**Mangrove Terraces**

These things creep up on you without you noticing. One minute, there you are minding your own oil-trading business, racking up the millions (and the rest!) in your numbered bank accounts, feted by fawning industry admirers and sycophantic media hangers-on. Then, before you know it, all of a sudden you are Mr Unpopular, a leper bell around your neck, featuring at number seven in The Guardian’s much-trumpeted list of the *Top Ten Existential Threats to the Global Environment*.

It would be fanciful to suggest that my origins were humble - a first-rate if rather troubled education at Lancing College, a knight-of-the-realm father rubbing shoulders with ministers and minor royals. (Papa was, rather unfortunately, disgraced in later life, but the point still stands.) When you exist only in these rarefied *environs*, the advantages that you have over others are neither apparent nor of any particular concern. Indeed, the first time I read an opinion piece accusing me of being posh and overprivileged, I almost spat out my 1969 Louis Roeder Cristal Millesime Brut. Later in life, though, even I had to appreciate that such a charge is difficult to counter when you happen to be in possession of your very own island.

As islands go, it was never much to write home about. Small, scrubby, over-grazed with stringy goats. It was really neither use nor ornament. The island’s one redeeming feature was the not-quite-golden beach on its south-facing shoreline, and in those early days, my darling wife, Jeane, and I spent many a sun-kissed afternoon seduced by the lapping waves, surrounded almost entirely by unspoilt nature, feeling as though the world was ours alone. Jeane could happily idle away countless hours watching tiny sand crabs scuttling from hole to hole like batters sprinting between bases, while I liked to cheer on the mudskippers as they used their minuscule but powerful forelimbs to hoist themselves through the thick gluey sludge beneath the jetty. If often gave me cause to ponder whether these extraordinary creatures were observing me just as I them, peering up through inquisitive eyes and wondering what on earth is this peculiar man staring at?

My fortune, as I mentioned, came from oil, amassed via a combination of good luck and fortuitous timing, a smattering of expertise and a dedication to the job that very nearly killed me. Aged just forty-four, my heart decided it had had more than enough of my work-work-work lifestyle and tried its best to condemn me to an early grave. Somehow, to even my doctors’ amazement, I pulled through. Jeane’s immense relief was tempered by the fact that my first act upon opening my eyes in the Intensive Care Unit was to ask if I’d missed any important messages from the office. She was also a little nonplussed by my referring, tongue-in-cheek, to my revival as ‘the Resurrection’. But I think, all in all, she was glad to have me back.

I am not a man of any great religious conviction. Agnosticism runs through my family like male pattern baldness. In his early seventies, my father collapsed and died on the pavement outside the village Post Office. Thereafter, my equally nonreligious mother, who had stood by Papa after both his financial and infidelity scandals, said a quiet little prayer every time she passed that gleaming red postbox. It struck me as unlikely that my father’s spirit should choose to haunt the very place where his life was cut short. Having said that, given his disdain for the shoddy customer service he always complained of receiving there and his willingness to hold a grudge, I wouldn’t put it past the old devil to be hanging around and putting the willies up the counter staff. In any case, it brought my mother some much-needed solace throughout her final years, and that was all that really mattered.

Love is an incredible thing. When Jeane started giving her speeches, the situation caused much consternation among my peers. ‘She must be such an embarrassment to you.’ ‘She’s going to give you another heart-attack at this rate.’ And it was true – at first it did cause a tremendous degree of difficulty. The environmental concerns she was espousing were entirely at odds with the practices necessary for my businesses to function. It would be untrue to say that I felt no guilt about the damage my companies were causing around the world, but I found myself able to blank it all out, to pretend it wasn’t happening. In those days, I wouldn’t have known a mangrove terrace from a palm oil plantation. It makes you wonder why she married me – it was certainly never about the money. I suppose it must have been love.

From the beginning, I admired Jeane’s freedom of spirit. On our very first date, I can vividly remember her outlining her ambitions to help save the northern white rhinoceros from extinction, speaking with rare passion, beguiling me with that delightful, soft Scottish accent that brought the blood to my cheeks and weakened my knees. It was clear from the first time she stood at a podium that she was a born orator. Watching her address the delegates at COP 20 in Lima, I could see that she held her audience rapt throughout. They were spellbound by her performance, dazzled by her words. Our daughter, Sarah Jane, was beyond proud. Alistair, a bit younger and still in those awkward teenage years, was horrified. Me? Well, I suppose it should have irked me that she was, essentially, trying to bring down my industry. But she wasn’t really, of course – her speeches simply stressed the need to adapt to a changing world. Either way, I couldn’t take my eyes off her in that long baggy grey dress and those heavy black Dr. Martens.

At first, as is the way of these things, Jeane received far worse press than I did. She was categorised as a tree-hugging do-gooder (as if these are bad things). But then came the Guardian article naming me Public Enemy Number 7, which was a watershed moment and no mistake. Naturally, the write-up mentioned Jeane - in fact, it was quite clear that her activism was the only reason I was featured at all. It gave the picture editor an opportunity to insert a photograph of her beautiful face into the newspaper - much better for business than my ugly mug. After that, the tabloids latched onto us. Overnight I went from being the distinguished oil magnate Oliver Frankland to *Oily Olly*, while she, of course, was dubbed *Green Jeane.* It caused some friction, I won’t lie, but not as much as you might think. Perhaps it was my near-death experience, or maybe it was Jeane’s remarkable powers of persuasion, but something had changed and I was starting, slowly but surely, to edge towards her way of thinking.

At the COP 20 meeting, Jeane had grown friendly with Majid, a curious man of astonishing intellect from Abu Dhabi who was better known, it transpired, as Mangrove Maj. He’s large and barrel-chested, intense but exuberant, and his entire bulky frame shakes whenever he laughs, which is often. Jeane was bowled over by his enthusiasm and knowledge and was keen for me to meet him. It soon became apparent why.

‘He’s looking for someone who owns an island. I mean, that’s ridiculous, isn’t it? That’s us!’

Some strange providence must have brought us all together, that’s all I could think. A man on the lookout for somebody who owns an island happens to find themselves chatting to just such a person. I can’t imagine that sort of thing happens every day.

‘It’s not like we even do anything with the island anymore.’

She was right, of course. There had been a time when we had entertained the great and the good (and the utterly appalling), but age and misanthropy had caught up with me and I no longer had much desire to play mine host.

‘Just say you’ll speak to him,’ she badgered me, over and over, until I eventually made room in my busy schedule for a call. And thank God I did. Speaking to Mangrove Maj changed my life. I can only hope it’s going to eventually change millions of other lives, too.

‘Have you ever heard of mangrove terraces?’ he asked me after a few strained pleasantries.

‘Yes, I think so – it’s a golf resort in Barbados,’ I replied, half-joking.Of course I hadn’t heard of mangrove terraces.

‘Well, strap yourself in,’ he said. I could sense the smile in his voice. ‘You’re about to hear *absolutely everything* about them.’

I don’t think he stopped talking again for around forty-five minutes.

We started work almost immediately. In the beginning, securing funding proved difficult. I pumped a million dollars in to start things off, as no one else would touch this outlandish idea, this absurd novelty. The tiny start-up team delivered, three months late, a large submersible pump, 500kW of solar panels, two kilometres of plastic pipe, the connectors, a supervisor (appointed directly by Mangrove Maj), fifty litres of sun cream, thirty sun hats and ten Indonesian labourers. Oh, and twenty thousand mangrove seedlings. They spent three months laying pipe, building berms, pumping water and, eventually, planting mangroves. The mangroves were laid out not in coastal waters, as is almost always the case, but in terraces, like rice.

Environmentally, intentionally salting dry land was a little dubious, but it was a private island so that was much less of a problem. An unforgiving tropical storm led to flash floods that washed away some of the mangroves, but they flowed down the gullies and were collected in the grid at the bottom. Large seedlings were replanted the following day, and, luckily, mangroves grow rather quickly. After a year, most were doing well, and the ‘salty forest’ was coming along nicely. The terraces were watered with sea water, which was pumped up from the beach using solar power and distributed through small trenches designed by an old rice farmer in Bali with whom Mangrove Maj had become acquainted while he was over there for COP 13. The old man’s trenches worked beautifully.

There had been concerns about the goats, but it seemed that they weren’t partial to ready salted leaves and they mostly left the seedlings alone. After the third year, a trial batch of prawns was added to some of the terrace pools near the sea. This was particularly good news for me – Jeane and I ate prawns on our first date and they subsequently became ‘our thing’, so I was devastated to learn that they were an environmental disaster area. Mangrove Maj explained to me that it’s the trawling that causes the damage, comparing it to picking strawberries with a bulldozer. But these prawns fared really rather well and were harvested by opening the sluice gate, flushing the pond with sea water and catching them in a simple net in the gully. Gravity did most of the work. Sold at the local fish market, the prawns were snapped up in ten minutes flat like hot tickets to the Philharmonic. All of the ponds now have prawns and/or fish, and the unbothered aquaponics system reduces the feed that they require. It seems to help the trees, as well. Seafood has been a major part of the revenue for the project, particularly in the early stages.

After the fourth year, a small crop of wood was taken from the largest trees. This wood was made into biochar using a homemade kiln on the beach. Not so efficient, but easy to use. The biochar was soaked in chicken manure, left to dry in the sun and then added to the fallow ponds and the new seedling areas. It works a treat, though the chicken manure job was not the most popular. It’s rather more popular now, though, as it pays double. After six years, and five rounds of expansion, the first serious coppicing was done by a local team hired from a nearby island. They cut strips through the forest, only harvesting a third of the trees, and hauled the wood down to the beach with a jury-rigged zip wire and a winch – a system that has grown ever more streamlined with each repetition. The brash was turned into biochar on the island as before, and the three hundred tonnes of logs were taken to a gathering yard in the nearest major port. To transport these small shipments, fabulous little wooden coasters called pinisis, halfway between a dhow and a pirate ship and a real blast from the past, were deployed.

The three hundred tonnes of logs joined a pile of twenty-five thousand tonnes from other projects and sources and was shipped to a site in Abu Dhabi operated by Mangrove Maj and his business partners. This trial transferred the logs inland to a barren, salty area where a massive pit had been dug. The wood was laid in the pit, which was then filled with strong brine from the nearby Reverse Osmosis plant. This super-strong brine gradually evaporates and pickles the wood, preserving it for thousands of years, and is a neat shortcut that enables the maximum amount of carbon to be stored with the minimum amount of combustion. Biochar is great, and is widely used throughout this and other processes, but it does still release some CO2 while making black, non-rotting carbon for soil improvement and sequestration. There is an ongoing debate about whether the wood pickling or the biochar is most efficient, and there are arguments for both sides. No doubt there will be for many years to come. Both systems are making a positive contribution in slightly different ways.

Now, after seven years, the island is 50% salty forest and 50% what it was before. The ready salted goats were sold a couple of years ago. The whole island has bounced back, with a surprising variety of plants, animals and birds. Islands are always a bit narrow in terms of the wildlife they can host, but in this case, it has been made up for by a bold abundance. There is a surfeit of fascinating little birds and a cracking selection of insects.

We worked hard, carefully choosing watersheds and checking aquifers, to ensure that the seawater does not damage anything that would be better left undisturbed. Most of the mangrove wood is made into biochar for both local use and export. We have, I think, thought of everything.

And yet, I can sense you thinking, there appears to have been a media blackout about all of this. Where is the Guardian article slapping you on the back for this monumental achievement and celebrating your Damascene transformation from ecological pantomime villain to spearhead of the upcoming mangrove terrace revolution?

Well the project is still, as we speak, top secret.

In fact, beyond knowing that I had agreed to talk to Mangrove Maj, even Jeane knew nothing about any of this. A brain tumour - swift, merciless, devastating - stole her away from me three days before that initial conversation. It is, perhaps, poetic that my greatest triumph is also my greatest tragedy. You will have read the various obituaries at the time, of course. Universally glowing, as befits. Even those rags that had vilified her in life deified her in death. ‘*’Green Jeane’ didn’t quite live long enough to change the world,’* read the tribute in The Telegraph, ‘*but she laid a path so that others might.’* Sarah Jane has, of course, followed in her mother’s footsteps. Our hugely talented daughter’s debut book takes pride of place on my bookcase and is always prominently displayed in the background whenever I have a Zoom meeting. Alistair runs half-marathons to raise money for environmental causes in his mother’s name.

The truth is, I can take no credit for any of this. She changed everything. Well, she and Mangrove Maj, of course. He told me that he intentionally sought Jeane out at COP 20 because he’d read that we owned an island. He also told me that it was the best thing he ever did.

Although I can no longer quite face eating them, Jeane has opened up a world where people can munch prawns, guilt-free, to their heart’s content. (Unless they’re vegans, of course.)

I still see her radiant smile in the faces of the grandchildren she never knew. And that’s what matters, isn’t it? Yes, I’ll always wish I’d acted sooner. And yes, I’ll never quite shake the feeling that I took her for granted. But we’ll all be gone one day. What we’re working for, what we’re fighting for, isn’t for us. It’s for those future generations yet to be born. That’s why we’re sequestering carbon, installing seawalls, helping wildlife to prosper. That’s what it’s all about.

Next week, we’re going public. It’s finally time. We wanted to prove beyond any doubt that this could really work over a sustained period. For the rest of the coastal mangrove terrace industry, our worked example will help to secure funding for other sites around the world. The potential is *unimaginable*.

Meanwhile, Mangrove Maj has made it clear that he wants no publicity. When the media circus hits town, he’ll be lying low, working on yet more pioneering ideas of how we can make the mangrove terraces even more effective. And me? I’ll be where I usually am these days: on the south-facing shoreline, watching those incredible nippy sand crabs as they race back-and-forth across the not-quite-golden sand, saying a quiet little prayer.