

Waste Stories: networking imaginaries

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Abstract

This presentation demonstrates how speculative assemblage methods can be put into both research and pedagogical practice to build connections between networked learning and learning for sustainability. We give a rationale for a focus on waste, and marine litter in particular, as an important sustainability and environmental challenge that can be productively explored through learning networks. We then describe the framework that underpins the Waste Stories project, which combines speculative and assemblage methods to create distributed learning networks aimed at reconfiguring relationships of waste and value. We then describe an example of a networked assemblage of waste imaginaries generated by students in a Further Education context in Scotland. These animated imaginaries reveal important dynamics characterising emergent understandings of marine litter in the local and global environment. They also illustrate how retaining a focus on content and context can help networked approaches to learning avoid overly focusing on connectedness.

Keywords

Waste, fiction, imaginaries, network, assemblage

Introduction

Some of those working in the field of Networked Learning (NL) have recently made a deliberate attempt to animate NL with desire for emancipation, social justice, and a sustainable future (NLEC, 2021a; 2021b). The invitation to redefine NL that was issued in 2021 included the statement that NL ‘invites contributions to the challenges of transitioning to more sustainable forms of living’ (NLEC, 2021a, p.314). Since this invitation (or perhaps, challenge) was issued, there have been some significant – indeed potentially profound – technological developments that raise questions about how NL can be a force for change rather than reproduction and even entrenchment. Generative artificial intelligence based on large language models might be thought of as the ultimate in networked learning – rapidly able to assimilate and network vast amounts of information from multiple sources, create new texts and even new “evidence bases” for these texts. This evolving class of AI has been put forward as potentially generating solutions for problems including climate change and sustainability (Cowls et al., 2021; Larosa et al., 2023). In reality, though, LLM-based AI generates mash-ups and reconfigurations of existing texts and ideas, maintaining and reproducing a solidly human-centred perspective that by design is intended to produce plausible rather than improbable, left-field thinking. Indeed, this form of AI replicates some of the issues that concerned Gourlay in her contribution to the Community Definition of NL:

... the overwhelming focus on ‘connections’ is not only profoundly humanist; it implicitly favours a particular type of human—confident, articulate, orientated towards observable ‘connections’ ... (Gourlay, 2021b, p.328)

The question, then, is,

How do we move from an anthropocentric towards an ecosystem view of learning, in which a definition of learning—and its associated consequences—also include purpose and the need to adapt to more sustainable ways of living? (Thibaut, in NLEC 2021b, p.343)

In the following, we describe a pedagogical strategy that echoes generative AI’s synthesis of multiple texts, but where: (i) texts are understood from a sociomaterial perspective and thus include objects as well as words and images; (ii) the synthesis is deliberately slow and considered; and (iii) the synthesis is networked across many participants. We build on prior work on networking knowledge and imaginations (Ross and Wilson, 2023; Wilson et al., 2023) to address questions of how expanded conceptions of both networks and learning can help produce

NL for sustainability that goes beyond reproduction through mash-up to yield something genuinely new – in Deleuze’s (1994) terms, something that goes beyond passive synthesis to create a caesura or defining break in understanding and potential for action. We combine NL with Deleuzian assemblage thinking, an ecological perspective and speculative methods to explore learning around one of the most significant sustainability issues of the present: waste.

Waste and marine litter: defining features of the Anthropocene

Large-scale waste, and the need for organised, distributed disposal of wasted materials, is a highly modern phenomenon. It is only in the overall affluence afforded by mechanisation and industrialisation that human societies have been able to adopt the consumption, acquisition and replacement practices that now result in more than 2 billion tonnes of waste being disposed of each year globally¹. Both scientific and public awareness of the impacts of industrial and domestic waste has been growing for some time. Protest movements have been in existence since the 1960s (Rootes, 2004), but recent growing public awareness of the Climate Crisis has led to a more general increase in environmental awareness. There is now widespread agreement that filling our soils, waters, air and bodies with microplastics may not be a good idea.

Within this context, marine litter is recognised as a significant and global problem (see, e.g. Galgani, Hanke and Maes, 2015; Galgani et al., 2019). Over recent years, governments and NGOs have worked to raise public awareness of this problem, with high-profile stories about the accumulation of ocean plastics in the [Great Pacific Garbage Patch](#) or [Ascension Island](#) highlighting the risks to animal life. In the UK, there has been a strong (and welcome) focus on the mess left on Britain’s beaches by holiday-makers and tourists, leading to the establishment of the annual [Great British Beach Clean](#) every September. What is perhaps less well-understood by the general public (and even the UK’s governments, environmental and marine conversation organisations) is the dramatic variation in both the waste that accumulates on our shores and the impact that it has on local communities, particularly in more remote locations. A focus on waste left on popular beaches distracts from the significant impact of waste that has travelled (sometimes for hundreds or thousands of kilometres and over years or even decades) before being deposited on our coastlines. In fact, along Scotland’s western coasts, prevailing winds and currents, global shipping routes and commercial fishing practices combine with coastal and loch geography and topology to create a perfect storm of detritus. This waste (much of it plastic) originates from landfill and storm drains in the UK, Europe and US, and accidental and deliberate losses and discharges from ships. It accumulates in south-west facing inlets and bays leaving some stretches of coast littered with creels and fishboxes, gloves and footwear, ropes and nets, carpet, rubbish bins, pipes, tyres and more, alongside the ubiquitous nurdles, cotton-bud sticks and plastic drinks bottles.

However, the Anthropocene is also an age in which the actions of an individual human can feel insignificant, leading to toxic combinations of anxiety and apathy, which can be exacerbated by disconnection from local landscapes (Wilson, 2024). There is thus a need to reconnect people with their environments in ways that produce new relationships with waste and value. Below, we describe a process that networked people with local marine litter, through a beach clean followed by a semester-long evolution of object-human-technology assemblages.

Waste Stories: networking imaginaries

The Waste Stories project is an attempt to reconfigure relationships with waste and value by networking a multiplicity of understandings and imaginaries through Participatory Speculative Fiction (PSF) (Wilson et al., 2022). PSF is a form of participatory research that draws on and combines speculative and assemblage methods. Speculative methods ‘function within a complex interplay of past, present and future’ (Ross and Wilson, 2023, p.25). They are ‘overtly constitutive’ of the questions they address (Wilkie et al., 2015). They also rely on uncertainty, and the openness to possibility this brings, in ways that make them ideal approaches to working with people who might not position themselves as technical experts on the issues at hand. While often part of *future-*

¹ <https://www.theworldcounts.com/challenges/planet-earth/state-of-the-planet/world-waste-facts>

focused research, speculative, fiction-based methods also offer important opportunities to view the present from new perspectives, allowing insights into the dynamics that shape social, technological and ecological assemblages.

There has been growing use of researcher-generated speculative fiction to explore the potential impacts of technologies on humans and society (see., e.g., Bina, Inch and Pereira, 2020; Ross, 2022; Selwyn et al., 2021) and, to a lesser extent, the potential impacts of the climate crisis (de Freitas and Truman, 2021; Wood and Meyer, 2022). There have also been some examples of the use of fiction in co-research, and most recently in the use of participatory speculative fiction as both a co-research process and a form of data (Rousell, Cutter-Mackenzie and Foster, 2017; Wilson and Ross, 2023; Wilson et al., 2022). Participatory speculative fiction is a way of enrolling many different people – and non-human actors – into a learning network or assemblage that explores a particular issue or challenge. As Wilson (2024) describes, this approach involves bringing together people and triggers for story-generation that have been chosen to provide some focus and direction but also to provoke and amuse. The approach adopted here is grounded in a Deleuzian perspective that sees stories and fictions as political assemblages (Deleuze and Guattari, 1988). That is, they emerge out of path-dependent and contingent networks of experiences, ideas and cultural resources; they unfold within particular times and places and so reflect dominant norms and concerns; and they may contribute to repetition of patterns and practices (lines of articulation) or the creation of new possibilities (lines of flight).

Assembling a marine litter stories learning network

The *Waste Stories* project creates opportunities for people to plug into assemblages of waste through found objects and photographic images. Noone creating a Waste Story is required to put forward, or even search for, solutions to waste-related problems. The marine litter Waste Stories described here were created through a partnership with Dumfries and Galloway College, the Solway Firth Partnership and Devorgilia Rotary. The first step in assembling the network of stories was to connect up people (in this case, students undertaking a post-compulsory qualification in Visual Communication) with the materiality of marine litter. This involved facilitating encounters with beach litter during a clean-up on the northern Solway coast in February 2023.



Figure 1: Rubbish on the beach

There, the students were plugged into an environment riddled with plastics – netting, rope, buckets, lights, bottles – even a wrecked chair. After an hour or so on the shore, we asked the students to select some items to take back to the College. They were free to choose whatever they wanted, as long as it could safely be brought back on the minibus.



Figure 2: Items taken back to the classroom

Once back at the College, we held a brief session to introduce the idea of making up stories about rubbish, and in particular to imagine stories from a future perspective. Students were given links to the two related project websites, but encouraged to follow their own imaginations. They then spent some time choosing items from their treasure trove that they might use in a story, and conducting some initial research using the computers provided in the classroom and their own mobile devices.

Two students had found domestic cleaning product bottles and both quickly used Google's image search facility to try to find out something about them. One was found to be a bleach bottle from the late 1960s – identifiable as such through detailed documentation about style and branding histories available on the company's own web-based archive, found by a third student. The other turned out to be a washing-up liquid bottle from the late 1950s or early 1960s; this was discovered through a distributed process of students and staff researching online sources, including a local newspaper report of a similar bottle found on the south coast of England and hailed as one of the oldest pieces of plastic package found on a UK beach. Both became central actors in the animations produced by these students, although in very different roles (see below).

The students then worked on animation ideation and creation over a period of 3 months. During this time, they shared ideas, storyboards and visuals with each other, the authors and the NPO partners via a dedicated area on Microsoft Teams. This allowed for spontaneous interaction and feedback throughout the period.

Marine litter reimagined

A total of 11 animations were created and published together through this process. They form a digital network that persists beyond the involvement of their authors or their function as academic objects. They also reveal a complex set of dynamics relating waste, loss and value to sustainability. We describe these below.

Threat to nature

Not surprisingly, given the focus of much media coverage and public awareness campaigning, a common theme across several stories was the threat marine litter poses to nature and wildlife. This was frequently explained as arising from a combination of accumulation and persistence, as in *Shoe* and *Wheel Trim*. *Shoe* took one of the three trainers that had been brought back from the beach to imagine a seagull becoming obsessed with them, to the point of filling her nest and neglecting to feed her recently-hatched chicks. *Wheel Trim* first imagines the direct impact a piece of wheel trim on a single animal (a turtle) and then consequent impacts on others (a shark preying on the turtle). It then moves to imagine the slow accumulation of thousands of similar items over time, slowly filling the ocean with plastic.



Figure 3: Stills from Shoe (left) and Wheel Trim (right)

Other animations expressed the threat to nature posed by marine litter through the device of emerging sentience, as in *War of the Seas* and *Bottle Bill*.



Figure 4: Still from War of the Seas

In the former, rubbish acquires sentience and aggressively attacks marine life. In the latter, a washed-up plastic bottle recognises the damage it might do if left where it is, and so sets off to take himself (and various rubbish friends he meets along the way) to the Recycling Centre where he can be dealt with properly.



Figure 5: Stills from Bottle Bill. Bottle Bill sees the damage he can do (left) and imagines a solution (right)

Networking accumulation with causes

Some of the animations connected the accumulation of waste to social dynamics. For example, *The Devil Wears Plastic* imagines a fashion designer basing a design for a bag on a piece of drift plastic, and thus unintentionally contributing to a new wave of rubbish when the trend passed and the bag is no longer valued.

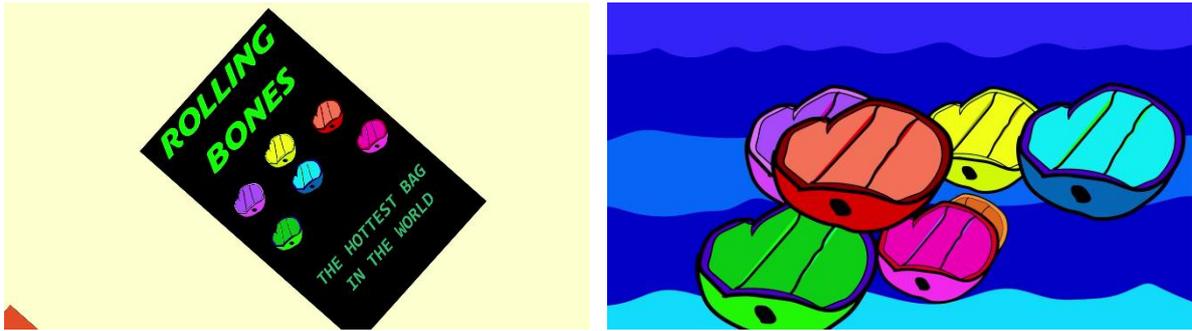


Figure 6: Stills from *The Devil Wears Plastic*

Another story networked the domestic bleach bottle with aspirational social change in the 1960s and the promise of plastics and technology to end women’s drudgery.

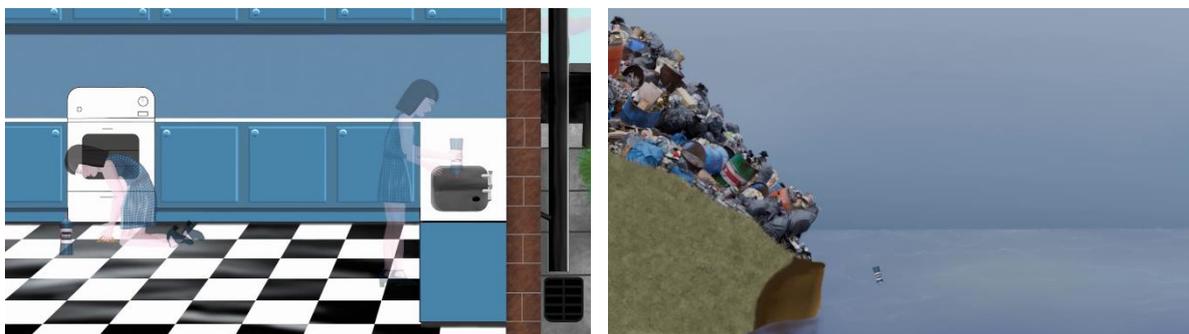


Figure 7: Stills from *Domestos Bottle*

Networking possible futures

The stories networked the objects with possible futures in different ways. Some stories were simply situated in a world that does not resemble the one we currently inhabit – usually one in which humans were absent, but not necessarily a future. For example, *Bottle Bill* imagines animated (in both senses) rubbish, but the world that Bottle Bill and friends journey through is otherwise the same as now.

Other stories have an explicit dynamic from present to future (or past to present). It is this dynamic that is used to express accumulation and persistence in stories such as *Wheel Trim*, *Domestos Bottle* and *The Devil Wears Plastic*.

Other stories create more distant – and more fully-imagined – futures. These were all characterised by some kind of significant rupture with present conditions, either implicit in the imagined futures conditions or explicit in the story itself. Only one such future included humans – the rest envisaged worlds where humans had been wiped out. *Lighters* envisages a future in which humans still exist but supplies of fossil fuels and plastics have been almost exhausted. The result is a society of extreme control, with items currently considered disposable (such as cigarette lighters) rationed and distributed by Government-employed agents. *The Robot Who Saved Earth* imagines a single robot, alone in a trash-filled world, re-populating the Earth by creating new robots out of the rubbish it has been collecting. *Saving Earth* does not, apparently, involve saving humanity. An untitled piece we refer to as *Bunnies Planet* imagines a future in which humans have long disappeared, and where a new race of highly-militarised rabbits collect plastic objects and fossilized human remains as archaeological treasures. Its closing image is shown in Figure 8.



Figure 8: The closing image of Bunnies Planet

Alone amongst the stories created here, *Breaking News* includes a vision of a possible future together with the possibility that it is not inevitable. The future is bleak – a post-apocalyptic wasteland devoid of all signs of life. It is also sandwiched between images of the present – first, information overload and then the potential for choice.



Figure 9: The future, and a critical moment in the present, from Breaking News

Networked imaginaries, distributed learning

In the research and teaching described in this paper, we set out to network learning itself through the generation of networked assemblages of imaginaries expressed in the form of multimodal texts (understood from a sociomaterial perspective). The animations described above emerged out of a slow, considered and extended synthesis across many participants. They suggest that by expanding conceptions of both networks and learning, NL can create assemblages that go beyond mash-up to yield something with significant affective potential.

NL hopes to offer a transformative shift in education, enabling collaborative thinking and learning processes that transcend traditional boundaries and harness collective creativity and knowledge across diverse networks (NELC, 2021a; 2021b). A key aim of NL is to produce technologies and spaces that enable a broad range of students to be *producers*, where student production is understood as ‘participation in the co-production with others of new material, digital and knowledge artefacts and networked assemblages’ (Carmichael and Tracy, 2020, p.120). Our approach aligns with both these aims, as we embraced technologies and activities that took learners and learning into new spaces, including the physical shoreline and imaginary futures, and encouraged students to become active co-producers of new learning networks. The animations produced through these processes can be seen as potential realities, *not-yets* emerging through imaginative knowledge creation and the shaping of content (Ross and Wilson, 2023; Wilson et al., 2023).

Our approach has also enabled learning to be locally contextualized at the same time as allowing productive connections to be created between geographically and temporally distant resources and experiences. This goes some way to addressing the concerns raised by Gourlay (NLEEC, 2021b) in relation to both a fetishization of connectedness and ‘collapse into pure process’ (p.328) that results in a neglect of the content and context of learning. Here, we have connected students with their environments, with found objects, and with visual styles and means of communication: thus addressing both our sustainability goals and the technical and content requirements of their Visual Communication programme. These local/non-local connections are perhaps best illustrated by the found washing-up liquid bottle, which connected students with the past and present of the local shoreline, but also with a vast archive of product, brand and advertising histories, and thus with the politics of technological advancement and modernization.

In the work described above, Participatory Speculative Fiction (Wilson et al., 2022) served as a catalyst for NL ‘to become “networked”: to make connections, to interrelate, to transform, mutate, and hybridise in response to the pressing issues of our time’ (NLEEC, 2021b, p.359): in this case, sustainability and environmental justice. Although only time will tell if their involvement in creating Waste Stories changes the participating students’ future consumption and waste habits and attitudes, there are some grounds for hope that the environmental learning that emerges across the networked collective of stories may be sustained beyond this immediate assemblage. Together, the animations describe metaphorical and actual pollution and conflict arising from cultures driven by overconsumption. They reflect a system that not only encourages waste in the pursuit of social aspiration and modernisation, but that also directly, and often fatally, affects non-human communities. By networking waste with damaged social relationships, toxicity and war, the stories advocate for a shift towards more sustainable ways of living. Importantly, the collective assemblage of animations suggests that the learning that emerged in this project is better conceived of as fluid, fragmented and distributed across the network of stories, rather than located in a particular person or even constructed on a purely social level.

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