



## BIROn - Birkbeck Institutional Research Online

Biernoff, H. and Bailey-Evans, A. and Cleary, L. and Higgott, C. and Luckhurst, Roger and Rushby, Andrew (2024) Otherworldly. [Show/Exhibition]

Downloaded from: <https://eprints.bbk.ac.uk/id/eprint/54637/>

*Usage Guidelines:*

Please refer to usage guidelines at <https://eprints.bbk.ac.uk/policies.html>  
contact [lib-eprints@bbk.ac.uk](mailto:lib-eprints@bbk.ac.uk).

or alternatively

## Hildy Biernoff (b. 2001) on Jötunn, a super-Earth

In this series of drawings, London-based artist Hildy Biernoff developed ideas of life on a type of planet known as a 'super-Earth', one similar to our own Earth in its rocky composition but larger. Due to their higher mass, 'super-Earths' have higher gravity, and astrobiological research tells us that such a planet's environment would be defined by the influence of this force, as would any potential life there. Curator Joshua Goodland undertook computational modelling of this type of planet to inform the exhibition's underpinning science. This involved feeding a simulation a set of variables such as the planet's mass, atmospheric composition and type of orbiting star, from which the programme then provided a detailed profile of the planet's atmosphere. The key guidance shared with artist Hildy Biernoff was that if life were to emerge on this planet, it would evolve bodies low to the ground sprawling outwards rather than sprouting upwards. They would live in a wet, flat environment, populated by pools of water, where even mountains would be held back by gravity.

In her series of five drawings, Biernoff also worked with multiple features observed in life on Earth, such as carnification, a mysterious evolutionary phenomenon whereby different unrelated species have all developed crab-like bodies. Biernoff explored how something similar might occur on Jötunn, as seen in her creatures *Pool Crab (Stagnum comodenti)* and *Land Crab (Manus comodenti)*. To develop these images Biernoff drew on a range of sources that inspires her work more broadly, including cosmic horror, medieval bestiaries, Japanese woodblocks, and classic scientific anatomical studies. This is exemplified in *Tongued Monster (Monstrum linguarum)*, in which Jötunn's apex predator is shown partially dissected to reveal its especially dense skeletal and vascular organs.

Biernoff's works are created as digital illustrations in half-tone, printed on canvas.

## Lo Cleary (b. 2002) on Boreas, an icy moon

Cleary imagined how life would evolve on an icy moon, which the curators named Boreas. Such environments have become of particular interest to astrobiologists in recent years as a result of discoveries in our own solar system. Evidence from both Jupiter's Europa and Saturn's Enceladus points strongly towards vast oceans beneath their icy surfaces. Plumes of water jetting from Enceladus have also been found to contain all the necessary chemical ingredients for life, raising the possibility of finding a whole new separate origin of life beyond Earth. It is believed that these subsurface oceans contain hydrothermal vents (rock formations through which hot gases escape from the ocean floor), much the same as in Earth's deep sea. Only discovered in the 1970s, these towering chimneys of rock play host to life in an environment that was previously considered too extreme to be habitable. However, many scientists now think that these vents may in fact have been where life began on Earth, given the chemical mixing they create. It is with this context in mind that Cleary developed their environment and potential lifeforms.

In their words:

My initial draw to sci-fi and the general theme of speculative biology is through the desire for connection, the need to seek out otherness in all its extremes. Working with the environment of an icy moon is certainly pushing that; each of the creatures I've conjured would be an extremophile on Earth. I feel that many creatures that live at the extremities of their environments seem very designed; the creatures of earth's deep sea seemingly hang in the water like perfectly sewn gowns or are stuck fast with the intricacy and solidness of cast iron fences.

Cleary's work is influenced by the style of scientific field notes and sketches. 'I enjoy diagrams, graphs and maps... I get the feeling that these environments have not yet been fully explored'. Cleary's fine line pen illustrations show the detail and intricacy behind each organism's design. Their works on board, using materials such as gouache acrylic and baking soda, show us views of Boreas at different scales, both microscopic and planet-wide.

## Cleary and Biernoff on Vayu-Vatu, a gas giant

Cleary and Biernoff collaborated in the imagining of one of the most extreme and alien environments explored in this project: the upper atmosphere of a gas giant. These planets, tens to hundreds of times the size of Earth, are represented in our solar system by Jupiter and Saturn, which are positioned far away from the warmth of the Sun. In the search for exoplanets, however, we have found that gas giants more commonly occur close to their stars, for reasons unknown. In *Otherworldly*, the planet Vayu-Vatu is a type of gas giant known as a 'warm Neptune' located close to its star, around which orbits Cleary's moon Boreas. Although considered unlikely candidates for the emergence of life, as early as the 1970s renowned astronomer Carl Sagan speculated about such an improbable process, called panspermia.

Panspermia is a mechanism whereby life is transported from one planet to another through high impact meteorite collisions. Such events entail microbes containing material being flung into space and landing on another planet. In this series of works, artists imagined the origins of life on Vayu-Vatu as resulting from an asteroid impact on the orbiting icy moon Boreas, ejecting and transporting microbes to the gas giant's upper atmosphere and by chance, into its potentially habitable clouds of warm gas. It is virtually impossible to envisage the lives of airborne microbes living in the fierce winds of such a place, yet Cleary and Biernoff have collaborated to achieve precisely this.

The first work presented by the artists is a series of Petri dishes containing 'microbe samples'. They were created using a variety of reclaimed materials ranging from beads, to glue, through to stone and more. Backlit on a lightbox, 'samples' are displayed as if in the context of a laboratory, thus inviting the audience to study their textures and forms. The samples were developed using an equally eclectic set of inspirations: 'we took ornate designs, microbiology, sand under a microscope, palaeolithic stone carvings, drawings of nerve endings, ceramics, fungus, mould, blown glasswork... purposefully trying to create something unlike any of the speculative biology art we'd seen before.'

These influences extended into the digital animations of the microbes, for which the artists used clay stopmotion, green screen, and digital editing to bring microbes to life. Inspired by recent images from the James Webb Space Telescope that show the gas giants of our own solar system in infrared light, a planetary view of Vayu-Vatu is also represented as the backdrop within the animation.

**Arlo Bailey-Evans (b. 2002) and Crow Higgott (b. 2002)**

***Soundscape (2024)***

Emphasising otherness, sound artists Bailey-Evans and Higgott have enveloped the gallery in the sounds of these speculative environments. Their soundscape consists of three tracks, one for each of the depicted worlds: Boreas, Jötunn, and Vayu-Vatu. They collaborated closely with Cleary and Biernoff to achieve this, drawing from the original research brief, the concept sketches, and the final artworks. Bailey-Evans and Higgott base these tracks on sounds taken from field recordings that were subjected to various types of digital and analogue distortion to produce a soundscape that generates both a sense of familiarity and complete alienness.

## Fossils and specimens

The paths evolution has taken through the history of life on Earth have produced organisms just as alien-seeming as anything we might imagine on other worlds. These fossils and specimens are a small selection of the creatures that fed directly into the imaginative work of the artists.

**Stromatolites:** 3.5 billion year-old rock formations formed from the waste of bacterial colonies.

**Crinoid:** A marine organism that would attach its stalk to rocks and use its 'arms' to feed.

**Starfish:** Possessing a body with five-fold symmetry seen nowhere else on Earth, these invertebrates use tube-like feet to move and hunt their prey.

**Crabs:** The shelled and legged form of crabs has developed separately in numerous evolutionary lines.

**Sharptooth seven-gilled shark jaw:** Sharks have existed for over 450 million years on Earth, a testament to their evolutionary design.

**Glass sponge:** Sponges such as this have bodies made almost entirely of their skeleton, and feed by filtering water as it flows through them.

Hildy Biernoff

From left to right:

1. *Ambush Snake (Vermis spiculum)*, 2024
2. *Pool Crab (Stagnum comodenti)*, 2024
3. *Land Crab (Manus comodenti)*, 2024
4. *Tongued Monster (Monstrum linguarum)*, 2024
5. *Jötunn*, 2024

## Artworks by Lo Cleary

From left to right:

1. *Hydrothermal vent system*, 2024
2. *Studies of vent colonies*, 2024
3. *Dissection of Floor Scuttler (Tenebris incola)*, 2024 [above]
4. *Magnetosomes*, 2024 [below]
5. *Study of Boreas*, 2024



**Lo Cleary and Hildy Biernoff**

***Longe extraneus*, bioculture Petrie dishes, 2024**

Lo Cleary and Hildy Biernoff

Screening in sequence:

1. *Longe extraneus*, 2024

2. *Vayu-Vatu*, 2024