

# Permacircular Trade Routes On the Transindustrial Nature of Appropriate Technology, based upon Speculations about Indian Ocean Trade

## Introduction

When almost every option is regarded as ridiculous, then one must either resort to wise-seeming inaction or undertake action in spite of the apparent impossibility of its meaning anything. In this essay, we want to orbit around the necessarily contingent and context dependent ideas of appropriate technology and cross-bioregional exchange using the ideas of clean and fair trade overlaid with permaculture principles. We use this as a way to take some sun-shots of the big idea hanging nebulously above us. In particular we take the Indian Ocean as a zone of trade, offering an history of exchange that extends back several millennia, interwoven with a merging of contemporary developments in circular economies and permaculture principles. We speculate on ways these might inter-engage in the near future. Perhaps this navigational approach will help us know where we are, perhaps it will help guide us where to go next.

Our research is concerned, primarily, with the world in which we want to live. *We* as an inclusive term, we all, not just we defined by cultural, financial, class or familial ties. In order to talk about this, we need to be able to share our visions, our dreams, incoherent and hazy as they might be; whereof we do not speak, thereof we cannot expect others to know. By sharing, by actively listening, by seeking the good and the common and the mutual we are able to work out ways in which we can and want to live with one another into the indeterminate futures. This is the beginnings of futures literacy.<sup>1</sup>

Why? Because the future is where we will spend the rest of our lives. How? Using arts-based research approaches to talk about possible futures enables us to overcome constraints of rationality and optimisation, and instead enables us to respond to, and empathise with, other possible futures. We claim that well facilitated conversations about possible futures can open our eyes and minds to opportunities and options, to imagine better what one could do and what we could be doing together, freed from the external visions that are laid upon us by the various hegemonic powers that wish to hijack our futures for themselves.

Progress is not always about the new. It is well worth considering that many of the ideas, technologies, techniques and metaphors from the past, that informed and influenced the rise of industrialism, have been lost, misconstrued, laid aside and misinterpreted to our general detriment. We would like to claim that an investigation of these early industrial artefacts, whether machines, approaches, values or tools, can offer us ways to imagine the future that are beneficial to us all. A trans-industrial perspective aims to supersede, or connect, different historical forms of industriality. Such a transindustrial approach, perspective or strategy can enable us to appreciate historical strengths as support for positive, desirable futures for us all.

In this essay, we reflect on our arts-based research around possible and preferred futures, appropriate technology and the experience of possible futures as a way to get non-measurable, subjective evaluations of those future possibilities.<sup>2</sup> The terms impossible, romantic, idealistic and utopic are commonly used to poo-poo and disregard any futures thought that is not more of the same; growth-based continuation. We would like to claim that in the same way that nothing is as useful as a good theory, there is something immensely useful about a good dream, a good utopia, a romantic urge, as these reflect actual human values.

We note that this essay will not try to argue a point but will explore and describe an area of research and invite others to join in similar explorations as ways to think out loud about possible futures and how we might go about creating them, an activity we refer to as futuring.

We start by reflecting on what we mean by futuring, the recognition that future is a verb. We will then explore the two examples with which we anchor our reflections on transindustrialities; classically rigged sailing boats and scythes. We also investigate permaculture and economic ideas that reach back into pre- and early-industrial activities for ideas and inspiration. We will investigate their roles in the emergence of western industrial culture and the connections they make with trade and transfer, intellectual property and exchange, mobility and stability. We will connect these reflections to concrete emerging developments from a series of workshops and presentations that look at the Indian Ocean as a site for trade, one that has lasted for mil-

1 Riel Miller, "Futures Literacy — Embracing Complexity and Using the Future", *ETHOS* 10 (2010), 23–28.

2 A working definition of arts-based research might be, for the sake of this essay, investigative processes (research) that use the arts (generally understood) as both generator of ideas and data as well as evaluative structure.

lennia and will, with all likelihood, endure. We will conclude with a call to collaborate, copy, emulate, develop, and join the process of imagining ridiculous futures; for if we do not attempt the impossible, the unthinkable might happen.<sup>3</sup>

### Future is a Verb

While for many the future is a place, a fixed telos, a descent from paradise or something that we predict and thus exploit, there is a growing community of practitioners who think of future as a verb. It is something we do.<sup>4</sup> When we come together to imagine possible ways forward, to imagine our communities, our families, our workplaces, our clubs and associations at later times, we are futuring. Resonating with Jim Dator's note that the future does not exist, we remind ourselves that no one knows what the future will bring, so no one can be wrong about imagining possible futures.<sup>5</sup> Thus, there is no need, when futuring, to expend too much energy arguing about correctness, rightness or truth; instead, we can discuss desire, justice and intention.

*Experiential Futures* is an umbrella term for a collection of techniques employed to create experiences of certain future scenarios. Whether they result in design artefacts,<sup>6</sup> prehearsals,<sup>7</sup> immersive installations,<sup>8</sup> journeys, performances,<sup>9</sup> or meals,<sup>10</sup> these practices aim to make the reflection upon future possibilities not just an intellectual and narrative exercise, but also somatic, haptic and immersive. *Experiential Futures* allow us, if only temporarily, to introduce subtle changes in the way we (can) act. By being in the environment, we can think more deeply about its properties and particulars, imagining and carrying out actions in that world. One of the invisible factors in our behaviour has been investigated as *choice architecture*, where the environment constructs and constrains our options so as to manage outcomes whilst maintaining the illusion

3 We use the term "unthinkable" to refer to ideas and possible futures that we strongly wish to avoid; we have found that many possibly futures are worth thinking about just to find the details of the reasons to avoid them, others are so fundamentally repugnant that we do not wish to waste time even thinking about them in any detail.

4 Bruce Sterling, "Bruce Sterling: The Singularity: Your Future as a Black Hole", *The Long Now Foundation Seminars* (June 11, 2004); Scott Smith and Madeline Ashby, *How to Future: Leading and Sense-Making in an Age of Hyperchange* (Kogan Page, 2020).

5 Jim Dator, "What Futures Studies Is, and Is Not", in "Jim Dator: A Noticer in Time. Selected Works, 1967–2018", *Anticipation Science*, vol.5 (2019).

6 Elliott P. Montgomery and Chris Woebken, *Extrapolation Factory Operator's Manual* (Extrapolationfactory.com, 2016); Julian Bleecker et al., *The Manual of Design Fiction* (Venice, California: Near Future Laboratory, 2022); Julian Bleecker, *It's Time To Imagine Harder: This Reader's Guide to The Manual of Design Fiction (Part 1 The Artifact)*, (Venice, California: Near Future Laboratory, 2023); Stuart Candy et al., *Design and Futures* (Tamkang University Press, 2019).

7 Maja Kuzmanovic and Nik Gaffney, "Enacting Futures in Postnormal Times," *Futures* 86 (February 1, 2017): 107–117.

8 Julia Nusslein, *Futur.Eco*, (September 6, 2018); Superflux, *Mitigation of Shock*, superflux.in, (2017); Stuart Candy, Jim Dator, Jake Franklin Dunagan, *Four Futures for Hawaii 2050* (Hawaii Research Center for Future Studies, August 2006); Time's Up, *Turnton Docklands* (2017); Time's Up, *Dr. Sleeplove or: How We Learned to Love Sleep* (2021); Time's Up, *Physical Narrative* (2021).

9 Trevor Haldenby, *Bringing the Future to Life* (Toronto: PhD, OCAD, 2013).

10 Alexandra Fruhstorfer, *Menu from the New Wild* (Vienna: University of Applied Arts, 2017).

of freedom of choice.<sup>11</sup> Changing the options, such as the menu of a café, can surface assumptions about the existing choice architecture and the effects of its manipulation of our actions. All of these details enable understandings.

In Time's Up's work on *Experiential Futures*, we follow two main courses of action.<sup>12</sup> The first is the creation of immersive experiences of possible futures through installations. This builds upon our long history of developing media-enriched physical spaces for visitors to interactively explore.<sup>13</sup> The public explores these storyworlds through artefacts, from newspapers to radio plays, architectural constructions and peep-hole miniatures. The second main thread is to guide groups of participants through processes that we call *futuring exercises*, leading them to collectively imagine possible futures and to populate these worlds with characters and narratives, personal experiences of life in a possible future. Both of these approaches rely strongly on the invocation of the everyday and the role of the individual embraced by community to create fragments of possible and preferable futures. The work that Time's Up has developed over the past two decades has always existed in this liminal space that is close to, but not quite the everyday, inviting exploration of physical spaces, enriched by objects and media.

We explicitly encourage utopic thinking in these exercises, the collections of tendencies or desires for a better world and to imagine the ways in which these could interrelate and play out. We see utopias as north stars by which we navigate, even if the way is blocked by impassable mountains to be circumvented and a star is necessarily unreachable as a destination. We choose to expend effort towards the preferable conditional, this "What if..?",<sup>14</sup> rather than remain in the continued present.

Utopic thinking is often rejected as being naïve, ignoring the truths of human nature, or being *unrealistic*. This criticism of any attempts to change social, economic or political structures is powerful. One notes however that claims to be "realistic" often come from people who have learnt to game the system to their advantage. This mutual reinforcement of system structure and success in that system means that utopian thinking or even structural change is "impossible." The history of social progress shows that this is not true, as witnessed by, for example, the creation of voting rights for women and Australian Aboriginals at various points in the 20th century. In general, one might claim that "The only way to discover the limits of the possible is to go beyond them into the impossible".<sup>15</sup>

11 Frank Trentmann, *Empire of Things: How We Became a World of Consumers, from the 15th Century to the 21st* (New York: HarperCollins, 2016).

12 Time's Up et al., *Futures Brought to Life: We Are No Futurists* (Vienna: Angewandte, 2023).

13 Time's Up et al., *Lückenhaft & Kryptisch | Incomplete & Ambiguous* (Berlin: Revolver Publishing, 2018).

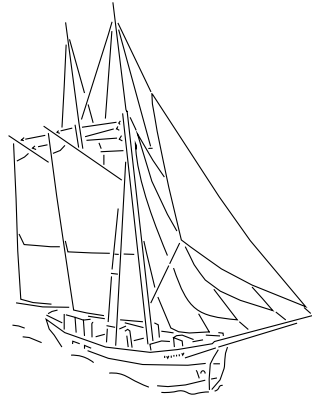
14 Rob Hopkins, *From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want* (White River Junction: White River Junction: Chelsea Green Publishing, 2019).

15 Arthur C. Clarke, *Profiles of the Future: Unabridged* (Pan Books, 1962).

In the wonderful little book about principles for the *Utopias of Tomorrow*,<sup>16</sup> Petra Schaper Rinkel investigates some of the roles of utopic thinking. In particular, she confronts the issue of utopias gone wrong. Quoting an interview with Georg Friederich Haas, they compare the mass murders of the Nazis and of Russian Communism. While both regimes had mass murders, the actual communism of the Russians was a perverted humanism, while the Nazi ideology was fundamentally inhumane. If we do not imagine and aim for utopias against inhumanities, then the forces that are inherently inhumane will dominate. And that is unthinkable.

We do not wish that the possible danger of a humanism that might be derailed should restrict our capacity to imagine humanist ways in which we could live in the future. We know that the economic systems that guide the world today are someone else's utopia<sup>17</sup> and are rife with the inequities and ecosystem destroying processes that are rapidly making civilised life on earth difficult if not impossible.<sup>18</sup> As we become aware that the processes of contemporary neoliberal extractive capitalism are not only inhuman but also destroying the ecological basis that supports complex life on earth, then perhaps we are more in need of humanist and more-than-humanist approaches to imagining better futures.<sup>19</sup>

The process of imagination is fundamental to the creation of better tomorrows. Schaper Rinkel and many others offer an alternative to great experiments such as the Russian Revolution in the creation of anticipatory experiments of various sorts, to create experiences of possible futures.<sup>20</sup> In particular, she latches on to the expression *Experimentalsysteme* (experimental systems) as introduced by the historian of science Hans-Jörg Rheinberger.<sup>21</sup>



**Avontuur**  
100 year old steel schooner  
operating between Germany  
and the Caribbean

Roughly, an experimental system is the smallest possible complete working unit for investigation of the research object including the theory, the experimental construction and the instruments for manipulating it. Experiential Futures, as we understand them, are about creating experimental systems that explore the possibilities of possible futures by creating not only the thought experiment, but also the haptic and semiotically intertwined objects that are imagined to have come from that possible future. By using not only our rational intelligence, but also our somatic, emotional, proprioceptive and other intelligences, we can gain deeper insights into the value of a proposed possible future. The reason to move beyond the isolated experiments of the hard sciences is to allow the experimenters to find answers to questions that they are not even capable of formulating. This resonates strongly with the post-Socratic methodologies introduced by Jungck and others, which develop facilitation processes that are built upon Socratic reasoning, using guided and guiding questions without the questioner being an expert in the field and able to give answers.<sup>22</sup> We would go so far as to say that the strength of the futuring exercise workshops that we have developed over the past years as a form of arts-based field research is based upon the way that we guide participants to dive into a discussion for possible futures and create

small, scrappy illustrations of what they find there. This allows them to gain very personal and explicit experiences of an imagined future, with all the warts and complexities that are to be found, especially when brought down to the level of the everyday.

A common and useful futures method or tool is the *scenario*. This is an imagination of a number of interwoven characteristics of a possible future world. Wendy Schultz has noted three important properties of a scenario.<sup>23</sup>

- *Difference*. They must be interestingly different from today.
- *Distinction*. They must be usefully distinct from one another.
- *Depth*. They must be deep and detailed enough that it is worth spending time reflecting upon them.

We note that scenario based futures thinking has many overlaps with Design Thinking and other ways to arrange and organise imagination. We would go so far to say that experiential futures, with their strong connection with design, cultural and arts practices, is an

16 Petra Schaper Rinkel, *Fünf Prinzipien für die Utopien von Morgen* (Picus Verlag, 2020).

17 China Mieville, "A Strategy for Ruination, an Interview with China Mieville", *Boston Review of Books* (8 January 2018).

18 IPCC, *Climate Change 2022: Impacts, Adaptation, and Vulnerability* (Cambridge: Cambridge University Press, 2022); Howard Dryden and Diane Duncan, "Climate Regulating Ocean Plants and Animals Are Being Destroyed by Toxic Chemicals and Plastics, Accelerating Our Path towards Ocean pH 7.95 in 25 Years Which Will Devastate Humanity", *SSRN Scholarly Paper* (Rochester, NY, June 5, 2021).

19 Anab Jain, "Calling for a More-Than-Human Politics" Medium (blog), June 10, 2021, <https://medium.com/@anabjain>

20 Stuart Candy, *The Futures of Everyday Life: Politics and the Design of Experiential Scenarios* (University of Hawai'i at Mānoa, 2010); Stuart Candy, Jim Dator, Jake Franklin Dunagan, *Four Futures for Hawaii 2050* (Hawaii Research Center for Future Studies, August 2006); Haldenby, *Bringing the Future to Life. Pervasive Transmedia Scenarios and the World of Worlding* (Toronto: OCAD, 2013); Jose Ramos, "Mutating the Future: The Anticipatory Experimentation Method", *Medium (blog)* (10 March, 2019).

21 Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford, California: Stanford University Press, 1997).

22 John R. Jungck and John N. Calley, "Strategic Simulations and Post-Socratic Pedagogy: Constructing Computer Software to Develop Long-Term Inference through Experimental Inquiry", *The American Biology Teacher* vol. 47, no. 1 (1985), 11–15.

23 Wendy Schultz, Personal Communication, 2020.

interweaving of design thinking and futures scenario thinking in order to use the strengths of both. To insist upon difference from today, we need to imagine changes in technical, socioeconomic and sociopolitical structures, the environment and many more fields. This can often result in progress narratives of technical development, but can equally usefully involve the re-implementation or restoration of now rare structures that resonate with older industrial methods, a transindustrial pattern that we often find valuable. This often can lead to a feeling of atemporality, when the combination of factors results in a scenario that is simultaneously a future, a past and a parallel present. We find such uncanny valley scenarios enticing, as they remind us that innovation is not necessarily improvement. The future is not about incessant novelty, but about development on so many other levels, and often that improvement has to do with factors that precede today.<sup>24</sup>

When we imagine possible futures, we can be guided by the Copernican principle as formulated by the physicist Richard Gott.<sup>25</sup> The basis of the principle lies in the following thought: as we are probably not special (Copernicus removed the earth from the center of the universe), we are probably not, right at this moment, witnessing the emergence of something that will change the world for ever, nor the end of something. There is a 50% chance that we are in the middle half of the lifetime of something. As an example, suppose something has existed for 12 years, but otherwise we know nothing about its longevity. If we are at the start of the middle 50% of its lifetime, then we are one quarter of its lifetime, so its whole lifetime will be  $12 \times 4$ , i.e. 48 years, so 36 years into the future. If we are at the end of the middle 50%, then we have seen three quarters of its lifetime, so the whole lifetime will be  $12 \times (4/3) = 16$  years, that is 4 years into the future. So with 50% likelihood, the things will exist for between 4 and 36 more years. Gott made a number of such predictions with remarkable accuracy.

Roughly, the Copernican Principle implies that, with no further knowledge about something other than its existence, the longer something has been around, the longer it will be around. Newspapers will probably outlive iPads. Cutlery and cookbooks are not about to disappear, neither are homes nor holidays. Social media reached the mainstream in 2005, so it is about 20 years old. Which means that with 50% probability, social media will disappear somewhere between 6 and 60 years from now.

These Copernican insights are devoid of any insights into agency or values. The four Rs of Deep Adaptation invite us to reflect upon what we want to Relinquish, to abolish from our lifestyles as destructive, and what we want to Restore that has fallen by the

wayside.<sup>26</sup> Rather than wait for some kind of statistical boundaries, we can actively and consciously decide, as individuals, communities or societies, to relinquish something that is causing social pain (fossil fuels, the gig economy, ecological destruction) or to restore things we find valuable (meaningful work, community solidarity, universal human decency). We can use our agency, apply our values. Practices that are nearing the apparent end of their useful lifespans need not be abandoned.

### Time and Technologies

Two older technologies that we want to reflect upon in this essay are classically rigged boats and scythes. Each of these has a powerful pre-industrial, industrial and futuring role. Boats will take more focus in this essay, scythes offer a valuable secondary reference.

The use of sail power for commercial ship propulsion more or less disappeared, in the West, in the decades after the Second World War, although people like Paul Wahlen kept a sail cargo ship, the *Avontuur*, operating in the Caribbean and the Baltic from 1977 until 2005. This decline has been in process since the 19th century, when the *Nemesis*, a steam battleship, showed the power of being able to navigate directly into the wind in 1841 in battles against China. Ships remained a melange of sail and coal until fossil fuel driven engines' reliability improved; the decline of sail was well underway by the beginning of the 20th century. Sail as a propulsion, outside of leisure and racing, has been kept alive by the likes of Alan Villiers' documentary work on the last of the tall ships.<sup>27</sup> This documentary work then emerged into the Tall Ship races and the Sail Training efforts that we know today. This is sailing neither for leisure nor for races, but as part of a process that is discussed as "character building" or "team building", where crews learn to sail large, complex ships that require handwork and coordination to control.<sup>28</sup> Documenters such as Frank Carr<sup>29</sup> and Robert Simper<sup>30</sup> have traced many of the UK based transport barges that were still operating under sail in to the 1950s and 1960s as well as accompanying the emergence of the Barge Races and such organisations as the Old Gaffers<sup>31</sup> who hold onto the use of these vessels for romantic, historical and aesthetic reasons. These vessels were highly optimised machines for transport and included the minimally crewed trading barges around the British Isles, the Low Countries and into Germany and the Baltic, and the high speed clipper ships that transported goods along the trade

26 Jem Bendell, "Deep Adaptation: a Map for Navigating Climate Tragedy (Revised Second Edition)", *IFLAS Occasional Paper* (2020), [lifeworth.com](http://lifeworth.com)

27 Alan Villiers, *The Last of the Wind Ships* (London: George Routledge and Sons, 1934).

28 Tall Ships, "Sail Training" *Tall Ships Australia & New Zealand*, <https://tallships.org.au/sail-training>, consulted 21 December 2023.

29 Frank G. G. Carr, *Sailing Barges: 2nd Ed* (London: Peter Davies, 1951).

30 Robert Simper, *In Search of Sail* (Croydon, UK: Classic Boat Books, 1998).

31 OGA, "Old Gaffers Association", <https://www.oga.org.uk>, consulted September 3 2023.

24 Tyson Yunkaporta, *Sand Talk: How Indigenous Thinking Can Save the World* (New York: HarperCollins, 2020).

25 J. Richard Gott, "Implications of the Copernican Principle for Our Future Prospects", *Nature* vol. 363, no. 6427 (May 1993), 315–19.

routes from the antipodes and Asia to Europe and North America. The knowledge and know-how surrounding such sailing might have been largely lost were it not for the attempts at documenting them and maintaining practices.

The scythe was developed from multiple sources in Europe in the first millennium CE. The mounting of a sharp blade on a long handle to allow effective mowing of grains and hay was a fundamental skill in European farming. Exported worldwide, the scythe was an industrial development that made a lot of blacksmiths into the “Schwarze Grafen” (Black Earls) that were part of the Austrian rural gentry of 18th and 19th century. Teams of scythe-using mowers would migrate north with the waves of ripening grasses to mow the fields and create the hay that would keep animals alive during the winter.

The scythe is perfectly harmonised for its purposes, a merging of woodwork and metalwork to create a tool that was fashioned to each mower individually. With the emergence of the combine harvester in Australia and the USA in the 19th century, the use of first horses and then steam or diesel power to cut and thresh grasses and grains made scything slowly redundant. The decline of scything manufacturing commenced in the Anglosphere; contemporary scythe aficionados speak of the UK and American scythes as primitive styles compared to the Austrian scythes. As scything had all but disappeared, a number of enthusiasts, foremost Peter Vido, began to collect and document the traditions and knowledge around scything culture in central Europe and share it.<sup>32</sup> In this process, a number of scything associations were formed and a deep investigation of the technical possibilities of modern metallurgy in scythe manufacturing has taken place. Scything is still a niche activity, used in extreme landscapes such as the Alps in Upper Austria, Salzburg and Tyrol, or the Emmental in Switzerland, that do not allow mechanical mowing, for high quality hay production and for small gardens, and also as a form of meditation.

Both of these technologies were vitally important in the development of contemporary industrial culture and have become all but redundant with the emergence of fossil fuel power and a focus on return on investment for the related industries. Both of these technologies have been kept alive by romantic, nostalgic and hard-headed folk in spite of the advantages of contemporary technologies. They are also recognised

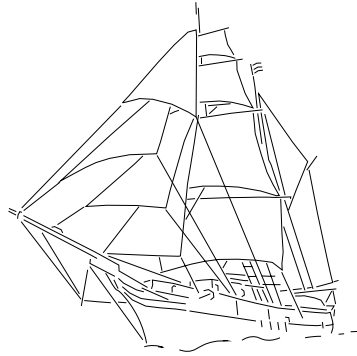
as fundamentally appropriate technologies.<sup>33</sup> Millennia of sailing development and centuries of scythe development have led to very well designed and differentiated material instantiations of these technologies. The gaff rig is a powerful way to move large, heavy vessels and tack against the wind; the square rig utilises the Trade Winds to move huge loads of cargo around the world; the geometry of modern scythes fits human biomechanics and enables a low stress mowing action. It is claimed that these technologies are the most energy

efficient ways of doing these three activities.<sup>34</sup> Neither of these technologies denies progress in related technologies. Materials developments have led to improvements in both these fields. Metallurgy has given us better quality blades and high-speed video has given us better understandings of the ergonomics of scything. Dacron sails and Dyneema rigging have improved sailing hardware while weather satellites and meteorology inform the practices of weather routing leading to improvements in sail speed over long distances.

This is not to say that life in either of the environments where these technologies were dominant was nice or even very humane. Reading *Three Years before the Mast*, *Moby Dick* or any Jack London book reminds us of the drudgery and danger of ship life,

the tales of farming abuse and poverty for those who did not own their land are likewise awful.<sup>35</sup>

Today both of these technologies are gaining traction again. Discussions of a *Small Farm Future*<sup>36</sup> have led to a swarm of activity with permaculturalist, organic and other land activist practitioners using scythes appropriately on their smallholdings. The sail has recently made a return to the transport of wares in the North Atlantic following the lead of the brigantine *Tres Hombres* run by the organisation *Fair Transport*<sup>37</sup> and the gaff schooner *Avontuur*.<sup>38</sup> Larger vessels are being



**Tres Hombres**  
Longest active modern  
sail cargo vessel,  
engineless

32 Peter Vido, *The Big Book of the Scythe: Part 1 — Practical User Guidelines* (Scythe Connection, 2018), <http://scytheconnection.com/the-big-book-of-the-scythe-a-brief-outline>

33 Ernst Friedrich Schumacher, *Small Is Beautiful: A Study of Economics as If People Mattered* (London: Vintage, 1993); Richard Heinberg, *There's No App for That: Technology and Morality in the Age of Climate Change, Overpopulation, and Biodiversity Loss* (Post Carbon Institute, 2017).

34 Dmitry Orlov, “The New Age of Sail (A Manifesto)”, *Idea Source School — The Project* (blog), (2006).

35 Jeremias Gotthelf, *Uli, der Knecht: ein Volksbuch: Bearbeitung des Verfassers für das deutsche Volk* (Berlin: Springer, 1850).

36 Chris Smaje, *A Small Farm Future: Making the Case for a Society Built Around Local Economies, Self-Provisioning, Agricultural Diversity and a Shared Earth* (White River Junction: Chelsea Green Publishing, 2020).

37 Nicola Cutcher, “Winds of Change: The Sailing Ships Cleaning up Sea Transport”, *The Guardian* (October 23, 2019).

38 Timbercoast, “Avontuur (Ship)”, <https://timbercoast.com/en/ship>, consulted March 18 2024.

built by TOWT<sup>39</sup> and *Grain de Sail*<sup>40</sup> and multiple other wind assisted shipping developments are proceeding apace.<sup>41</sup> Every indicator points to the contemporary expansion of both techniques.

The ship *Grain de Sail* exemplifies finding solutions to one of the structural problems innate in this development. The classical image is that trade emerged from exchange. Whether the exchanges were offered as gifts or there was a specific reckoning of the value of each parcel that was traded is not relevant here: the process of trading involves an exchange in which each party feels like they have gained. One example is the classical Triangle Trade of early colonial expansion in which cloth from Europe was exchanged for slaves in Africa; these slaves were traded for sugar, coffee, tea and other valuable goods in the Caribbean which were then returned to Europe at great profit. On each of the legs of this journey, the ships were full of “product” to be traded, as inhumane as it was. The monuments to these trading processes can be found for instance in the memorial *Mémorial de l’abolition de l’esclavage* in Nantes.

Today, *Grain de Sail* travels from France to the US carrying high quality wines and chocolate. It returns from the Caribbean carrying cocoa beans and other raw materials. However, there is nothing to be traded from the USA to the Caribbean; *Grain de Sail* compensates by delivering humanitarian aid from groups in the USA. While not a purely trading enterprise, *Grain de Sail* has a (more or less) full hold for each leg of its journey. It brings something valuable and leaves with something valuable on each of its ports of call. Other sail freight companies are still battling with the cargoes they can take to the Caribbean from Europe. The imbalances that had rich white men becoming richer while poorer white men risked their lives carrying enslaved black men and women across the Atlantic have led to a Europe that has exported all its material production and has little to offer the world besides extraction. Perhaps it is worse than that. While the profits of rare earth extraction and cacao production are concentrated in Europe, these profits lead to agricultural incentives that then lead to overproduction and the export of subsidised products for instance to African countries, that then undermines local economies. This ultimately leads to farmers unable to make a living, who then become economic migrants and quite possibly end up on the subsidised European farms that destroyed their economy. An alternative would be to discover and build equitable, respectful relations with communities across the globe to engage in balanced exchange, where no one perceives themselves as the loser in the trade.

There are examples of such behaviour, not only in the history of the Indian Ocean before Europeans ar-

rived. David Graeber’s posthumously published book *Pirate Enlightenment*<sup>42</sup> explores the ways in which communities of former, or at least inactive, pirates intermarried with the Malagasay populations of Madagascar and became part of something novel, local and special. Trade was a powerful way to overcome social stigma and exchange not only goods but also ideas. Graeber forcefully makes the point that while Captain Charles Johnson’s story of *Libertalia*<sup>43</sup> was probably concocted as a political tale rather than as an account of a truly libertarian society founded by a pirate group; it was nevertheless probably based on at least several elements that were real. He not only makes this point but notes that the Malagasay and many other indigenous populations assimilated ideas that were circulating in the western world, developed them and offered their own understandings in such a way that the ideas were then extracted and used by western intellectuals in the 17th and 18th centuries without citing their sources. This culturally extractive behaviour is explored more deeply in Graeber and Wengrow’s *Dawn of Everything*.<sup>44</sup>

### Trade as Ailment and Remedy

The Indian Ocean has been an ocean of trade for millennia, possibly as long as the period since the retreat of the last ice age about seven thousand years BCE.<sup>45</sup> The port of Kochi, once again one of the largest and most vital of the ports on the Indian subcontinent, can trace its trade history back through these times as it acted as a staging post, trading nexus and trans-shipment hub between the various Chinese, Austronesian and other cultures to the east, the African cultures from Madagascar and the eastern coast of Africa and the various Mediterranean empires of the Phoenicians, Egyptians, Greeks, Romans and Arabs. The ancient port of Muziris was the precursor and while the British empire was able to utilise the emerging technologies of explosives to break the sandstone barrier and create the port of Kochi as we know it today, the harbour was always an Indian project.

Amitav Ghosh’s work, *The Nutmeg’s Curse*,<sup>46</sup> investigates the roots of the current global crisis in western supremacist and imperial activities, using the Dutch massacres and monopoly practices around the Bandanese islands at the eastern end of what is now the Indonesian archipelago to explore and explain many parts of the dilemma and crisis we now find ourselves in. As the Dutch arrived with their early enlightenment perspectives, they smashed an old trading network that

42 David Graeber, *Pirate Enlightenment, or the Real Libertalia* (New York: Farrar, Straus and Giroux, 2023).

43 Captain Charles Johnson, *A General History of the Robberies and Murders of the Most Notorious Pirates* (New York: Routledge & Kegan Paul, 1955).

44 David Graeber and David Wengrow, *The Dawn of Everything: A New History of Humanity* (New York: Farrar, Straus and Giroux, 2021).

45 Nick Collins, *How Maritime Trade and the Indian Subcontinent Shaped the World* (Pen & Sword Maritime, 2021).

46 Amitav Ghosh, *The Nutmeg’s Curse: Parables for a Planet in Crisis* (Chicago: University of Chicago Press, 2022).

39 TOWT, “Edouard Philippe visits TOWT’s future sailing cargo ship’s shipyard in Vietnam”, *TOWT* (blog), (2023).

40 Grain de Sail, “Our Cargo Sailboat Grain de Sail II — 350 T” (2023), <https://graindesail.com>

41 IWSA, “International Windship Association | Promoting Wind Propulsion Solutions for Commercial Shipping”, <https://www.wind-ship.org>, consulted September 3 2023

had supplied the world with nutmeg and other spices for centuries. These networks were decentralised and relatively egalitarian, with individual ship-borne traders developing relationships with clients and acting as a peripatetic depot and trading point. Similar arguments are made by Nicolas Taleb when speaking of traditional Levantine trading networks during the *Pax Romana* and *Pax Ottomana*.<sup>47</sup> While many of these networks were destroyed by empires of emperors and then empires of wealth, bringing cheap spices to many along with massive profits and power to few, a countervailing tendency can be seen today with the emergence of significant networks of traders reaching out to producers, bringing quality, organic and fairly traded products to committed consumer.<sup>48</sup> Similar networks are described by Anna Tsing.<sup>49</sup>

This re-emergence of direct, personal and relational trading and exchange has been recently accompanied by the awareness of the fossil carbon and pollution loads of modern transport. Shipping contributes around 3% of all fossil CO<sub>2</sub> emissions.<sup>50</sup> Around 90% of everything that crosses national boundaries has been shipped.<sup>51</sup> While there was a brief flurry of interest in wind propulsion in the 1970s during and immediately after the oil crisis, this dissipated as financial pressure declined, unlike the current surge in clean cargo activity. This sustained wave of decarbonising transport and fair transport started in 2009 when the *Tres Hombres*, a second world war minesweeper re-rigged as a brigantine, sailed a load of aid to Haiti after the earthquake and returned with barrels of rum. With a powerful mixture of bravado, self-exploitation, hard-headedness and straight up punk attitude the community that emerged around the *Tres Hombres* managed to keep the project alive until it started showing profits around 2015. Other ships including *Avontuur*, *Lun II*, *Grayhound* and *De Gallant* have also grown this clean transport sector and community. Christiaan de Beukelaer's excellent book *Trade Winds* provides a comprehensive, critical and accessible guide to the community and its goals including the larger context.<sup>52</sup>

47 Nassim Nicholas Taleb, *Antifragile: Things That Gain from Disorder* (New York: Random House Publishing Group, 2012).

48 Michael von Hauff and Katja Claus, *Fair Trade* (UTB, 2012).

49 Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton, New Jersey: Princeton University Press, 2015).

50 Jasper Faber et al., "Fourth IMO Greenhouse Gas Study", *International Maritime Organisation* (2020).

51 Rose George, *Ninety Percent of Everything: Inside Shipping, the Invisible Industry That Puts Clothes on Your Back, Gas in Your Car, and Food on Your Plate* (New York: Henry Holt and Company, 2013).

52 Christiaan De Beukelaer, *Trade Winds: A Voyage to a Sustainable Future for Shipping* (Manchester: Manchester University Press, 2023).

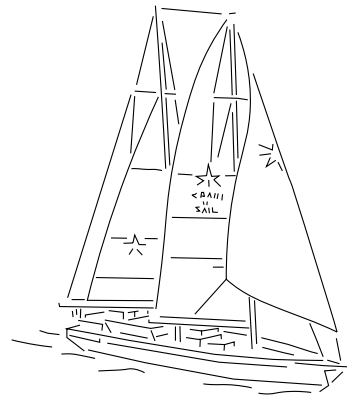
A broad array of other projects has grown out of the sail cargo community, including two umbrella organisations, the *International Windship Association* (IWSA) and the *Sail Cargo Alliance* (SCA). While the first is definitely in the format of an industry organisation that is lobbying for a level playing field in the efforts to decarbonise transport and pushing large scale industrial efforts, the SCA is more of a bottom-up alliance of enthusiasm. The SCA has formulated codes of ethics for the networked trading arrangements that

arise when producers, traders, shippers, retailers, consumers and other groups rally around and try to work out how to work best together without falling into the modes of exploitation and profit reaping that we have been trained to do by the economic hegemonies of our time. One might even go so far as to identify and compare the communities within the permaculture movement, with some some disruptive, forthright, charismatic, high energy male roles (Bill Mollison, David Holmgren, Arjen van der Veen, Sepp Holzer, Peter Nuttall, Geoff Lawton, Andreas Lackner, etc) and some powerful, somewhat less shouty female roles (Rosemary Morrow, Starhawk, Lucy Gilliam, Alexandra Geldenhuys, Robyn Francis, Kate Rich, etc.). The connections are not as vapid as it might sound; the ethics of fair trade and clean transport resonate

with the ethics of permaculture with their *Fair Share, Earth Care, People Care, Future Care*. A cursory reflection of the various formulations of permaculture principles reveals overlaps, detailed agreement and resonance with the modalities of emerging clean transport activities.<sup>53</sup>

Permaculture emerged in the 1970s based upon the experiences and reflections of a number of practitioners.<sup>54</sup> The name derives from the concept of a "permanent culture" that is not built upon extractive and thus unsustainable practices. While it is strongly agricultural, noting that agriculture is very much the material basis for contemporary culture, permaculture is more interested in culture in the general sense and gardening as a model for systems thinking as well as a way to have good food. Permaculture is socioeconomic revolution disguised as gardening.

One of the origins of permaculture was the investigations undertaken after the US American dust bowl ecological collapse, where European farming tech-



**Grain de Sail II**  
Modern schooner delivering chocolate, wine, aid and cocoa on a triangle route

53 Heather Jo Flores, "Permaculture Principles: A Cornucopia", *Free Permaculture* (blog).

54 David Holmgren, *Permaculture: Principles & Pathways Beyond Sustainability* (Holmgren Design Services, 2002); Sepp Holzer, *Sepp Holzer's Permaculture: A Practical Guide to Small-Scale, Integrative Farming and Gardening* (Chelsea Green Pub., 2010); B. C. Mollison and David Holmgren, *Permaculture 1: A Perennial Agricultural System for Human Settlements* (Transworld Publishers, 1978); B. C. Mollison, *Permaculture: A Designers' Manual* (Tagari Publications, 1988).

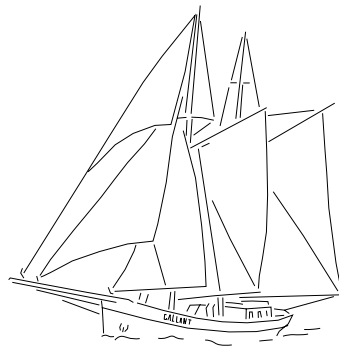
niques applied to the Great Plains of North America led to erosion and collapse. Soil scientist Franklin King travelled Korea, China and Japan in order to investigate how the farmers were able to use the same lands for millennia, without degrading the soil. In the book *Farmers of Forty Centuries*,<sup>55</sup> he identified the circulation of nutrients as one of the main reasons why four thousand years of farming had not led to the desertification seen in the Great Plains or in the deserts that were previously known as the Fertile Crescent. Permaculture revives older agricultural and horticultural techniques in order to create food and culture systems that do not destroy, but protect and even grow, the soil we are dependent upon. Some of these are the cycles of fertility preservation and creation that we know from the natural zero-waste cycles of forest and other ecosystems. The *circular economy* is a collection of approaches that attempt to minimise waste by closing industrial cycles, including e.g. cradle to cradle design, design for repair and design for recycling. *Permacircularity* is a recent development that tries to consciously merge the understandings that permaculture has brought to the industrial processes of circular economies.<sup>56</sup>

We have explored fragments of these design principles in the storyworld development of *Turnton*, a series of exhibitions that create explorable immersive fragments of a possible and preferable future.<sup>57</sup> What if socioeconomic changes alleviated the effects of the climate crisis? What if equality, justice and fair exchange were implemented in order to avoid the worst effects of ecosystem collapse? *Turnton* is an intertwining of the dystopia of climate crisis and ecological collapse with the utopia of social justice and political progress. In these speculations the merging of older technologies such as gaff rigged coastal cruisers and square-rigged ocean transporters with modern developments in rigging, winches, AI assisted weather routing, hull forms and ownership models is explored and made visible as a part of everyday life. In the same way that a port used to be the centre of a harbour town rather than an exclusion zone, our speculations investigate the revealing of detail and the emergence of transparency in our dealings.

Similarly, the steel used to create modern scythes cannot be compared to the steel used in the late 19th century, and the technologies of woodwork, metal machining and design have given us scything tools

of vastly greater ergonomics, efficiency and adaptability. Many other technologies are finding their way back to ship building as traditional methods developed through modern materials, such as Dyneema dead-eyes replacing stainless steel turnbuckles, which had in turn replaced the wood and hemp deadeyes that had been part of ship rigging since time immemorial. In 2018 we developed an intricate visualisation of a ship tracking system for imagined future sail cargo vessels, a blending of modern technologies of AIS with the ancient technologies of sail, as part of a prefigurative interface that was part of *Turnton*.<sup>58</sup> These implementations of imaginations, the meeting of imagination and structure as a synergetic process where the details of structural constraints enhance the imagination of possibilities,<sup>59</sup> allows practitioners to get a much deeper understanding of how a possible future might actually play out for the people involved. In *Cargotopia* we not only imagined how vessels would move and were confronted with the imagined logistical issues surrounding cargo systems, but also had to imagine a wide range of supply vessels, touching on a large number of issues that apply to the creation of such a world. In many senses, *Turnton* is an *Experimental-systeme* for a speculated future scenario. By remaining in the abstract, we would have missed out on significant detailed reflection and valuable insights.

Labour conditions and other relations have also adapted. Many modern fossil fuel driven ships, with their minimal crews on lumbering behemoths, can feel so similar to the square riggers of the past with a despotic captain running a “tight ship” involving back-breaking, unceasing labour, incessant danger, bad food and isolation.<sup>60</sup> While the ownership of contemporary sail cargo ships is still often share-based and there are judicial tricks like flags of convenience being used to avert certain national restrictions, there are some social aspects of life on board that are fundamentally distinct from the past. The most significant part is that a large portion of the crew, in line with the sail training movement, pay to be on board. Thus, the crew is, in some sense, an intentional community, with their own agency as to their position on board. This is a position of privilege as they are, at least in principle, able to leave the ship at any time, unlike most ships’ crews held in place by poverty and the need to send remittances home. Dur-



**de Gallant**  
Steel cargo gaff schooner,  
tragically sunk  
in May 2024

55 F. H. King, *Farmers of Forty Centuries: Organic Farming in China, Korea, and Japan* (Courier Corporation, 2004).

56 Martin Calisto Friant, Walter J. V. Vermeulen, and Roberta Salomone, “A Typology of Circular Economy Discourses: Navigating the Diverse Visions of a Contested Paradigm”, *Resources, Conservation and Recycling* no. 161 (October 1, 2020).

57 Time’s Up, *Turnton Docklands*, 2017.

58 Florian Reichle and Onur Olgac, “Cargotopia. Speculative Sail Cargo Tracking Tool” (2018), <https://cargotracker.timesup.org>

59 Julian Bleecker et al., *The Manual of Design Fiction*; Julian Bleecker, *It’s Time To Imagine Harder: This Reader’s Guide to The Manual of Design Fiction (Part 1 The Artifact)*.

60 Allan Sekula and et al., *Okeanos* (London: Sternberg Press, 2017); *The Forgotten Space* (Wildart Film, 2012).



ing the 2020 pandemic, the intentional community that became unintentionally locked onto the *Avontuur* were led to social and other crises.<sup>61</sup> This intentional community is perhaps related to the notion of floating republics that many claim some pirate ships to have been in the Golden Age.<sup>62</sup> These imaginations remain current, with a number of survivalists and preppers taking to their boats as their bug-out vehicles, their places to survive the expected collapse. A reflection can be found in Dmitri Orlov's writings about parallels between the collapse of the Soviet Union and the ongoing collapse of western civilisation,<sup>63</sup> with related ideas in the realm of the seasteads, imagined homesteads on the open ocean that free market fundamentalists would like to use to explore societies based upon their particular and peculiar ideals.<sup>64</sup>

While shipping has long been the bastion of abusive practices, it is worth noting that one of the oldest occupational safety laws comes from the maritime trade. In the United Kingdom in the 1870s Samuel Plimsoll, reacting to the ongoing loss of lives from overladen vessels being allowed to sink for insurance purposes, was instrumental in having ships decorated with what is now known as the *Plimsoll Line*, indicating the maximal depth to which a ship can be safely loaded. The *Plimsoll Line* has become perhaps the most widely recognised maritime symbol outside the compass rose. Other examples of maritime origins of safety are the Lore of the Sea, that seafarers will aid and rescue other seafarers in distress, that has been enshrined in Law,<sup>65</sup> as well as the mutualism enforced by a ship being part of the General Average process when ships lose cargo.<sup>66</sup>

One might imagine a form of speculation called transindustrial futures. By reflecting upon the strengths and weaknesses of previous industrial processes, one could find ways in which to analyse their decline. Perhaps they were sidelined by the advent of cheap energy sources or the development of labour rights, changes in education and lifestyle expectations. By then looking at these influences towards the decline of these industrial processes, and allying them with changes that are being detected as weak signals, trends or drivers in futures thinking,<sup>67</sup> one could begin to imagine the ways in which these older processes

61 Christiaan De Beukelaer, *Trade Winds: A Voyage to a Sustainable Future for Shipping*.

62 Charles Johnson, *A General History of the Robberies and Murders of the Most Notorious Pirates* (London: J. Janeway, 1734).

63 Dmitri Orlov, *Reinventing Collapse: The Soviet Example and American Prospects* (New Society Publishers, 2008); Orlov, "The New Age of Sail (A Manifesto)".

64 Seasteading Institute, "Seasteading", [www.seasteading.org](http://www.seasteading.org), consulted 27 August 2022.

65 Sarah Sander, Alfred Weidinger, and Leo Schatzl, "Law and Lore of the Sea", *Time's Up* (June 18, 2014); "International Convention for the Safety of Life at Sea (SOLAS)", *International Maritime Organisation* (1974).

66 Time's Up, "Global General Average", *LOOSE DIARY* (blog), (May 10, 2021).

67 Scott Smith and Madeline Ashby, *How to Future: leading and sense-making in an age of hyper change* (London: Kogan Page Inspire, 2020).

might become relevant again. An example of this might be found in the renewed focus on biological energy sources to replace fossil fuels or the various themes explored in this essay.<sup>68</sup>

## Visions

In a research process started in January 2023, a group of interested parties developed imaginations of how an Indian Ocean clean cargo network could emerge and make sense. The group included expertise in spice, tea and coffee trading, ship design, sail and maritime training, cruising, permaculture and coaching. Experience in the group included the Australian coast, the Indonesian archipelago, India and Sri Lanka, Vietnam and China, and across to Tanzania and Ethiopia. The author facilitated this process and was involved in creating the scenarios. This process, a merging of arts-based research and business planning, collapse preparedness and adventure sailing with exploration, rare coffee and tea appreciation as well as an understanding of the necessity of spices, led to several scenarios. This activity of creating possible, somewhat ridiculous but clearly thought through imaginations of future possibilities, leads to some valuable results.<sup>69</sup> Let us remind ourselves that futuring is not planning. Planning might (and probably should) use some futuring in order to keep itself open to other results and even to be strategic, to be able to react to more than one outcome for various activities. However, the reason that we future is not necessarily to plan, and much of the value of futuring is to gain insights and ideas about what could happen, even if only to know that one does not really want those things to happen.

Participants came together to discuss what it is about sail cargo and the Indian Ocean that make sense together. One of the experiences we have made with our arts-based field research with futuring exercises is that it is often not the obvious expertises that help most when putting together scenarios. This insight has underlined for us the necessarily transdisciplinary, or even undisciplined nature of futuring. The future touches everything.

The scenarios that emerged were distinct but related in terms of increasing complexity. They all have a strong base in financial sustainability, being run as businesses, but with ecological and socio-economic sustainability at their core.

- One was based around small starts, undertaking deliveries of organic wares along the west Australian coast, from organic rums on the Ord River to the whiskies of the south coast, high value wares that could be given extra cachet by being cleanly transported.
- Another was more activist-charity oriented, using one of the existing cruising race/rallies that regularly travel between Fremantle harbour and the island of Bali. A group of cruisers, if each could provide a cubic meter of space, would be able to transport a mean-

68 Holly Jean Buck, *After Geoengineering: Climate Tragedy, Repair, and Restoration* (London: Verso Books, 2019).

69 Time's Up, "Indian Ocean Sail Cargo Salon", (February 1, 2023).

ingful amount of medical equipment to Bali and return with green coffee, spices and other specialties to sell as a fundraiser for ongoing charity work.

- Another scenario was a circumnavigation of Australia, taking some cargo as per the first scenario, but acting more as a public attraction and awareness raiser for the issues of transport-based pollution. Such a vessel would be electric or green hydrogen driven for port manoeuvres alongside an attractive sail plan. It would need to look like a sailing cargo vessel, perhaps more hemp rope and tarred oak than aluminium and Dyneema.

- The more economically realistic short route scenario of venturing into the archipelago of Indonesia, East Timor and Papua New Guinea in order to bring spices, coffee and other wares to Australia involved a lot of extra administrative details with border crossings, ship and crew certification, quarantine, etc.

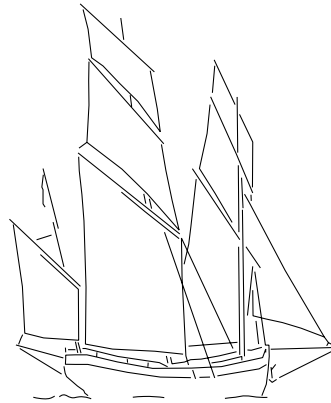
- The largest full circle scenario was the development of a sizeable vessel that would not only traverse the archipelago but also pass across to Sri Lanka and India, the east coast of Africa and Madagascar before returning to the west coast of Australia. This would follow the natural winds and currents, much as the northern Atlantic routes also follow wind and current patterns, the so-called Trade Winds, in order to make the sailing as simple as possible. Thus, it would not be a simple backwards and forwards across the Arabian Sea, as practiced by the monsoon-driven Dhows for centuries, but would follow the winds down the east African coast and then join the Brouwer route across the Southern Ocean and up the West Australian coast to Indonesia. Thus, a circular route around the Indian Ocean would emerge.

This spectrum of goals and motivations for the activities speaks strongly of the spectrum of perspectives that could be brought to the table, and the participants' abilities to think laterally and take multiple points of view into consideration. Facilitation processes work when everyone feels and sees that their contributions are welcome and valued, even when they point in radically different directions. This is also a strength of future scenario development, as Wendy Schultz notes (see above) about scenarios. Angela Wilkinson, head of the World Energy Council, a group that is fundamentally involved in futures thinking, observed that scenarios are not products, but stages, upon which participants can further think out loud and develop ideas and possibilities.<sup>70</sup>

As to what happens on such a vessel or journey, a variety of options were developed. The simplest was just going sailing: a small crew, all professionals, deliv-

ering cargo effectively and efficiently with minimal distractions. This is very much the model of *Grain de Sail*. Another was the sail training or professional training avenue. As people pay significant amounts of money to learn the details of commercial ship handling and need to accrue sea time, this combination could be used to cover a significant amount of the costs. This ties in closely with the sail training aspects of *Avontuur*, *Tres Hombres* and others vessels, where the intentional community aspect or the training community aspect can be paramount. Once the question of training comes up, possibilities for other learning processes were raised: a full-time residential Permaculture Design Certificate (PDC) course lasts two weeks intensively and by combining time on board with visits to stops en route, this could be a valuable contribution. This leads to exchange possibilities and questions as to other harbour side exchanges, along the lines of the activities of *Arka Kinari*,<sup>71</sup> an ongoing post-collapse *prehearsal* performance of a nomadic arts and culture vessel that has crossed from Europe to Indonesia,<sup>72</sup> touring there extensively over the past few years before touring eastern Australia in 2024. *Arka Kinari* will be heading back to Europe by way of India and the Red Sea in 2025. There are also strong resonances with the *Talking on the Water* series of events,<sup>73</sup>

where the exponentiated position of a vessel on the water can be used to leverage conversations about the environment, responsibility, limited resources, social and political freedoms and so much more. This interweaving of cultural, social, permacultural, economic and activist processes and thoughts has been an intricate arts-based research process that leaves many questions open as it responds to others and allows further ideas to emerge. Seeking the good in conversational processes has led to a swath of possibilities,<sup>74</sup> with few cases of "that's ridiculous" torpedoing the process. As Jim Dator suggests,<sup>75</sup> "Any useful idea about the future should at first appear to be ridiculous." In particular, the tension between doing something meaningful and doing something symbolic arose repeatedly. Questions of whether financial or activist definitions of what it means to be "meaningful" are used, or what constitutes the meaningful-



**Grayhound**

Newly built replica of fast customs lugger, cargo and cruising

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71 Ruth Nova and Grey Filistine, "Arka Kinari" (2020), [www.arkakinari.org](http://www.arkakinari.org)

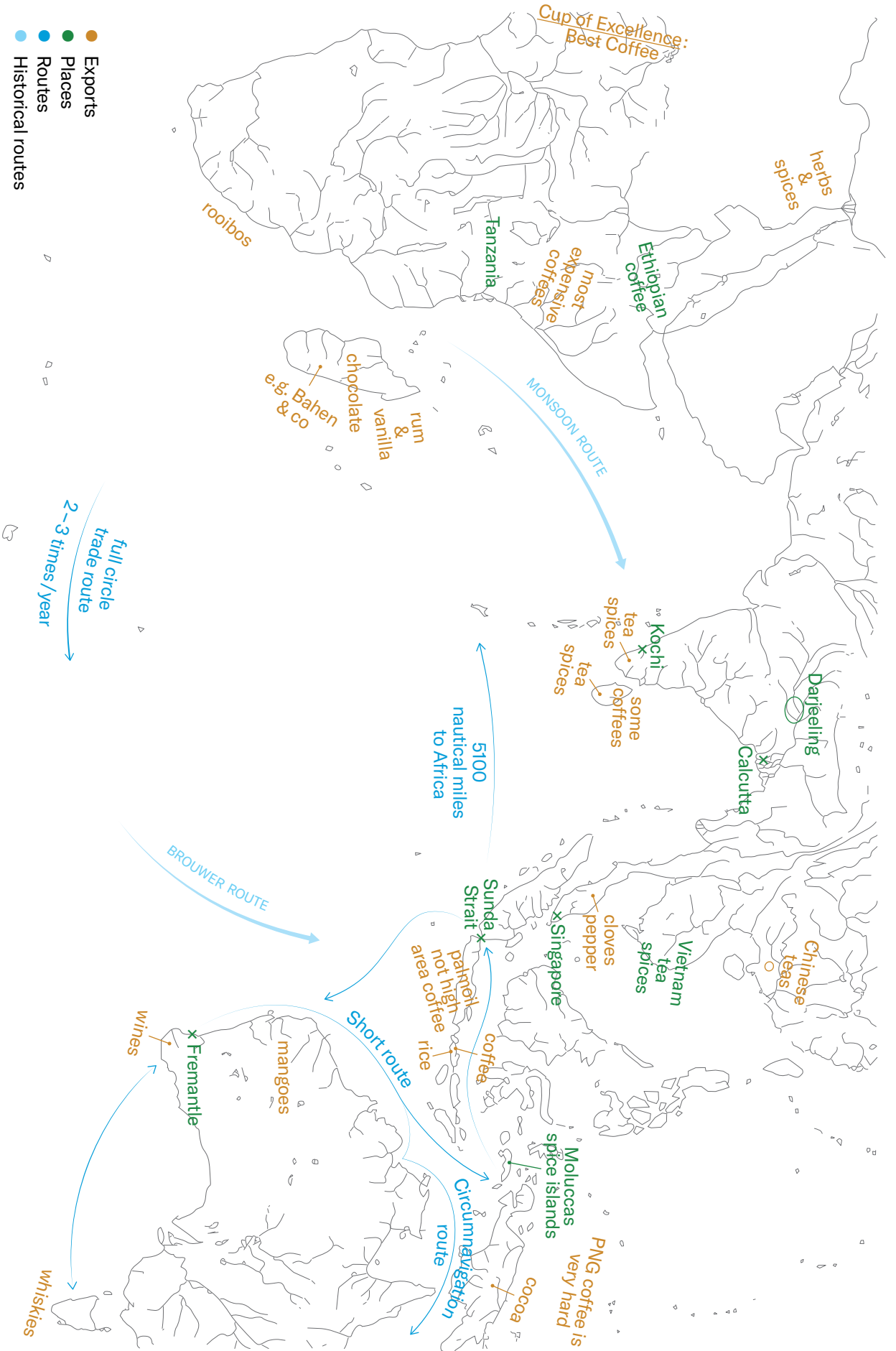
72 Maja Kuzmanovic and Nik Gaffney, "Enacting Futures in Postnormal Times", *Futures* 86 (February 1, 2017), 107–117.

73 Jonathan White, *Talking on the Water: Conversations about Nature and Creativity* (San Francisco: Sierra Club Books, 1994).

74 Ranulph Glanville and Karl H. Müller, *Gordon Pask, Philosopher Mechanic: An Introduction to the Cybernetician's Cybernetician* (Vienna: Edition Echoraum, 2007).

75 Jim Dator, "What Futures Studies Is, and Is Not".

70 Angela Wilkinson, "Learning from the Shell and World Energy Council Experience" in *Creating Desired Futures* (Linz, Austria: May 2023).



A refined version of the map that was created during the salon, showing historical and possible future routes, locations of some agricultural products and some relevant places

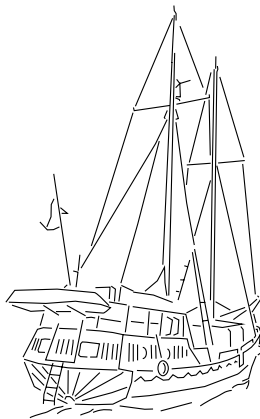
ness of a symbolic act, done either as a performance or other process, were explored. Are we merely attempting to modify our consumer practices while the choice architecture remains the same, essentially subverting any effect that we might have?<sup>76</sup> Is the symbolism of protest actions meaningful to activists, for instance as undertaken by *Ocean Rebellion* or *Extinction Rebellion*,<sup>77</sup> a more important way to effect change? Can one effect change without becoming a high volume shipping company: are for instance organisations like *TOWT* and *Grain de Sail*, currently building large ocean crossing sail freight ships doing more by actively moving cargo from heavy oil burning ships to their efficient sail freighters?

Perhaps it is not the actions themselves that make the difference, but the reflections that these actions, or even the imaginings these actions entail, that are significant. A common criticism of futures thinking is that it is not about planning or strategy development. As mentioned above, it can be, but this is by no means compulsory. In fact, a number of futures practitioners would go so far as to say that the mere act of consciously imagining a spectrum of possible futures and diving deep into them, helps us understand on an empathetic and deep level, the dynamics of possible futures without ever having to actually build the future we can create in a scenario. Through speculation we become more aware of the choice architectures in which we operate. We claim that this speculation is neither idle nor futile. Perhaps similar to the process of learning to read and write that involves the repetition of meaningless sentences, or singing starting with nursery rhymes, the processes of futures literacy do not start with “useful” practices. Futures literacy emerges when something like Robert Musil’s *Möglichkeitssinn* (sense of possibility) becomes second nature,<sup>78</sup> when we can accept and work with our capacity to imagine other ways that the world could be and to perhaps begin to discuss preferences.

That said, experiences do help. Experiential futures are valuable ways to deepen the insights of scenarios. So it might be valuable to pretend to be a sail cargo venture, to model and imagine the details. If we take the largest imaged version and plan a circular route around the Indian Ocean, delivering and collecting wares from each of the stops, we begin to gain an understanding of the bioregional and cultural impor-

tances of each of the places, we begin to understand the Indian Ocean as a single system, an orbit, an ancient and yet fundamentally modern network of places and people interacting on many levels. Such reflections can become part of an externally or self-guided process that leads to post-Socratic realisations, asking and acting “as if” until useful knowledge emerges.

A discussion has emerged based upon presentation of this research at the Soil Assembly at the Kochi Biennale in February 2023.<sup>79</sup> How can international art events operate in a fossil fuel constrained world? How do we blend the transcultural value of such an event with the specifically bioregional questions of soil in small-scale farming as it was discussed in many valuable presentations there? While virtual presence and other technological tools help, the actual interaction of being on the ground, working and touching each other in one space is such a fundamental aspect of comprehension, attention, value creation and exchange, reflection and insight is valuable in ways that are often ineffable. Would a ship departing southern Italy where the train lines stop and travelling to Kochi for a Biennale be a good thing? How could it be a better thing? Are there artists and activists, gardeners and organisers between Bari and Kochi who could join the vessel? Would meeting between the two make sense; would Djibouti, as an ancient place of exchange, be suitable for such a meeting? Do we hope for the Saudi train lines that connect



**Arka Kinari**  
Prefigurative enactment of  
post-carbon futures

to UAE networks to make high speed rail from Vienna through Istanbul, Tel Aviv, Riyadh and Abu Dhabi to the port of Fudschaira a possibility?<sup>80</sup>

Every such imagination brings with it a tail of implications. Returning to the Copernican principle as a guide, we are led to lend weight to visions that use older technologies and techniques, as the likelihood that we are witnessing their end is low. A technology that has existed for a millennium is likely to live for 300–3000 years more. Most of these technologies have not disappeared, but have changed their form and their use. They may well make a strong come-back in a trans-industrial imagination of a possible future. The joke graph of global energy expenditure per person that had a brief spike labelled “Fossil Fuels” from the late 1800s to sometime in the early 21st century before returning to the level of solar inundation reminds us that the age of fossil fuels is, in 2024, more on the downslope than the upslope part of its curve, regardless of our political decisions. So we are left with the idea that there must be a catastrophe. Climate science has long been say-

<sup>76</sup> Frank Trentmann, *Empire of Things: How We Became a World of Consumers, from the 15th Century to the 21st*; Christiaan De Beukelaer, *Trade Winds: A Voyage to a Sustainable Future for Shipping*.

<sup>77</sup> Extinction Rebellion, *This Is Not A Drill: An Extinction Rebellion Handbook* (London: Penguin, 2019).

<sup>78</sup> Robert Musil, *Der Mann ohne Eigenschaften* (Hambourg: Rowohlt, 1930).

<sup>79</sup> Time’s Up, *Soil Assembly at Kochi Biennale: Food Transportation, Climate Change and Ocean Trades (1/2)*, (Makery, Media for Labs, April 2023).

<sup>80</sup> Time’s Up, *Pick A Ticket 2047* (October 2023).

ing “Do X by Y otherwise Z”, with Z being some form of “everything will go to shit”. Several Ys have passed with no sign of their respective Xs having been done. So we are led to expect Zs, or we lose faith in such declarations, furthering denialist positions. We choose not to deny. *The Turnton* series,<sup>81</sup> *Mitigation of Shock*<sup>82</sup> and other artworks have investigated precisely these possible near future worlds in which things have become less comfortable and the ways that we all might find ways to live, and live well, within them. Given that there might well be a catastrophe, the question becomes: how do we demand, build and live in a better catastrophe?<sup>83</sup> How do we mix utopia into collapse? How do we hold on to and use our *Möglichkeitssinn* in order to imagine more than just the obvious?<sup>84</sup>

We would like to note that sail-based trade and muscle-driven agriculture might well feature in such a world. Life might be less bucket list box ticking and more life lived in place. One of the interpretations of, and motivations for, *Arka Kinari* was the question how travelling performance culture could exist after the collapse. Collapse does not necessarily preclude travel; it merely re-instates many of the energy descent frictions that made travel and transport special in the past. Part of the imaginations of the large-scale cycling around the Indian Ocean with traders taking on and delivering useful materials at every port, is engagement with local populations as a form of mutualism through exchange. Traders are part of an ecosystem, mutually beneficial to all, unless they start using power-over to extract excess value, dominate markets and break the mutual strength of the trade network.<sup>85</sup> On top of this, cultural exchange takes place through trade and the process of visiting each trading partner and engaging in direct exchange,<sup>86</sup> including the organisational and political exchanges and learning referred to by Graeber.

Whether such a prefigurative experiential future is possible and how it might become plausible, even as an experiment, are matters for another day. We often gain insights by thinking a scenario in detail and acting “as if” we would be planning it.

### A Permacircular Trade Route

The largest scale scenario that emerged in the Indian Ocean Salons can act as a catalyst for thoughts and reflections about possible futures: ships sailing counter clockwise with the trade winds and ocean currents around the Indian Ocean.

In any relatively realistic future scenario, energy use will be less than it is today, as the boon of fossil fuels will be over, either due to lack of supply or, more

optimistically, because we have chosen to leave most of the carbon in the ground to avoid yet more heating of the planet. This will lead to changes in agriculture, as the use of fossil fuels in agriculture is significant. While the agricultural revolution of the 20th century used ever larger machines and ever more fertilisers to extract ever more produce from the soil, we now know that fertiliser use is leading to problems with soil health, run off is affecting rivers and oceans<sup>87</sup> and there are reasons to believe that while we have a lot of food, it is less wholesome than it could and should be.<sup>88</sup> The investigation of these issues is often accompanied by a recognition that large scale, low man power, fossil fuel driven agriculture is not a long-term feasibility. Electric combine harvesters or teams of scythe users? The return of many people to the land seems to be implied here and this town-to-land migration is often regarded as a problematic aspect of energy descent futures, after generations have worked hard to get their children off the land and into less back-breaking employment.<sup>89</sup> There are many ways around this dilemma. One is somewhat transindustrial, the pre-1989 Romanian practice of universities supplying their staff for harvests. Rather than paying migrant labourers minimal wages to harvest foodstuffs, the universities were required to send most of their staff and students as labourers for the short harvest period. After that they returned to the universities and were considered to have satisfied some part of their social contract; they were able to freely research without needing to justify themselves as much. This might have been a response to the tightly closed borders of the Romanian dictatorship. Translated directly to western societies, one would then wonder what happens to existing migrant labour if such a scenario were implemented. Correspondents at the time talked about this as a kind of rural holiday. However, it might be rather like Marx’ aim for a society that “makes it possible for me to do one thing today and another tomorrow, to hunt in the morning, to fish in the afternoon, rear cattle in the evening, criticise after dinner, just as I have in mind, without ever becoming hunter, fisherman, shepherd or critic.” A similar vein can be found in journalist and self-sufficiency pioneer John Seymour’s writings, who had a vision of a better world where people aren’t alienated from their labours.<sup>90</sup>

Similarly, an unalienated crew take a reasonably-sized sailing vessel on a trade cycle around the Indian Ocean. With the aim to be non-extractive, they must plan to deliver and receive cargo at each stop. Being small and nonoptimal, they cannot transport large

81 Time's Up, *Turnton Docklands*.

82 Superflux, *Mitigation of Shock*, superflux.in (2017).

83 Andrew Boyd, *I Want a Better Catastrophe: Navigating the Climate Crisis with Grief, Hope, and Gallows Humor* (New Society Publishers, 2023).

84 Rob Hopkins, *From What Is to What If: Unleashing the Power of Imagination to Create the Future We Want*.

85 Amitav Ghosh, *The Nutmeg's Curse: Parables for a Planet in Crisis*.

86 Nick Collins, *How Maritime Trade and the Indian Subcontinent Shaped the World*.

87 Howard Dryden and Diane Duncan, “Climate Disruption Caused by a Decline in Marine Biodiversity and Pollution”, *International Journal of Environment and Climate Change*, (October 28, 2022), 3413–35.

88 David R. Montgomery and Anne Biklé, “Soil Health and Nutrient Density: Beyond Organic vs. Conventional Farming”, *Frontiers in Sustainable Food Systems*, vol. 5 (2021).

89 Chris Smaje, *A Small Farm Future: Making the Case for a Society Built Around Local Economies, Self-Provisioning, Agricultural Diversity and a Shared Earth*.

90 John Seymour, *The Fat of the Land* (London: Faber and Faber, 1961).

quantities of low-margin goods. Thus, there is a necessarily luxurious taint to all of their wares. The map of the ocean and the surrounding landmass shows that there are valuable resources to be obtained at every stop, except perhaps Singapore. Which might nevertheless be a trans-shipment point for goods from further north. Using the Silk Road of the Sea as part of the model,<sup>91</sup> there would be a variety of goods worth transporting across bioregions, between small farms. Such a model of exchange, distinct from a model of extraction, applies a more restrictive net of economic considerations when creating a model or imagination of a possible future. Similar things grow in similar bioregions. Therefore, trade is less useful between them, in spite of Ricardo's argument about the economic benefits of specialisation. A permacircular trade system would, for instance, have oak barrels transported from France to the Caribbean filled with wine, then return filled with rum. The circularity of this trade and transport leaves no waste products. Imagining the Indian Ocean as the connection between a wide variety of bioregions and a significant amount of the world's population,<sup>92</sup> we create balances between bioregions with trade, following the trade winds that have been the energetic infrastructure for trade and exchange for millennia. In a fossil fuel free future, the reasons for travelling and transporting will not be driven purely by the economics of goods traded. Travel as well as cultural touring are valid and valuable reasons to move.<sup>93</sup> As permaculture imagines the ways in which culture can become less extractive and more permanent, and the circular economy looks to create economic and manufacturing systems that reduce and remove waste, a permacircular trade route, for instance in the Indian Ocean or the North Atlantic, could emerge as a viable system in an energy-constrained world where a good life for all is a thing to aim for.

### Transindustriality and Virtues

Transindustriality as a practice or perspective removed from theoretical and cultural contexts and reduced to the use and reuse of certain techniques and technologies might be considered more interesting than the unreflected rehashing of older social or economic ideas. That said, there is still place for a re-examination of what expectations we have and how they reflect our cultural norms. At least as early as the 1920s, John Maynard Keynes was noting that we should be and hopefully are aiming towards a world in which we will

91 John N. Miksic, *Singapore and the Silk Road of the Sea, 1300–1800* (Singapore: NUS Press, 2013).

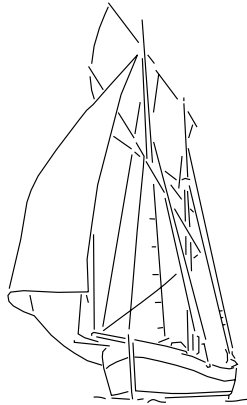
92 Amitav Ghosh, *The Nutmeg's Curse: Parables for a Planet in Crisis*.

93 Nova and Filistine, "Arka Kinari".

only need to work three days a week in order to live a decent life.<sup>94</sup> The process of the economisation of life has undermined such goals, where free time, leisure, culture and other non-economic pursuits are core values. One of the reasons for this breakdown is an idea of choices; given two options, mainstream economics assumes we can choose which one we want, or that we are indifferent, that each of them is equally attractive. Which means that given an activity, we can choose between that activity and various sums of money, in order to decide what the monetary value of that activity is. Thus, everything has a price, so more money is then always more of what one wants.

When we express this in these words, it become clear how ridiculous this concept is. However, such concepts, as well as the concept of the Gross Domestic Product (GDP), growth and many others, have become part of standard economics teaching and understanding in the past century. GDP was useful as a very rough summary for managing the complexities of rebuilding the economy after a major war. As Bobby Kennedy said, it is a useful shorthand but "measures everything except that which is worthwhile" in life. GDP is a (numerical) value that does not value our values. The fact that we are still

being managed by systems that attempt to maximise GDP as governmental policy indicates the short-sightedness and managerial incompetence of these decision makers. Luckily many forms of what we could think of as transindustrial economics are emerging such as Doughnut Economics<sup>95</sup> or the Wellbeing economy.<sup>96</sup> In fact, one might say that these discussions draw on the pre-industrial questions that informed Greek philosophy as to whether certain arrangements of property enhanced or undermined the virtues of Eudaimonia or the good life. What we regard as virtues reinforce what we value and vice versa.



**Lun II**  
French cargo ketch,  
over 100 years old, operating between  
Caribbean and France

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94 John Maynard Keynes, "Economic Possibilities for Our Grandchildren (1930)" in *Essays in Persuasion* (Harcourt Brace, 1932), 358–73; John Quiggin, "The Time Is Right to Reclaim the Utopian Ideas of Keynes", *Aeon*, (September 2012).

95 Kate Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist* (White River Junction: Chelsea Green Publishing, 2017).

96 Lisa Hough-Stewart et al., "What Is a Wellbeing Economy?: Different Ways to Understand the Vision of an Economy That Serves People and Planet", *WeAll: Well being Economy Alliance* (December 2019).

## In Lieu of a Conclusion

Speculating about life after collapse sometimes feels a bit like speculating about life after death; the changes might be so radical, that there are no ways to think beyond that barrier. Contemplating life after alien contact is similarly difficult, as such an experience can and would turn almost every understanding about ourselves on its head. But we can gain flickering glimpses into the world beyond collapse, or into any collapse-like developments, by creating detailed experiences of them. Experiential Futures is the umbrella term used to describe the range of practices emerging to help make this possible, to allow somatic knowledge and encourage subjectivity. We have found ourselves in this field almost by accident. We welcome and encourage others to join in.

This is fundamentally transdisciplinary arts-based research. We do not construct the experiences of possible worlds as sociopolitical critique, but as an arts-based and culturally relevant experience of a possible future. The construction of our experiences of possible and preferable futures is guided by arts sensibilities and evaluated primarily on the basis of a generally aesthetic and cultural sense making. In the process of these reflections and constructions, we investigate a range of factors that defy disciplinary boundaries. We anticipate that these reflections and imaginations are of value for other researchers and share them in this hope.

In this essay, we have tried to discuss some of the ways in which, as the abundant energy of fossil fuels become necessarily less accessible, we will need to imagine ways to manage and live in this energy descent. By referring back to early industrial processes and products and imagining their use in the future, a transindustrial futuring imagination is called into play. Permacircularity as a melange of permaculture and circular economies is useful here. Waste has only really emerged as a problem as we have become industrial. Permaculture uses early agricultural techniques and indigenous knowledge allied with modern scientific understandings of soil microbiology, watershed management and social systems to imagine an energy descent society that is fairer to the planet and its people as well as the future.<sup>97</sup> We used scything and sail transport as two elements of transindustrial thinking to reflect upon what a permacircular world might be like and in particular, to imagine permacircular trade routes that would be non-extractive and of value for all the trading partners. Extractive economic relations seem also to be something that emerged as a part of industrialisation; non-extractive economics has a lot to learn from early industrial processes and attitudes.

It is clear to anybody who is paying attention that the world as we know it is disintegrating, perhaps even faster than climate and ecosystem scientists were predicting a decade or three ago. One of the reasons many of us choose not to think about this is the feeling of impending doom, fuelled by Hollywood images of post-collapse warlord violence and terror. This world

was prefigured perhaps by the US Capitol riots of January 2021; this is how these people imagine the next steps of society. This is unthinkable. By creating imaginations of the apparently impossible, creating spaces of life and joy and conviviality among energy descent and ecological reharmonisation, perhaps we can avert the unthinkable. A transindustrial permacircular society and non-extractive economy that values indigenous and local specifics while celebrating the global would be a society that, as we see it, would be worth working for. 🌱

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*Time's Up* has been building immersive experiences of various sorts for over two decades, with a recent focus on experiences of possible futures. Their work has been shown world wide.

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

<sup>97</sup> Tyson Yunkaporta, *Sand Talk: How Indigenous Thinking Can Save the World*.