

# Storying Ourselves into the World of the Disappearing Thrombolites

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**Abstract** This essay invites readers to consider new ways of approaching ecological decline and species extinction pedagogically. We document five visits to the Lake Clifton-Yalgorup Noorook thrombolites by researchers and 51 two-to twelve-year old children and their caregivers. Taking a ‘curious practice’ (Haraway, 2015) approach, the children storied themselves into the lives of the thrombolites through conversation, drawing, taking photos and speculating. We suggest that holding open space for children to story themselves into the world of the thrombolites cultivates the ability to respond to ecologically precarious worlds.

**Keywords** *Ecological Decline, Art-making, Storying, Response-ability, Speculative Inquiry, Intergenerational Learning*

*The researchers and writers of this essay live and work on unceded Whadjuk and Wardandi Noongar Boodja. The thrombolite field-site is on Binjareb Noongar Boodja.*



*Figure 1. Lake's edge*

Caption: A cool clear morning at Noorook-Yalgorup (Lake Clifton) Binjareb Country in Djilba (early Spring—the season of conception). The lake is high and the thrombolites are covered by brackish water. Fresh water upwells from the recharged springs beneath them.



*Figure 2. Tree*

Caption: The worlds of disappearing others. This old tuart tree, part of a threatened ecological community, supports a myriad of other species adjacent to the thrombolites. They share water from the springs.



Figure 3. Tree-lined path

Caption: The pathway invites its users forward. Where will this lead?

We walk lightly on the short path towards the boardwalk that takes visitors to the eastern edge of Lake Clifton, Western Australia or *Noorook-Yalgorup* in the language of the

local Binjareb people. The branches of melaleuca trees stretch across the path and arch overhead, temporarily sheltering us from the warm morning sun. It is *Birak* – the season of the young and early summer.



Figure 4. Constellation of spiders Caption: Spiders or stars?

Figure 5. Spider and web

Caption: *Austracantha minax*, jewel or Christmas spiders (spider is *kar/a* in Noongar). It is now rare to see them in such numbers. However, there are so many spiders spinning webs this season that the path along the lake is impassable to us during the early visits.

We stop to marvel at the constellations of Christmas spiders floating around us as they spin orbed tapestries across our pathway that is also their home.

The clicking of cicadas and the chirping of the fairy wrens and western whistlers soften and disappear as we proceed past the melaleucas and understory towards the sedge, samphire, and brackish water's edge. The view of a large expanse of water opens before us. Stretching 21.5 kilometres in length and running parallel to the dunes fringing the Indian Ocean, Lake Clifton is nested in the Peel-Yalgorup wetlands system and Yalgorup National Park. The wetlands are home to a diversity of microbial, plant and animal life, including up to 40,000 migratory shorebirds (Hale and Butcher, 2007).



*Figure 6a & b. Boardwalk*

Caption: The boardwalk spans the thrombolite reef and its fringing wetland and springs. This provides two-way protection for the threatened ecosystems and the human visitors and reminds us of the impact the weather has on all of us. It is often windy and can be very hot in the full sun. Windblown hats and sunglasses are often seen littering the submerged thrombolites.

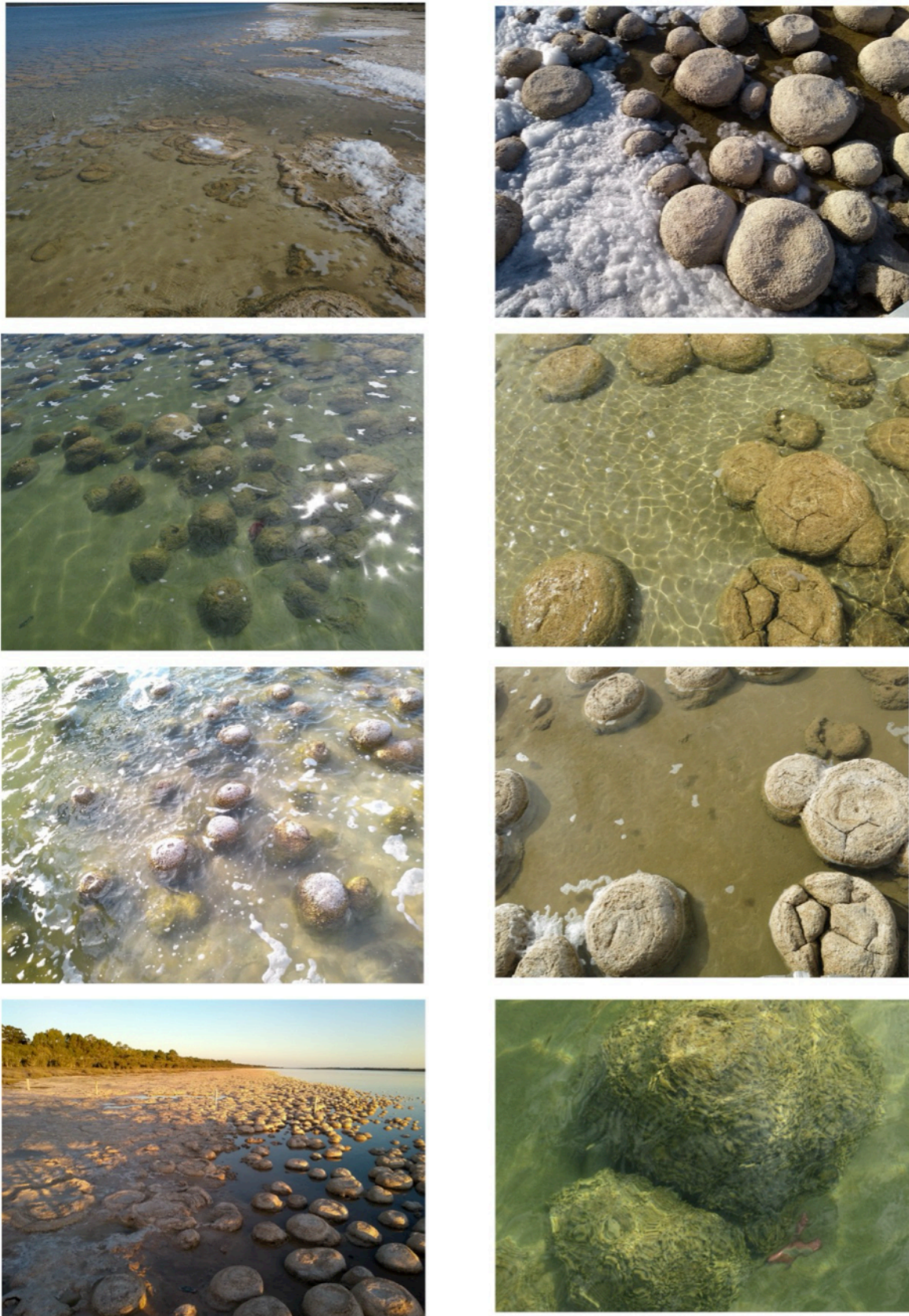


Figure 7. Thrombolite collage

Caption: The thrombolites become submerged and exposed as the water rises and falls with the wind and the seasons. Making kin (Haraway 2016) with the thrombolites, one of the researchers visited the thrombolites every week for nearly a year. Are these alive? Are they rocks? Do they move? Why is it foamy?

Along its eastern edge, the lake cradles thrombolites, which the Binjareb people call *noorook*, or eggs of the *Wagyl*, a snake-like dreaming creature; creator and protector of waterways and landforms.

This precious thrombolite colony is around 2000 years old (Moore and Burne, 1994), but thrombolites have existed for over 3.4 billion years (Phillips, 2009). As we gaze towards the reef of thrombolites, our imaginations are taken to a time when thrombolites (and their stromatolite cousins) covered the Earth's surface. Appearing lifeless these so-called 'living rocks' are formed by microbial communities of multiple species (Moore and Burne 1994). These communities were pivotal to the evolution of life on Earth billions of years ago because the photosynthesis of the thrombolites' cyanobacteria filled the Earth's atmosphere with oxygen (McNamara, 2009).





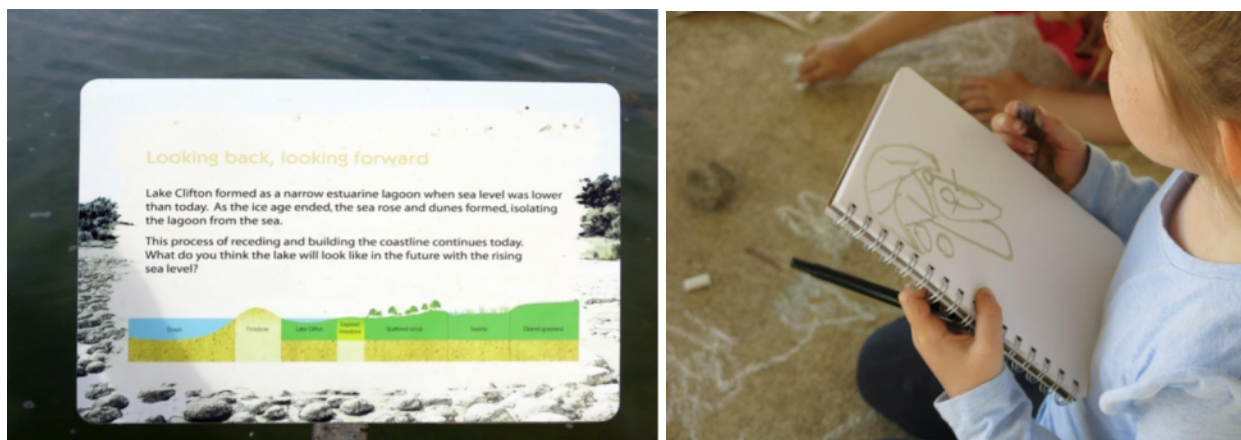
*Figure 8a & b. Rocky thrombolites and diffracting water patterns*

Caption: Are these thrombolites breathing or shivering?

Having withstood multiple planetary extinction events and significant geological, chemical, ecological, and meteorological transformations to the Earth, the thrombolites at Lake Clifton are only one of a few surviving thrombolite colonies. With changing planetary conditions, thrombolites have been in decline for millions of years. The Lake Clifton communal colonies are now critically endangered, a condition exacerbated by increasing salinity, decreasing rainfall, land clearing and pollutants from surrounding areas (Hale and Butcher, 2007). This is at once a local and global story of the unravelling of life exponentially hastened by human-caused climate change. Extinction looms.

While extinction is woven into the ecological communities of which humans are a part and play an oversized role, extinction is often taught as a distant reality. Extinction is commonly explained to children through the biological sciences and using scientific facts. Children learn about the historical loss of animals and species, like dinosaurs, and they learn that the loss of individual species is because of their failure to adapt. The research we conducted aimed to explore how educators could approach extinction in other ways (Gobby et al., 2021). We, researchers, asked ourselves: how else can we know and be with others on the edge of extinction?

A series of five visits to the Lake Clifton thrombolites included the researchers and 51 two-to twelve-year old children and their caregivers. We approached the thrombolites and our interactions with the children in a polite, open, imaginative, and curious way, taking what Haraway (2015) calls visiting as a curious practice. Visiting in this way, says Haraway (2015) can cultivate response-ability – the ability to respond to and render the other capable.



*Figure 9a & b. Sign and drawing child*

Caption: Didactic signs on the boardwalk presenting facts and children making sense of what they experience using a range of media and narrating as they draw.



*Figure 10. Five children*

Caption: Actively engaged children are curious about visiting the thrombolites. Posing questions, imagining answers, they discuss what they see.



*Figure 11. Adults and child on boardwalk*

Caption: Encouraged by the children, some of the adults are curious too.

One way to maximise agency is to not constrain children's responses. Hence, we did not set out to impart facts about thrombolites to the children nor impose stories and interpretations on them. Rather, we are reminded by van Dooren and Rose (2016) that the world can be storied in innumerable ways and that storying is a practice of world-making (Haraway, 2016). We were therefore keen to listen to the children and their stories.



Caption: The children's world-making in storied responses – drawings, photos, sculptures, imaginings, and narratives.

The children chatted, speculated, asked questions, created, drew, and took photos. We listened, observed, conversed, and thought together as we collectively built our relationships with each other and the non-human world. Importantly, the children storied themselves into these worlds and sometimes invited us to join them.

Three-year old Anna dashed towards the thrombolites and then suddenly stopped and exclaimed excitedly, 'Meatballs! Spaghetti and meatballs!' Anna's creative imagination shapes her relationship to the thrombolites and creates new relations for us. She draws the meatballs and spaghetti in her notepad.







*Figure 13. Child peering through boardwalk*

Caption: Encountering the world through the child's body engenders specific world-making practices.

Eight-year-old Charlie looks inquisitively towards the reef of thrombolites. He weaves the thrombolites into his own story when he says that he hopes they survive so he can bring his future child to the thrombolites. The imminent extinction of something precious, because it is old and enduring, prompts a sense of care and responsibility.



*Figure 14. Protecting thrombolites*

Caption: Many children noticed the litter and were concerned for the thrombolites and their habitat. How did the shoe get there? And whose footprints are those?

Meanwhile, another child looks down at the sunglasses and debris around a clump of thrombolites and reflects on how we can care for the thrombolites. She says we should use rubbish bins and not intrude into the thrombolites' space. She tells us her friend has made kin, as Haraway (2016) might put it, with the thrombolites because she frequently visits to check on them.



*Figure 15. Boardwalk with thrombolites*

Caption: *Djeran*—the season of adulthood, the water is low and salty, the thrombolites exposed to the weather. How are they weathering? What stories do they tell?

The stories of mass extinction and climate crisis are often captured by scientific facts, techno-fix fantasies, political double-speak and economics. But the world is multi-storied and so it matters which stories tell stories or which “figures figure figures” (Haraway, 2016, p. 101). New stories, from different perspectives, create new relations and therefore new worlds with recuperative potential. Adults must hold open space for children’s stories to be told, heard and seen. Our project enabled children to story themselves into the worlds of the thrombolites in speculative ways. These stories made room for us and the children to go visiting, not just with our bodies but our whole beings, cultivating our ability to respond to and in ecologically precarious worlds.

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