still imprinted with our co-skipper Mr. T's warmth. Just over a week removed from grand departure from San Francisco, and nothing yet about life at sea—the constant motio the middle-of-the-night wake ups, the tiger-in-a-cage restlessness of living on a 20-by-60-fo 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 silhouett 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 th blackness.

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

And what a situation! What was I thinking in wanting to sail the entire Pacific Ocean? Ca I legitimately use the word *thinking* in conjunction with building a boat from 12,500 plast 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 moving along at a speed of less than 2 knots, if you can call that moving. Bobbing is more lik 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 mo sincere expression of the fresh ideas necessary to create a better future. A future that avoid the unsustainable waste and environmental damage of our current way of living. A future tha 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 doubter and naysayers were right. Surely, just sailing across San Francisco Bay would have prove my point. Be careful what you wish for, I always tell others. Maybe I need to start heeding m 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 winch, but the extent of my nautical experience prior to *Plastiki* amounted mostly to sailin 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 s expeditions across Antarctica, Greenland, and the Arctic, I logged hundreds of days an nights on frozen surfaces. While brutally cold and rife with dangers, polar environments in m estimation offer a distinct advantage over the open ocean: They tend not to pitch and r beneath you. They're also impossibly pristine and beautiful and, as we're discovering in warming world, quite fragile.

Plastiki's journey began years before the boat ever touched water. In June 2006, I'd ju returned to London from an expedition to cross over the North Pole from Russia to Canada. had been humbling—rapidly melting pack ice had ended our journey two hundred miles sho of Canada. I saw how one of the earth's ecosystems was changing right before my eyes. An while thousands of schoolkids around the world had joined the "Top of the World" journey v 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 livin closely with your teammates in some of the most extreme and inspiring natural environmen and then, with the planting of a flag or the last stroke of a paddle, it's over. Back in the re world, the thought kept running through my mind: "What's next? What can I do to keep th 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 mov beyond simply raising awareness of an environmental problem. It needed to touch people lives, it needed to provoke an emotional response, and it had to point the way towa solutions. I felt strongly on these counts. Here I was, only weeks removed from having spe one hundred days living on the ice, and already I was feeling disconnected from what ha transpired in the Arctic. If I was feeling that way, then how could I expect other people t 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 sma passage in an obscure report issued by the United Nations Environment Programme (m reading interests can run a bit geeky) that opened my eyes to an issue I was unaware o Buried within “Ecosystems and Biodiversity in Deep Waters and High Seas” was th astounding fact: Every square mile of ocean contains 46,000 pieces of floating plast garbage. Every square mile! I thought that this must have been a typo. I even asked UNE Nope. The stat turned out to be correct. How could this be?

I dug deeper. From reports by Greenpeace and the Algalita Marine Research Foundatio I learned that the vast majority of marine waste is composed of plastic and, further, th pollution congregates in five enormous, slowly spinning ocean eddies. One estimate state that in the Eastern Garbage Patch, a gyre in the North Pacific that’s approximately twice th 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 yo 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. “Har on a second,” I thought. “This can’t be true.” Why doesn’t everyone know that our oceans a filling up with trash? Here was this amazing, disgusting manifestation of modern waste an overconsumption floating ominously between Hawaii and California, and it was effectively secret.

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

debris.

Plastic pollution is a massive and at the same time intensely personal environment problem. Although the effects of global warming—caused by colorless, odorless gases—ar not yet widely felt, we touch and see plastic every day of our lives. With every trip to th grocery store or takeout deli, we can readily see our waste footprint grow. On the bright sid 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 ou 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 the water in those bottles is often lower than the water flowing freely from taps in our home and workplaces. Only one in six plastic water bottles in the United States is recycled. The res some 22 *billion* empty plastic bottles a year in the United States, end up in landfills ar incinerators, or as trash in the street waiting for the next rainstorm to sweep them into o seas.

It was a few months later that I had what can only be described as an epiphany. I'd gon to Los Angeles in August 2006 to meet with Jeff Skoll, the first president at eBay and no chairman of Participant Media, the film production company behind *The Cove; Food, Inc.*; ar *An Inconvenient Truth*, among other movies. I'd talked with Jeff about an idea for drawin attention to marine pollution: I'd take a bunch of artists out to the Eastern Garbage Patch ar have them make sculptures of trash pulled from the ocean. The whole thing would be filme documentary style. Jeff was unimpressed. "Where's the drama? What's the hook?" he aske 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 Greenlan sites of my previous adventures, slide past far below. Then came miles upon miles of blu ocean. My mind went back to Jeff's words. Where was the drama? I started to think about th big, game-changing expeditions of the past. When it comes to oceans, there is only one th comes to mind: the *Kon-Tiki*.

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

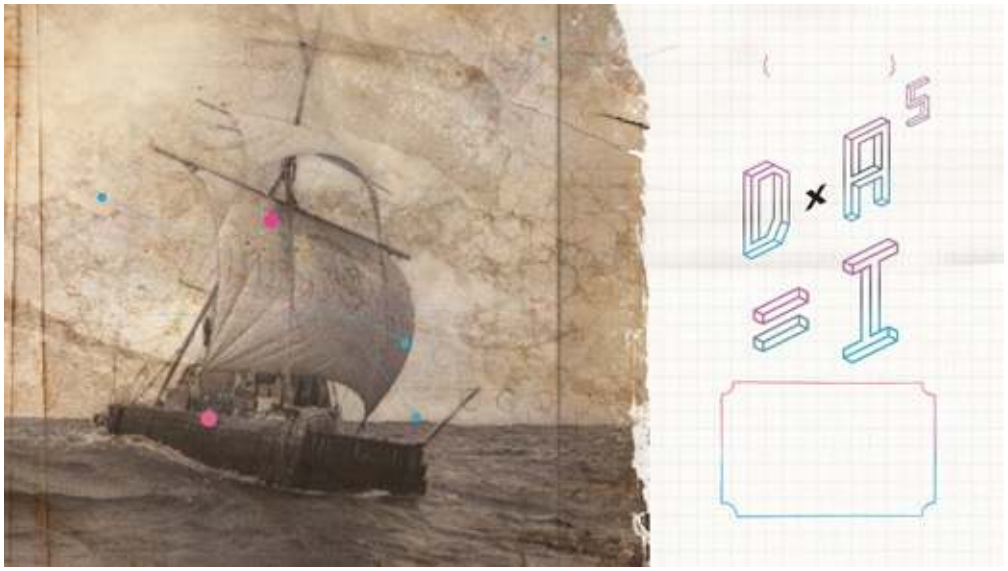
adventures of modern times. Heyerdahl followed his dream, and the world has nev
forgotten.

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. Plastiki.* If plastic was th main human fingerprint on the oceans, then why not use it as the basis for a craft, a boat th 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 bo would prove the point that plastic didn't have to end up as waste, but that the material wa misunderstood and misused.

At Adventure Ecology, I operate on a philosophy called the Equation of Curiosity: *D x A = I.* Simply put, dreams are the breeding grounds for adventures; adventures spawn storie and stories produce the inspiration needed to seed more dreams. The whole equation driven by curiosity. It's a perpetual-motion machine—a philosophy rooted in mankind' 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, brin ideas and ideals together much as *Kon-Tiki* did to create an epic adventure on the open se The adventure of *Plastiki*, from San Francisco to Sydney, would showcase a new way thinking about waste, and it would generate the stories to inspire more new ways of thinkin more dreams, more adventures.

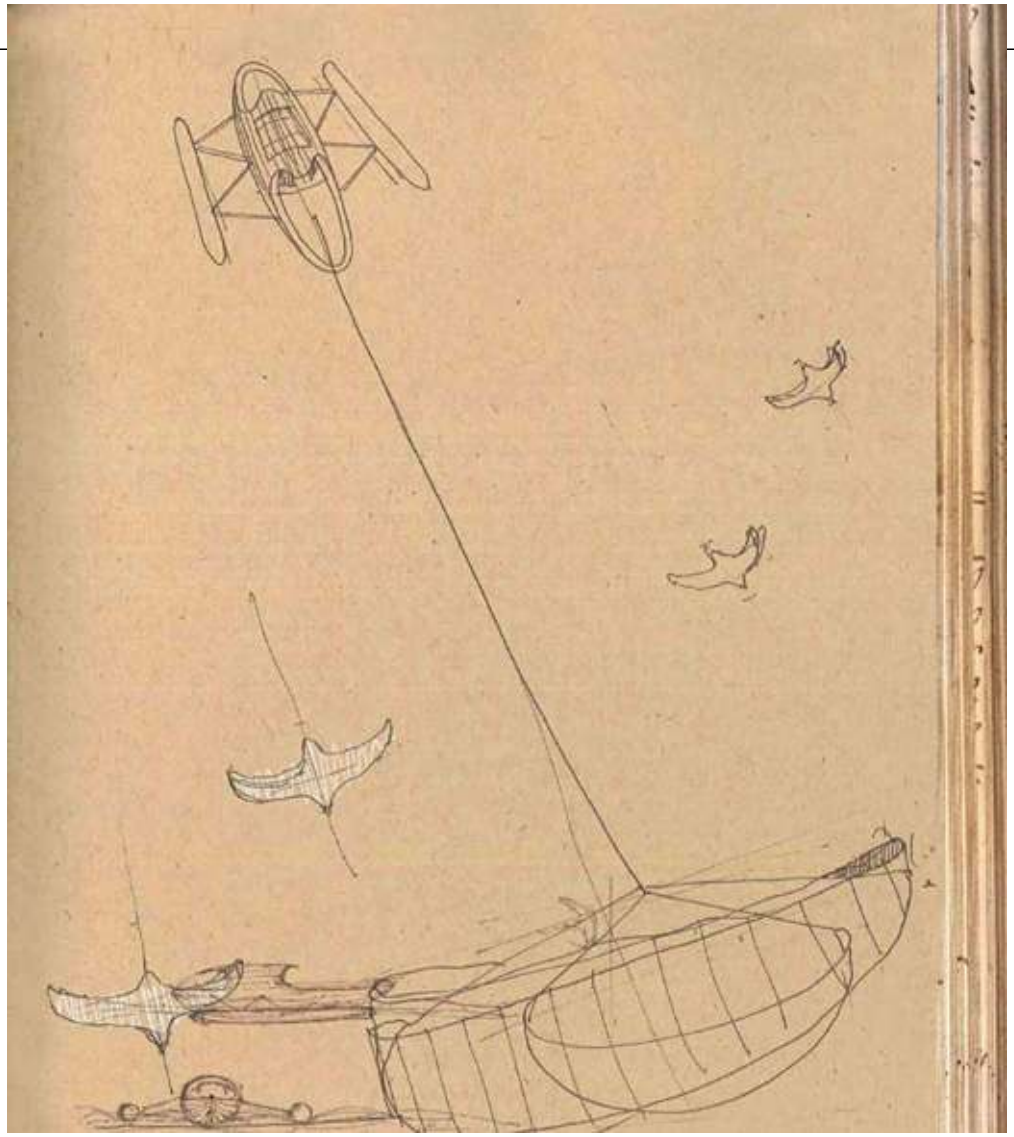
We should have seen the tugboat bearing down on us, but we were absorbed by the tas at hand: trying to fix our boat's broken steering mechanism. Somehow the bracket holding th tiller and rudder together had popped out. The horn blast caught our attention. Behind the tu came a barge piled high with coal bound for the docks in Oakland. Loads that large just don turn on a dime. Without steering and with the motor launch that had towed us out into Sa Francisco Bay fast disappearing, we were sitting ducks. Our Planet 2.0 solution was about be undone by cold, hard Planet 1.0 reality. I could see the headlines, drenched in irony: craz enviro on bottle boat smacked to death by coal barge. Thanks to some spare rope and quic thinking, we lashed together the tiller and rudder and scooted out of the tug's path at the la second.

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

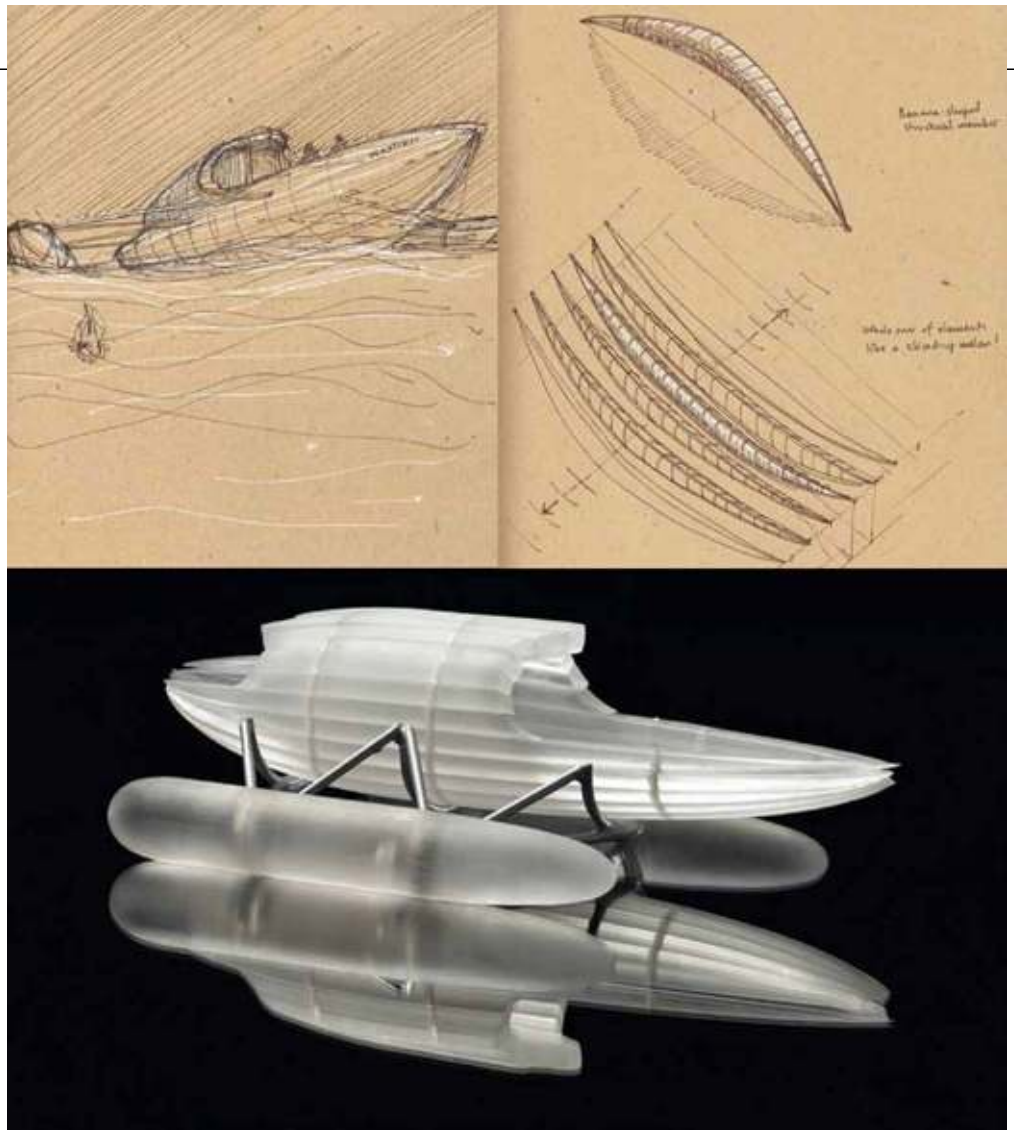
Not every moment of *Plastiki*'s creation was that dramatic, although there were plenty

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-fo
prototype built of marine plywood. The exciting discovery we made on that maiden voyage
June 2008—besides needing to strengthen the tiller-rudder bracket!—was that our concept
a boat made of bottles was viable. It floated. It sailed. The final *Plastiki* was still far off, mo
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 m
Michael Pawlyn in October 2007 at Google Zeitgeist, a conference of business and med
leaders. Michael is a passionate advocate and practitioner of sustainable design inspired b
nature, often called biomimicry. His architectural designs include several of the remarkab
domed biomes at the United Kingdom's Eden Project and the fantastic Las Palmas Wat
Theatre in the Canary Islands. "I really like what you're doing," I told Michael. "Rather tha
hire a naval architect, which I should probably do, I'd like to hire you instead." I wante
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 bott boat had to be visible and functional. I had an open mind, but I guess I expected somethin 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-lookin water bug. It looked like a trimaran, with two pontoons and a fuselage down the middl Instead of using conventional sails, the boat’s propulsion was to come by kite sail. The tea was captivated.

The natural form that inspired Michael’s solution for housing the soda bottles was th pomegranate. Within a pomegranate, the individual seeds are soft and easily crushed, b packed in pith and sheathed in a tough skin, the whole is very strong. In Michael’s desig masses of tightly packed bottles, framed and skinned, would constitute the central hull an cabin as well as the two outrigger-style hulls. Bamboo and plywood would provide support an rigidity. During the ensuing give-and-take of the design process (and realities of building craft that could sail 8,000 miles across the Pacific), we lost some elements of Michael 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 prove demanding. After fits and starts with architects who either couldn't grasp Michael's ideas ar our intent, or who declined to participate due to the risks to the boat and their reputations, w lucked out in hiring Andy Dovell, a renowned Australian naval architect whose boats hav competed in three America's Cups and numerous other sailing races. He's known for boat that are fast and elegant—and for liking a challenge. That last quality would serve him and th *Plastiki* team well in the months ahead. His first clue that this was no ordinary project cam when he attended a design charrette at Adventure Ecology. We had convened a group thirty people to kick around solutions to the problem of building a seaworthy boat out of a inherently weak material, and making it a floating "closed loop," capable of generating its ow 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 ha become very attached to the initial designs, but Andy said we couldn't go forward as planne The boat would twist and break apart under the incredible multidirectional forces the ocea would throw our way. As a future crew member, I thought these concerns seemed valid! And made it clear that we needed more stiffness to the structure, that we had to create superstructure to hold the bottles. The initial design he came up with that day is almost 10 percent identical to the 60-foot catamaran that eventually sailed the Pacific. Looking back, it 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 eye was far greater than the physical crossing of the Pacific. We needed to find materials to bui this superstructure. Andy proposed building the twin hulls and decking from marine-grad plywood—the crossbeams linking the hulls and supporting the cabin out of laminated, recycle 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 Fuegans, 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, b would it set the world on fire? The final *Plastiki* looked a lot like Andy's boat, but our eventu 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 th coal barge in San Francisco Bay in June 2008, and me along with it. By that point, we had s up a small boat-building operation in Pier 31 along the San Francisco waterfront. The spac was cavernous and chronically cold but perfect for what we needed—a boat-building la Matthew Grey, Adventure Ecology's expedition director, headed up the effort. A first-tim visitor to Pier 31 would swear we were running some sort of bizarre recycling operation. Larg bins of clear two-liter plastic bottles covered much of the floor space, as teams of voluntee 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 wa Matthew's bright idea to strengthen the bottles this way. An empty soda bottle is plen buoyant but rather flimsy. As the dry ice converted from a solid to gaseous state, the bottle 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 Sydne was in the selection of a skipper. My hiring philosophy for *Plastiki* was to let people find u rather than seek them out. I believed *Plastiki* had incredible energy, its own kind of *Plasti* 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 a graduate program in environmental science, she wanted to make a difference. Jo and 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 a experienced co-skipper like David—a professional sailor for fourteen years and a member four world record–setting racing teams—would allow Jo to sleep more soundly when she wa off-watch, and I knew it would increase our chances of success. Assembling an expeditio team is always tricky business, all the more so when six people will inhabit a seriously tin cabin for many months. You want people on board who can not only get along, but who ar dynamic, interesting, and bring a sense of magic. Not to mention have sailing skills. Findin 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, ar luminaries filling two of the six crew spots for two-week stints. Over time, the purity of smaller team dedicated to the expedition held greater appeal. After the skippers, the crew w built consisted of Olav Heyerdahl, grandson of Thor; filmmakers Vern Moen and Ma Jourdan; Graham Hill, founder of treehugger.com; Luca Babini, a talented photographer wh had been following *Plastiki* for many months; and Singeli Agnew, who would take ove 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 on of the most historic and emotional days. That’s when a giant crane arrived at Pier 31 to s our 12-ton plastic creation into San Francisco Bay. She floated! *Plastiki* was a full-fledge sailing vessel by this point, proudly displaying her distinctive geodesic-dome cabin and hul filled with ranks of soda bottles. Much more work was yet to be done—electronics, riggin and energy-generating systems—all of which would be accomplished at a boatyard acros from San Francisco in Sausalito. Doubters and detractors of the project, of which there wer 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 an development, engineering the materials to build the boat. But admittedly my mistake wa focusing more on the D than the R, which would create a host of challenges that ate u valuable time. The actual building process took only eight months, whereas it can take up t eighteen months or longer to build a typical boat.

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