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Ellen MacArthur

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To sail around the world solo and through the mountainous seas of the Southern Ocean, dodging icebergs and sleeping in 20 minute snatches for fear of your life, is unimaginable, but Ellen MacArthur has done it and survived. Not only that, she broke the non-stop solo round-the-world record, in seas more treacherous than her previous voyage, the Vendée Globe. But I wasn't meeting her to talk about her extraordinary sailing feats... The next chapter in her story is, by her own admission, an even greater challenge and I wanted to understand why she has altered course... I wanted to know what makes her tick.

Ellen's 5ft height and slight appearance is deceptive. She exudes energy and it's powerful. I have quite honestly never met anyone else like her...

I asked her what the turning point was that took her from sailing to sustainability. She explained first that sailing alone around the world made her super-conscious of the resources she had available to her. Every single item on the boat adds to its weight so even loo paper is rationed and precious. Every drop of diesel is accounted for – it powers the auto-pilot, two computers for navigation and contact via satellite – and a small mistake in calculations or a malfunction of the generator could be life threatening. "I became aware of the meaning of 'finite' on the boat. At sea there was no night or day, it was twenty-four hours a day, seven days a week. You're using your absolute concentration to try to weave your way through the weather systems, harness the energy of the wind and the sea to the best of your ability to win a race... you are living in a totally different world."

After breaking the world record, she made a trip to South Georgia to highlight the plight of the magnificent albatross whose numbers are diminishing at an alarming rate. Ellen found herself on the shoreline of a huge abandoned whaling

## 'Linear economy'



station at Grytviken. "I profoundly connected again with that notion of finite at sea, and this time with the notion that things were also finite on land." This made her question the human race's relentless consumption of non-renewable resources. She told me, "There was this multi-billion pound industry that employed 4,500 people. The resource was whale oil. It was used for pharmaceuticals, lamp oil, candles, food, nitroglycerine used in two World Wars... This was an industry that was established in 1904 and closed in 1966 having depleted its resource-base – all within the lifespan of my great grandfather on whose knee I used to sit listening to stories. It resonated with me so hard because of my experience at sea. I knew what finite was."

This was the start of Ellen's research into resource depletion and her study of what materials we have in the world. At first she was focused on energy – oil, gas... fossil fuels –

### Ellen at Home

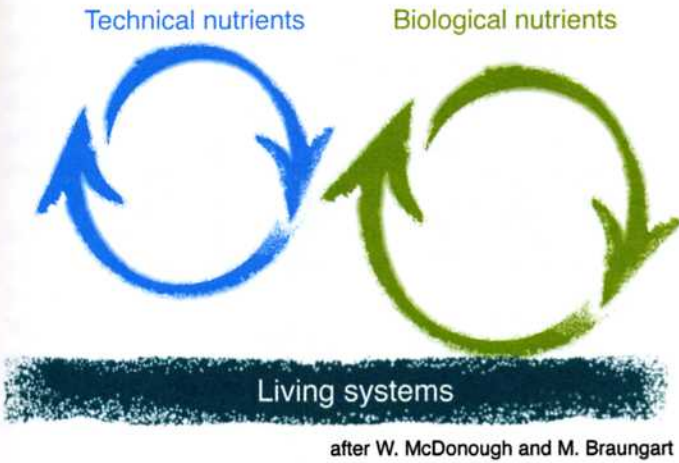
Ellen MacArthur and her partner Ian took four years to build their house on the Isle of Wight. "We learnt where the sun rose and set in summer and winter. It was an exercise in observation design," she told me. The house is heated by a Rayburn and captures its heat by having a high thermal mass. The ground floor is made from concrete blocks, made locally on the island. "The walls are two foot thick. There isn't any high technology. It's just well insulated with big windows on the south side and small windows on the north side. We have an insulated wall between the sun space and the main house which separates the house thermally. The stairs are actually outside of the house although they feel inside because the area with the most glass on the south side acts like a heater. In the winter the sun space is cold and in the summer it is really hot until you open the windows and the air vents out. In the spring and autumn (and in the winter when it is sunny), the sun shines in and it gets really hot. When it's hot, the heat is pumped into the house with a £30 system – a bit of toilet ducting and an extractor fan and two thermostats – not rocket science. There's 6m<sup>2</sup> of solar water heating that goes into a 400 litre tank and heats the underfloor heating downstairs with the Rayburn." Ellen and her partner collected as many recycled materials as possible and the design was adapted as they came across different resources. "It's not to everyone's taste but it's got personality," she says.



Ellen also has a vegetable and fruit garden. The site was an old overgrown market garden. They kept the soft fruit, added a chicken pen by a shady hedge, and put in a 5,500 litre water storage system collecting rainwater from the garage and house roofs and storing it in tanks made from manhole rings buried in the ground as they last much longer than plastic tanks. They also installed a reedbed system to treat the sewage.



# 'Circular economy'



but then she realised that resource depletion is a much bigger issue. "At the moment we live in a linear system. We take, make and dispose. We try to recycle some of it, but it is still a linear system. The objective is to reduce throughput and not to make that system sustainable."

"When I talked to people at that time people asked me what they could do. All I could say was 'use less', which to me is not an aspiration. If you are a kid wanting to sail around the world and take on a challenge, you don't want to hear, 'If you want to be a great citizen use less - you need to reduce your carbon footprint.' I understood that efficiency is vital to get us to where we need to be but is that the solution? The vision had to be one of doing things in a different way. That's where this difference between linear and cyclical systems came in. Life itself works on cycles. Materials flow. There is no waste. Waste = food.

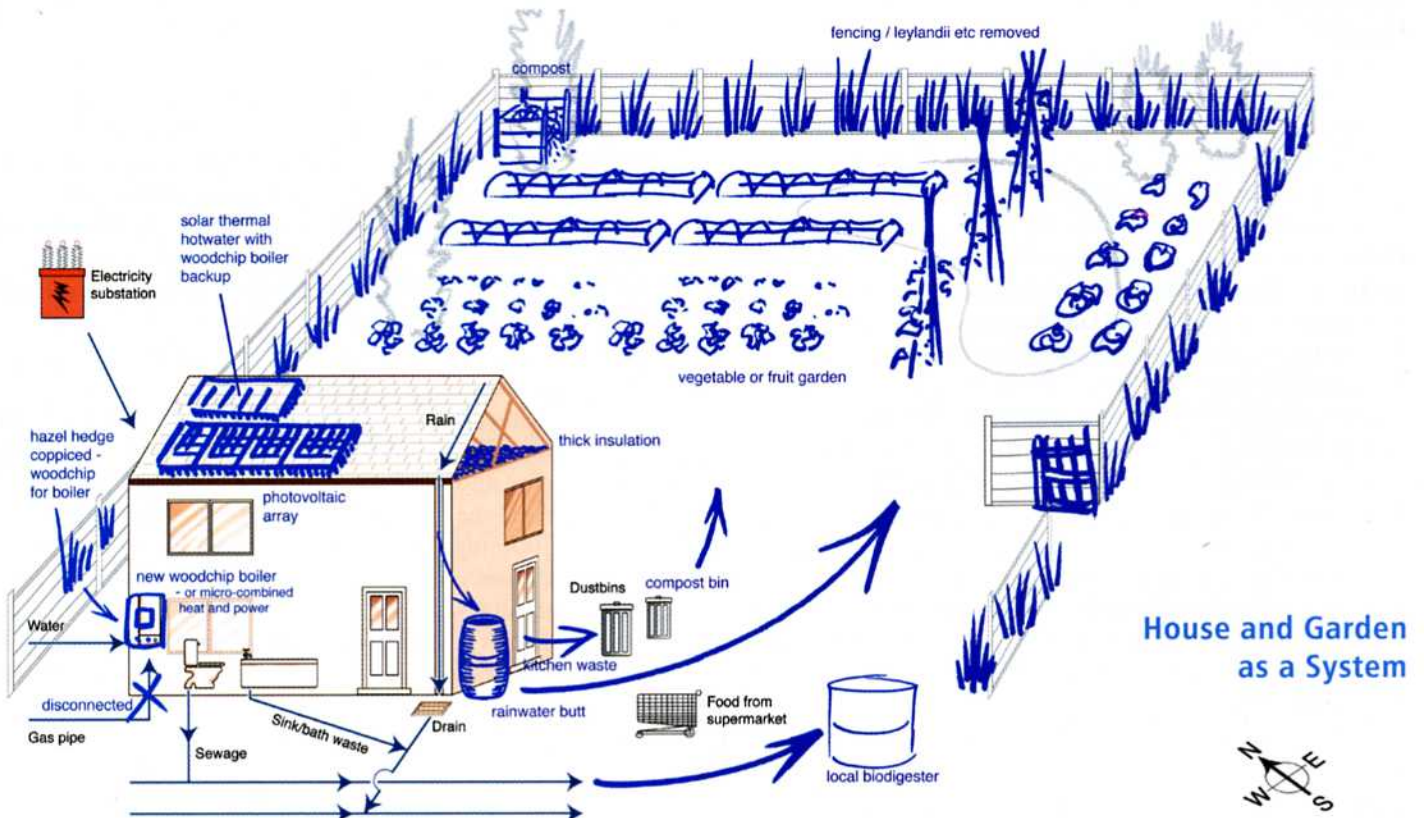
These are basic rules, and permaculture is a very real and amazing example of this. So I learnt about cyclical systems; how to do things differently and then apply that knowledge on as wide-scale as possible to industry. There is a massive need for a systems-level change."

## Creating Change at a Systems Level

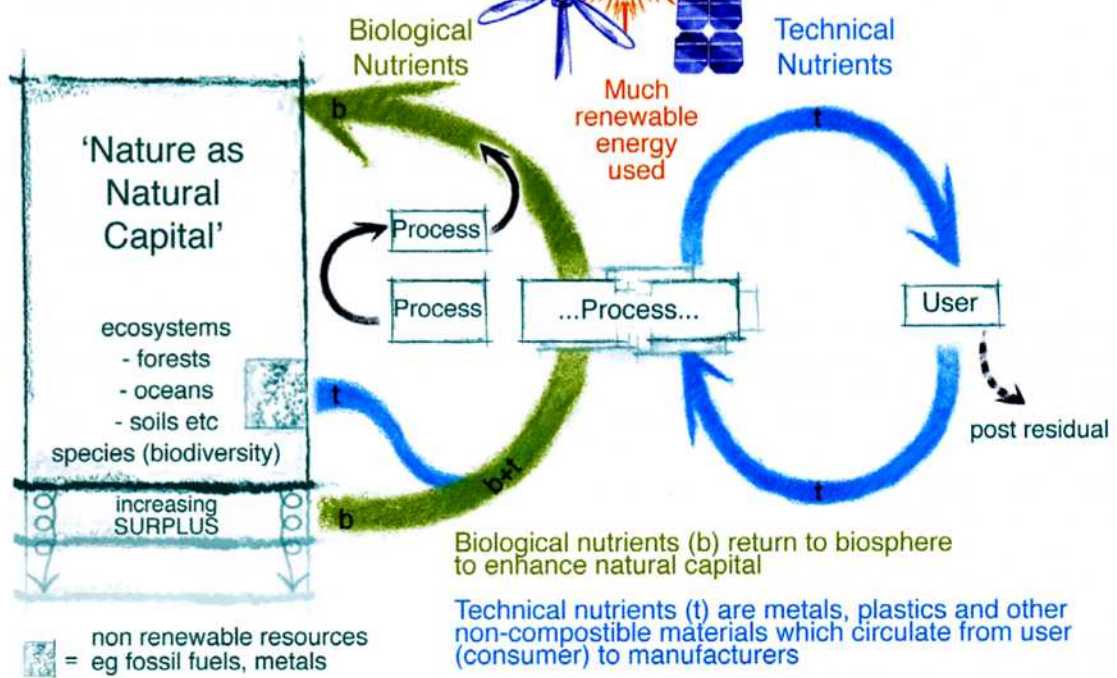
The Ellen MacArthur Foundation was created to work on a systems-level change. "This is not about individual behaviour change, but big systems-level change and that's why the foundation's funding has come from corporates. They either don't have the young people with the skills needed or they know the materials are finite. The objective is not about taking less out of the ground and selling it for a bit more. If we recycle materials and create materials flows, and if those materials have a value that we can pass on to other companies or make the next product from - that works. Raw materials will not get any cheaper. There has to be a change in the way things are done."

I asked Ellen what the foundation's strategy is for big systems change - education (particularly for young people) is key evidently, but how in relationship with business? "One of the biggest issues for young people is what they are going to do when they leave school. Where and what are the jobs going to be? We want to help young people rethink everything, to reframe how they see the world. The reason why the foundation has focused on education is because unless we have a whole generation seeing things differently and learning different ways of doing things, then a systems level change will be very difficult to implement. Our strategy is to inspire people to 'rethink, redesign and rebuild for a positive future'."

The foundation works at a secondary school, college and further education level and has partnered with the Nuffield



# A Circular Economy (where waste = food)



after W. McDonough and M. Braungart

Foundation. The goal is to engage everyone, not just the 30% or people who are passionate about sustainability. I asked Ellen how they planned to do this, "Everything is in the framing. If you go to our website it doesn't say 'sustainable', it says 'for a positive future'. Actually, sustainable is not a great word. It's quite boring. It's not something to aspire to. We prefer to talk about resources, opportunities, jobs, making things in a different way, the benefits, materials as precious assets... At the moment a power company might think what comes out of a biogas digester creates a waste problem, but actually it is fertiliser. When you start to link things together, when you start to do systems thinking, you end up with multiple benefits."

"Do you have a vision?"

"It's not mine but I do. We will have material flows everywhere. For example, currently carpet manufacturers make carpet generally out of technical nutrients – plastics – that last for at least 10 years. At the end of the carpet's life we worry about how we are going to dispose of it. We spend millions of pounds on recycling carpets in this country and we don't have a grand plan. Desso in Holland ([www.desso.com](http://www.desso.com)) make their carpets out of two materials: yarn on the top and polyamide as the base, both are recyclable. The company is encouraging people to rent and not buy the carpet – the customer gets floor covering and pays a smaller amount. When the carpet goes back to the factory it is broken down into its two constituent parts; the yarn is respun into new carpet and the polyamide is recycled into a new base... and if this is being done using renewable energy you have a solution."

"This is an example of Cradle to Cradle recycling of biological and technical nutrients, but it could be steel, indium, or tantalum that's in a lot of electronic equipment. What is very important is that we design for disassembly."

This changes the model. If you leased a washing machine for 3,000 washes, and if that machine was ultimately the responsibility of the manufacturer, they would make it differently. At the moment manufacturers make money by selling as many machines as possible, but if you change that model and lease 3,000 washes, the manufacturer will have to make the machine so it is repairable or at least recyclable."

## Focusing on the Possible

"The task is Herculean but if we look back at history we have achieved incredible things. I just focus on what is possible and not what is impossible." This interests me as I remember reading in her book, *Full Circle*,<sup>†</sup> Ellen saying, "I'm the kind of person who believes that if you really want something to happen then you should just go for it and never give up." (p.83) I ask if this is one of her core values? "Yes."

So I ask, "You had an extraordinary learning experience sailing. Have you taken it into this work?"

"Subconsciously. We (as a society) put a lot of energy into making things fit into a box, yet at sea nothing fits in a box. I had to evolve and adapt everything every day." This is what fascinated me about Ellen's story – she had to constantly fix things on the boat, often without the right tools or materials in terrible conditions, and she did so by thinking laterally.

"On a boat it's a balance between efficiency and resilience. You'd think the fastest way would be to take the straight line, but it isn't."

"Have you always had this willpower?"

"I have always been very strong willed. I was passionate about sailing from the age of four. But I went to a comprehensive school in Derbyshire in a mining town



without a lot of mining. Aspirations were not to be round-the-world sailors. Even though I never thought I could be a sailor, I spent all my time reading sailing books. But the most determined thing I did was to save all my Christmas and birthday money from the age of eight and my school dinner money from the age of ten! The only way I could afford a boat was by not eating anything except baked beans and mash at school – the gravy was free!”

“... But determination is one thing and belief is another. In my sailing life, there was a switch that flicked when I was 17. I was trying to be a vet as I have always loved animals. But three months before my A levels I got glandular fever. While I was ill there was a programme on the TV at 3a.m. about the Whitbread Around the World race. I lay on the sofa and said, ‘That’s what I’m going to do!’ and that’s when the passion turned into the belief that I could do it. I never looked back. It was being ill and being physically forced to stop and think about life that took me outside the box. The same happened in South Georgia. Because that was the second time I stopped.”

“So that is the key?” I asked, “When something comes along in life that makes you stop, you reframe?”

“Yes.”

I asked her if it was hard giving up competitive sailing after all those years of passion, and the response was instant.

“At the end of the day, sailing doesn’t really matter and this stuff does. There is a growing realisation that things are changing. When I talk to young people, we agree things do need to change but what are they going to do? What can we all do that is positive? Let’s focus on that and go and do it.”

Whatever you think about the semantics of change and

what level we need to work on, I came away thinking that Ellen MacArthur will have a big effect. She’ll open dialogues with people who would not entertain the need for environmental restraints and who would dismiss ecological thinking as bunkum. More importantly, she’ll reach a new generation who are only too aware of the coming financial and resource crises and inspire them to rethink their futures. And some of that relentless determination and self belief will rub off. That is her secret and the secret, I believe, behind all people who achieve what seems to be the impossible – and we are all going to need a good dose of that to create a positive future 🌍

† *Full Circle – My Life and Journey*, by Ellen MacArthur is published by Michael Joseph, ISBN 978 0 718 14863 8.

You can read Ellen’s blog at:

[www.ellenmacarthurfoundation.org/blog](http://www.ellenmacarthurfoundation.org/blog)

For more information about The Ellen MacArthur Foundation, see:

[www.ellenmacarthurfoundation.org](http://www.ellenmacarthurfoundation.org)

For The Ellen MacArthur Cancer Trust – Rebuilding Young People’s Confidence, see:

[www.ellenmacarthurtrust.org](http://www.ellenmacarthurtrust.org)

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## A Town of the Future?



ELLEN MACARTHUR FOUNDATION  
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