



Christine and Margaret Wertheim, and the Institute For Figuring, details from the Crochet Coral Reef (2005-present) project. Above: Coral Forest – Plastics (2009–16), installed at the New York University Abu Dhabi Institute (2014). Below: Pod World – Hyperbolic (2006–19), installed at the Venice Biennale exhibition May You Live In Interesting Times (2019). Photos: Christina Simons (above), courtesy of and © Institute For Figuring.

MARION ENDT-JONES

University of Manchester

Cultivating ‘Response-ability’: Curating Coral in Recent Exhibitions

Abstract

This article explores the reasons for the recent surge of interest in exhibitions and displays featuring corals and coral reefs, as well as the challenges and opportunities involved in curating coral. I argue that, while it can be difficult to convey the complex natural characteristics of corals through displays of coral specimens in museums, exhibitions such as Coral: Something Rich and Strange (2013–14), and artworks such as Christine and Margaret Wertheim’s Crochet Coral Reef (2005–present) and Tamiko Thiel’s Unexpected Growth (2018–19), can deepen a sense of wonder in exhibition visitors and foster experiences of connection between humans and marine invertebrates – ultimately to encourage ‘response-ability’ to and for the natural world. I suggest that collaborative, cross-disciplinary modes of exhibition making – such as displaying works of art alongside scientific or natural history specimens – provides curators with opportunities to intensify the affective responses of audiences.

Keywords

Coral: Something Rich and Strange
curating and the climate crisis
curating and wonder
exhibitions and coral
Kunstkammer
Christine and Margaret Wertheim
Tamiko Thiel

During the past decade, corals have garnered increased attention from conservation biologists, cultural historians, artists and activists.¹ This wave of recent coral-related art, science and conservation has gradually swept into museums, art galleries and other cultural institutions across the globe. There, the growing scholarly, scientific and curatorial interest in coral has transformed permanent collection displays, inspired a number of temporary exhibitions concerned with the role of coral as a cultural icon and harbinger of climate change, and

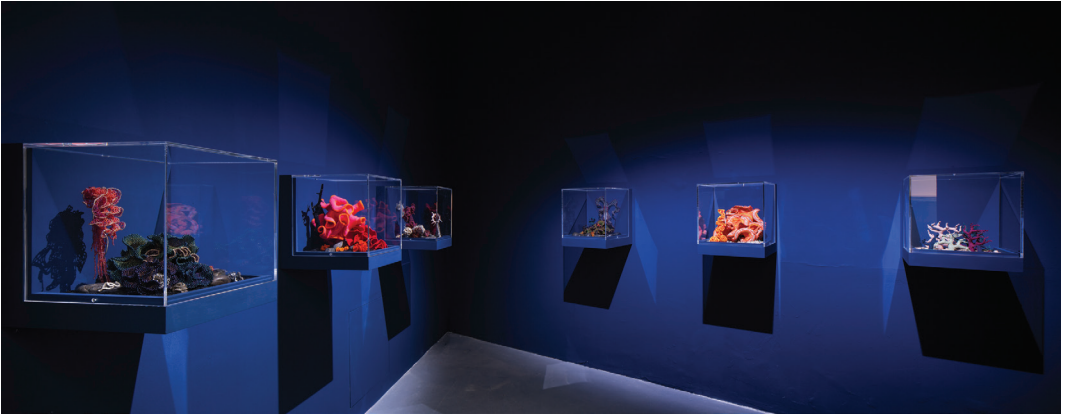
1. See, for example, Endt-Jones (2013b), McCalman (2014), Shick (2018), Braverman (2018), Person (2019), Elias (2019) and Schuster (2019).

2. *Bleached: The Art of Coral Science*, a collaboration between artist collective Vulgar Earth and a team of scientists from the Coral Reef Laboratory at the University of Southampton, was planned for the spring of 2020.

led to the incorporation of coral-related artworks into exhibitions more generally. Curatorial approaches vary from adopting a more scientific focus to incorporating artists' perspectives – a decision often determined by the nature of the venue and the expertise of curators on the one hand, and the criteria of funders and collaborating partners on the other.

The practice of curating coral has achieved worldwide relevance. Examples include the temporary show *Coral: Something Rich and Strange* (2013–14), which I curated at the Manchester Museum and that juxtaposed natural history and scientific coral specimens with works of art. By contrast, *Coral Reefs: Secret Cities of the Sea* (2015) at the Natural History Museum, London, focused on aspects of coral reef science and ecology. Meanwhile, the exhibition *Fish and Coral* (2015) at the Niavaran Cultural Center in Tehran involved 38 Iranian artists documenting vulnerable fish and coral species in the Persian Gulf through drawings, paintings and video works. *Corals: Our Underwater Living Treasures* (2016), a collaboration between Conservation International Hong Kong, the Swire Institute of Marine Science at the University of Hong Kong and the Hong Kong Maritime Museum (the venue), was characterized by a similar emphasis on coral extinction and conservation, but without the involvement of artists. *Corail coeur de vie* ('Coral: Heart of Life', 2017) at L'Aquarium de Paris, featuring 450 living corals in fifteen tanks alongside related artworks, was held under the motto 'to fill with wonder in order to protect' (L'Aquarium de Paris 2020, author's translation). Finally, *Expedição Coral: 1865–2018* ('Expedition Coral: 1865–2018', 2018) at the National Museum of Brazil in Rio de Janeiro shone a light on scientific explorations of corals and coral reefs from their discovery to processes of collecting and conservation.² Regardless of the differences between these exhibitions, a common curatorial rationale employed in most cases is one of invoking wonder and an ecological sensibility.

The phenomenon of artists and institutions focusing on the history, geology, ecology and conservation of corals and coral reefs aligns with a broader concern with counteracting what the photographer and writer Allan Sekula describes as 'forgetting the sea' in twentieth-century cultural consciousness (1995: 48–54). In a similar vein, the literary historian Margaret Cohen calls the widespread omission of global ocean travel and maritime experiences from literary criticism 'hydrophasia' (2010: 14), and the historian Helen Rozwadowski endeavours to correct the 'terrestrial bias' embedded in stories of the past (2018: 7). In an unequivocal shift towards **recuperating oceanic perspectives for the humanities**, scholars and thinkers from different disciplines have proposed the frameworks and concepts of the **'blue humanities'** (Gillis 2013; Mentz 2018), 'maritime anthropology' (Helmreich 2011), 'new thalassology' (Horden and Purcell 2006), 'blue cultural studies' (Mentz 2009), 'blue ecocriticism', 'wet globalization', 'salt aesthetics' (Mentz and Rojas 2017: 3–12), 'hydro-feminism' (Neimanis 2012) and 'tidalectics' (Hessler 2018). Whether from the disciplinary perspectives of literary criticism (Steve Mentz and Martha Elena Rojas), history (John R. Gillis, Peregrine Horden and Nicholas Purcell), anthropology (Stefan Helmreich) or gender and cultural studies (Astrida Neimanis), or from the vantage point of curatorial practice (Stefanie Hessler), what these terms indicate is a general shift in scholarly attention from land to sea – driven by postcolonialism, environmental awareness, globalization and technological advances. Furthermore, they suggest a growing recognition of the connective, boundary-transcending qualities of water as a fluid, cyclical element that lends itself to cross-disciplinary, non-linear and anti-historical thinking and doing.



Christine and Margaret Wertheim, and the Institute For Figuring, Pod Worlds (2006–19), detail from the Crochet Coral Reef (2005–present) project, installed at the Venice Biennale exhibition May You Live In Interesting Times (2019). Photo: Francesco Galli, courtesy of La Biennale di Venezia.

A host of recent 'aquatic' exhibitions engaging with 'blue' themes suggests that what the literary scholar Steve Mentz identifies as a 'new maritime turn' in the humanities (2009: 1000) has started filtering through to material culture: artists, museums and other cultural institutions from aquariums to multi-arts venues are increasingly adopting what the anthropologist Stefan Helmreich and the art historian Caroline A. Jones call an 'oceanic optic' (2018: 98). Recent examples include *Underwater* (2010–11) at the Towner Art Gallery, Eastbourne; *Aquatopia* (2013–14) at Nottingham Contemporary and Tate St Ives; and *Here Be Whales* (2019) at the Hull Maritime Museum and Left Bank Leeds. In what follows, I argue that corals are at the very centre of this sea-change towards oceanic perspectives in history, culture and society because they offer ways of thinking through some of the most pressing issues of today: political and economic uncertainty, questions of identity and identity politics, and global environmental problems such as biodiversity loss, pollution and climate change. I explore the implications involved in curating corals, which can range from practical issues of storage, conservation and display to the challenge – and the opportunity – of creating a feeling of connection between exhibition visitors and minuscule marine organisms that are frequently perceived as fundamentally alien. I claim that incorporating coral-related artworks into exhibitions engaging with coral or coral reef science and conservation can provide audiences with affective, emotional encounters that nurture both wonder and care.

Due to extensive coverage of bleaching events in popular culture and mainstream media, corals and coral reefs are gradually replacing terrestrial charismatic megafauna such as polar bears, pandas and tigers in raising public awareness of the climate crisis.³ Reef-building corals are a keystone species supporting the richest, most diverse ecosystems on earth. Often dubbed the 'rainforests of the sea', coral reefs cover less than 1 per cent of the oceans but are home to approximately 25 per cent of all marine species (Sheppard 2015: 8). They also act as bioindicators for anthropogenic stressors such as ocean

3. See, for example, Readfearn (2020) and Hughes and Pratchett (2020).

4. See Janes and Sandell (2019) and Davis and Turpin (2015).
5. See Endt-Jones (2014: 223–24), Sheppard (2015) and Braverman (2018: 6–9).

acidification, pollution, overfishing, ocean warming and other human pressures imposed on the marine environment. According to the legal scholar and ethnographic researcher Irus Braverman, they have become ‘canaries in the coalmine’ (2018: 10): if they suffer, decline and eventually go extinct, other species will soon follow, with severe economic, social – and ultimately existential – consequences for both local and global communities. It is difficult to establish whether curators and artists (and the scientists and conservationists with whom they collaborate) are contributing to this subtle shift in public awareness, or whether they are reacting to it. Somewhat of a chicken-and-egg situation, it is most likely a combination of both, since museums and artists are generally reflective of societal change, while producing it at the same time.⁴

Although educating the public about the effects of climate change on marine habitats such as coral reefs and the need to protect them certainly plays a role in artists’ and museums’ agendas, the potential of coral lies, much more fundamentally, in challenging and changing thought processes about contemporary issues such as the climate crisis. Braverman characterizes this capacity of coral to inspire relational ways of thinking and being as ‘coralating’ (2018: 3). In a similar vein, the historian and theorist of science and technology Donna Haraway, taking inspiration from the communal, interactive nature of coral reefs, calls the constant process of reconsidering ideas and definitions to avoid static, one-dimensional thought ‘re-figuring’ (2015: 257). A closer look at two recent exhibitions and displays on coral suggests that, in order to play an active part in ‘coralating’ and ‘re-figuring’, artists and curators must activate a variety of productive affects and emotions in visitors, ranging from doubt, curiosity, wonder and surprise to aesthetic appreciation and joy. Affective and emotional responses to objects, displays and narratives in museums and exhibitions have been brought into focus by a recent ‘affective turn’ in curatorial and museum studies and practice (Fisher and Reckitt 2015); here, I am concerned with their role in cultivating what Haraway terms ‘response-ability’ (2015: 256–68): a sense of responsiveness to, and responsibility for, the surrounding world. Haraway’s focus is on disruptive, playful, imaginative and emotive storytelling as a strategy of fostering multispecies connections. This means living with and caring about other species and inhabiting a world based on animal–human, art–science, nature–culture and other multispecies, multidisciplinary, non-binary assemblages and associations. I argue that cross-disciplinary curatorial practices that foreground the affect and emotion of wonder can produce a similar sense of ethical response-ability, a deep and sustained sense of connection with, and affection for, the living world.

Corals Are ‘Good to Think With’

Due to coral’s mind-bogglingly complex biological features, it has driven scientists and cultural historians to the edge of comprehension; described by the evolutionary biologist Steve Jones as ‘multiple beast’ (2008: 61) and by Helmreich as ‘boundary object’ (2016: 49), coral emerges as a profoundly category-defying organism and object that exceeds the classifications and thought systems devised by western science and culture.⁵ Corals are reef-building or solitary, and occur in shallow or deep water. Even in hard corals, individual polyps are tiny, soft-bodied and gelatinous, but collectively the genetically identical polyps of a colony lay down hard, stony, calcium-based skeletons that form massive structures, which can be – like the Great Barrier Reef – visible from space. Corals are able to travel vast distances in their larval stage,

but become sedentary once they have attached themselves to a hard surface. They can reproduce sexually, as single-sex or hermaphroditic organisms, and asexually, through budding or fragmentation. They are classed as animals, but hard corals' calcareous exoskeletons make them stone-like, and the microscopic algae with which they live in symbiosis – dinoflagellates of the genus *Symbiodinium* – make them plant-like. To add to this staggering complexity and variety, corals are now understood as what the evolutionary biologist Lynn Margulis calls 'holobionts': multispecies assemblages including not only polyps and photosynthesizing algae, but also microbes such as bacteria and viruses (cited in Haraway 2016: 189).

The tendency of corals to resist classification and to form alliances and affiliations makes them 'good to think with', to borrow the social anthropologist Claude Lévi-Strauss's oft-quoted declaration in *Totemism* that 'animals are good to think with' (1964: 89). Corals' remarkable natural properties have inspired scientists, historians, naturalists, writers and artists to engage and think with them, throughout the ages and on a global scale.⁶ As organisms and objects that can be characterized, following the French postmodern theorists Gilles Deleuze and Félix Guattari (1976), as 'rhizomatic' or non-hierarchical and interconnected, corals lend themselves to symbolic interpretation. In contrast to 'symbol' or 'metaphor', the German terms *Wissensfigur* ('figure of knowledge') and *Denkfigur* ('figure of thought') more accurately capture an object's power not only to express knowledge and thought, but also, more significantly, to *shape* knowledge and thought. Similarly, Haraway suggests that thinking in and with figures offers an integrated mode of reflection and storytelling that is simultaneously visual, narrative, mathematical and sensual (2015: 257). Taking inspiration from Helmreich's exploration of seawater, coral is, then, at the same time a 'theory machine' and 'a thing in the world'; it is 'both good to think with and here to live with, in multifarious actuality' (2011: 134, 138; see also Endt-Jones 2014: 224). Coral appears as an object, organism and figure, whose multiple materialities and complex characteristics encourage both intellectual and sensory engagement.

Are Corals Good to Curate With?

In a more practical sense, curating coral presents a multitude of opportunities and challenges – especially when compared to curating exhibitions and displays themed around aquatic megafauna such as whales. Similar to corals, whales have experienced an upswell in interest in recent years: temporary exhibitions in the United Kingdom alone have included *Whales: Beneath the Surface* (Natural History Museum, London, 2017–18); *Turner and the Whale* (Hull Maritime Museum, 2017–18); and the aforementioned *Here Be Whales*. These exhibitions succeeded the replacement, in 2017, of 'Dippy' the *Diplodocus* skeleton cast with 'Hope' the blue whale skeleton in the Hintze Hall, the main atrium of London's Natural History Museum – in what seems like a momentous shift from emphasizing evolutionary narratives to foregrounding themes of conservation and sustainability.⁷

Generally, the main challenge of displaying aquatic animals, whether corals or whales, consists of fostering a sense of connection between exhibition visitors and creatures that appear radically 'other'. Sprung from an oceanic environment that is perceived as distant and alien, whales can remain elusive and abstract; their enormous size and weight alone make them difficult to comprehend. But where humans can fall back on a shared mammalian

6. See Endt-Jones (2013b), Shick (2018) and Person (2019).

7. See Nyhart (2015), Lowe et al. (2020), and the article by Pandora Syperek in this issue of the *Journal of Curatorial Studies*.



Coral: *Something Rich and Strange* (2013–14), installation views and selection of wet specimens at the Manchester Museum. Photos: Sven Eselgroth, courtesy of the Manchester Museum, University of Manchester.

kinship with whales, corals offer few opportunities for identification and empathy: they are tiny invertebrates that lack eyes and other instantly recognizable facial features; they are multiple; they frequently live in colonies; and they resemble stones or plants, especially when extracted from the water and displayed as dried specimens.

Whether big or small, the fact that most corals appear white, grey, beige or yellowish-brown in the museum – far from their colourful, vibrant state underwater when unaffected by bleaching – presents a curatorial challenge in terms of storage, conservation and display. Historically, this problem was remedied by commissioning and displaying lifelike models made from resin or glass; the intricate glass models manufactured by Leopold and Rudolf Blaschka between 1863 and 1890 are a prominent example (Miller and Lowe 2008). Another way of addressing this phenomenon of aquatic invertebrates kept in museum collections as wet or dry specimens losing their colour and shape and, essentially, materializing as the dead specimens they are, involves the maintenance of live coral reef tanks both for public display and conservation research. This approach is modelled by the Horniman Museum in London. However, including a reef tank in a temporary exhibition, which amounts to displaying living animals in captivity, requires careful ethical consideration on the one hand and freedom from budgetary constraints on the other.⁸ Both issues in combination – a limited budget that did not allow for an ethically acceptable way of sourcing and maintaining live corals – prevented me from incorporating a coral reef aquarium into *Coral: Something Rich and Strange* at the Manchester Museum.

But even if coral exhibitions do include animated features such as a live coral reef display and a 180-degree panoramic virtual dive, as in the Natural History Museum's *Coral Reefs: Secret Cities of the Sea*, visitors might perceive dead specimens as distancing. The geographer and writer Chris Fitch (2015) expressed this feeling of estrangement in his review of the exhibition:

Real coral reefs are busy and proactive, constantly changing and in motion, bursting with life. [...] [T]he funeral-like presentation of the specimens does nothing to back up this perspective. Reefs are hugely important to both our present and our future, and yet are displayed here as objects from the past.

The interactive features and the aquarium that showcased a slice of reef life were, according to the exhibition's interpretation developer Felicity Paynter, among the imagery and narratives included to make visitors 'feel surprised, amazed and emotional' (cited in Singer 2015). Similarly, Miranda Lowe, the Natural History Museum's Principal Curator of Crustaceans and curator of *Coral Reefs: Secret Cities of the Sea*, revealed that the aquarium was incorporated deliberately to balance the beige-looking displays of coral specimens with an animated, colourful reef scene in an attempt 'to raise the mood' (Lowe et al. 2020). Despite these efforts, Fitch described the exhibition as lacking dynamism and imagination – a static display that presented corals as lifeless and therefore resulted in a disappointing, uninspiring visitor experience.

With *Coral: Something Rich and Strange*, the curatorial focus shifted from illustrating the corals' characteristic appearance in the wild as 'rainforests of the sea' nurturing a wealth of aquatic life, towards highlighting the natural history specimens' diversity and beauty in relation to their roles in visual and material culture. Rather than presenting an obstacle, the fact that specimens

8. On the ethical and ecological implications of keeping coral reef aquaria, see Bruckner (2000) and Braverman (2019).

resemble sculptures offered an opportunity to question object categories and boundaries between fields and disciplines such as art, craft, nature, natural history and science.

Equally, I would suggest that museums should not be made to compete with a snorkelling or scuba diving experience on an actual reef (or with watching a nature documentary on a screen). In *Coral: Something Rich and Strange*, the fact that museums collect and display ‘things from the past’ became an opportunity to showcase objects and narratives highlighting the history of natural history. For example, juxtaposing glass models with type specimens stored in acid-free boxes and wet specimens preserved in alcohol might offer meaningful insights into historical and contemporary modes of conservation and display. In addition, ‘objects from the past’ – models, specimens, paintings, sculptures, lantern slides, jewellery, talismans, devotional objects, prints and textiles – were deliberately used to illustrate the history of human engagement not only with corals as animals, but also with coral as a material and symbol throughout the ages, in myth, religion, art and science (Endt-Jones 2017).

The challenge remains, with giant whale skeletons as with tiny deep-sea corals, to stage displays that create a sense of connection, not through preaching but through keeping the door to wonder wide open. Inspiring a sense of wonder involves displays that allow for close encounters with the aquatic creatures’ physicality, materiality and diversity, while embracing their ambiguities and contradictions. It entails displays that encourage encounters on a physical, visceral level – including opportunities for multisensory engagement – and on a mental, cognitive level alike. Whether exhibitions about ocean life include aquatic creatures that are monumental or minute, single or multiple, spectacular showpieces or humble specimens, generating a sense of wonder seems key to building caring publics. According to the historian of science Lynn K. Nyhart (2015), wonder can be considered as a cognitive drive and affect essential to both scientific research and public perception. Ultimately, as an affect and emotion central to museum and gallery practice, wonder has the potential to activate ethical responsibility and compassion in audiences (Endt-Jones 2017).

Coralating, Madreporizing

How have recent exhibitions realized coral’s material actuality on the one hand and its potential to act as a ‘figure of knowledge’ and ‘figure of thought’ on the other – to make visitors feel and think about (and like) corals, to ‘coralate’, and experience wonder? Historically, displays of corals in cabinets of curiosities, aquariums and natural history collections have inspired curiosity and wonder due to the coral specimens’ and organisms’ rarity, beauty, diversity and biological ‘otherness’. While recent coral exhibitions tend to draw on these precedents both visually and epistemologically, they frequently attempt to stage a much more multifaceted engagement with corals. Rather than presenting coral as an object of awe, they offer active, immersive and multisensory displays that stimulate wonder in both senses of the word – to marvel and to question (Endt-Jones 2017: 187). The philosopher of science Isabelle Stengers emphasizes the double meaning of the verb ‘to wonder’ in the English language as ‘both to be surprised and to entertain questions. It thus may refer to [...] being affected, troubled, surprised, but also being forced to think and question’ (2011: 374). Across a range of periods and exhibition contexts, corals on display in sixteenth- and seventeenth-century private collections of curiosities,



Coral: *Something Rich and Strange* (2013–14), installation views at the Manchester Museum. Above: visitors in front of Giovanni Santi's *The Virgin and Child* (c.1488), on loan from the National Gallery, London. Below: selection of lantern slides. Photos: Paul Cliff (above), Sven Eselgroth (below), courtesy of the Manchester Museum, University of Manchester.

in nineteenth-century parlour and public aquariums, and in contemporary exhibitions have one thing in common: as complex objects encouraging wonder in both senses of the word, they cannot be contained – sometimes physically, but above all conceptually.

During the sixteenth and seventeenth centuries, coral became, according to the art historian and director of Dresden's Green Vault and Armoury Dirk Syndram, 'the quintessential *Kunstkammer* material' (2004: 39) and, in historian James Delbourgo's words, a 'darling fetish of the curious' (2011: 164). This was due to its rarity; its association with metamorphosis; its magical, apotropaic and healing properties; and its capacity to bridge the three kingdoms of nature on the one hand, and the realms of myth, science and religion on the other (Endt-Jones 2013b: 9–14). Corals occurred in princely, scholarly and mercantile collections of curiosities as dried natural specimens, and carved or polished 'stones' skilfully mounted with other precious materials such as silver, gold, rock crystal and nautilus shells. Coral was cherished as a rare and valuable material that lent itself to combining the marvels of art and nature in decorative objects such as drinking vessels, cutlery, weapons, caskets, mounds and small cabinets.

Coral's western myth of origin is firmly rooted in Ovid's *Metamorphoses*: Perseus places Medusa's severed head on a bed of seaweed on the shore, which, absorbing the Gorgon's transformative powers, turns into coral, scattered across the sea by nymphs. Therefore, *Kunstkammer* objects often used coral as a material imbued with the symbolic power of metamorphosis to illustrate an instance of metamorphosis: Daphne turning into a laurel tree or Actaeon transforming into a stag (Grasskamp 2013: 13–16). According to the historian of science Lorraine Daston, in commissioning and crafting these objects, gold- and silversmiths, and their patrons, exploited analogies of form between branching coral, trees and antlers (1998: 239). More importantly, objects made of coral and other 'metamorphic' materials incorporated and represented metamorphosis at the same time; as such, they were considered highly potent vessels holding transformative powers. Coral's refusal to signify unambiguously and to be contained is captured in an inventory entry for the Medici collection in Florence, which lists 'a branch of coral that continued to grow' (Kenseth 1991: 82) – a potentially ever-expanding object that eroded the boundaries between stone and plant, life and death, and agency and passivity.

Although first-hand accounts by the exclusive circle of visitors admitted into scholarly collections and princely treasuries are rare, the performative aspect of presenting and visiting cabinets of curiosities is well established: rather than passively observing objects from a distance, visitors were shown around by the owner-collector, who might have told stories of travel, acquisition and lore; presumably, visitors were encouraged to not only view things up close, but also to handle and touch them (Bann 1994: 90–93; MacGregor 2007: 64–69). These 'tours' played out as theatrical rituals of self-representation – of conveying identity, power and status through objects – but visitors also benefited from intimate encounters that conveyed the objects' power to puzzle, amaze and disturb.

The emergence of private and public aquariums in the mid-nineteenth century separated visitors from corals, sea anemones and other aquatic fauna and flora by enclosing them behind glass walls; however, as the art historian Ursula Harter points out, marine species were now presented in 'miniature oceans' or 'living museum[s] of the sea', as animated creatures feeding and reproducing in a re-creation of their natural habitat (2014: 82). An

unprecedented exercise in making the invisible visible and the remote accessible, the aquarium became a source of scientific progress, of public outrage at the critters' promiscuous sexual habits, of personal and collective expeditions into the unconscious, and of aesthetic appreciation (Harter 2014). The French art critic and writer Jules Laforgue, who was a frequent visitor to the Berlin Aquarium, powerfully articulated corals' drive towards dissolving boundaries – in his case between conscious and unconscious and between self and world. In an 1885 letter, he described a state of total immersion, of blissful fusion with his surroundings, as 'je me madréporise' ('I turn into a madrepora') (cited in Harter 2014: 55, 172).⁹ Across a range of historical settings – from the sixteenth-century cabinet of curiosities to the nineteenth-century public aquarium – experiencing coral on display provided visitors with an experience that proved at once fascinating and profoundly unsettling.

Corals are Good to Play With

Although nineteenth-century naturalists and writers like Philip Henry Gosse and Charles Kingsley showed awareness of the vulnerability and decline of sea creatures due to prolific collecting (Harter 2014: 32), in the twenty-first century, climate change, along with a more large-scale depletion of natural resources and habitats, has become, according to the environmental journalist and editor Nicole Hasham (2019), 'the defining issue of our time'. Two of the most recent coral-related exhibitions and displays, Margaret and Christine Wertheim's *Crochet Coral Reef* (2005–present, various locations and venues) and Tamiko Thiel's *Unexpected Growth* (2018–19, Whitney Museum of American Art) draw on coral's rich histories of display and contested classification to raise awareness of plastic pollution and other human-inflicted damage to oceanic environments.¹⁰

Like the architecture of a marine coral reef, the Wertheim sisters' *Crochet Coral Reef* is a collaborative effort, consisting of thousands of crochet corals crafted by people (mostly women) all over the world. While the *Core Collection*, designed by the Wertheims and a selection of experienced crafters, travels to museums and other institutions, the *Satellite Reefs* are licensed offshoots organized by communities around the world. Conceived in the sisters' living room in 2005 and continued by participants in their own homes, church halls, community centres, museums, art galleries, science centres, schools and prisons, the project has grown into a global collective movement. Although this ever-evolving artwork and network is carefully managed by the Wertheims' Institute For Figuring (IFF) in Los Angeles – which Haraway aptly describes as a 'play tank' (2015: 265) and that facilitates material experiments in art, science and technology – it nevertheless retains an element of the corals' ramifying, tentacular tendencies to render boundaries porous and to defy control. What began as a mathematical investigation into representing hyperbolic space has mushroomed into a large-scale collective practice combining aspects of applied geometry, community engagement, feminism, environmental activism and, in Margaret Wertheim's own words, 'embodied knowing through craft' (2019a: 168).

Displayed in 27 venues in North America, Europe, Asia and the Middle East between 2007 and 2020, the *Crochet Coral Reef* has become an influential tool for making the intangible tangible. Across a range of sites, two main methods of exhibition and display have emerged: on the one hand, so-called *Pod Worlds* – assemblages of especially striking corals skilfully crafted by

9. The term 'madrepore' refers to *Madrepora*, a genus of *Scleractinia* (stony corals), but was used in the eighteenth and nineteenth centuries to denote hard corals more generally.
10. In addition, displays by contemporary artists working on coral have been staged at the Horniman Museum, London (Karen Dodd's *Coral: Fabric of the Reef*, 2017–18) and the US Embassy in Jakarta (Courtney Mattison's *Confluence (Our Changing Seas V)*, 2019). At the Royal Society's Science Summer Exhibition in 2017, visitors were invited to take selfies with fluorescent corals (University of Southampton's *Glowing Corals*).



Christine and Margaret Wertheim, and the Institute For Figuring, Coral Forest – Stheno (2009–16), from the Crochet Coral Reef (2005–present) project, installed at the Museum of Arts and Design (2016). From the collection of Jorian Polis Schutz. Photo: Jenna Bascom, courtesy of the Museum of Art and Design, New York.

Margaret and Christine Wertheim alongside a handful of key contributors, and presented in glass display cases mounted onto the wall at eye level; and on the other, exuberant *Coral Forests* rising from, and overflowing from, a series of plinths that can be accessed from all sides.

On one level, the contrasting approaches reflect Margaret and Christine Wertheim's different personalities, professional backgrounds and stylistic preferences. Margaret, a qualified physicist and mathematician, acts as the driving force behind the restrained aesthetic of the quasi-scientific *Pod Worlds* behind glass, whereas Christine, a trained artist, is responsible for the 'wildness' of the freestanding, exuberant *Coral Forests* (Wertheim 2019b). On a second level, curatorial decisions made in consultation with the host institutions and venues inevitably inform which parts of the *Crochet Coral Reef* go on display. For example, Ralph Rugoff, the curator of the 2019 edition of the Venice Biennale, deliberately chose to include the more controlled, scientific aspect of the *Pod Worlds* (for the Giardini site) and the *Bleached* and *Toxic Reefs* (for the Arsenale site) over the free-flowing *Coral Forests* in order to emphasize the natural history side of the project (Wertheim 2019b). This approach of softening the boundaries between art, craft, natural history and science aligns with Rugoff's (2019) broader curatorial vision for the Biennale, which included 'highlight[ing] artworks that explore the interconnectedness of diverse phenomena' and 'art that exists in between categories, and that questions rationales behind our categorical thinking' – a programme strongly reminiscent of sixteenth- and seventeenth-century episteme, including associative modes of display used in cabinets of curiosities.¹¹

More generally, both ways of displaying the *Crochet Coral Reef* evoke historical precedents and offer cognitive, sensory and affective stimulation in different ways. The delicate, jewel-like corals of the *Pod Worlds*, some of which consist of yarn and beads, recall exquisite *Kunstkammer* objects, reef tanks and jewellery shop vitrines. Protected from dust, moisture and curious hands by a glass barrier, the corals on display as part of the *Pod Worlds* are framed as precious and endangered. By contrast, the freestanding groves of the *Coral Forests* highlight humans' similarity to, and origin from, primitive marine organisms by encouraging a more immediate and immersive experience. Towering on plinths and freed from their protective glass cases, the coral formations loop, frill, droop and spill in astonishing sculptural formations at eye level and beyond. With the corals visible up close and from all sides, their materiality and tactility – spectacular variations in colour, texture and form – invite visitors' imagined touch. Drawing on queer theory pioneer Eve Kosofsky Sedgwick's (2003) analysis of touch as derailing dualistic understandings of agency and passivity, the art historian Janine Mileaf argues that touch represents an alternative modality incorporating both bodily and intellectual ways of knowing (2010: 9–11). The highly tactile corals, which consist of 'symbioses' of yarn, plastic, beads and other materials, carry within them traces of contacts; more poignantly, they radiate the careful, time-consuming attention and cumulative labour of the artists who crafted them (Wertheim 2019a: 178).

In the open displays of the *Coral Forests*, visitors are invited to drift between reef patches as if wandering on the ocean floor – bringing to mind the under-sea excursions of Captain Nemo and Professor Aronnax, the protagonists of Jules Verne's 1870 science fiction novel *Twenty Thousand Leagues Under the Sea*. According to the IFF (2019), the crochet coral reefs 'act on a psychological level to elicit in viewers a feeling of being "down there" under the sea'. The immersive, tactile and multidimensional display results in visitors becoming enmeshed in the fabric of the reef. With distance removed and real or imagined

11. On legacies of the sixteenth- and seventeenth-century cabinet of curiosities in surrealist and contemporary art and exhibition display, see Bann (2003) and Endt-Jones (2007, 2013a).



Christine and Margaret Wertheim, and the Institute For Figuring, Coral Forest (2009–16), from the Crochet Coral Reef (2005–present) project. Above: installed at Lehigh University Art Galleries (2019). Photo: Stephanie Veto, courtesy of Lehigh University Art Galleries. Below: installed at the Mary Porter Sesnon Gallery, University of California Santa Cruz (2017). Photo: courtesy of Institute of the Arts and Sciences, University of California Santa Cruz.

touch encouraged, 'we are all corals now', Margaret Wertheim (2014) proposes. Exhibition visitors are handed the opportunity to relinquish an ocularcentric, anthropocentric perspective in favour of a multisensory, embodied experience suggesting a deep-rooted affinity of humans with marine invertebrates. Exploring the marine biologist and writer Rachel Carson's commitment to wonder and curiosity, the theorist of gender and sexuality Eva Hayward (2012) similarly points to the engrained kinship between humans and corals: 'Our differences are obvious and deep, but my own genetic code is a fleshy spine of marine legacies. All of us are partly coral reefs full of developing polyps, growing sponges, brooding anemones and feeding sea snails'. Interestingly, exhibition visitors instantly seem to connect with the woolly creatures through an innate sense of recognition: members of the public tend to experience the colourful crochet corals as essentially 'coral-like', even if they have never seen a living reef in the flesh (Wertheim 2019a: 181).

By 'coralating' exhibition visitors, artists, activists and scientists with corals – and threading issues such as plastic pollution and coral bleaching into the narrative – the *Crochet Coral Reef* scales the global climate crisis, which can be experienced as immeasurable and remote, down to a 'create-ive response' that is tangible and deeply personal (Wertheim 2019a: 178). Perhaps one of the biggest challenges for both artists and curators engaging with ecological themes consists of making what the ecological theorist Timothy Morton calls 'hyperobjects' – entities, such as global warming, whose enormous temporal and spatial dimensions render them abstract (2013: 1–3) – comprehensible and relevant to audiences; a project like the *Crochet Coral Reef* responds to this challenge by offering opportunities to connect on a more intimate, embodied basis.

Significantly, the *Crochet Coral Reef* models response-ability as a collective and positive practice: community members are called on to cooperate, similar to minuscule coral polyps collaborating to build structures that can be seen from space, because, as Margaret Wertheim argues, 'cumulative action counts' (2019a: 180). Furthermore, the project offers creative and constructive modes of making and storytelling instead of subscribing to an apocalyptic 'doom and gloom' scenario of 'too little too late'. The connection between collective action and positive engagement is reflected in an anonymous comment left by one of the participants in a Crochet Coral Workshop at the Manchester Museum, part of a series of public events organized to create the *Manchester Satellite Reef* in 2013 and 2014: 'Today we made things while talking, planning, debating, laughing, loving, sharing, caring and hoping'.¹² Rather than passively submitting to unrelenting faith in technology, fear or unfounded hope, the *Crochet Coral Reef's* proposition is that – as Haraway suggests, in writing about the 'art-science-activist worldings' of the IFF and the *Crochet Coral Reef* – '[m]aterial play builds caring publics' (2016: 79). Making woolly corals with a community of like-minded 'reefers' – and seeing them go on display – offers an opportunity for shared engagement while embracing a practice of hopefulness and an ethics of care.

A recent study carried out by Laura K. Sommer and Christian A. Klöckner from the Department of Psychology at the Norwegian University of Science and Technology in Trondheim, examining the effects of activist climate change art on audiences, has found that members of the public respond most strongly to artworks that avoid dystopian elements in favour of playfully highlighting 'the beauty and interconnectedness of nature' – preferably outside of established art institutions (2019: 14). This kind of playful, positive approach is also important to artist Tamiko Thiel, whose augmented reality installation

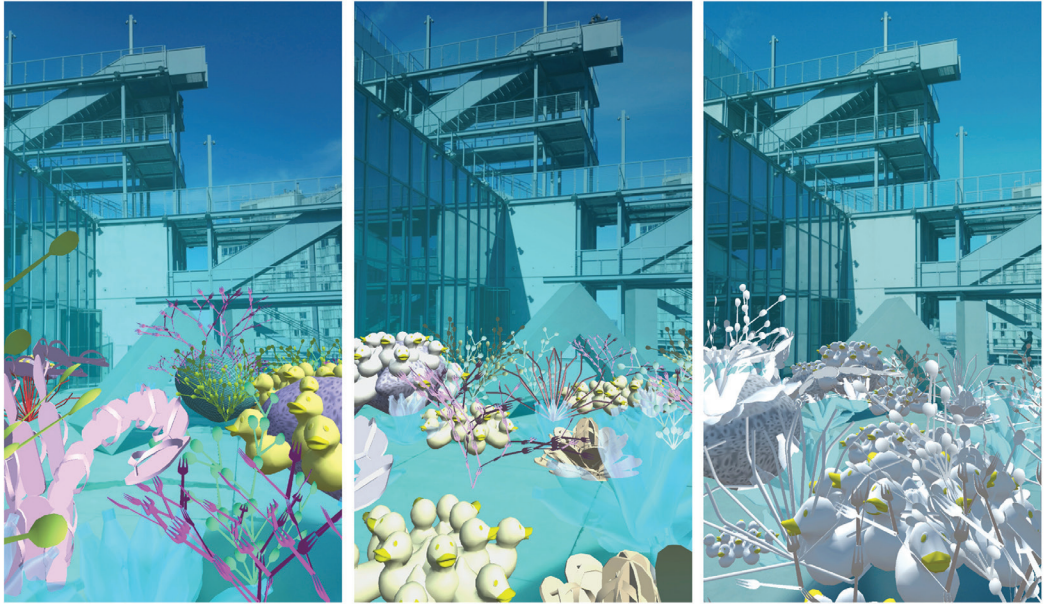
12. See the page for 16 February in the visitor comments book for *Coral: Something Rich and Strange* (2014).



Coral, Something Rich and Strange (2013–14), participants crocheting corals during a community workshop in November 2013 at the Manchester Museum. Photo: Paul Cliff, courtesy of the Manchester Museum, University of Manchester.

Unexpected Growth was commissioned as part of the Whitney Museum's exhibition *Programmed: Rules, Codes, and Choreographies in Art, 1965–2018* (2018–19). She argues: 'I know myself that artworks that only spread doom and gloom make an emotional impact, but leave the viewers depressed rather than energized' (cited in Meier 2019). Accordingly, both artists and institutions face the challenge of avoiding pessimism while at the same time driving home the urgency to engage, care and possibly act.

Thiel's immersive installation, produced in collaboration with the mystery programmer known as /p, shows a colourful, buoyant reefscape. Upon closer inspection through a smartphone app or two stationary tablets, however, users begin to realize that the coralline growths taking over the Whitney Museum's roof terrace consist of discarded plastic such as flip flops, single-use cutlery and straws, and rubber ducks. In addition, further highlighting the consequences of pollution and global warming, the reef's colours gradually become paler throughout the day, mimicking the devastating effect of coral bleaching. Underwater sound elements contribute to an immersive experience, seemingly submerging users into a subaquatic scene; but the reliance on tablets, phones and an app also highlights the fact that the human experience of coral reefs and other oceanic habitats is always necessarily mediated by technology or institutions – from scuba diving gear and aquarium technology to camera lenses and TV or smartphone screens; and from oceanographic institutes to natural history museums and art galleries.



Tamiko Thiel and /p, *Unexpected Growth* (2018), augmented reality installation on the Whitney Museum of American Art's sixth-floor terrace; the images show three phases of bleaching due to excessive viewing by visitors. Photo: Tamiko Thiel, courtesy of the artist.

The corals in Thiel's installation have become post-evolutionary species made of synthetic materials. A recent scientific study, which determined that corals of the species *Astrangia poculata* preferred ingesting microplastic beads to brine shrimp eggs of the same size when offered both in the laboratory (Rotjan et al. 2019), suggests the plausibility of this vision. Eternally defying boundaries and expectations, corals have now become plastivores incorporating microplastics into their already multiple, complex biological make-up. But rather than shocking viewers into action, Thiel aims for an affective impact that might prove more sustainable and inspirational long-term: 'I'm trying to produce this emotional encounter with a topic that will really imprint it in your mind and in your memories' (cited in Madson 2018). Creating emotional encounters and offering opportunities for empathy and identification with aquatic life and marine invertebrates – through multisensory engagement and wonder – lies at the heart of layered, richly imagined installations such as the IFF's *Crochet Coral Reef* and Thiel's *Unexpected Growth*.

Corals Are Good to Feel With

Curators can harness the affective impact of artworks to generate a range of fruitful emotions in exhibition visitors. As the curators and scholars Jennifer Fisher and Helena Reckitt argue, 'Museums, galleries, art world events, and artworks themselves function as contact zones where affect is transmitted' (2015: 361). Recent coral exhibitions and installations confirm that corals are good to feel with, good to play with and 'good to think with' – and therefore good to curate with. They challenge binary divisions still running deep in western thought systems: dry/wet, coastal/oceanic, dead/alive, single/multiple,

male/female, minuscule/large, original/fake, actual/virtual, and natural/artificial. The necessity to unravel such oppositions and find productive alternatives lies at the heart of some of the most pertinent issues of current times. Concerning the climate crisis in particular, alternative approaches with the potential to move beyond polarities and divisions can range from championing multispecies relationality and cross-disciplinary collaboration to decolonizing the Anthropocene and formulating a new environmental ethics.

The exhibitions and artworks that I have looked at through an aquatic lens draw on historical precedents for displaying coral, rely on community engagement practices, and use new technologies to create thought-provoking and affective displays that emphasize the role of the emotions in developing memories and learning. By allowing visitors to get up close and personal with seemingly remote aquatic organisms, these displays tackle the challenges posed by the global climate crisis and urge visitors towards positive, creative and collective reflection and action.

My exploration of recent coral exhibitions has shown that displaying natural history specimens – even when accompanied by live coral reef tanks and impressive new media technologies – has its limitations. By contrast, commissioning and featuring participatory artworks such as the *Crochet Coral Reef* and *Unexpected Growth* can add layers of meaning and provide points of connection and contact for audiences, increasing engagement and encouraging positive action. According to Haraway, ‘The task is to make kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present’ (2016: 1). Recent coral exhibitions and displays suggest that, on the collective voyage towards meeting this challenge, curators, artists, scientists and members of the public would do well to remember that everyone is ‘coralated’.

Collaborative, cross-disciplinary approaches to exhibition making seem well-suited to inspiring in audiences an innate love and care for life, and a profound connection with the ocean and its life forms, or what the biologist E.O. Wilson has termed ‘biophilia’ (1984) and the marine biologist Wallace J. Nichols has summarized as ‘oceanophilia’ (2011). Reflecting on the relationship between art and science, and past joint projects with artists and designers, Miranda Lowe recently made a case for integrative, collaborative exhibitions: ‘It is all interconnected and it is all beneficial. Art and design provide another hook, another way of engaging people’ (Lowe et al. 2020). Complex global challenges such as climate change and biodiversity loss, which cut across different disciplines and ways of knowing, require modes of engagement that bridge the cognitive, the embodied, the visual, the rational, the imaginative, the conceptual and the emotive. The science museum professionals Camilla Rossi-Linnemann and Giulia de Martini argue that commissioning and exhibiting art in scientific contexts can act as a narrative tool, serve an educational purpose, or create a disruptive, self-reflective element (2020: 7–24).

I propose to add affect and emotions to these approaches. For curators at science centres, natural history museums, contemporary art venues, university museums, art galleries and public aquariums, the strategy to create playful, wonderful, multidimensional and thoughtfully orchestrated exhibitions and displays – examples of which I have discussed above – offers visitors embodied, affective modes of engagement with ocean life. By foregrounding affect and emotions, curatorial initiatives involving cross-disciplinarity to convey narratives of biodiversity loss and extinction, symbiosis and cooperation, and resilience and regeneration have the potential to infuse audiences with a desire to

engage and participate more actively. Ultimately, affect intensified by integrative exhibition making nurtures an ethics of care and inspires collective action.

Acknowledgements

I would like to thank the editors of this special issue, Pandora Syperek and Sarah Wade, for their thoughtful comments. Thank you also to the journal editors, Jennifer Fisher and Jim Drobnick, and the two peer reviewers for helpful suggestions, and to Margaret Wertheim and Tamiko Thiel for generously sharing insights and images.

References

- L'Aquarium de Paris** (2020), *Corail coeur de vie*, <https://www.cineaqua.com/expositions/artquarium/corail-coeur-de-vie/>. Accessed 5 July 2020.
- Bann, Stephen (1994), *Under the Sign: John Bargrave as Collector, Traveler and Witness*, Ann Arbor: University of Michigan Press.
- Bann, Stephen (2003), 'The Return to Curiosity: Shifting Paradigms in Contemporary Museum Display', in Andrew McClellan (ed.), *Art and Its Publics: Museum Studies at the Millennium*, Oxford: Blackwell, pp. 116–30.
- Braverman, Irus (2018), *Coral Whisperers: Scientists on the Brink*, Oakland: University of California Press.
- Braverman, Irus (2019), 'Corals in the City: Cultivating Ocean Life in the Anthropocene', *Contemporary Social Science*, special issue on Urban Animals: Cartographies of Radical Encounters, pp. 1–17.
- Bruckner, Andrew W. (2000), 'New Threat to Coral Reefs: Trade in Coral Organisms', *Issues in Science and Technology*, 17:1, <https://issues.org/bruckner/>. Accessed 23 May 2020.
- Cohen, Margaret (2010), *The Novel and the Sea*, Princeton: Princeton University Press.
- Coral: Something Rich and Strange* (2014), visitor comments book, Manchester: Manchester Museum.
- Daston, Lorraine** (1998), 'Nature by Design', in Caroline A. Jones and Peter Galison (eds), *Picturing Science, Producing Art*, London and New York: Routledge, pp. 232–53.
- Davis, Heather and Turpin, Etienne (eds) (2015), *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies*, London: Open Humanities Press.
- Delbourgo, James (2011), 'Divers Things: Collecting the World Under Water', *History of Science*, 49:2, pp. 149–85.
- Deleuze, Gilles and Guattari, Félix (1976), *Rhizome: Introduction*, Paris: Editions de Minuit.
- Elias, Ann (2019), *Coral Empire: Underwater Oceans, Colonial Tropics, Visual Modernity*, Durham and London: Duke University Press.
- Endt-Jones, Marion (2007), 'Beyond Institutional Critique: Mark Dion's Surrealist Wunderkammer at the Manchester Museum', *Museum and Society*, 5:1, pp. 1–14.
- Endt-Jones, Marion (2013a), 'Between Wunderkammer and Shop Window: Surrealist Naturalia Cabinets', in John C. Welchman (ed.), *Sculpture and the Vitrine*, Aldershot: Ashgate, pp. 95–120.

- Endt-Jones, Marion (ed.) (2013b), *Coral: Something Rich and Strange*, Liverpool: Liverpool University Press.
- Endt-Jones, Marion (2014), "'Something Rich and Strange": Coral in Contemporary Art', in Tricia Cusack (ed.), *Framing the Ocean, 1700 to the Present: Envisaging the Sea as Social Space*, Aldershot: Ashgate, pp. 223–38.
- Endt-Jones, Marion (2017), 'Coral Fishing and Pearl Diving: Curatorial Approaches to Doubt and Wonder', in Christan Mieves and Irene Brown (eds), *Wonder in Contemporary Artistic Practice*, Abingdon and New York: Routledge, pp. 177–93.
- Fisher, Jennifer and Reckitt, Helena (2015), 'Introduction: Museums and Affect', *Journal of Curatorial Studies*, 4:3, pp. 361–62.
- Fitch, Chris (2015), 'Coral Reefs: Secret Cities of the Sea', *Geographical*, 27 March, <https://geographical.co.uk/reviews/exhibitions/item/937-coral-reefs-secret-cities-of-the-sea>. Accessed 14 December 2019.
- Gillis, John R. (2013), 'The Blue Humanities', *Humanities*, 34:3, <https://www.neh.gov/humanities/2013/mayjune/feature/the-blue-humanities>. Accessed 2 November 2019.
- Grasskamp, Anna (2013), 'Metamorphose in Rot: Die Inszenierung von Korallenfragmenten in Kunstkammern des 16. Und 17. Jahrhunderts', in Jessica Ullrich and Antonia Ulrich (eds), *Tierstudien*, 4, Berlin: Neofelis Verlag, pp. 13–24.
- Haraway, Donna J. (2015), 'Anthropocene, Capitalocene, Chthulucene', in Heather Davis and Etienne Turpin (eds), *Art in the Anthropocene: Encounters Among Aesthetics, Politics, Environments and Epistemologies*, London: Open Humanities Press, pp. 255–70.
- Haraway, Donna J. (2016), *Staying with the Trouble: Making Kin in the Chthulucene*, Durham and London: Duke University Press.
- Harter, Ursula (2014), *Aquaria in Kunst, Literatur und Wissenschaft*, Heidelberg and Berlin: Kehrer Verlag.
- Hasham, Nicole (2019), 'Climate Change Is the Defining Issue of Our Time – We're Giving It the Attention It Deserves', *The Conversation*, 16 September, <https://theconversation.com/climate-change-is-the-defining-issue-of-our-time-were-giving-it-the-attention-it-deserves-123592>. Accessed 3 November 2019.
- Hayward, Eva (2012), 'Schooled by Mackerels: Rachel Carson's Curiosity', *Indy Week*, 25 April, <https://indyweek.com/news/schooled-mackerels-rachel-carson-s-curiosity/>. Accessed 9 November 2019.
- Helmreich, Stefan (2011), 'Nature/Culture/Seawater', *American Anthropologist*, 113:1, pp. 132–44.
- Helmreich, Stefan (2016), 'How Like a Reef: Figuring Coral, 1839–2010', in *Sounding the Limits of Life: Essays in the Anthropology of Biology and Beyond*, Princeton and Oxford: Princeton University Press, pp. 48–61.
- Helmreich, Stefan and Jones, Caroline A. (2018), 'Science/Art/Culture through an Oceanic Lens', *Annual Review of Anthropology*, 47, pp. 97–115.
- Hessler, Stefanie (ed.) (2018), *Tidalectics: Imagining and Oceanic Worldview through Art and Science*, Cambridge, MA: MIT Press.
- Horden, Peregrine and Purcell, Nicholas (2006), 'The Mediterranean and "the New Thalassology"', *American Historical Review*, 111:3, pp. 722–40.
- Hughes, Terry and Pratchett, Morgan (2020), 'We Just Spent Two Weeks Surveying the Great Barrier Reef. What We Saw Was an Utter Tragedy', *The Conversation*, 6 April, <https://theconversation.com/>

- we-just-spent-two-weeks-surveying-the-great-barrier-reef-what-we-saw-was-an-utter-tragedy-135197. Accessed 5 July 2020.
- IFF (Institute For Figuring) (2019), *Crochet Coral Reef*, <https://crochetcoralreef.org>. Accessed 9 December 2019.
- Janes, Robert R. and Sandell, Richard (eds) (2019), *Museum Activism*, Abingdon and New York: Routledge.
- Jones, Steve (2008), *Coral: A Pessimist in Paradise*, London: Abacus.
- Kenseth, Joy (ed.) (1991), *The Age of the Marvelous*, Hanover, NH: Hood Museum of Art.
- Lévi-Strauss, Claude (1964), *Totemism* (trans. Rodney Needham), London: Merlin Press.
- Lowe, Miranda, Sabin, Richard, Syperek, Pandora and Wade, Sarah (2020), 'Curating Ocean Ecology at the Natural History Museum: Miranda Lowe and Richard Sabin in Conversation with Pandora Syperek and Sarah Wade', *Science Museum Journal*, 13, <http://journal.sciencemuseum.ac.uk/browse/issue-13/curating-ocean-ecology-at-the-natural-history-museum/>. Accessed 17 July 2020.
- MacGregor, Arthur (2007), *Curiosity and Enlightenment: Collectors and Collections from the Sixteenth to the Nineteenth Century*, New Haven and London: Yale University Press.
- Madson, Diana (2018), 'Augmented Reality Art Exhibit Shows How People Are Harming Corals', *Yale Climate Connections*, 28 December, <https://www.yaleclimateconnections.org/2018/12/art-exhibit-puts-coral-bleaching-on-display/>. Accessed 10 November 2019.
- McCalman, Iain (2014), *The Reef: A Passionate History*, Brunswick and London: Scribe.
- Meier, Allison (2019), 'An AR Installation Submerges the Whitney Museum in a Coral Reef of Plastic Debris', *Hyperallergic*, 21 February, <https://hyperallergic.com/485958/amiko-thiel-unexpected-growth/>. Accessed 9 November 2019.
- Mentz, Steven (2009), 'Toward a **Blue Cultural Studies**: The Sea, Maritime Culture and Early Modern English Literature', *Literature Compass*, 6:5, pp. 997–1013.
- Mentz, Steven (2018), '**Blue Humanities**', in Rosi Braidotti and Maria Hlavajova (eds), *Posthuman Glossary*, London and New York: Bloomsbury, pp. 69–72.
- Mentz, Steve and Rojas, Martha Elena (eds) (2017), *The Sea and Nineteenth-Century Anglophone Literary Culture*, Abingdon and New York: Routledge.
- Mileaf, Janine (2010), *Please Touch: Dada and Surrealist Objects after the Readymade*, Lebanon, NH: Dartmouth College Press.
- Miller, C. Giles and Lowe, Miranda (2008), 'The Natural History Museum Blaschka Collections', *Historical Biology*, 20:1, pp. 51–62.
- Morton, Timothy (2013), *Hyperobjects: Philosophy and Ecology after the End of the World*, Minneapolis and London: University of Minnesota Press.
- Neimanis, Astrida (2012), 'Hydrofeminism: Or, on Becoming a Body of Water', in Henriette Gunkel, Chrysanthi Nigianni and Fanny Söderbäck (eds), *Undutiful Daughters: Mobilizing Future Concepts, Bodies and Subjectivities in Feminist Thought and Practice*, New York: Palgrave Macmillan, pp. 85–99.
- Nichols, Wallace J. (2011), '**Oceanophilia**: The Neuroscience of Emotion and the Ocean', *HuffPost*, 25 May, https://www.huffpost.com/entry/oceanophilia-the-neurosci_b_350216. Accessed 23 May 2020.
- Nyhart, Lynn K. (2015), 'Changing Natures: Temporal Scale in the Life of the Museum and Its Objects', keynote lecture at Knowing Things: Circulations

- and Transitions of Objects in Natural History, Bundesministerium für Verkehr und digitale Infrastruktur, Berlin, 23 March.
- Person, Jutta (2019), *Korallen: Ein Portrait*, Berlin: Matthes and Seitz.
- Readfearn, Graham (2020), 'Climate Crisis May Have Pushed World's Tropical Coral Reefs to Tipping Point of "Near-Annual" Bleaching', *The Guardian*, 31 March, <https://www.theguardian.com/environment/2020/apr/01/climate-crisis-may-have-pushed-worlds-tropical-coral-reefs-to-tipping-point-of-near-annual-bleaching>. Accessed 5 July 2020.
- Rossi-Linnemann, Camilla and de Martini, Giulia (eds) (2020), *Art in Science Museums: Towards a Post-Disciplinary Approach*, London and New York: Routledge.
- Rotjan, Randi D., Sharp, Koty H., Gauthier, Anna E., Yelton, Rowan, Baron Lopez, Eliya M., Carilli, Jessica, Kagan, Jonathan C. and Urban-Rich, Juanita (2019), 'Patterns, Dynamics and Consequences of Microplastic Ingestion by the Temperate Coral, *Astrangia poculata*', *Proceedings of the Royal Society B*, <https://royalsocietypublishing.org/doi/10.1098/rspb.2019.0726>. Accessed 12 October 2020.
- Rozwadowski, Helen M. (2018), *Vast Expanses: A History of the Oceans*, London: Reaktion.
- Rugoff, Ralph (2019), 'Introduction', *La Biennale di Venezia*, <https://www.labiennale.org/en/art/2019/introduction-ralph-rugoff>. Accessed 14 December 2019.
- Schuster, Joshua (2019), 'Coral Cultures in the Anthropocene', *Cultural Studies Review*, 25:1, pp. 85–102.
- Sedgwick, Eve Kosofsky (2003), *Touching Feeling: Affect, Pedagogy, Performativity*, Durham and London: Duke University Press.
- Sekula, Allan (1995), *Fish Story*, Düsseldorf: Richter Verlag.
- Sheppard, Anne (2015), *Coral Reefs: Secret Cities of the Sea*, London: Natural History Museum.
- Shick, J. Malcolm (2018), *Where Corals Lie: A Natural and Cultural History*, London: Reaktion.
- Singer, Marie (2015), 'Experience Coral Reefs in a Spectacular Virtual Dive at London's Natural History Museum', *Market Business News*, 9 March, <https://marketbusinessnews.com/experience-coral-reefs-in-a-spectacular-virtual-dive-at-londons-natural-history-museum/51741/>. Accessed 23 May 2020.
- Sommer, Laura K. and Klöckner, Christian A. (2019), 'Does Activist Art Have the Capacity to Raise Awareness in Audiences? A Study on Climate Change Art at the ArtCOP21 Event in Paris', *Psychology of Aesthetics, Creativity and the Arts*, 1 July, pp. 1–16.
- Stengers, Isabelle (2011), 'Wondering about Materialism', in Levi R. Bryant, Nick Srnicek and Graham Harman (eds), *The Speculative Turn: Continental Materialism and Realism*, Melbourne: re.press, pp. 368–80.
- Syndram, Dirk (2004), *Renaissance and Baroque Treasury Art: The Green Vault in Dresden* (trans. Daniel Kletke), Berlin and Munich: Deutscher Kunstverlag.
- Wertheim, Margaret (2014), 'We Are All Corals Now: A Crafty Yarn about Global Warming', *Brooklyn Rail*, April, <https://brooklynrail.org/2014/04/criticspage/we-are-all-corals-now-a-crafty-yarn-about-global-warming>. Accessed 9 November 2019.
- Wertheim, Margaret (2019a), 'Crochet Coral Reef', interview with Giovanni Aloi, *Antennae*, 47, pp. 166–81.

- Wertheim, Margaret (2019b), email correspondence with the author, 8 December.
- Wilson, Edward O. (1984), *Biophilia: The Human Bond with Other Species*, Cambridge, MA: Harvard University Press.

Suggested Citation

Endt-Jones, Marion (2020), 'Cultivating "Response-ability": Curating Coral in Recent Exhibitions', *Journal of Curatorial Studies*, 9:2, pp. 182–205, doi: https://doi.org/10.1386/jcs_00020_1

Contributor Details

Marion Endt-Jones is a lecturer in arts management and museology at the University of Manchester. She has published on the revival of interest in cabinets of curiosities in surrealism, contemporary art and contemporary exhibitions, as well as the role of wonder and curiosity in museums and art galleries more generally. She is the curator of *Coral: Something Rich and Strange* at the Manchester Museum (2013–14), and her book *Coral* is forthcoming as part of Reaktion's *Animal* series.

Contact: Department of Art History and Cultural Practices, University of Manchester, Oxford Road, Manchester, M13 9PL, United Kingdom.
E-mail: marion.endt@manchester.ac.uk

Marion Endt-Jones has asserted their right under the Copyright, Designs and Patents Act, 1988, to be identified as the author of this work in the format that was submitted to Intellect Ltd.

Copyright of Journal of Curatorial Studies is the property of Intellect Ltd. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.