Issue 1
September 2021

Colouring In ‘Nature’

A research project by
Stephanie Black and
Luise Vormittag

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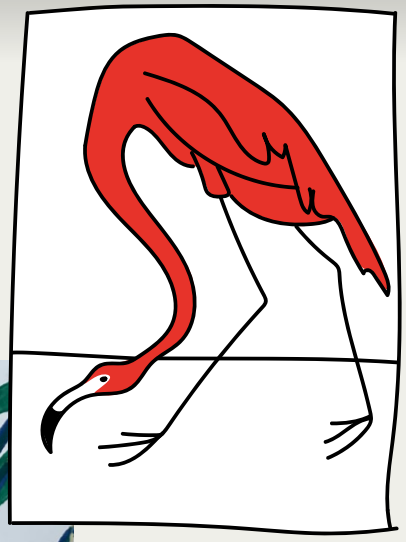
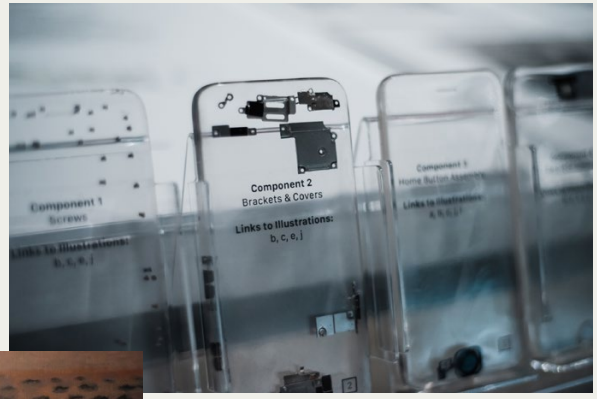


CONTENT



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CONTENTS

Introduction

For our first publication for our Colouring In, we are excavating the modes of visual rhetoric found in illustration that concerns itself with nature.

Motifs derived from nature can often be found in commercial illustration, adorning the surfaces of packaging, advertising and clothing and visually enriching our everyday lives. However, this isn't the only role that illustration can play in this regard. So what else can illustration do, in addition to providing visual pleasure and imparting a whiff of 'natural-ness' or 'wholesome-ness' to products? What other possibilities are there for illustration to engage with the natural world? How can illustration actually contribute to the creation of knowledge in this area? What are the different types of knowledge claims that illustration can make? With *Colouring In* we are interested in exploring answers to these questions, and are concerned with illustrative practices that intervene within conversations concerning the natural world.

We acknowledge that we have played fast and loose with the artistic identities of practitioners mentioned here, including them if we consider their work to be illustration. Essentially, if it is concerned with visually communicating something about the natural world for its subject matter and employs an inquisitive investigative process, then it's relevant to our project. We acknowledge that there are gaps in our overview, for example we haven't considered many types of activist illustration, children's books or pictorial information graphics. We have also adopted a deliberately woolly approach to what 'nature' is, allowing it to be defined differently by and through each of the practices we have surveyed.

As interested non-experts we have put ourselves on a crash course of academic texts and examples of artistic practices that investigate natural phenomena. The resulting publication is an attempt to map this territory critically, making links between diverse practices from different places and times in order to develop an insight into what illustration does.

The contents of this first instalment of *Colouring In* arose from a process of discussion and collaboration, from weekly meetings and shared readings to a roundtable discussion, and a lecture and workshop with students. Further discussions led to the inclusion of invited contributions concerning the process of enquiry from practitioners in the midst of it. These offer an insight into how illustrators can grapple with issues related to the natural world through their practice. We are very grateful to all of our participants and contributors for their generosity and insights. In

this document we are making our interim findings public in the spirit of peer review. We look forward to further conversations to develop some of the points arising in our first instalment of *Colouring In*.

SB, LV

Representing nature in the context of the climate emergency: an incomplete survey of concerns and entanglements
– Stephanie Black and Luise Vormittag

How is illustration interwoven with our understanding of the natural world?

Stephanie Black and Luise Vormittag contemplate our discipline's potential to explore, understand and represent nature.

Academic publications that present an overview or survey of a field often begin with disclaimers concerning their incompleteness. This article is no different. What follows is obviously fragmentary and partial. It represents an opening, rather than an endpoint for our investigation, and we hope that it invites conversations and constructive scrutiny from readers with greater expertise and knowledge.

We chose the selection of examples discussed here for their differing approaches to exploring, understanding and showing aspects of the natural world through image making. Our investigation is underpinned by the belief that illustration embodies different perspectives on the relationship between the human illustrator and the non-human object of study. We consider this instructive for reflecting on larger questions about how us humans relate to the ecosystems we are embedded in, a particularly urgent concern at this moment of climate emergency and ecocide[1]. Unsurprisingly we have also come across perspectives we rigorously reject: The outright racism of many of the historical natural history scientists and illustrators is mirrored in strains of eco-fascism[2] amongst some contemporary thinkers. This made for uncomfortable reading and we wish to emphatically distance ourselves from these highly objectionable views.

We are aware that this article almost exclusively considers Western examples, and we plan to remedy this one-sidedness in subsequent iterations of the research. Arguably it is the Western anthropocentric orientation towards nature as our "resource" that has brought us to the perilous situation we find ourselves in. Many of the practices surveyed here suggest alternative ways of relating to the environment, and we plan to extend this with knowledge derived from a broader range of examples in future.

[1] WEB-LINK *Stop Ecocide International* [https://www.stopecocide.earth]

[2] WEB-LINK *The dark side of nature writing*, New Humanist [https://newhumanist.org.uk/articles/5331/the-dark-side-of-nature-writing]

We have arranged the work we looked at into loose categories. These became helpful organising principles as our list of examples threatened to become unmanageable, and served us as a guide to the different forms of knowledge production we identified in the illustrations we were studying. Perhaps unsurprisingly our guiding questions – how does illustration express our varied and fluctuating attitudes towards the natural world – and – how does illustration intervene in and contribute to these debates – have led us to multiple converging, intersecting and contradictory answers. You will find them sketched out below.

Traditions: Historic

In their chapter on *Natural Science Illustration* (1450-1900) for the *History of Illustration* (Doyle et al., 2019), Shelley Wall and David M. Mazierski, both scholars of biomedical communication, suggest that natural history became a distinct discipline in the mid 16th century. While defining the beginning of anything as broad and amorphous as natural history will always be tricky, the 1500s certainly brought about a paradigmatic shift in how humans relate to the world. The increased prominence of the scientific method (including observation using sensory data, hypothesis testing and inductive reasoning) impacted on the role of illustration in the advancement of knowledge of the natural world. Advances in print technology that facilitated increasingly high-quality reproduction of images also reinforced the prominence of illustration in the sciences.

Wall and Mazierski describe how during this period illustration was able to perform several important functions, such as question received wisdom or lead new scientific developments. But there is also another way in which illustration played a key role during this time of deep-rooted paradigmatic change: as a means of integrating the differing worldviews that were wrestling for prominence at the time.

Wall and Mazierski cite herbariums that were drawn directly from life[1] as an example of illustration challenging existing works of botany. They explain how this empirical approach provides evidence of the earlier version's falsehoods, where its contents had become removed from what the plants looked like[2] by virtue of having been copied so many times.

In terms of illustration leading scientific development the authors describe Leonard Fuchs' and Albrecht Meyer's De historia stirpium commentarii insignes[3] from 1542 as an important example of images leading the advancement of taxonomic principles: the curation of Meyer's pictures comprised a classification system before such a thing had been standardised for plants. The sequential demands of the book form

[1] WEB-LINK *Otto Brunfels: Herbarum vivae eicones*, The Met [https://www.metmuseum.org/art/collection/search/338754]

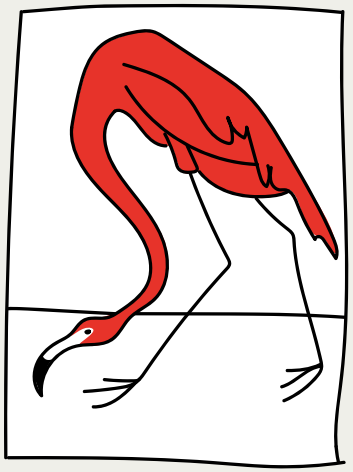
[2] WEB-LINK *Hortus Sanitatis*, Wikipedia [https://en.wikipedia.org/wiki/Hortus_Sanitatis#Illustrations]

[3] WEB-LINK *De historia stirpium commentarii insignes* (Fuchs, Leonhart), Smithsonian Libraries [https://www.metmuseum.org/art/collection/search/338754]Sanitatis#IllustrationsSanitatis#Illustrations-Sanitatis#Illustrations]

forced decision making on the order in which images are presented. In discussing this works[1], science historian Sachiko Kusukawa (2012) finds illustrations doing much of the heavy lifting within the project of elevating the status of botany to that of scientific enquiry. Kusukawa argues that the role of images was pivotal in making the arguments presented by Fuchs and his contemporaries in botany and human anatomy, by arbitrating in disagreements between classical sources and contemporary challenges to their authority.

Researcher Lucile Roche also offers an intriguing example of illustration acting in a diplomatic role, to soften the blow of the challenge posed by new perspectives. Roche (2015) analyses illustrations by Nicolas Blakey and Edmé Bouchardon produced to accompany Comte de Buffon's 1749 *Histoire et théorie de la Terre/Natural History of the Earth*[2]. Here, Roche sees illustration holding together theological and scientific explanations for the creation of the universe, thereby smoothing over the challenge posed to religious authority, as well as enabling the idea to meet a wider audience by accommodating the sensitivities of those opposed to the book's publication.

The foregrounding of sensory data which is at the root of much of this historical work can nevertheless take many forms, thus suggesting different relations between the human illustrator and the natural world as the object of study. For example, Edward Lear and John James Audubon both worked from observation. However Audubon's *Phoenicopterus ruber, the Greater American Flamingo* (1827-1838) and Lear's *Macrocercus ararauna, blue and yellow macaw* (1832) suggest different traditions of study, representation and rhetoric. Although championed for his lifelike representations (see Male 2017, p.135) Audubon's bird is weirdly floppy, whereas Lear's is alive and full of macaw character.



Wildlife artist John Busby (2004, p.14) attributes the difference to the former drawing from dead specimens posed to show the defining plumage of species, whereas Lear spent time with the parrots of London Zoo to produce his images from observation of live creatures where possible. That

[1] WEB-LINK
Picturing the Book of Nature (Sachiko Kusukawa), The University of Chicago Press [https://press.uchicago.edu/ucp/books/book/chicago/P/bo11947789.html]

[2] WEB-LINK
Histoire Naturelle, Wikipedia [https://en.wikipedia.org/wiki/Histoire_Naturelle]

IMAGE LEFT
Artist's impression of *Macrocercus ararauna Blue & Yellow Maccaw* by Edward Lear, from Illustrations of the family of Psittacidae, or parrots, 1832

IMAGE RIGHT
Artist's impression of *American Flamingo* by John James Audubon, from *Birds of America*, 1827-38 [https://fitzmuseum.cam.ac.uk/learning/look-think-do/american-flamingo-from-birds-of-america]

dead birds led to slightly dead pictures is remarked upon by Busby (2004, p. 10):

> "This practice led to rather static poses where a bird was painted as part of the quest for knowledge of species classification."

Busby also considers the bird spotter at the other end of this process of defining and organising the natural world through images, noting that field guides full of illustrations of generalised, isolated birds are not only, perversely, unfit for the purpose of identification in the field (due to the removal of context that greatly aids recognition), but they also encourage a limited approach to their subjects:

> "[They …] reinforce the idea that the sole purpose of watching birds is to identify them", an approach to the natural environment comparable to collecting or hunting, resulting in an assumed sense of mastery once identification is "complete".

Besides his talent as a draughtsman, Lear is also known for his irreverent humour, so it comes as no surprise that besides his influential natural history illustrations he also produced work that challenged established systems for the representation of the natural world: Linnaean binomial nomenclature[1], the two-word naming system developed by 18th century Swedish scientist Carl Linnaeus, and his system of scientific classification still in use today.

Linnaeus thought that language possessed greater precision and clarity in describing the natural world than images, declaring:

> "Who could ever deduce a firm argument from a drawing? But from written words, it is easy" (Reeds, 2004, p. 257).

Karen Reeds, curator and Fellow of the Linnean Society of London, proposes that Linnaeus' preference stemmed from his inability to draw, supported by a rather damning claim from his biographer and her analysis of his inexact field sketches and their subsequent misinterpretation (or rather tidying up) for publication. That such a position was held by "the founder of modern botany" has tangible effects in the world. Reeds observes that by establishing binomial nomenclature Linnaeus shifts the emphasis in the study of botany from images to text (Reeds, 2004, p. 249).

Lear's delightful *Nonsense Botany*[2] invokes classical botanical illustration with their linear representations of isolated specimens before departing sharply into caricature. The work mocks the Linnean systems of classification by combining the sensible and the daft while operating within the established visual conventions of the discipline. In the comparison between Lear and Linnaeus where two proponents of different communicative modes come together, Lear emerges from the comparison with a richer toolkit. In contrast to Linnaeus' sulky

[1] WEB-LINK *Linnaean taxonomy*, Wikipedia [https://en.wikipedia.org/wiki/Linnaean_taxonomy]

[2] WEB-LINK *Edward Lear's Nonsense Botany* (1871–77), The Public Domain Review [https://public-domainreview.org/collection/edward-lears-nonsense-botany-1871-77]

claim to “express by words all marks just as clearly – if not more clearly – as others with their splendid drawings”, Lear is equipped with a broader range of investigative tools and rhetorical strategies by which to convince us of his findings.

Of course we disagree with Linnaeus – drawings, splendid and otherwise, can clearly teach us about the natural world, and they can also teach us about the human illustrators who made them. Illustrators such as Lear are of particular note as representative of the questions we’re asking in this instalment of *Colouring In*: How do illustrators investigate natural phenomena, and what modes of rhetoric are used within the resulting images to convey their findings? Further to that, how do both of these activities (exploring, showing) embody differing perspectives on human/nature relationships at different points in time?

Traditions: Contemporary

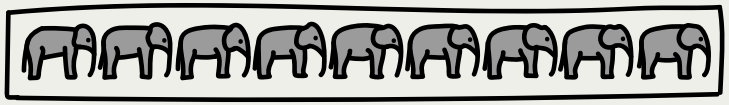
Contemporary US illustrator Walton Ford references the tradition of natural history illustration directly in his work. His highly detailed, large scale watercolour images of animals rendered with an exceptionally high degree of technical skill openly draw on the work of John James Audubon and other 19th century natural history illustrators. The images he produces often depict extinct species of wild animals in violent encounters with each other. Ford’s images tend to be interpreted as a critical commentary on history, colonialism, and the precarious relationship between man and animal (Katz and Kazanjian, 2002). For example his 2009 triptych *The Island* shows a writhing pile of thylacine (a now extinct Tasmanian carnivorous marsupial) attacking defenceless lambs. This image could reasonably be interpreted as an anticolonial revenge fantasy: thylacine suffered at the hands of colonial settlers intent on defending their livestock, and they were eventually hunted to extinction. This image shows them settling the score.

IMAGE Artist’s impression of *The Island* by Walton Ford, 2009 [https://museumpublicity.com/2010/01/22/the-crystal-bridges-museum-of-american-art-acquires-new-work-by-walton-ford/]

While this interpretation might hold sway, the overall image of nature presented by Ford is a savage one: violence, domination and destructiveness are the

common themes running through much of his work. The grand scale and the almost hyper-realist style of the work combine with the macabre brutality of the images to suggest a youthful delight in fantasies of 'wild beasts' and a pleasure in the intensities of carnal spectatorship, rather than critical positioning.

A completely different approach is evident in the work by Australian illustrator Andrew Howells. Like Ford he builds directly on the traditions of natural history illustration, however Howells' interest lies in the continuation of the original intention of this kind of work: the contribution to and dissemination of knowledge for the sciences.



The accurate and faithful depiction of species here serve a specific scientific purpose. In his doctoral research he worked with a veterinary science researcher to produce a visual reference system to support health assessments of Asian elephants living in captivity. Howells (2014) describes how this work developed out of a combination of fieldwork, including observational drawing of live animals (as with Lear's macaw discussed above), cross-disciplinary exchanges about methods of assessing elephants' health as well as studio-based enquiry. The interpretive work in the studio led to the development of visual techniques that were most appropriate in the context of the veterinary research objective.

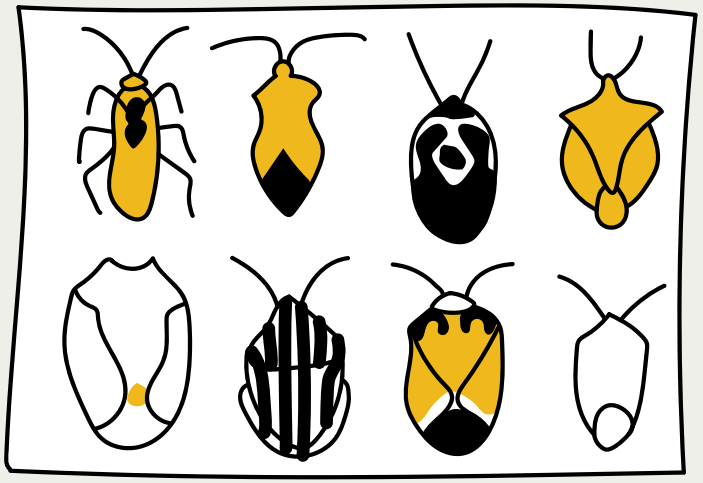
The resulting illustrated *BCS Reference Set* (2014) (BCS stands for body condition scoring) reveals illustration to be a powerful tool to communicate nine standardised levels of muscle-fat conditions for the animal. A photographic reference system would suffer from potentially distracting empirical particularities of the individual animal in the photo as well as the many variables introduced through image capture, such as background, angle and lighting. In contrast, illustration can show us nine idealised and standardised elephants, all shown from the same angle and in the same system of visual representation, that can serve as a generic template when assessing individual animals.

Howells' *BCS Reference Set* echoes the processes of inductive reasoning which came to prominence during the 16th century, where one derives general principles through the synthesis of specific observations. The elephants in his Reference Set are not actual, embodied animals, they are generalised, atemporal and aspatial, transcending any particular elephant we might encounter. However, these generalisations are not just

IMAGE Artist's impression of *Illustrated BCS reference set* by Andrew Howells, from *Varoomlab* online journal issue 3: Interpretation, 2015

given, Howells constructs them from a plethora of epistemological data (many actual elephants that were observed and recorded).

In contrast to Howells, Swiss natural history illustrator Cornelia Hesse-Honegger is not concerned with the distillation of generalisations but with documenting the particular, focusing on anomalies and deviations from the norm. She has been illustrating insects in areas that are contaminated by artificial radioactivity for more than 30 years. Hesse-Honegger paints beetles displaying morphological disturbances with painstaking detail: underdeveloped antenna or legs, deformed wings, unusual colouring and cysts.



Her research has taken her to areas affected by nuclear disasters such as Chernobyl and Fukushima, nuclear bomb-testing sites in the US, but also to places surrounding nuclear power plants in Europe. Underpinned by the work's rigour and scope, Hesse-Honegger puts forward a scientific claim through illustration. The scientific community is unsure about the dangers of low level radiation, in the environs of nuclear power stations for example, and generally assess the risks to be negligible[1]. Hesse-Honegger's work suggests otherwise.

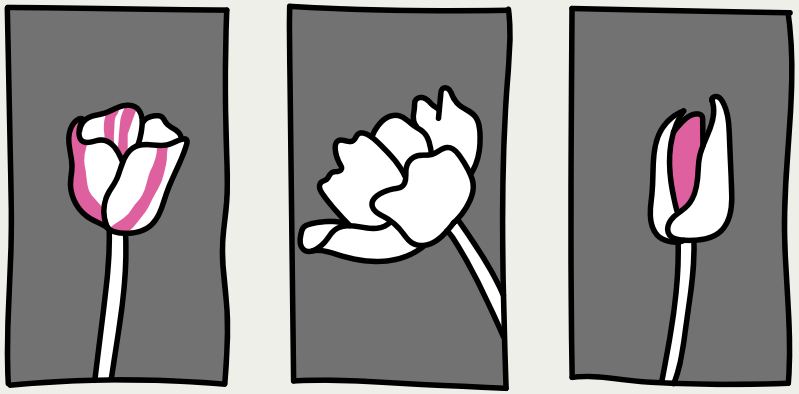
Contemporary artist Anna Ridler draws on a different tradition of representing nature: Her work on tulips is partly inspired by dutch still life painting from the 17th century[2] where pictures of lush bouquets often contain botanical impossibilities: the flowers in the painting actually bloom at different times of the year and would not have been available at the same time. The images were constructed by the painter, made up of separate instances of observation and botanical knowledge. Similarly Ridler's video installation *Mosaic Virus* (2019) displays continuously morphing tulips that are not representations of existing flowers. These fluctuating images are created by an algorithm that generates plausible but fictitious flowers based on a dataset of 10,000 photos of actual tulips, that Ridler carefully selected at flower markets, bought and photographed during one tulip season in the Netherlands. Dutch still life paintings of flowers are

[1] WEB-LINK *Low-level radiation less harmful to health than other lifestyle risks*, University of Oxford [https://www.ox.ac.uk/news/2017-09-13-low-level-radiation-less-harmful-health-other-lifestyle-risks]

[2] WEB-LINK *Flowers in a Glass Vase* (Ambrosius Bosschaert the Elder), The National Gallery [https://www.nationalgallery.org.uk/paintings/ambrosius-bosschaert-the-elder-a-still-life-of-flowers-in-a-wan-li-vase]

IMAGE Artist's impression of *abnormalities in insects* by Cornelia Hesse-Honegger [https://doi.org/10.1002/cbdv.201800099]

often interpreted as an allegory for life's transience. Ridler's work also uses flowers as a metaphor: the algorithm creating new images is tied to bitcoin's fluctuating value, where a rise in the price of the cryptocurrency generates images of more desirable tulip varieties, and Ridler describes her work as a commentary on the boom-and-bust cycles of speculative bubbles (Critical Media Lab, 2019). So if this work isn't at all about nature at all, why include it here?



Mosaic Virus alongside Ridler's online auction project *Bloemenveiling* (2019) that sells her artificially generated tulip images both rely on an abundance of energy to sustain the computer systems required for their operations[1]. The artist herself has commented on the contradiction of using vast amounts of natural resources to create something artificial that appears natural. While foregrounding this tension is not Ridler's main interest in the work, perhaps this too can be understood as a metaphor for aspects of our current condition. Do we over-invest in generating the appearance of 'naturalness'[2] to the detriment of actually relating to the biosphere?

Relational

So far our discussions have mainly focused on representations of individual species of plants or animals. A trawl of the digitised resources curated on Flickr by the Biodiversity Heritage Library[3] (based at the Smithsonian Libraries and Archives) shows many historic examples following the convention of visually isolating animal and plant species. Another tradition is for artists to draw on taxonomic conventions to group specimens by type according to scientific classification structures, for example the much-reproduced plates by Ernst Haeckel[4]. While these images are able to cut across continents, by grouping like with like they don't help us to consider multispecies relations embedded in an ecosystem.

In contrast, in the BHL digitised collection the work of Ellis Rowan[5] stands out as unusual (Lounsberry & Rowan, 1899), and reminds us of several other

[1] WEB-LINK *The Guardian view on cryptoart: caution is necessary*, The Guardian [https://www.theguardian.com/commentisfree/2021/may/21/the-guardian-view-on-cryptoart-caution-necessary]

[2] WEB-LINK *Farmed Salmon Is Naturally Gray, Has Color Added to It* (Erin Mosbaugh), First We Feast [https://firstwefeast.com/eat/2015/03/farmed-salmon-is-naturally-gray-has-color-added-to-it]

[3] WEB-LINK *Biodiversity Heritage Library* [https://www.biodiversitylibrary.org/]

[4] WEB-LINK *Kunstformen der Natur*, Wikipedia [https://en.wikipedia.org/wiki/Kunstformen_der_Natur]

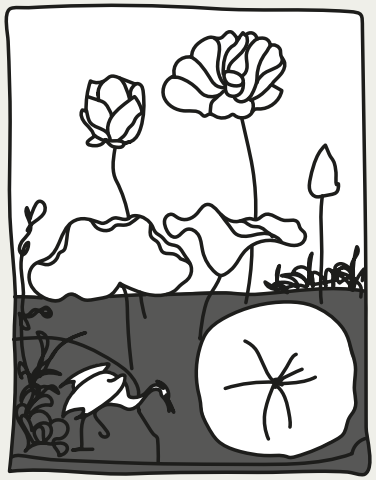
[5] WEB-LINK *A guide to the wild flowers*, Biodiversity Heritage Library [https://www.biodiversitylibrary.org/]

IMAGE Artist's impression of *Mosaic Virus* by Anna Ridler, 2019 [https://annaridler.com/mosaic-virus]

outliers noted by Wall and Mazierski (in Doyle et al., 2019) who included details of their specimens' habitat in their illustrations. Maria Sibylla Merian[1], Mark Catesby[2] and William Bartram (all active during the 18th century) represent varying attempts to grasp the complex systems within nature. This is an approach common to many of our contemporary examples, where practitioners acknowledge these systems and our own entanglement with them through their methods of enquiry and the images they produce.

In the case of the American natural historian William Bartram, we can see a temporal, situated and relational approach. In American Lotus (1767) Bartram represented his botanical subject at various stages in its lifecycle and included contextual details (such as a very small heron) to situate it within and in relation to its local ecosystem and other species encountered there. Judith Magee (2014), the author of a book on Bartram, notes that this reflected Bartram's perspective on nature, explaining that "Bartram viewed the earth as an oraganic whole, a living unity of diverse and interdependent life forms." This is a sharp departure from the worldview embedded in taxonomic plates or images primarily concerned with classification. It presents a more comprehensive overview of its subject by locating it within relational and temporal systems.

Bartram's drawing can also be read as a comment on the systems of botanical knowledge production of his time. Art historian Elizabeth Athens (2015) proposes that it is a critique of the different representational conventions which Bartram presents here together in one image.



The specimen-like leaf and Linnaean flowers are combined with the visual convention of the vignette, that was starting to enjoy popularity at the time in order to make natural history illustration appear more "natural" by introducing narrative and contextual elements. However in Bartram's disruptive composite the result is a bewildering "spatially indeterminate world". Athens interprets the work as a challenge to the myth of "representational transparency" inherent in much of the natural history illustration of the time, where "knowledge might be presented as self-evident truth, rather

[1] WEB-LINK *Maria Sibylla Merian: metamorphosis unmasked by art and science* (Kerry Lotzof), Natural History Museum [https://www.nhm.ac.uk/discover/maria-sibylla-merian-metamorphosis-art-and-science.html]

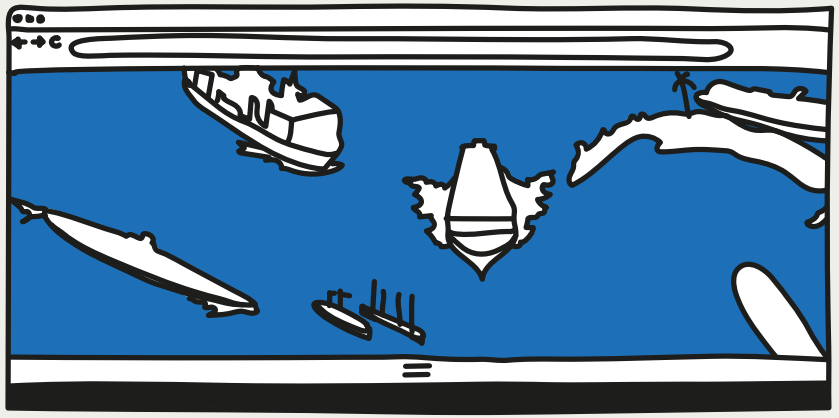
[2] WEB-LINK *Mark Catesby*, Wikipedia [https://en.wikipedia.org/wiki/Mark_Catesby]

IMAGE Artist's impression of *Nelumbo lutea, American lotus and Dionaea muscipula, venus fly-trap* by William Bartram, from *Botanical and zoological drawings* 1756-1788 [https://www.nhm.ac.uk/resources/nature-online/online-exhibitions/art-nature-imaging/large/15929-bartram-nelumbo.jpg]

than a process of empirical observation and rational synthesis." In contrast Bartram's illustration

> "indicates that natural knowledge is neither self-evident nor the product of a distant and disinterested curiosity, but is the result of one's own physical and intellectual investment in the living world."

Similar to Bartram's American Lotus, *Feral Atlas*[1] (2020) uses multiple disciplinary perspectives but is a more complex proposition in structure and modes of rhetoric to reflect the more varied forms of knowledge available today. Essentially a publication concerned with human/non-human relationships it is a tremendously ambitious take on an academic text best described as a multimodal transdisciplinary e-book, published by Stanford University Press on a freely accessible, bespoke website. Its editors and contributors come from diverse fields, including anthropology, architecture, art, film, music, and more. The publication is concerned with the Anthropocene, which in this context is defined as the "world condition of human-caused environmental challenges" (Tsing in Vann, 2021). Co-editor Anna Tsing explains how *Feral Atlas* examines the effects of human interventions on the earth, focusing on the ecologies produced when non-human entities coincide with human infrastructure. These ecologies are uncontrolled and unanticipated, hence being 'feral'. As an academic source, it offers a substantial overview of the concerns shared by many of the examples surveyed in *Colouring In*, ranging from specific case studies to overarching concepts, as well as proposals for teaching opportunities. It is included here for its use of visual materials such as drawings, films, and other graphic elements in constructing the 'atlas' concept as a performative form.



The visitor to *Feral Atlas* lands on an introductory page and is then free to roam the complicated and layered architecture of the site. The structure of the piece is difficult to describe and probably best experienced, with meaning derived at least partially from the complexity of the encounter. The editors note that disciplinary blinkers limit both our understanding of the problems emerging with the Anthropocene and the steps we can take to

[1] WEB-LINK *Feral Atlas* [https://feralatlas.supdigital.org]

IMAGE Artist's impression of *Feral Atlas*, curated and edited by Anna L. Tsing, Jennifer Deger, Alder Keleman Saxena and Feifei Zhou, 2021 [https://feralatlas.org]

address them. Therefore the site embraces the complexity, contradictions, and different critiques of the term ‘Anthropocene’, and uses illustration as the glue to hold together multiple ideas from different fields. The natural history convention of isolated specimens is used as a navigational aid, with the visitor able to click on small drawings of natural entities to take them to one of four ‘anthropocene detonator landscapes’ where the specimen can be located within human systems such as capital, migration and politics, with further resources available for additional analysis. The ‘detonator landscapes’ are an illustrated composite of places and times and visualise the ‘atlas’ concept structuring the site. They offer a topological vision that holds disparate ideas, examples, and disciplinary perspectives in one place so as to encourage the visitor to make links between them as they repeatedly visit each landscape.

Feral Atlas eschews a visual approach that simplifies the concepts discussed, it doesn’t boil down ideas into snappy and easily-grasped visual summaries. Instead it revels in heteroglossia, adopting various visual and textual approaches to each topic. These include the aforementioned landscapes (illustrated maps linking specific phenomena caused by feral entities), films (‘video poems’) showing the specific qualities of these phenomena, concrete poetry, explosions, and more-or-less illustrated essays. All of this adds up to a rich experience of a multifaceted representation of the Anthropocene where the form and the authors’ intentions to draw on multiple disciplinary perspectives are intertwined, enabling the visitor to consider the Anthropocene as “both planetary and particular” (Tsing in Vann 2021). The site also includes meta-analysis of the different modes of rhetoric used within it, for example reflections on what maps and diagrams can achieve and the anthropocentric views they may represent. Overall, *Feral Atlas* is a meticulously considered, ground-breaking achievement that could not operate in print, but it is also hectic and confusing… until the section entitled ‘*How to read the Feral Atlas*’ is located. Delaying the discovery of these instructions is a deliberate strategy, but one fraught with the risk that visitors to the site

IMAGE Artist’s impression of *Entangling* by Georgina Hounsome, 2018 [https://georginahounsome.co.uk/about-2]

prematurely abandon their exploration. The internet doesn't usually ask us to commit in the manner required for this form and content, and therefore some might miss this opportunity to enrich their understanding of the world and of the different communicative modes available to discuss it.

Georgina Hounsome's book *Entangling* (2018) also deals with the intertwined concerns of the human and non-human worlds. While *Feral Atlas* is committed to reflecting on this through multiple perspectives, Hounsome offers us a more manageable, individual point of view. *Entangling* adopts the understanding of systems found in Bartram's image and adds the human, situating us within nature, rather than as a detached and disembodied observer.

Hounsome describes *Entangling* as a collection of "fleeting and unassuming moments" captured in drawings and snippets of text that offer an attentive, embodied and poetic approach to being-in-the-world. The book brings together views of and ruminations on natural phenomena, urban contemporary life, and vast shifts in scale and time, using visual resonances and a seasonal structure to arrange the materials. It is image-led and meditative, in order to promote slowing down and appreciating the difference between our daily experience of time and Earth's time. The imagery is persuasive, offering a way of using visual autoethnography to give us a singular anchor for some of the mind-boggling large-scale ideas introduced. For example, drawings of lichen are accompanied by references to cellular processes as well as vast colonies of ants, offering the specifics of Hounsome's experience to make links to the general theme of climate change. The point-of-view of the human is acknowledged through emotive language and personal imagery, which acts to refute the dispassionate objectivity of the specimen-focused illustrations discussed previously. This book reminds us that nature isn't just 'over there'. Hounsome demonstrates how we are embedded within it and proposes we adjust our perspective accordingly.

The Thing Itself

The work of Sophie Morrish adopts a similarly 'entangled' approach to nature, but uses different forms to communicate her findings. Her exhibition *Island Time* (Bermondsey Project Space, 2018) draws on the years spent on North Uist, a remote island in the Outer Hebrides of Scotland, and emphasises the role of fieldwork in (or perhaps, as) daily life. In her catalogue essay Morrish describes her process as a "wordless 'being-there', in that place, at that time" (2018), the encounter offering the raw data of the place that she then reflects on through a variety of image-making practices, such as drawing, photography, sculpture, and assemblages.

The exhibition featured many of Morrish's collections displayed as 'arrays': pieces of bone, feather, and suchlike arranged in groups according to the artist's own principles. On first glance these arrangements might bear visual similarities to displays of taxonomic classifications derived from Linnaeus. However curator Mel Gooding notes that the artist's array is a challenge to taxonomic traditions (obviously in a markedly different register to Lear's *Nonsense Botany*). Morrish employs both visual and material logic in a process informed by tacit knowledge. She disrupts the binaries of "subjectivist-artist" and "objectivist-scientist" and suggests that the work is an "appeal to the heart and the head to value the natural world for its own sake" (Gooding in Morrish, 2018).

The artwork she produces is the result of her attention and immersion within a location, where the investigator fuses with the phenomenon of interest to reflect what Gooding describes as the contemporary artist's desire to

> "dissolve the existential dichotomy of the human versus the natural, and to identify the subjective human experience of nature as itself a term of the natural."

In practical terms, the outcomes capture time in a way that echoes Athens' description of Bartram's drawing as an account of his process of "empirical observation, discovery, and synthesis": They speak of the time Morrish has spent with her material – collecting, cleaning, arranging, drawing and experiencing them. Materials are presented in a manner that reflects a slow and embedded set of methods, utilising groups and series as organising principles that go beyond a momentary, singular snapshot of their subjects.

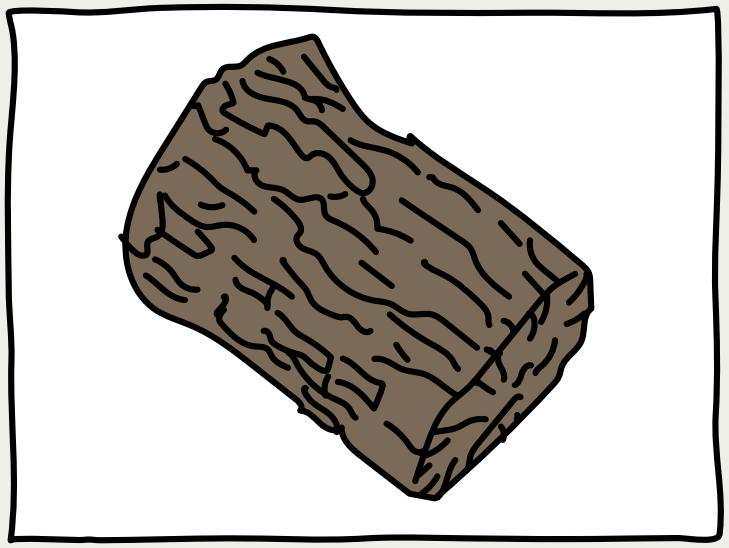


IMAGE Artist's impression of *Resurrection* by Sophie Morrish, 2001 [https://www.sophiemorrish.net/earlyobjects/reserrection]

She also employs shifts in scale effectively to offer a way of recalibrating our perception of the natural world. Her large-scale graphite drawings of generally overlooked details in the landscape such as tidal traces, coral pieces, and a close-up view of a whale skull present a greatly enlarged rendering of these details. These drawings suggests an

alternative viewpoint of these phenomena, in contrast to our common approach to perceive the world in relation to our own scale. The effect is to momentarily reposition the viewer, offering a glimpse of a flatter and less hierarchical structure, situating us within and perhaps dwarfed by nature.

Morrish also intervenes within her collected materials, entering into conversation with her finds: casting objects, drawing on others, editing and combining materials as sculptural forms. These assemblages show Morrish being an active participant within the natural world she investigates, leaving a trace of her engagement. In one example from Island Time she uses fire to damage bones. This targeted destruction functions as a creative intervention enacted upon a scientist's collection of specimens, intended to liberate them from their rigid taxonomic positions. Elsewhere Morrish makes a touching, reparative gesture: In the piece *Resurrection* (2001) she covers a log with bark stripped from saplings by grey squirrels, meticulously pinning shreds of new carapace to a lump of birch wood.

In an excerpt from his book[1] *Climate: A New Story* (2018) US author Charles Eisenstein explores various perspectives on the ameliorative role of humans in response to problems facing the natural world. He invites us to consider the human as a responsible custodian, using their skills and tools to benefit nature. Eisenstein suggests adopting a mode of being in the world that mirrors Morrish's immersion in her environment:

> "It means forging intimate, respectful relationships with nature in its specific, local embodiment. Through extended close observation and interaction with nature, we can begin to hear answers to questions like 'What does the river need?'" (Eisenstein, 2018)

Here human intervention is recognised as necessary in effecting positive change. Regeneration may tolerate or even be dependent on human-led alterations such as introduced species. Reading Eisenstein's words in conjunction with Morrish's *Resurrection* adds layers of complexity to our response to the grey squirrel invoked by her piece. What is to be done about this "invasive species"[2] brought to Europe from North America in the 19th century? We are forced to consider complicated questions concerning what responsible human agency means, what and when our baselines are calibrated to, and what we are prepared to defend.

Similar to Morrish, the photographer and illustrator Anna Atkins used the real thing-in-the-world to produce the images in her *Photographs of British Algae: Cyanotype Impressions* (1843).

Atkins used the newly-discovered technique of cyanotype printing, and synthesised this with

[1] WEB-LINK
Tending the Wild (Charles Eisenstein), Kosmos [https://www.kosmosjournal.org/kj_article/tending-the-wild]

[2] WEB-LINK
Invasive Species, Wikipedia [https://en.wikipedia.org/wiki/Invasive_species]

her background as a botanical illustrator, making use of her own collection of preserved botanical specimens to produce the first ever book illustrated using photographic images (Lotzof, no date).

Gooding explains how Morrish's arrays offer us a direct experience of "the things themselves", so that each find "speaks for itself through itself" (Morrish, 2018). By comparison, Atkins' work presents a slightly increased distance between message and object by virtue of the photogram process, but the resulting print still captures the specificity of the unique example in much the same way as Morrish's work does. Similar to Hesse-Honegger's mutated beetles discussed above, Atkins' cyanotypes do not offer a generalised and idealised representations of species. Her images present us with a ghostly, auratic trace of a single incidence of that specimen, as collected and composed by Atkins.

The pressed specimen is a representational convention referenced by Bartram in his inclusion of a flat leaf with its full face to the viewer. Athens (2015) gives a historical example of naturalist Mark Catesby treating the pressed specimen's "flat, matter-of-fact presentation" as a convincing knowledge object that "could speak for itself", posting it to a colleague with only minimal text to explain it[1]. The question of trust hovers over Athens' description of the role of pressed specimens. She suggests that there is colonial snobbery at play, in that European scholars in receipt of these direct representations could trust that they hadn't been meddled with or misrepresented by their American colleagues in the field.

Both Morrish and Atkins produce artwork that relies upon them having been there in the presence of what they subsequently display for us, and both offer us a temporal trace of the artist's engagement[2]. These examples, where things themselves are made to powerfully communicate about their own existence, stand in notable contrast to another commonly employed rhetorical strategy: metaphor. Dr Marco Caracciolo, a scholar of literary theory, examines the use of metaphor in relation

[1] FOOTNOTE
The broader question of what constitutes a believable knowledge claim made by the visual outputs of "subjectivist-artists" is one that informed pivotal discussions of artistic research, such as Christopher Frayling's much-cited 'Research in Art and Design' paper from 1993.

[2] FOOTNOTE
Although we generally don't wish to foreground artists' biographies as a major key to interpreting their work it is worth noting how Atkins' book represents a challenge to gendered gatekeeping. She combined art and science at a time when neither were freely accessible to women, a problem that continued to limit Beatrix Potter 50 years later in 1897 when she was unable to present her work on fungi in person at the Linnean Society (V&A, no date).

IMAGE Artist's impression of *Cystoseira granulata* by Anna Atkins, from *Photographs of British Algae: cyanotype impressions*, 1843 [https://digitalcollections.nypl.org/collections/photographs-of-british-algae-cyanotype-impressions#/?tab=navigation]

to Anthropocene fiction. He argues that it helps to bridge the gap between the human and non-human by offering us a shift in perspective, making it a "formal, stylistic site of negotiation of human–nonhuman entanglements in narrative" (Caracciolo et al., 2019). He and his co-authors summarise metaphor as drawing upon a concept from a source domain (something we are familiar with and have sensory experience of) and using it to frame the target domain (for example difficult to grasp, vast and complex phenomena such as climate change). For example, by using the term 'the greenhouse effect' we can grasp climate change as (notionally) we are familiar with the experience of being sweaty in a glass hothouse.

But there is an inbuilt bias within this method. As Caracciolo et al explain:

> "The mapping from an animal (source) to a human (target) […] is demeaning and disempowering [for example 'that man is a dog'], while mapping with the opposite orientation (human source, animal target) works towards collapsing the difference between human and animal life [for example 'that dog is a man']" (2019, p. 224).

We are framing the target domain (the natural world) within human experience and speaking for it rather than allowing things to "speak for themselves and through themselves". Therefore metaphor doesn't quite collapse the distinction between the human and non-human domain in the same way as the artwork shown here does. Asking us to see things in terms of something other, rather than for what they are, pulls us away from the realm of experience, perception and attention, and into practices of interpretation and a reliance on existing frameworks.

New Imaginaries

In *Being Ecological* (2018) philosopher Timothy Morton suggests that the way we currently communicate about ecology and the climate crisis is stuck in "horror mode": we keep "dumping" data on ourselves and each other, which makes us feel bad, anxious and powerless. They liken our collective situation to living through trauma: we are finding ourselves in the middle of something horrendous, and we are desperately trying to anticipate and control what is about to happen. Morton suggests that instead of continuing to "dump" the data, we should try to "live the data" instead. What might that look like in the context of illustration?

It's Freezing In LA! (*IFLA!*) is the name of a critically acclaimed print-magazine, launched in 2018, that publishes articles related to the climate crisis. The writing is well researched and rigorous, articles are medium length – enough to give a thoughtful and intelligent analysis of the topic being discussed,

but not requiring specialist knowledge or expecting an excessive commitment of time from the reader. The tone of the writing is measured and nuanced, acknowledging complexity without losing sight of the overall urgency of the climate emergency.

Editor Martha Dillon and art editor Nina Carter have commented on the limited range of rhetorical strategies, and in particularly visual strategies, that are generally in use in relation to the climate crisis (Carter and Dillon, 2021): scientific reports are highly specialised, and from a visual point of view tend to use mainly statistical graphs and other forms of data visualisation, leaving the ordinary reader alienated and overwhelmed. Research in psychology confirms that data and information driven communication on climate change is generally ineffective (Roosen et al., 2017). By contrast, Carter and Dillon note how activist communication, which is geared towards instantaneous, maximum impact, elicits a strong emotive reaction. However, it does not allow for much detailed information, nor does it give an audience much room for reflection. Another common approach, namely the use of visual tropes such as globes, polar bears and rising graphs, ultimately creates disconnect and fatigue, a visual version of the increasingly desperate “data dump” mode.

What alternative forms of rhetoric might be more successful for drawing us in and enabling us to “live the data”? *IFLA!* use nearly exclusively illustration as the pictorial content of their publication[1]. From the point of view of commissioning practices this functions in a traditional way as editorial illustration: the written piece takes the lead, the illustrator is commissioned afterwards to enhance, extend and illuminate the writing. But the sensitivity that is evident in selecting and guiding the contributing illustrators and positioning their work alongside the journalism reveals a determination to make this publication stand out amongst climate communication: the images, although they are diverse in appearance and technique, create a contemplative atmosphere that is probably more commonly found in illustration accompanying literary writing.

What does it mean to describe the illustration in *IFLA!* as “literary”? The work doesn’t teach us anything factual. We don’t learn anything definitive about the natural world by looking at these illustrations: Landscapes are often rendered without much detail, plants are indistinct. In contrast to the horrifying numbers and graphs that usually accompany climate communication, here we have ambiguity, fuzziness, mood. Similarly to the work by Hounsome and Morrish discussed above, these illustrations remind us that relating cerebrally to the natural world is not the only way.

As one possibility for “living the data” Morton suggests a concept they call ‘tuning’ (2018, p.108):

[1] FOOTNOTE
Other innovative and progressive visual strategies are outlined on the website [https://climatevisuals.org/], but this resource refers only to photography.

attempting to go beyond our anthropocentrically scaled concerns and temporalities and "acknowledging in a deep way the existence of beings that aren't you, with whom you coexist". This acknowledgement does not arise from the production and digestion of data. Morton points towards the epistemological gap between data and objects, and proposes that objects are generally much more mysterious and varied than data suggests. "Tuning" involves being open to the world in an experiential and self-reflexive way. Achieving this kind of sensorial, ecological intimacy depends upon allowing for not-knowing, allowing for strangeness, and allowing for ambiguity.

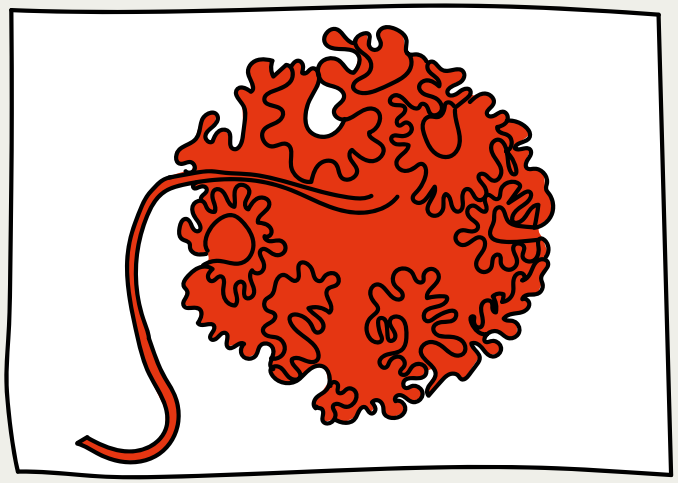
All of these qualities are abundant in Hounsome's and Morrish' work. Creating an atmosphere of immersive ambiguity is probably easier when operating outside the constraints of editorial practices: Hounsome's *Entangling* (2018) is wholly self-authored and has over 180 pages. Morrish' *Island Time* (2018) was presented as a solo exhibition, with the work spread over three gallery rooms. It is impressive that *IFLA!* manage to achieve a similar effect within their magazine. Not only is there much less actual square footage for the illustration to occupy, it also is commissioned to respond to the rigorous environmental journalism that takes the lead. Furthermore the images are produced by multiple, separate practitioners, rather than a single author. Nevertheless the overall result is a body of illustrative work that proposes a shift in your perception of the world, an invitation to feel your way around your own mucky immersion in the biosphere.

A different method for "living the data" is evident in *Crochet Coral Reef*, an ongoing project (started in 2005) by sister-duo Christine and Margaret Wertheim and their California based Institute of Figuring[1]. The basic idea of this project is relatively straightforward: an ever-expanding exhibit of crocheted coral reefs, crafted by mostly female volunteers around the globe. However this simple premise gives rise to a plethora of interpretive possibilities. The work is rooted in the fields of mathematics, marine biology, feminine handicraft and environmental activism, and speaks to ideas of collective making, embodied knowledge and intersecting temporalities: that of the life-time of a coral reef (around 10,000 years), the long hours of manual labour, and the sense that time is running out – for the reefs, and many other life-forms too. What do we do with the time that remains? Why do something as seemingly pointless as crochet?

It is well known that coral reefs are particularly sensitive to rises in sea temperatures, and many reefs are in a critical state of disintegration. The Wertheims chose crocheting as a medium to honour reefs as there is a direct link between this craft and the possibilities of representing the kind of geometry that coral reefs exhibit: hyperbolic surfaces – exemplified by the frilly shapes of

[1] WEB-LINK The Institute For Figuring [https://www.theiff.org]

reefs – can most successfully be modelled using crochet (Wertheim, 2009). The Wertheims initially produced simple, mathematically "perfect" models of hyperbolic shapes, but these basic patterns were soon modified and embellished, and then developed even further by the rapidly growing number of contributors. The project has generated a dynamic of its own.



This work questions the idea of authorship in multiple ways; not only because there are so many people contributing to and modifying the work, but also because it recalls the status of feminine handiwork as a generally overlooked activity in the arts canon, one that has often not been considered important enough to warrant acknowledgement of its maker. Beyond this, the Covid-19 pandemic has reminded us that bounded individualism is an unsustainable construct. We are, for better or for worse, interrelated and interdependent. *Crochet Coral Reef*'s connecting threads and mutating patterns illustrate how we are all quite literally entangled with each other. In terms of scale, labour and sheer inventiveness this project goes way beyond singular capacity; the act of passing on and modifying patterns is a mirror of the evolutionary process. The work is endlessly relational and expansive in its making process. For viewers it operates both as a memorial of something we are on the cusp of losing (coral reefs) as well as a reminder of the potential joyfulness of being and making together.

Philosopher Donna Haraway suggests sympoiesis, 'making-with', as one of the key concepts necessary for survival in our times (2016). How can we team up to make each other capable of something new? She uses string figures (also known as 'cat's cradle') as metaphors to describe the importance of "giving and receiving patterns, dropping threads and failing, but sometimes finding something that works" (2016, p.10) and "[...] becoming with each other in surprising relays" (2016, p.3). *Crochet Coral Reef* proposes that we allow ourselves to get tangled up with sensory, embodied and relational knowledge in a continual process of becoming with each other. The project is, theoretically at least, endlessly generative, endlessly abundant.

IMAGE Artist's impression of *Crochet Coral Reef* by Margaret and Christine Wertheim and more, 2005-present [https://crochetcoralreef.org]

Another re-imaging of our current situation is offered by Annalee Davis, a visual artist from Barbados. Her *Wild Plant Series* (2015) is comprised of drawings on old plantation ledgers, which the artist found in an abandoned room of her family's former sugar plantation. Barbados' history as a wealthy British colony and a centre of the African slave trade has been well documented. How might Davis' gentle drawings of 'wild plants' speak to these traumatic histories of slavery and displacement?

IMAGE Artist's impression of *Wild Plant Series* by Annalee Davis, 2016 [https://annaleedavis.com/archive/wild-plant-series]

The works in the series are made up of two layers: individual sheets of plantation ledgers and the overlaid drawings. The ledgers bring up a plethora of associations: slavery, sugar cane, bureaucracy, accountancy, profit. Sugar cane, the main crop grown on Barbados' plantations, is not native to the Caribbean, it originates in the tropical regions of Southeast Asia and New Guinea. Anthropologist Anna Tsing (of *Feral Atlas*) describes sugar cane cultivation in the colonies of the New World: it was planted by sticking a cane in the ground and waiting for it to sprout. All the plants were clones (2015, p.39). She goes on to consider how both the plants, and the enslaved labour force lacked local social relations in their new surroundings. This isolation is mirrored in the logic of accountancy, where each "unit" is abstract, standardised and supposedly interchangeable. The second layer of Davis' work, her drawings of 'wild plants', are native species that were cast aside in agricultural progress narratives. Unlike sugar cane, these plants are embedded in local ecologies, but have been confined to the edges.

Davis *Wild Plant Series* was exhibited as part of her solo show in Texas (2016/17) called *This Ground Beneath my Feet – A Chorus of Bush in Rab Lands*. 'Rab lands' in Barbados refer to areas of land that were formerly cultivated for sugar cane, but have now been left to grow wild. They represent the liminal spaces beyond the violent agricultural project that was the colonial plantations. Tsing draws attention to these "uncultivated" verges – both literally and metaphorically – and suggests that we think of these interstitial territories as "the latent commons", spaces that allow for collaborative, multispecies assemblages

that operate outside of unsustainable progress narratives. She reminds us that

> "latent commons are not good for everyone. [...] [but] [t]he best we can do is aim for 'goodenough' worlds, where 'good-enough' is always imperfect and under revision" (2015, p.255).

Davis' *Wild Plant Series* is an example of narrative illustration, where two frames of a sequential image series have been superimposed on each other to tell the story of a modest, local plant, reclaiming territory from practices of brutalising and profit-driven crop production.

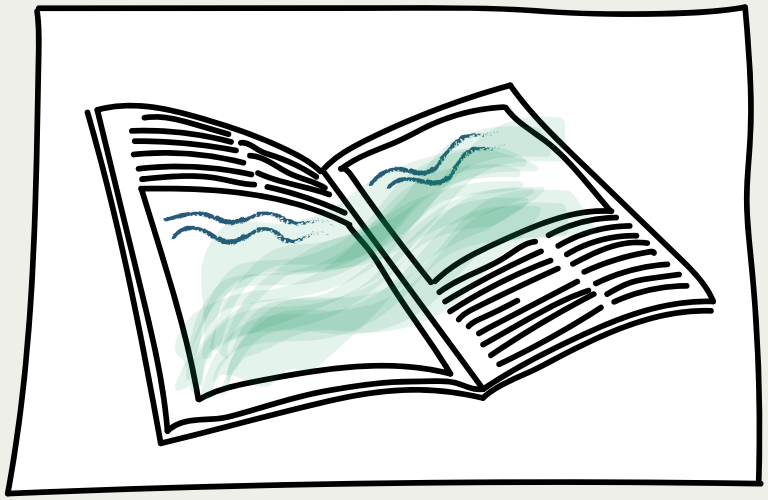


IMAGE Artist's impression of *It's Freezing in LA!* Magazine, 2020 [https://www.itsfreezinginla.co.uk]

While this narrative does not purport to undo the multiple and intersecting traumas of colonial landscapes, it can nevertheless suggest notions of salvage and resurgence. Looking in the cracks, looking in the verges, we can still find possibilities for new life.

Concluding Remarks

In these pages we have focused on how illustration creates and communicates knowledge of the natural world, and how it thereby embodies more general attitudes of humans towards the ecosystems we are embedded in. We believe that close attention to these attitudes is vital in understanding and addressing the complex upheavals and threats of our ongoing ecological crisis. Ideas of transcendent objectivity and disembodied knowledge (evident in historical natural history illustration) are giving way to more relational forms of sense-making, with illustrators acknowledging their embodied and located subjecthood (see Hounsome's *Entangling* and Morrish' *Island Time*). Exactitude (for example Howells' elephants) and ambiguity (for example the editorial illustrations found in *It's Freezing in LA!*) play different, but equally important roles in communicating aspects of our current condition. Illustration can create connections (*Feral Atlas*) and highlight difference (Hesse-Honegger's beetles). These examples demonstrate how illustration

can meaningfully contribute to global debates at a time of far-reaching paradigm shifts, perhaps comparable to the role of illustration in the 1500s with the emergence of the scientific method. As indicated in at the beginning of this article we look forward to building on these initial findings with a greater range of more diverse case studies as we continue to expand upon this research.

Towards the end of *Being Ecological* Morton advances the thought that "[e]cological politics is about expanding, modifying and developing new forms of pleasure […]" (2018, p.210). The case studies in our final section – New Imaginaries – present opportunities for us to reflect on possibilities for ecological intimacy, generative abundance and narratives of resurgence. Obviously these gestures towards pleasure, joy and renewal should not detract from the seriousness and urgency of our situation. We believe that rather than minimizing the gravity of the climate and ecological crisis, they offer a productive way of engaging with it and serve as a reminder that another world is possible[1].

SB, LV

[1] WEB-LINK *Luisa Neubauer*, Twitter [https://twitter.com/Luisamneubauer/status/1373015246693105666]

ILLUSTRATIONS
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Nature in Lockdown – Various

On 14 May 2021 Stephanie Black and Luise Vormittag held an online event for illustration students from Kingston School of Art and Camberwell College of Arts (UAL).

We presented some of our research for this issue of *Colouring In*, and then invited students to make a quick sketch of whatever bit of "nature" was within their eyesight. At this point the majority of us had been working from home for approximately 14 months due to restrictions relating to the ongoing Covid-19 pandemic. Sketches were shared online. We then spent time reflecting on and responding to the results.

Natalie Fitch, Kingston: I think there has been both a separation and connection with nature in lockdown. We have been stuck inside which has enabled us to think more creatively about 'what do I have access to right within these four walls?' What nature can I bring indoors to feel connected to the outdoors? How many more houseplants can I buy so that my room doesn't feel so sterile?

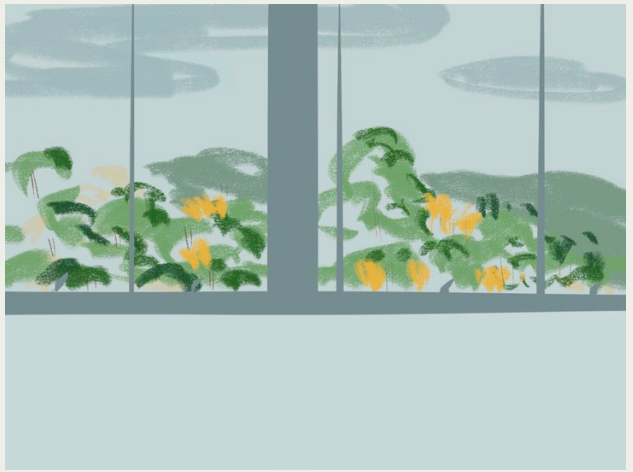


IMAGE TOP Natalie Fitch, Kingston, *Outdoor nature and indoor nature*. Errin Quinn, Camberwell responds: "Nice use of 'inside outside' frame! I think it could be a comment on our desire to be close to nature and care for it."

IMAGE BOTTOM Xuqi, Kingston, *When I look left – just outside my window*. "I can move to see the part of these plants or whole out my window. But these plants can't [move]."

IMAGE TOP LEFT Elliott Spriggs, Kingston, *Untitled*

IMAGE TOP RIGHT Isobel Chambers, Camberwell, *Stone*

IMAGE BOTTOM LEFT Lillian, Kingston, *I CAN EAT THE NATURE*. “I collected a bunch of beautiful clothes of a specific fruit (I forgot the English name).” An anonymous respondent says: “Physalis! I love the idea of being so entwined!”

IMAGE BOTTOM RIGHT Yujia Liu, Camberwell, *Lavandula Angustifolia*. Giada Maestra, Camberwell, responds: “This is very soft, delicate and detailed. It reminds me of botanical illustrations.”

But also it feels like there has been a greater sense of connection when we do get outdoors, when we escape our sense of ‘confinement’. It makes you want to explore the senses. I’ve been wanting to touch everything. And the sense of freedom when getting out of the city or your usual environment has brought a deep sense of euphoria.

Rosa Thorlby, Camberwell: It is interesting that all of these drawings are an embodiment of what we as humans perceive as nature and how we have found ways to identify it and bring it into our surroundings. Is it ever possible to step outside of this? Or can we only ever view and experience nature as a human (and therefore inevitably be informed by our social/political context?)

Patricija Malakauskaite, Camberwell: [These images] really show that we are all locked in our houses! Looking at these illustrations it seems that a lot of people like to have little tokens from nature or plants in their house. At least for me having plants in my apartment provides me with an opportunity to get my hands dirty or encounter those imperfect moments that nature has in the middle of a city.

Anonymous: It might be a bit silly, but it makes me realise we consider both dead and living things as nature (like the ladybug specimen vs the living plants drawn)

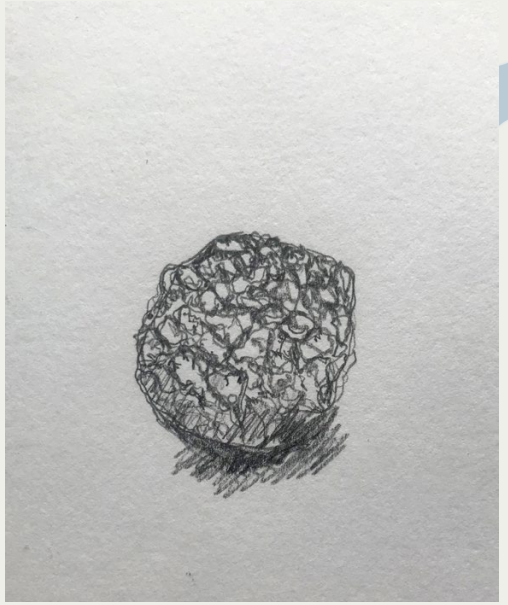


IMAGE TOP Rosa Thorlby, Camberwell, *Pebble*. “I like pebbles. Here is a particularly nice one I found yesterday”

IMAGE BOTTOM Patricija Malakauskaite, Camberwell, *Untitled*

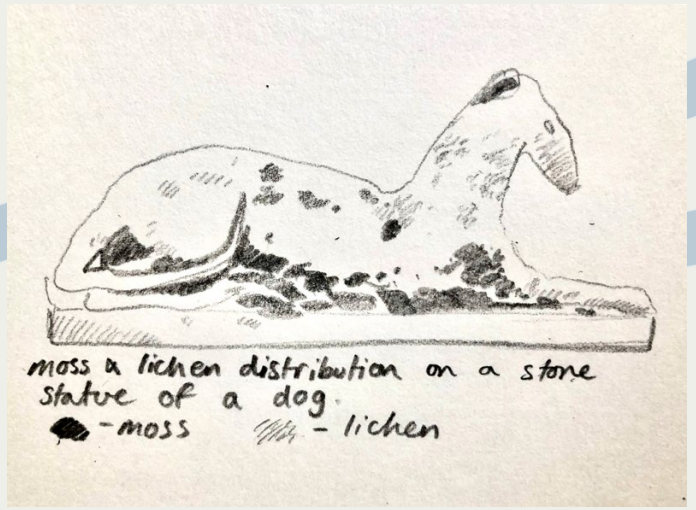
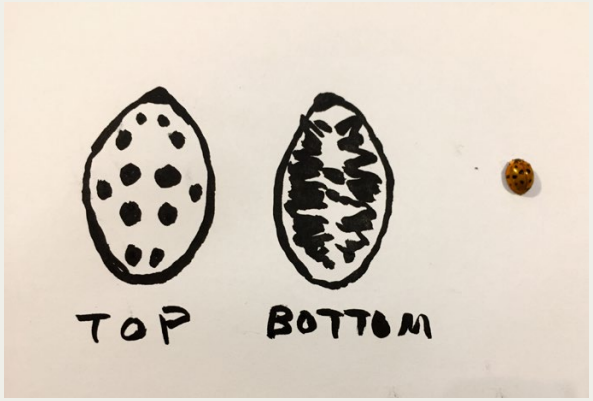


IMAGE TOP LEFT Errin Quinn, Camberwell, *Just the leaves*

IMAGE TOP RIGHT Bug, Kingston, *Moss and lichen distribution on a dog statue*. An anonymous respondent says: “Nature on something that was manmade!”

IMAGE BOTTOM LEFT John Miers, Kingston, *Dead ladybird on my desk (I think there’s a nest in the rafters)*

IMAGE BOTTOM RIGHT Gabriel, Kingston, *Crab shell I kept from a family dinner in Hong Kong*



Giada Maestra, Camberwell: It's interesting to see that the majority of us, me included, felt the need to contextualize the nature. There is in fact INSIDE nature and OUTSIDE nature. I don't know exactly why, but it was quite automatic for me to draw some details of my living room such as the frame of the window and the shape of the sofa.

Another thought is: We need nature in our places (both intimate and public). That raises the question of how important nature is in our life.

Parris, Kingston: Nature is everywhere, even during the lockdown period. Traces of nature will always appear in our vision, telling us that it has always been with our lives.

Errin Quinn, Camberwell: So many potted plants! Keepsakes from walks displayed as treasured connections with the outside world…

NF, RT, PM, GM, P, Anon

IMAGE TOP Giada Maestra, Camberwell, *Living room*. Errin Quinn, Camberwell responds: "I love how the nature fills the window and even looks like it has invaded the room! This could be a comment on how nature will always find a way - despite human intervention!"

IMAGE BOTTOM Parrris, Kingston, *Nature appears in my room in many forms*.

Looking Through My Phone – Hugo Drummond

How can illustration highlight the material origins of our technological devices?

Illustrator, designer and researcher Hugo Drummond experiments with the visual conventions of scientific and natural history illustration as he grapples with the overwhelming complexity of supply chains and the harsh realities of natural resource extraction.

My second-hand iPhone 6 lasted just over two years, which seemed about right for something allegedly designed to break[1]. As it began gradually slowing down and furiously heating up, the actual substance of the phone, its material reality, increasingly surfaced in my hand with each use. These kinds of commodities usually play a canny game of spectacle and stealth with consumers as they seek attention and promise to satisfy our wants while, at the same time, veiling their innerworkings and material origins. Any bearing a user might have on the object's past, or potential futures, is erased as it seamlessly sits in their hand as if by magic. Until the spell is broken, quite literally.

In their archaeology of design *Are We Human?*[2] Beatriz Colomina and Mark Wigley describe the smartphone as the most visible tip of an inconceivably complex material system yet note that it is only "experienced as a kind of ghost" (Colomina & Wigley 2016). The culture of secrecy that Steve Jobs instilled at Apple means that, above all other commodities, the original iPhone, and its cacophony of iterations, has become so spectral that its material cultures simply disappear in the hands of the user. As a result, attention is consistently directed towards the aura of the object and away from exploitative practices of extraction and production, accusations of planned obsolesce and the lack of tangible environmental responsibility. Apple often claim their material supply chains are simply too large to fully map[3], and frequent press releases make consistent promises for sustainable action with little tangible evidence of results[4].

If corporations are unwilling to be transparent about the material systems they are embedded within, then there is a need for researchers to critically map these systems and how they interconnect with labour, resources, and data. This can be thought of as a visual problem. How can communication design hold corporations accountable without access to all the information these companies have but choose not to share? Concurrently, how can this is be done in a way that adequately deals with the level of complexity and nuance that these capitalist material networks entail?

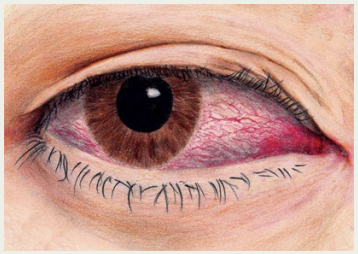
[1] WEB-LINK *Apple and Samsung fined for deliberately slowing down phones*, The Guardian [https://www.theguardian.com/technology/2018/oct/24/apple-samsung-fined-for-slowing-down-phones]

[2] REFERENCE Colomina, B. & Wigley, M. (2016) *Are we human? Notes on an archaeology of design*. Zürich, Switzerland: Lars Müller Publishers

[3] WEB-LINK *80% of Companies Don't Know If Their Products Contain Conflict Minerals*, Yong H. Kim and Gerald F. Davis (Harvard Business Review) [https://hbr.org/2017/01/80-of-companies-dont-know-if-their-products-contain-conflict-minerals]

[4] WEB-LINK *Amazon and Apple 'not playing their part' in tackling electronic waste* (Sandra Laville) The Guardian [https://www.theguardian.com/technology/2020/nov/26/amazon-and-apple-not-playing-their-part-in-tackling-electronic-waste]

Design and illustration are often tasked with simplifying complex subjects – taking information and reducing, altering, or abstracting it to make it more understandable. Using information design and illustration, my masters research project *Looking Through My Phone*, aimed to invert this. Referencing historic regimes of representation, I used objects and drawings to add to complexity as a means of highlighting it. To address the secrecy that shrouds such a pervasive commodity, the research began with an exploration of transparency. Through making, this entailed taking apart the phone, redrawing blueprints of the components, then suspending them in clear resin and categorising the parts. Simultaneously, it required following paper trails, scouring ambiguous supplier lists and gathering samples of investigative journalism on the phone's supply chain. During this process, it became increasingly apparent that accurately documenting these component networks would require information I could not access. By focussing on the unknowns, speculation offered a generative avenue as an alternative. It unfolded as an illustrative design process that was no longer restricted by the practical reality of material and information constraints. However, it was not without contradictions. As this was an investigation into a commodity that lacked transparency by design, I was aware that the representation I was constructing somehow had to be explanatory, self-referential, and acknowledging of its own visual contexts. The connotations of an aestheticized



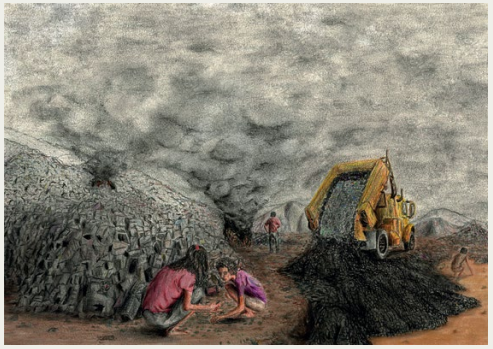


IMAGE TOP Tin miners in Cerro Rico, Bolivia. (HD)

IMAGE LEFT The inflamed eye of a Foxconn factory worker from prolonged exposure to the Aluminium dust produced during the assembly process in Shenzhen, China. (HD)

IMAGE RIGHT A toxic electronic waste site in China. (HD)

image risked obscuring the origins of the illustration style and process, just as the sleek design of the iPhone's exterior shrouds its material realties.

In part, realist illustration's modes of portraying unknowns are related to the histories of western scientific inquiry. During the eighteenth century, precise illustrations of the natural world became crucial in propagating newly hypothesised knowledge. Scientific atlases filled with engravings and drawings[1] served as aids for descriptive text to communicate the dominant scientific theories of the time. The development of the Linnaean system[2], based on similarities in 'obvious' physical traits of the natural world, meant that these illustrations were crafted in pursuit of a set of representational standards for images. Scientists and artists worked in tandem to extract what they perceived to be the common truths of nature from the flurry of complexity and nuance they were trying to posit. Goethe's words exemplify the enlightenment naturalists' principle,

> "To depict it, the human mind must fix the empirically variable, exclude the accidental, eliminate the impure, unravel the tangled, discover the unknown"
> (Goethe in Miller 1988:25) [3]

For: most of the nineteenth century, this empirical precedent for categorisation also extended to humans. 'Species' or 'types', were applied to individual skull specimens in comparative anatomy as well as in racist pseudo-sciences such as phrenology[4]. Despite photography's introduction of mechanical objectivity, educational illustration retained the visual language and ontological importance of representing "types" analogous to species, inherited from the enlightenment. It meant that insidious bigotry was able to endure in hegemonic visual cultures of science. The epistemic legacy of the highly stylized and idealized images that accompanied 'specimens' is one of aestheticized didactic aura. Hand rendered drawings and diagrams thus retained a weightiness often regardless of content or context. Their epistemic heft may also be, in part, because of pervasive notions that deem the time taken to complete a drawing, or the technical skill involved, as analogous to quality or authenticity. Elite institutions, museums and schools also aid these presumptions. Having retained and displayed many of these materials long after the theories behind them have been dispelled, these centres of knowledge production have often done too little to address their historic material. In their 2018 paper *Nature Read in Black and White*[5], Das and Lowe argue that, in the case of museums, covert racism exists through the gaps in information when displaying decontextualized, ahistorical 'hard science'. This is not to suggest that these outdated materials should be hidden or destroyed but rather publicly approached and critiqued as to not conflate them with scientific progress or inherent truth The

[1] WEB-LINK *Tables of the skeleton and muscles of the human body, Uni*versity of Toronto Libraries [https://anatomia.library.utoronto.ca/islandora/object/anatomia%3ARBAI037]

[2] WEB-LINK *The Linnaean system*, Britannica [https://www.britannica.com/science/taxonomy/The-Linnaean-system]

[3] REFERENCE Goethe, J.W. (1798 [1988]) '*Erfahrung und Wissenschaft*', in Miller, D. (Ed.) (1988) Goethe: Scientific Studies, New York: Suhrkamp Publishers

[4] WEB-LINK *Phrenology and "Scientific Racism" in the 19th Century,* ktitowsky (Real Archaeology) [https://pages.vassar.edu/realarchaeology/2017/03/05/phrenology-and-scientific-racism-in-the-19th-century/]

[5] REFERENCE Das, S. & Lowe, M. (2018) '*Nature Read in Black and White: decolonial approaches to interpreting natural history collections*', Journal of Natural Science Collections, Volume 6, 4 -14

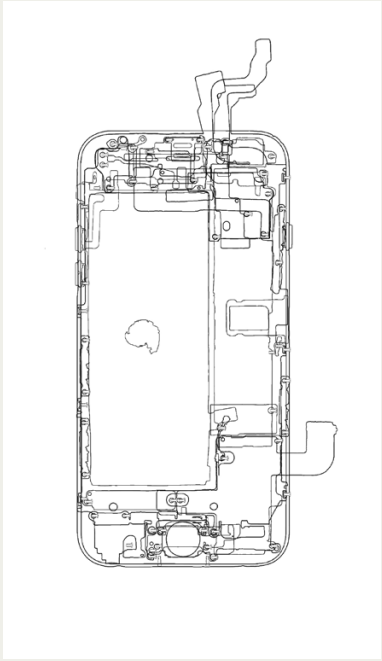
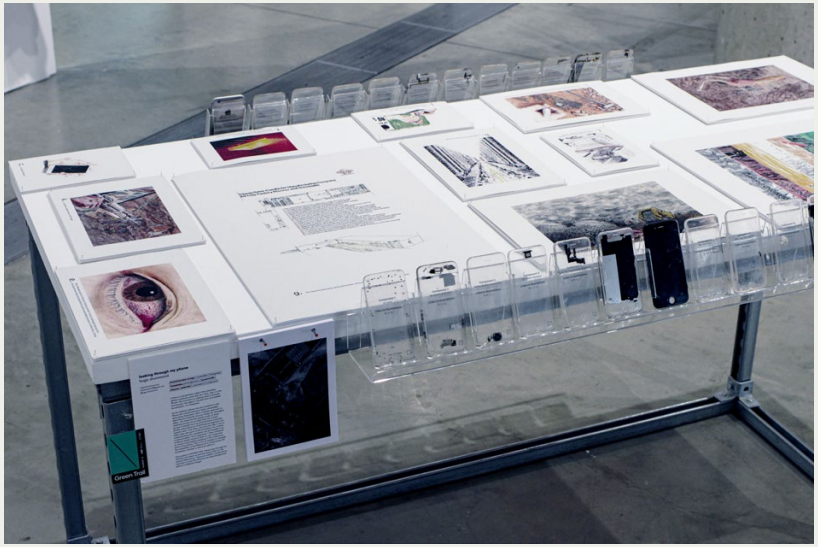


IMAGE TOP When disassembling the phone, I drew the outline of each component and stacked them to create a blueprint as I was unable to locate an official apple resource that detailed this. (HD)

IMAGE BOTTOM 24 iPhone 6 components suspended in eco epoxy resin moulded in the shape of the phone. The components are placed where they are found in the iPhone's blueprint. (HD)

ways in which the world is classified is culturally constructed and because cultural practices tend to internalise the dominant narratives, and gaps, in knowledge production, the legacies of these reproductions linger unless they are coherently addressed. The implications for how natural environments and the humans that inhabit them are viewed, and represented, still prevail through images in institutions. The cultural production, style and composition of these images have legacies that lull viewers into a sense of perceiving subjects as 'typical' or lacking in nuance. It also positions the author or the illustrator as the purveyor of truth and disseminator of fact.

The drawings for this project aimed to illustrate generic but unidentifiable types of subject that were lacking in nuance as a means of capturing how little is known about them. I created a taxonomy of parts and supplemented it with pseudo-didactic images that were only made sense of through vague captioning and linking to the component 'specimens' suspended in resin. I saw it as a parody of truth-to-nature and the visual cultures used to approach vast unknowns in the enlightenment.
As an illustrator, I often deal with designing from imagination - fictions that are based on visual elements of reality. When I illustrate a scene from my imagination, I am usually referencing objects and images that I have witnessed first-hand. If I draw a truck from memory, I'm explicitly referencing trucks I've seen before. However, if I want to draw



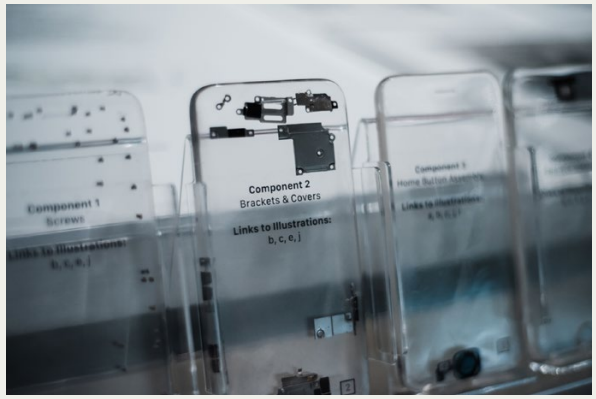


IMAGE TOP *Looking through my Phone*, installation at Central Saint Martins degree show, 2019. Photography by Max Colson

IMAGE BOTTOM Detail of *Looking through my Phone*, installation at Central Saint Martins degree show, 2019. Photography by Max Colson

something I haven't seen, something that's been hidden from me, my reference points change and my mode of representation can alter to reflect this. For this project I adapted the way I depicted subjects to create familiar but indistinguishable forms. In the image of the e-waste site, the figures are gathering items from the ground, but it is not clear what they are gathering. The truck is dumping some type of material, yet the level of detail does not pick this up. The piles of waste that frame the illustration are vast but ambiguous. These compositional and stylistic decisions were made to blur the viewer's perception of the scene's fine details while focussing on the overall sense that vast unknowns are present in the iPhone's material cultures. These representations are intended to be figurative but not distinctive, explanatory yet ambiguous and expressive while retaining realism. All of this is important in communicating my position as a speculator rather than an expert on the environments or people depicted in the drawings. My approach was, however, all predicated on the idea that the audience would understand that the approach was a critique rather than reinforcing the conventions of idealised images. In the context of this project, the intention was reiterated with a written statement. I believe that way in which the images were captioned and arranged did communicate my position however there is still development required in the style of the images to reach a point where text-based assistance is no longer needed.

While working on this subject, my process confirmed to me how little is known about the practices embedded in the supply chains of everyday objects. The sporadic witness accounts and investigative journalism that I read highlighted the abuses of nature and people that are happening across global systems, compounded by corporations such as Apple. The specificity of these issues is often lost in the overwhelming complexity of the material journeys of the iPhone's components. This further reinforced that these large networks of unknowns need to be researched and accurately mapped. In doing so, they need to be represented in a way that does not reduce the entanglement to a taxonomy of static western centric 'types' of subject, while maintaining a sense of the overall complexity. My work was not pursuing precise depictions of the material complexity of the iPhone but, instead, attempted to demonstrate the entanglement, communicate it, and even add to it. It sought to use the visual language of didactic illustration to depict how little is really known. By visually referencing historic modes of objectivity and approaches to unknowns in the natural world, I hope for viewers to sense the gap in knowledge that is present in approaching this issue, all while questioning the position of the researcher and the nature of their images as the signifiers of truth.

HD

Healing Fissures
— Professor Jean Blackburn

Following our roundtable event we scheduled a follow-up discussion with Professor Jean Blackburn from Rhode Island School of Design, as we were keen to pick her brains about some of the points raised. We then invited her to contribute some of these insights to Colouring In, drawing on Jean's experience of teaching scientific illustration and the related courses discussed here.

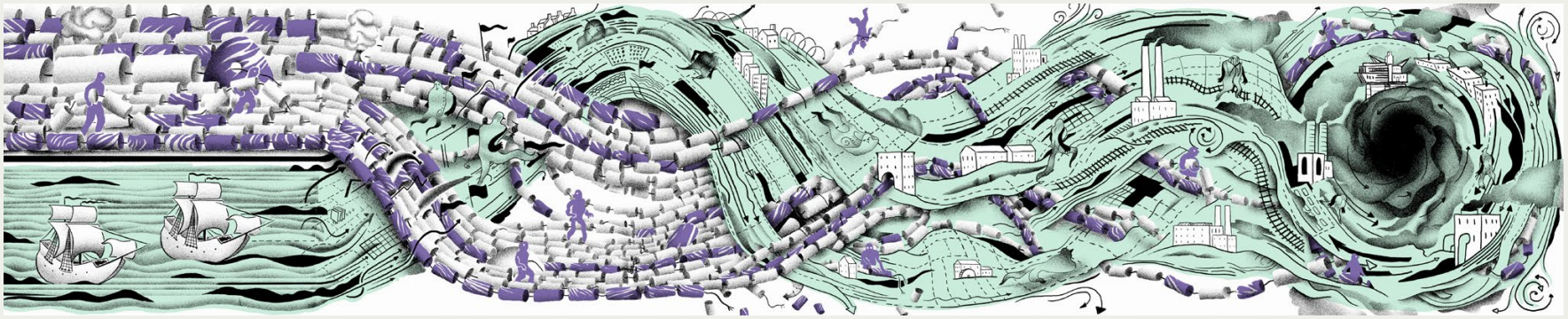
The Cambridge Dictionary defines nature as:

> "all the animals, plants, rocks, etc. in the world and all the features, forces and processes that happen or exist independently of people, such as the weather, the sea, mountains, the production of young animals or plants, and growth..."

Certainly this is a reasonable definition, but upon closer examination it is striking how we, who are a product of nature, hold ourselves apart from it. Our alienation from nature runs deep. After all, Adam and Eve were expelled from the garden once they gained self-conscious knowledge.

The urgency of the climate crisis and our larger environmental peril requires a reexamination of how we definition and relate to nature. Much as the Copernican Revolution decentered the earth as the hub of the universe, we are undergoing another form of de-centering. Our ecological plight is forcing us to recognize our dependence on all living beings – we cannot sustain the notion of world's living organisms in a pyramid with humans at its apex, dominating all. Scientific research continually reveals how limited our knowledge of the natural world really is and the extent of the damage human-centric exploitation has wrought. We are just beginning to recognize the limits to our knowledge. Vast sections of jungle or ocean remain largely unexplored. Discoveries of complex underground mycorrhizal mycelium networks stretching for miles that foster plant communication and chemical exchange suggest forms of knowing and being that we can hardly conceive of. Survival may depend on our willingness to accept new concepts of life and acknowledge our dependence on these "others" that we hardly recognize.

In the West, we've convinced ourselves that we can harness and dominate our world. We hypothesize, measure, experiment, collect, categorize, and deduce. But there is another side to this. Consider the dioramas of the American Natural History Museum in New York. World famous and produced with meticulous study on expeditions around the world, these simulations have thrilled and



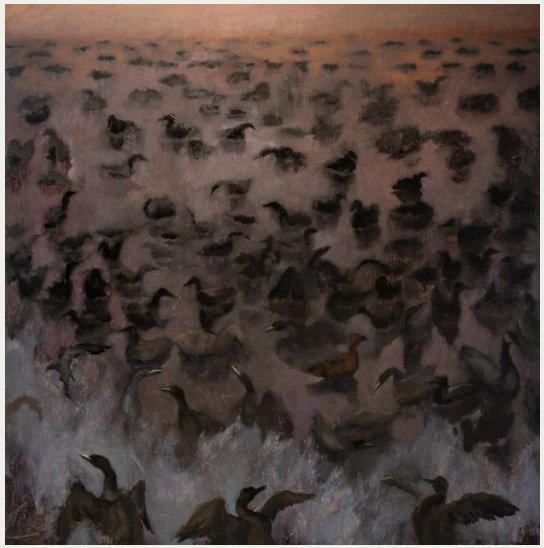


IMAGE TOP
For *Visible Stories of Natural History*: Kai Gietzen, *Collision*, 2021, RISO print on paper, 5 x 25”

IMAGE BOTTOM LEFT For *Visible Stories of Natural History*: Marius Marjolin, *Mekong River Scroll*, India ink on mulberry paper, 28 1/2 x 48”

IMAGE BOTTOM RIGHT For *Visible Stories of Natural History:* Joshua Sun, *Untitled (Oil spills)*

entertained for generations. They transport us to distant and exotic places to witness vanishing habitats and species. Stemming from a long tradition of trompe l'oeil and the panorama, the artists that produced them were among the best in the genre. These dioramas are educational, but they are not neutral. They are theatrical and present nature as a spectacle for the observer. They enthrall us with their illusion, beauty, exoticism, and idealized setting devoid of human presence. They are profoundly affecting.

But these dioramas also present a world that is fast receding and do not acknowledge our human impact. They represent an old model of looking at nature- of acquisition and importation that reflects our colonial past. These realities have been plucked from their original locations, composed, preserved, controlled, and maintained in still perfection. They entertain us. Eerily and ironically, they represent the vitality of the natural world in an interior museum space filled with dead taxidermized specimens. The dioramas present a romantic view. They allow us to experience dramatic moments in nature without the potential peril that a real encounter might involve. In that way they present a distanced aestheticized world while suggesting verisimilitude. We can no longer afford to be uncritical of this mode of contemplation. It is important to move beyond the simple aesthetisizing and commodification of nature. Nature is not here to serve us – we are part of it.

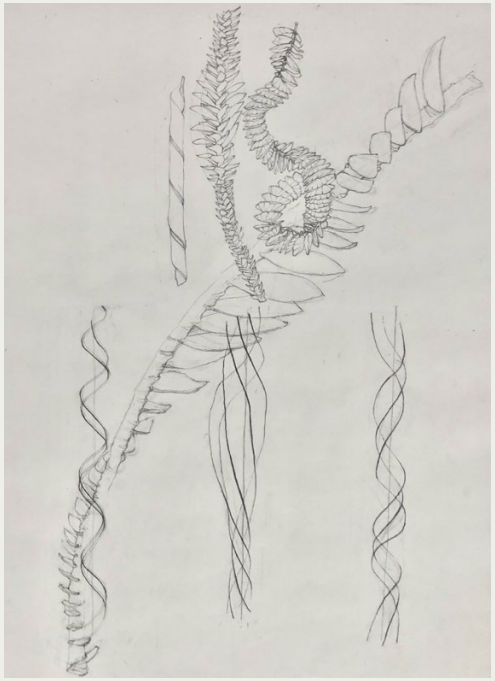
But how to draw people in to experience nature in ways that acknowledge and help resolve our present dilemma?

I teach several nature-based classes at the Rhode Island School of Design and have been grappling with this question. I know it is essential for students to get away from their screens, go outside, slow down, and tune themselves to their natural surroundings. An important component of that is field sketching. I encourage them to go beyond simple description of what the object looks like, to trying to understand why it takes the forms it does – the intrinsic and extrinsic forces acting upon it. That helps them think beyond appearance and toward process and more comprehensive understanding.

One group of drawings I always discuss in my Scientific Illustration class is Leonardo Da Vinci's water drawings.[1] A preternatural observer, Da Vinci was able to coax the patterns from the visual phenomenon of moving water. Scientists with high-speed cameras studying fluid dynamics have confirmed the acuteness of his distillations. What is particularly remarkable about these drawings is his understanding of process. It is almost impossible to draw the "thingness" of water. It manifests as movement and change. But by seeing the patterns in the process, he describes its quintessential nature.

A second class I teach is called "Visual Stories of Natural History". Initially inspired by the paintings

[1] WEB-LINK
Leonardo da Vinci (Vinci 1452-Amboise 1519) Studies of Water, Royal Collection Trust [https://www.rct.uk/collection/912660/studies-of-water]



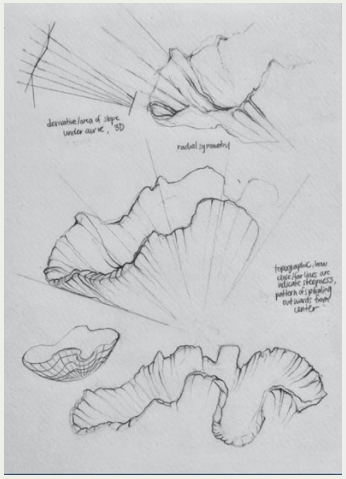


IMAGE TOP For *Scientific Illustration*: Kenneth Lu, *Untitled (Nature Study)*, 2021, pencil on paper

IMAGE BOTTOM LEFT For *Scientific Illustration*: Murphy Chang, *Branching*, 2010, pencil on paper

IMAGE BOTTOM RIGHT For *Scientific Illustration*: Caroline Dai, *Untitled (Nature Study)*, 2021, pencil on paper

of a RISD alumnus Walton Ford, the class was first offered this Spring. My co-professor, Lucy Spellman, a scientist and veterinarian, is actively engaged in ecological projects internationally. The class uses storytelling to explore the impact of human society on natural systems and our non-human inhabitants. We examine how a story is told, by whom, and to what end.

The class begins firmly footed in a scientific research of the local landscape from pre-Colonial times to the present. Students conduct scientific research on emerging topics that interest them. Examples might include such things as deforestation during Colonial times, water pollution during the Industrial Revolution, climate change in the 20th century, emerging diseases, etc. We ask the students to pull narrative threads from the scientific data and weave them together into visual stories that they and the viewer can relate to. That translation of scientific research into compelling narrative is the crux of the class. It allows the students and the viewer to bridge that difficult divide between science and art. This combination of scientific research and the narrative construct in response, approached critically, has the potential to enact real change.

Any narrative of the inhabited and colonized landscape is complex. In addition to the emerging scientific research, myriad cultural traditions, and conflicting belief systems are in play. Native

Americans, European Colonists, and immigrants from many places all have influenced how the landscape is understood and utilized. Indigenous perspectives are particularly important to engage as a counter to the heavy impact of capitalistic European traditions of farming and land use. Additionally, they provide alternatives to Western, science-centric perspectives, and give the students more leverage for examining their own assumptions.

Braiding Sweetgrass by Robin Wall Kimmerer has been a particularly useful text to address this. Told from the perspective of an Ojibwe tribal member, the author, who is steeped in traditional teachings about plants, decides to become a botanist. Her education as a scientist creates many conflicts with her cultural knowledge. Her writing is particularly effective because she uses her personal struggle and her culture's animistic traditions to leaven science's dispassionate rationality. She evidences a holistic understanding that promotes connection.

In the West, we have tended to define things as polarities, or oppositions. The split between Science's rationality and the subjectivity of the Arts is deeply rooted in Western culture. We do not allow ourselves to be whole. Likewise, we can no longer afford to tell ourselves that nature is "other". It is symptomatic of our larger fracture. It is too simplistic. We must see ourselves as part of nature's complex system, respecting and understanding the importance of all living beings. If we are to survive, we must be critically aware of how we define ourselves as nature, and how we affect the world around us. We must embrace different narratives and different viewpoints. We must seek more integrative ways of thinking to heal these fissures. The juncture of science and art is a powerful and culturally critical place to enact this change and Illustration has an important role to play.

JB

Invisible Travellers – Svetlana Pavlova

Illustration student Svetlana Pavlova reflects on her ongoing project in which she tries to imagine the world from our pot plants' point of view.

IMAGE *Phalaenopsis Rooting for Liberty* (2021), marker pens, cartridge paper 21 x 29 cm (SP)

Houseplants are a very commonplace sight these days, we see them in offices, homes and public spaces. Often we do not pay attention to them, barely registering them as 'green things' somewhere on the periphery. These houseplants are disconnected from any natural habitat: rays of the sun, drops of rain, buzz of insects, – and so they require care. Sometimes houseplants are tended lovingly by human carers, sometimes the care is professional and impersonal. I am interested in the history of these indoor green things, how they came to inhabit our space and why they were selected.

My research focuses on three to five tropical or subtropical plants which are currently spread in Europe as decorative plants – certain types of orchids, palms or wisteria. The core of my research is looking at the history of migration and cultivation of these plants. These plants were discovered in their native habitat, they were brought to Europe

for commercial or scientific purposes, and they experienced changes since then as a result of their cultivation in Europe. For example, some of the familiar potted houseplants grow to be huge trees in their native environments.

As early as the 16th century, European scientists travelled to foreign countries to bring back specimen of new plants. A plant would be taken from its natural environment (say, a tropical jungle) to a different climate (say, a pot in a hothouse in Europe). Most of the time, commerce drove the migration – for example, Columbus brought sugar cane to the New World or the British brought tea plants to India. Sometimes, however, plants were taken abroad for scientific and decorative reasons. Centuries later, tropical plants and flowers were domesticated in colder climates as house plants, because they were perceived as beautiful and a novelty. Often the plants began to look and grow differently to adapt to the different climate. I am curious to compare these domesticated plants with their 'wild' relatives. For example, a ficus would grow to be a huge tree in tropical climate. A wild orchid might resemble a spider[1] or a small monkey sitting on a tree[2], it looks nothing like a tender pot plant we buy in Waitrose[3].

At the time when Europeans discovered the plants, photography was not invented yet and drawing was the best tool for documenting them. Drawing is versatile and it allows an artist to select what to show to audience, to share what it is that she sees. Of course, photography and video have a different way of achieving the same, but for me drawing is more immediate. It allows complete cropping out of all the irrelevant details, and it only requires minimal equipment – just your eye, a pad and a pencil. Looking at the records which were left by the botanists, one can't help but admire their draughtsmanship and attention to minute details. I have decided to choose drawing as a tool, too, but to use it slightly differently. Botanical illustration has a long tradition and strong visual conventions. Traditionally botanical illustration depicted a plant on its own[4], not in its natural habitat. I am looking at both a plant and its habitat, because I am interested in the space it inhabits. There is a hidden contrast between a common house inhabited by humans and a potted plant, which is potentially a huge tree belonging to jungles, sitting on a shelf.

In botanical illustration all stages of a plant life's cycle were often depicted on the same plate. It was an illustration as well as a scientific explanation of what a plant was as a species. I think this desire to classify and explain is very human. My project focuses less on scientific explanation of a plant as a particular specimen, and more on its being as a whole, as a living thing inhabiting our space and perhaps having its own view.

Even if it is an unscientific fancy, it is fun to avoid the anthropocentric view and imagine a story of a

[1] WEB-LINK *What's Flowering at Paluma: Spider Orchid*, Paluma [https://paluma.org/2019/07/whats-flowering-at-paluma-spider-orchid]

[2] WEB-LINK *The Amazing Monkey Orchid*, Kuriositas [https://www.kuriositas.com/2012/06/amazing-monkey-orchid.html]

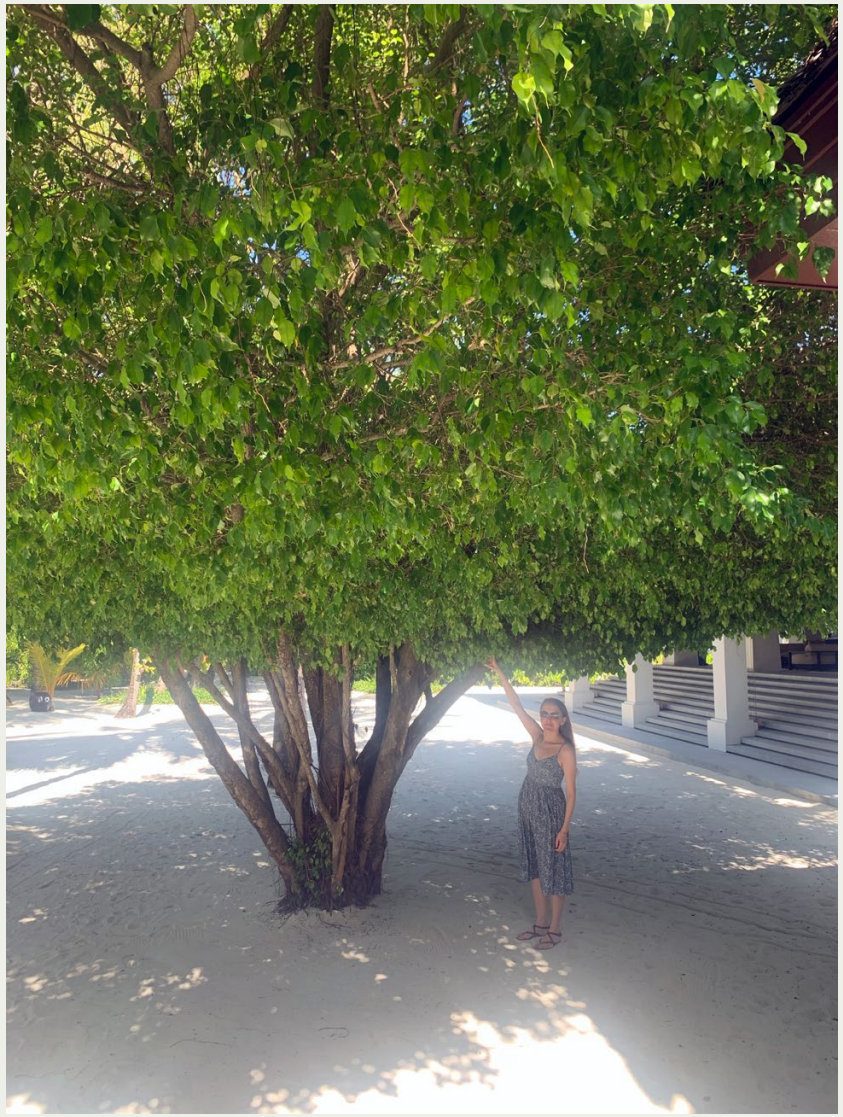
[3] WEB-LINK *Mini Twin Stem Orchid In Glass Planter*, Waitrose [https://www.waitroseflorist.com/plants/mini-twin-stem-orchid-in-glass-planter-635811]

[4] WEB-LINK *Rossioglossum grande*, Old Book Illustrations [https://www.oldbookillustrations.com/illustrations/rossioglossum-grande/]

plant from its own viewpoint: How it encountered a botanist, how it was taken on a ship, how it came to live in a brick hothouse, how its image and habits changed over time. There is an interesting book *What a Plant Knows* (2012) by Daniel Chamovitz, a biologist who explores how plants experience the world. The sea voyages which brought the plants to Europe were described by humans at length. There are breathtaking accounts out there, some of them were researched and re-told with a focus on the botanical treasures which were aboard. I am trying to imagine how a plant experienced the journey.

I sketch these immigrant plants indoors and outdoors. While I am able to observe these plants in their domesticated variety myself, I have to use Internet to collect data about them in their natural habitat. There are various websites of botanic gardens and other scientific organisations which offer a wealth of related images. I am also looking at historical records of botanists[1] to see how the plants were described in their natural habitat, why and when they were brought to Europe, and how they have been cultivated since. The records are available from various scientific organisations. For example, the Natural History Museum in London holds the entire collection of botanical illustrations from James Cook's first trip on the Endeavour[2].

Drawing from nature resembles what the scientists did when they first encountered the plants. For them they were a novelty, and they observed them



[1] WEB-LINK *Delineations of exotick plants cultivated in the Royal gardens at Kew...*, Dumbarton Oaks [https://www.doaks.org/resources/rare-books/delineations-of-exotick-plants-cultivated-in-the-royal-gardens-at-kew]

[2] WEB-LINK *Botanical art and illustrations from HMS Endeavour*, Natual History Museum [https://www.nhm.ac.uk/discover/endeavour/]

IMAGE Svetlana and a ficus tree, Maldives, 2021 (SP)

with a keen eye. I hope to be as curious as they were, to look at a ‘common’ houseplant through an different lens, drawing them as unusual and foreign beings. These plants descend from great travellers who adapted to a new land and I hope they will tell their story to us.

SP

Colouring In Roundtable – Dr John Miers

In March 2021 we held an online roundtable discussion with a selection of visual arts practitioners and academics, all with a shared interest in nature and different approaches to responding to it within their work.

By doing so we hoped to broaden and develop some of the ideas emerging from our weekly conversations, and to draw upon the expertise of our guests.

Participants included Nina Carter (Art Editor) and Martha Dillon (Editor) of independent climate change magazine *It's Freezing in LA!*[1], academic and illustrator John Kilburn[2] (Plymouth University), Hong Kong-based artist Michelle Kuen Suet Fung[3], and academic and artist Professor Jean Blackburn[4] (Rhode Island School of Design).

The event was observed and documented by Dr John Miers[5] of Kingston School of Art, who responded visually through sketchnoting and by producing a transcript of the event. All of the images relating to the roundtable are John's, and

[1] WEB-LINK *It's Freezing in LA!* [https://www.itsfreezinginla.co.uk/]

[2] WEB-LINK *John Kilburn* [https://johndkilburn.com/]

[3] WEB-LINK *Michelle Kuen Suet Fung* [https://michelleksfung.com/news/]

[4] WEB-LINK *Jean Blackburn* [https://www.blackburnart-project.com/]

[5] WEB-LINK *John Miers* [https://johnmiers.com/]

IMAGE TOP LEFT
Professor Jean Blackburn (JM)

IMAGE TOP RIGHT
John Kilburn (JM)

IMAGE MIDDLE LEFT Martha Dillon (JM)

IMAGE MIDDLE RIGHT
Michelle Kuen Suiet Fung (JM)

IMAGE BOTTOM
Nina Carter (JM)

his transcript can be found below. In his analysis of the conversation, John identified the following themes:

Ambiguity, readability, precision and speculation

- Different approaches to image-making invite different ways of knowing about a subject

Michelle began the discussion by drawing on her experience of producing illustrative work in a contemporary art context to observe that illustration tends towards readability, whereas contemporary art often seeks to make subjects more complex or ambiguous. Illustration was also contrasted to the sometimes forbiddingly dry nature of the diagrams and statistics that often accompany discussions of the climate emergency. Speculative drawing can challenge the apparent authority and exactitude of establishment of scientific communication and allow us to envisage alternative futures; John also emphasised that the speculation is a necessary part of the construction of scientific knowledge.

Ideologies are embedded in visual languages

- These belief systems affect the way we understand and behave towards the natural world.

Looking at the ways in which historical scientific illustration got things wrong can reveal the belief systems that underpinned past processes of knowledge construction. Jean emphasised that in her teaching students are encouraged to see nature as a process rather than an object, and argued that this framing helps us to move away from seeing it as a resource to be exploited.

The importance of embodied, situated experience of nature

- Getting out there and having it
- Trying to capture it
- Commissioning work that emphasises it

Nina and Martha spoke of the importance of commissioning illustrators who live in the locations discussed in the articles they publish, arguing that being able to draw on direct experience helps to move the work away from an overly aestheticised presentation of the natural world. Jean and John both spoke of how fieldwork was transformative for their students.

Our relationship to nature

- And what is this “nature” thing anyway?

A romanticised, dewy-eyed view of nature is,

ultimately, dishonest. Spending time in the natural world can be unpleasant or boring.

The ubiquity of human detritus in the ecosystem makes it very difficult to draw any coherent distinctions between “man-made” and “natural”. Does entering the Anthropocene mean that humans are now a greater force of nature than nature itself?

The Discussion

Stephanie: You’ve got such diverse practices and such different ways of approaching some overlapping subject matter … given what you’ve heard about each other now, what sort of strengths and weaknesses would you like to foreground? Michelle, you work in these large-scale pieces, in exhibitions, what do you think that allows you to do and what do you think it’s not so good at doing? How does that work differently from something like it’s freezing in LA?

Michelle: It’s something I’ve been thinking a lot about. So I think what I really enjoy working in this contemporary art context is that it really allows me to grasp the ambiguity of what I’m trying to tackle. So what I’m doing now, it’s called practice led research, which means that my works are a form of research, so I should not have any answer while I’m making the works, and this ambiguity, I find, is what lots of people in my world refer to as “poetic experience”. So they love ambiguity, they just love showing something in the gallery and you walk in and you have no idea what’s happening, and even for someone in the field like myself sometimes I get completely lost in an exhibition. So I love that I can be ambiguous but I find also that hugely intimidating and limiting, especially for people who are not in this field.

So I find that readability is something very

unimportant and even frowned upon in my world, because if something is so obvious then you need to make it more obscure. So it's less readily accessible, so that we can create a complex layered experience for the viewer to find out, which means it's much less accessible, and the audiences this work reaches are very limited.

Nina: When I saw the prompt that you sent about the limitations or potential limitations of projects in illustration more generally, I was thinking that for us there is the clear limitation of being printed matter and publishing illustrations in a magazine format, and how there is so much potential for illustration practice to go beyond the 2-D printed form, so I was really excited to see your work, Michelle, and Jean, and how you work in sculpture as well, and I think this idea of pushing experience a little bit further and how it might develop stuff that you're beginning to experience on a 2D format.

Jean: I wanted to respond too, because I do completely resonate with Michelle's remarks on illustration and the kind of – Michelle, I think the fact that you're showing in the fine art context but you're doing work that some people are calling illustration, I think that that's been a huge problem for so many people who are dancing between these two worlds, and it seems that there are specific issues, or specific ways that the fine art world tends to define itself that tend to be more exclusionary, and in terms – I guess one of the things that I love about illustration is that there is the ability to reach so many people, and I think the fine art world has an opposite problem in that it tends to be a little bit exclusive and exclusionary in many ways, and I think one of the great advantages that we have in terms of addressing more illustrational platforms is that we have the ability to really speak broadly. But it's a difficult dance, working between those two worlds.

Luise: Can we come back to what Michelle was saying about readability, or more poetic experience, because I'm curious to hear what Nina or Martha have to say on that, because my sense is that you use some of the illustrations that you use in your magazines seem evocative and atmospheric, I'd be

interested to hear what you think about the idea of readability or poetic experience.

Nina: I think a big aim for us is thinking about the fact that lots of the things that are going on with the changes in the environment and climate are invisible or they can feel quite distant to lots of us around the world, in that we can't see or feel them right now. And so creating or commissioning pieces of work that are somehow able to capture a sensory experience, whether that's how dusty someone might feel, how wet somewhere might feel, how something is changed, or capturing the feeling of a lost landscape, for example… I'm not saying that we do do that, but if you are able to do that then that can be a really evocative way to place someone within an environment that they can't be in necessarily, and they can't feel. And if putting them in that environment and helping them feel that they are able to kind of go from 1 to 2 and make that connection a bit more.

Martha: I think that in our text pieces and our articles they are quite formal essay styles, which put a premium on facts and precision and getting the right words in the right places, and the precision of the graphic design fits that as well, it's very precise and detailed, and I think very simplistically there is something, there is an ambiguity that gets lost in the text often, and in a way that complexity becomes difficult to grapple with and starts feeding into a lot of the problems that we are trying to combat in climate discourse, which is that it can be very dry, very scientific and very clean lines and photographs and stuff like that. And I think the illustrations respond to that, well we always say that they enliven it, and I think that that helps, it just puts a shape around the word that's just easier to absorb somehow. And I think something we've both been influenced by, directly or indirectly, is the dark mountain project, and I think [Paul] Kingsnorth I know is a very controversial character, but that idea of giving real respect to natural spaces and the places you're talking about as you do to communities and whatever your subject matter is, we tried to do that in text and in terms of the topics and conclusions, but I think that the illustrations are a really big part of that giving space and voice to the areas that we talk about as well, in a really visible way.

Michelle: I feel like illustration often helps the viewer, the reader, the audience to understand the idea, whereas I find the contemporary art interpretation often complicates it. So these are some of our favourite words: layered, nuanced, complex. So our presentation is really not meant to help our viewer understand, it's supposed to confuse you and make something very simple complicated so you wouldn't get it right away and probably without the right training you wouldn't get it.

Steph: How do you feel about that in terms of issues of the day and things that are of great

importance that you're wrestling with; in the way you live your life and the importance of decisions you're making, and how that has an impact on our environment and on the climate? Is that helpful to you?

Luise: You sounded frustrated when you were saying that.

Michelle: I have solved some of that issue myself, but there are other parts that I'm still grappling with, so one: I am secretly very proud of this illustrative style and I'm not going to change just because the contemporary art world disapproves of it. I will not give up on the visual impact. So I find because my research interest is not what most the world is interested in, they're probably more interested in LOL cats and funny videos, what they are having for dinner, and what their neighbour is planting in the garden. So I need to lure them somehow and I use my visual effects to do that, whether its installation with the images, drawings, paintings, doesn't matter. So for me the visual impact is important, and that's staying. But at the same time I'm still struggling a bit with it because I recently mentioned to Stephanie over email that I have wanted to publish children's picture books for a long time, to the extent that I joined the Society of children's book writers and illustrators two years ago with this very clear intention and I'm still struggling with it and one of the reasons is because, "oh, shoot, if I actually call myself an illustrator and publish a book, will I have to fight even more in the contemporary art world?" And then I have to explain, oh I am actually not an illustrator, or I'm both, or… I'm still grappling with that.

Jean: I think one of the things that I've been thinking about, there was something in the materials that you sent out earlier about the concept of historical botanical illustrations and the traditions of beauty that accompany those, and when we're working in the natural sciences, making imagery, where is the place for that and how does that work now, how do we understand that?

And I think that's a complicated issue because the class that I'm teaching now, the visual stories of natural history, one of the things that we are

looking at as a motivating factor, and what's really important in that is that a lot of the responses from the students are based on scientific research and not just aesthetic whim, and so it's an interesting balancing act between something that's natural but also something that's beautiful or invites of you are in, and finding that balance where it's not just aesthetic whim but it's actually based on something without shutting the student down so that they're ending up making graphs or something informational that is very dry, that's an interesting balancing act. And I think that's a real challenge when we are working in this field, so that it's not just gratuitously beautiful but it's based on something.

Michelle: I do agree with Jean, and I think the choice of imagery and aesthetics and style always should have a basis, but even with the same source there are 100 ways you can interpret the same idea. It could be very graphic, it could be very visual or it could be just experiential and you could just present it with just light and shadows for example. So it's very much up to you how you interpret the same raw information.

Nina: I thought it was really interesting what you were saying Michelle about not necessarily making stuff make more sense and the idea that actually the situation and the way that we understand it is really surreal and complex. Me and Martha have spoken about this a lot, that actually when we say that the illustrations can educate or help people understand, if it's alone as an image it's probably not going to enlighten people a huge amount, but it's placing them with context, so with the article or with the rest of the work and research that you do it makes sense. So I just thought it was really interesting what you were saying about when reality is really surreal, actually complexity and interpretation is useful, maybe. The fact that everything is always in flux, so being able to depict something that is maybe a bit confusing, or doesn't have a specific time, or can be interpreted by every person who sees it in a different way, I think that maybe should be celebrated.

John: I'd like to talk about diagrams. I'm really interested in how diagrams or illustrations that are diagrammatic look like they make sense, which is just the most wonderful playground to put stuff that makes no sense whatsoever at all, and I think a lot of what I do in my work is try to make things that are taking something scientific and then taking it beyond the point where it makes any sense anymore but it still looks like it might, and maybe that would draw someone into it.

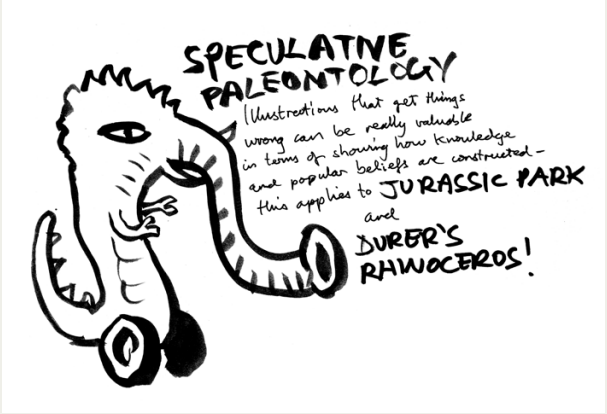
Luise: Can we stay on that point for a while… So you are drawing somebody in with the idea that this will make sense but actually then you're messing with their mind, you're presenting something that looks like it would make sense, but when you look closer it's it falls apart. And how does that contrast with scientific illustration in what

Jean is practising and teaching, I wonder what Jean would think of that kind of work that John is describing?

Jean: I think it's a really smart way to approach information in that it does make it approachable sometimes for people in a way that is really not threatening, and I think humour is wonderful, if people can engage humour it makes things so much more apparent. I didn't mean to suggest that diagrams couldn't be rich and interesting, I should say that. I mean I do think that approached by the right person they can be very interesting and really full of a lot of complex ideas that are, that people can understand ultimately.

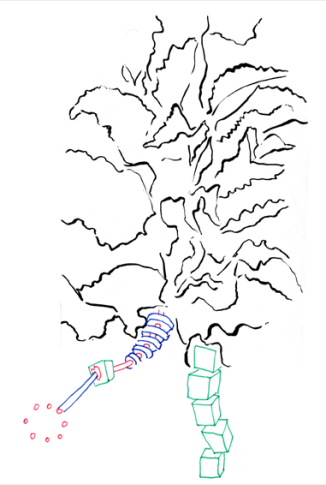
Nina: It made me think John, what you were saying about the playground of ideas that are there in diagrams, and I was listening to this podcast about this palaeontologist called Bob Bakker who, when he was training in the 1950s recognised that the way that we saw dinosaurs was, they were all sat in swamps and they were really static and quite unintelligent, they looked like they were too heavy and they couldn't move, and he started making discoveries that seemed to oppose this. For him, the way that we saw them was so ground in to the public and scientists that there was no room for change until there was concrete proof, but he was also a paleo-artist, a paleo-illustrator and he drew dinosaurs as well and he talks about the fact that he just started drawing diagrams of dinosaurs with feathers, and looking really muscly and lean, and they had characters and personalities and they were really decorated and in doing this, he calls it the paleo-Renaissance but he basically just managed to convince a bunch of scientists that they might look at the direction he was going, that really we don't have much concrete proof about dinosaurs and so just beginning to illustrate them in this way meant that people started believing it, and then Jurassic Park happened and everyone was like that's it, that's how we now see dinosaurs as this strong playful aggressive creature but, actually back in the 1950s we just didn't, that wasn't there, and it is kind of that playground of diagrams that imagination helped him come up with.

John: I love that. I've had a student working on a project about speculative palaeontology recently, I just love it.



I mean, imagining, what if they did have a trunk, or great big ears, we can't really tell. It's not in the fossil, but that doesn't mean they didn't have them. Yeah, it's a fascinating area. It's like how there was something speculative about the way people put skeletons together in museums, and quite often they got it wrong. A bit of a tail where a bum should be, or wrong stances so it's on all fours instead of upright onto legs. So those kind of mistakes that happen I find so fascinating.

Stephanie: It's interesting that you bring up the idea of speculative image making there John. What do you think speculative image making allows – in particular that student or just more broadly – in terms of the subject matter we are talking about today?



John: In terms of the natural world and relating to the environment?

Stephanie: Yeah, what does that way of making images do? What does it allow us to do?

John: It allows us to imagine different possibilities. There was a really interesting talk I went to about how sci-fi looks at the future in terms of the environment and that there are – there was sort of a cross, I'll try and get this right … In one corner there was good versions of the future that was scientifically accurate, and then there is bad versions of the future that is scientifically accurate, good versions of the future that are scientifically imagined or bad versions that are imagined, and there are hardly any good versions that are speculatively imagined of the future. I think I've got that right. But how do we move forwards, there is something that might happen, how can we move towards that, how can it become a reality, or is it just something that will inspire us to do something differently?

Stephanie: Do you think it does galvanise?

John: It can do, yes. It galvanises me, I think, those bad versions of the future which are technologically accurate are the most galvanising perhaps because I would find that more galvanising than a more utopian future.

Luise: That's interesting isn't it, because Nina and Martha I took a snapshot of your bibliography at the conference and I was looking at some of the references you had in there, and just leading on from what John was saying about what spurs us into action and what actually, what forms of communication can contribute to behavioural change, or into policy change, in policy shift, I think that you were looking at some of those resources, you were looking at some research by psychologists undertaken in that regard, is that right Nina and Martha?

Nina: I think so. I'm casting my brain back, but yeah there's quite a lot of research I think into how artwork and exhibitions looking at either art about nature or art about climate can inspire change in people, behavioural change, but there is less looking at illustration and editorial illustration. So there were a few pieces in there that were about that.

Jean: I was responding to some of the things that john was saying, and where some of the information sometimes isn't quite right, and I it made me think of Durer's rhinoceros , his drawing of the rhinoceros, and then I was just thinking about if you go back in history of it and we go back as far as alchemy and we think of the belief systems that are embedded in that kind of work, sometimes those places where the information isn't right is some of the most fascinating stuff because it really shows ultimately if you dig into it it shows what the belief system at the particular time was. So I think that history of scientific images and scientific illustration is actually really fascinating, because it really gets at the core of a particular era's belief system. And I think by understanding it we really come to see our own relativity and that science isn't monolithic, it's always changing, and I think that's a really important recognition for students to have.

Luise: Could you speak a little bit more about how you see the importance of scientific illustration today, what role do you think it plays in your students' practice, or what role do you hope it plays in your students' practice?

Jean: Well there is a number of things that I think are really crucial. In some ways, I think a lot of students don't have that much contact with the natural world and I think anything we can do to provide that is really rich for them and I know for myself whenever I've gone on expeditions that I've been involved in, they've been some of the richest experiences that I've had, and they're really game changers. If you can get students out in the landscape doing measuring, cataloguing species, or counting crabs in a particular place or spending time in it with a notebook drawing things, that's like enormously impactful for them. I think it also, I think a lot of students have difficulty bringing together science and art, and I think actually the practices are a lot closer than a lot of people think. We tend

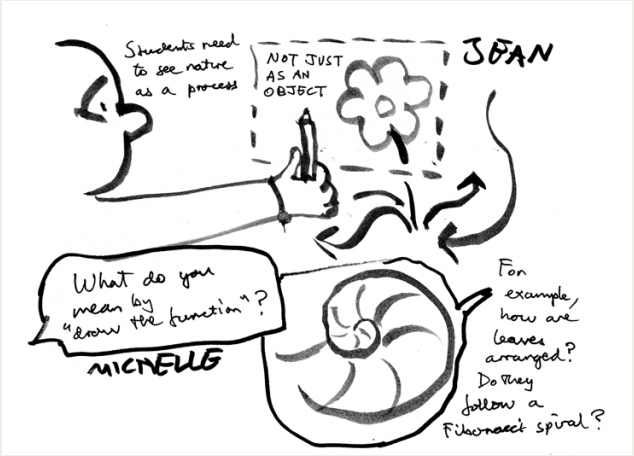
to think of them as being antithetical in some ways but I think an aspect of creativity is present in both of them. And so finding ways to… I think nature is a process too, and I think if artists can look carefully at it as a process, as a system, they can see parallels with their own work, and it can be really inspiring.

Luise: You described how taking students out on expeditions or getting students to draw elements, natural elements, and how that is a game changer for them because they have so little contact maybe with the natural world. So from that description it sounds like you see the value of that really in the process for them, the process of discovery through the drawing. So do you think, is it the process of doing it that's important rather than the output?

Jean: Yes, I think it's more the process of doing it. There's been some interesting studies that, I think they've had medical students draw from cadavers as a way of learning the anatomy in a much deeper way than just looking at pictures and memorising, because to draw something you have to understand how it fits together if you're going to make a coherent drawing. And so one of the things that I try to teach when I'm working with students is not just the how does it look but how does it function, can we draw the function, can we understand the function more than appearance? And the processes that are at work? So that's the challenge, but I think it's really interesting.

Michelle: What do you mean by "draw the function"?

Jean: Well



Michelle: Can you give an example?

Jean: I guess… This is kind of a simple example, but when I have them look at say a plant, they're drawing a stem with leaves on it or something, I ask them not to just draw what that looks like, but to think about, particularly using line weight and using emphasis of line weight to show exactly how the leaves are joining to the stem. Are they opposing each other, are they spiralling around the stem? What are the proportions that the plants grow in, is there a mathematical proportion that

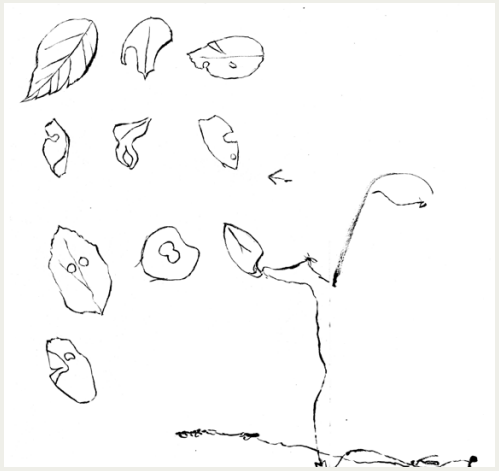
has to do with growth or golden section spirals, or the golden mean that we see in so many different growth patterns and just really looking at what are the forces that are causing something to form the shape that it's forming? Like mud cracks in a certain pattern. It cracks that way because it's releasing pressure. And it's always going to release the pressure in certain ways, or bubbles form three-way joints because it's the most stable form that there is for material to be distributed. So looking at the functionality of what's occurring, and saying why is it taking the form that that it's taking. So we start with a fairly small number of strategies and we talk about how are they functioning and then we try to find of strategies in the objects that we are looking at. So it's a really different way of drawing that's not based on appearance.

Luise: How do you see the role of exactitude, which seems quite important in this kind of work, and you were saying earlier when you were looking at the history of scientific illustration that those kind of images can tell us about how those societies in those cultures imagine their relationship to the natural world, how those old images can talk to us about – I think you said our relativity. So what do you think this form of drawing that you've just described suggests, this is very exact form of drawing?

Jean: Sorry, can you ask that again? They were kind of a couple of questions embedded there

Luise: Sorry, this is kind of something I'm working through in my own mind… So from what you've described, this drawing process, in terms of drawing the function and really understanding the function of what are you looking at and having a really deep understanding of something, from my understanding that requires a lot of exactitude as well, and… So that's one statement. And then I'm going back to the previous statement that you made where you were talking about the history of scientific images, you were suggesting that looking at those older images can help us understand something about that society or that culture's relationship to the natural world. So I'm taking those two ideas and asking what type of relationship does this form of drawing suggest to the natural world?

Jean: There's been so much of western culture that's been based on a really heavy emphasis on



materialism, and I guess one of the things that I'm interested in promoting with my classes is thinking about process more than materialism, so that if we are looking at a plant it's not just what the leaves exactly look like but how did they come to be that shape? So it's more of a process orientation through looking at the systems that are at work there, and I think that's a different way of looking at nature perhaps than in the past.

Luise: So to understand nature as a continuously becoming thing...

Jean: Exactly, yeah.

Luise: And what do you think does that suggest about our relationship to that continuously becoming thing?

Jean: I don't know if this will answer the question exactly but I think that we have always seen nature in the past as being something to use and see it for its thingness , it's a thing it's not so much a process, and I think if we can see it as something not only that we are part of, that we are not just on top of, I think that would be really healthy and I think that sense of understanding that is always changing and that our understanding of it is always evolving too… I don't know, I find it interesting when we think we know something, but science is always about the kind of slippage there. So I find that really fascinating.

Luise: I really want to ask everybody the same question, but Nina has been trying to say something for a while now.

Nina: It's not wildly long. I just was thinking about the idea that the way that something looks, and you were talking, Jean, about the idea of botanical or scientific illustration, and I was just thinking about how that was also leads into the context of how we use illustration and how I think a limitation with it is the idea of styles and trends and the way that people draw landscape going in a particular direction that moves away from why are they drawing, why they're illustrating it or depicting it in that way and how we are trying to commission people to make work that is associated with where they are, who they are, the interests that are in their practice anyway, so rather than commissioning someone to make a piece of work because of the way it looks, considering that actually they're based in the country of the article being talked about, so they are making work that feels a bit more informed by that than the aesthetics of it, I just thought it kind of fed into what you were saying Jean about that, and how that can also be in the context of the kind of illustration that we are making.

Stephanie: That's a perfect opportunity for me to extend what you've just said, Nina, and what Jean's just said, to John in terms of processes and the perspective of the person researching, essentially, through these processes, and what

it says about us, or about you specifically, about the work that you get the students to do finding out about the subject matter. So what that reveals about their position and their relationship to the natural world.

John: I love the word slippage by the way. I think one of the things that the projects that we do with the second years, we'll have a lot of students coming in who are maybe still holding onto the idea that illustration is about styles or particular trends, and what those projects often do is force them out of that by giving them a real life context, or making them work on location and actually experience something in a different way is hugely valuable for the students, although they can find it quite hard to begin with, and a struggle, and there is usually a kind of pushing back, and then normally by the end, when they see what they've made and how this can be used or how it can be put into a real world context, I really see a shift in their working at that point.

Luise: John, can I ask you, because it seems that there is a similarity between what you and Jean are doing in terms of taking a student out into the field and kind of pushing them, pushing their faces up against something else, maybe I'm mistaken but it seems to me that the way that you teach them to draw or the way that you encourage them to draw, that there is a difference to the way that Jean encourages students to draw, to me my impression is that your work is, or the way that you're teaching may be more about, is looser and is less about exactitude, this kind of really really careful, really really detailed, and really really exact looking into processes of becoming that Jean is describing is maybe not so important in your work?

John: I would disagree with that because that's why I get hooked on these subjects, is because I get interested in something and then I want to find out about those things, it's a huge part of what I do, just wanting to understand, wanting to make sense of it, and then there is a proper process which is "okay I've got all the information, now I'm going to do something else with it" but coming back to the Edward Lear slides that I showed, it's that, it's being able to do something very exact, and have it be scientifically researched, and then having a counterbalance to that, and saying "well actually, we've got no chance of understanding everything, that's just never going to happen" so this is ridiculous, the whole process … But certainly, for my students I would want them to be finding that same kind of joy that I find in learning and discovering, and then taking it in their own direction, they don't have to make silly weird drawings, it can be something highly detailed if they want to, or something really important, maybe I'm slightly cynical about it in a way, but I just enjoy that, I enjoy the learning side of it, and the reaction to it. And that's what makes work like that good as well, you can't just draw something and not have been

through that process of understanding it, because even if you draw a crab that is really quite a strange crab, if you know anything about crabs, people who also know about crabs are going to look at your work and go “actually that’s a really good drawing of crab”, not a crab that’s just come off the top of someone’s head and they don’t understand it

Michelle: Not a crappy crab!

Michelle: I’ll try to be brief, because I am so excited and rejuvenated by what John just said about researching the natural world and also what Jean said about how expeditions are very juicy because it’s… I just wanna quickly share this upcoming project that I I am doing, so for my next imaginary country Northlandia, which is essentially an Arctic tale, I was supposed to do a research trip in the Arctic in June but because it’s now not happening I am planning during the same residency period to self impose an Arctic residency in subtropical Hong Kong, and how does that work? So my plan right now is to go out to “nature” in Hong Kong every day and capture that scene and transform it into an Arctic landscape and it also intersects with so many different aspects of illustration because I’m planning to do one small piece per day so the scale is very illustrative, and then also down the road I plan to make these images into a printed publication as well and I don’t know the text whether it’ll be fiction or non-fiction at that time, but it just interested me, there are so many juicy things you mention. And also it’s a way for me to kind of fit all the contemporary art and illustration aspects all together so I’m just fitting all of these pieces of puzzles together, and what you said was really exciting.

Luise: How will it be the Arctic?

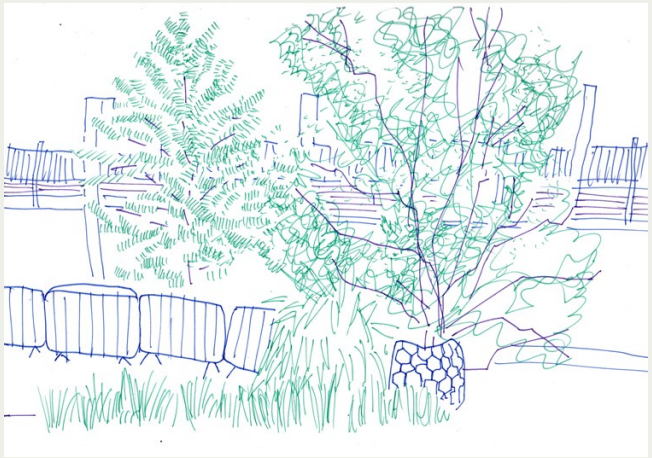
Michelle: Well, because the next imaginary country Northlandia is supposed to be an Arctic tale, it’s actually the precarious balance between human greed and the preservation of the Arctic resources and treasure and beauty. So the narrative is already there, but I was going to be in the Arctic to collect images and visual data et cetera, but since I cannot do that, I’m going to be in

Hong Kong, but since I already have the backbone of the narrative, I'm going to impose that narrative and elements of that narrative onto the Hong Kong landscape. For example I, when I see a mountain it's going to be transformed into this mountain-sized ice cream maker in the narrative, or there are different, there is a team of military seals, so I'm going to, I don't know, transform Ocean Park seals into this team of Arctic seals, et cetera. I'm still struggling with it, so I don't quite know how it will work, but I will make it work by June!

Luise: That sounds super fun!

Jean: I just have a really quick– I couldn't neglect to mention this, because Michelle, I teach a class called visible cities which is a class inspired by Italo Calvino's book invisible cities, which if you don't know the book is an imaginary story of Marco Polo talking to Kubla Khan about all the cities in the Empire , and very poetic descriptions and they're absolutely wonderful but the class that I teach called visible cities is really, each student has to spend a semester inventing a city, so your project is something near and dear to my heart. And we end up talking about so many things, anything including nature and culture and the physical landscape and the concepts and any society's ideas about nature and relationship to the environment, that's always a topic that comes up. Anyway, short aside

Luise: It's just excellent to see so many cross connections between all of you emerging in this conversation. We are coming to the end of our schedule timed, I'm wondering if *It's freezing in LA!* or Michelle, if you could say a few words about the question that I've put more explicitly to Jean and to John about what… Maybe I'll just take a step back.



We've called this "representations of nature" but of course once you start thinking "what is nature?"

Then everything starts dissolving in your hands, as soon as you try to define it falls apart as a concept completely, but I wondered if anybody had any thoughts on how they define nature? Maybe to put it in a slightly different way, maybe Nina, Martha or Michelle can say a few words about what their work suggests about what nature is or could be?

Nina: Jean said something about the tendency to kind of use nature, or have… I was thinking about this book when you asked about the idea of the implicit positions between us with regard to nature, and perhaps we have this tendency to document it and capture it, but what does that mean for our position in a slightly godlike way, we recently published a piece on the blog– Martha you probably know more about it than me – “being in nature can be boring” and it’s about this piece by Rebecca Tamás called “strangers”, it talks about the expectations and socialised aspects of our relationship to nature and how we have this kind of dewy-eyed admiration for it. The first line of one of the pieces is “when I go for a solstice swim on the south coast I come out not feeling as refreshed as I might hope, still battling a summer cold, still worrying” and I think this recognition of the fact that it’s really complicated, and this dewy admiration doesn’t really feed into an honest and intelligent understanding of our relationship with it, it just feeds into this weird relationship and dynamic between the two of us. I don’t really know what it means yet, but I think that’s an interesting point and it made me think about the idea of illustrating in that context but also in the magazine the fact that we commission illustrations to be, or as illustrators we try to make images look beautiful in a way, or be composed in a way that feels balanced, but when what we’re illustrating is often so unbalanced and so confusing I think, it just made me think about that and whether we can challenge ourselves to make images that aren’t just pleasant or appealing but capture the truth behind what is going on with the climate a bit more honestly, the idea that our relationship with nature is really fraught.

Stephanie: Do you think there is space in there for more affective approaches to drawing, more honest approaches to drawing and fieldwork?

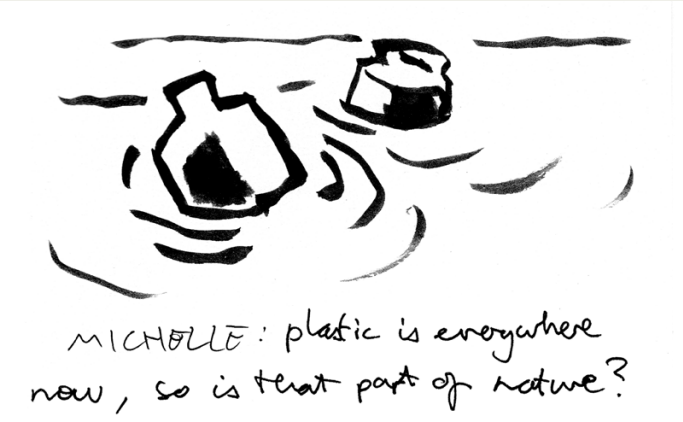
Nina: What do you mean by affective?

Stephanie: You know when your hand is frozen numb, your sketchbook is covered in water, you’re feeling shit about it, everything is muddy and you just want to go home. The sort of impact that that has on your drawings, all these things are traces within fieldwork but not necessarily something that you’ve worked up afterwards.

Nina: Yeah for sure, and I think that is kind of what we are starting to think about in terms of slightly more considered commissions, I mean for example the idea of really trying to look at people in a particular area to commission an article about a particular area so they have a relationship with it and they can go out and draw it or they can just have a bit more of a knowledge of it. I think it will create a really interesting dynamic. We find the illustrators often go on Google Maps to do drawings which isn’t visiting the place at all but does create a bit of an interesting dynamic I think.

Stephanie: Can I just add a caveat in there, in that I am in no way recommending that we just go and wilfully highlight The Author and the hand of the artist without any sort of critical consideration!

Michelle: my work, you could say it's informed by the impact of climate change, so we often think about what is nature, is it nature versus nurture, is it nature versus city, is it human versus animal, is it natural versus man-made?



Say, our buildings, would that be part of nature? Our clothes, or even pollution, like air pollution, or plastic bottles are really part of our ocean now, how do you define nature?

And my works, they are essentially my observation of and interpretations of our world, and that includes nature or non-nature or however you define the world and nature, and I transform it into this futuristic world of plastic-eating humans, this utopian floating ice colony in the sky, or channelling the Northern Lights into creating new energy or what I said about a mountain-size ice cream maker, so with my works I'm grappling with this new idea of this new world the Anthropocene, but it's also a way to investigate the nature of the Anthropocene because some of these new sociologists, they claim that we are entering this new age of the Anthropocene, which means us, human beings, are a stronger force of nature than nature itself. And some scientists disagree with this new term, they think it's just a fad, it's temporary. And I don't have an answer. That's exactly why I make the works, because I don't have the answers yet

Luise: That's really excellent, yeah I was wondering if the word Anthropocene was going to come up – it's happened!

Stephanie: We've been pushing… there it was.

Jean: Michelle, I thought about your question "what is nature" and it immediately occurred to me that it's everything that's not man-made culture, and then I thought about it a little bit more and that sense of a split, that's kind of an old split between man and nature which is oftentimes embedded in religion, that's also something that I think is enormously problematic in terms of our understanding of nature

Michelle: At which point does nature become man-made? This is cotton, but is it now man-made because it's been dyed, sewed, and weaved?

Stephanie: This is all the sort of stuff that has been informing our conversations behind-the-scenes as well, how do we pitch this, how do we frame it, what terms do we use? And then we thought fuck it let's just be really vague about the term, we'll just use the term and let you guys discuss what it actually means to you and what it means in your practices and how it's revealed through your practices.

Michelle: Just be very *poetic*!

JK, JB, MKSF, JB, JM, LV, SB