

## *The Biophilia Hypothesis*

### **Rosie Lewis**

I have always had an intense fascination for the natural world and the flora and fauna that form the unique ecosystems of Australia. Living in the Adelaide Hills on a bushland property has given me a deep appreciation for the complexity of our ecosystems and the beauty that can be found in our backyards. I enjoy observing nature and noting the often overlooked but fascinating details of ecosystem dynamics. My body of work, *The Biophilia Hypothesis*, communicates my passion for Australian wildlife, documenting a series of biological processes to elicit appreciation for the natural world, particularly the complex interactions within our ecosystems.

The *biophilia hypothesis* suggests that humans have an innate connection with the natural world. As human activity escalates and its consequent environmental implications devastate Australian ecosystems, I believe that art holds a critical role in re-engaging this connection, to promote an awareness of and appreciation for the natural world and our role and responsibility in conservation.

I researched historical and contemporary artists which broadened my thinking and, through experimenting with their media and techniques, developed my skills and formed my personal style. I was inspired by historical artists whose pioneering representations of nature contributed richly to the intersection between art and science. Henri Rousseau's oil paintings depicting interactions within ecosystems prompted my consideration of documenting ecosystem dynamics through art, however, his naive approach lacked the biological accuracy that I wanted to achieve in my work. Maria Sibylla Merian's influential works documenting flora life cycles in stunningly accurate detail inspired my appreciation for achieving a level of detail allowing scientific integrity. It also reinforced my own observations of imperfections in nature, and their reflection of a biological process such as decomposition, and therefore interaction with other species. I wanted to ensure that my body of work captured these important aspects of nature to convey accuracy and realism. Exploring the lithographic work of Ernst Haeckel inspired my consideration of perspective to portray structural details of species and diversity of form. Reflecting on Australian Indigenous art and its unique use of symbols to communicate information about the natural world over thousands of years encouraged me to contemplate how I could use symbolism to communicate to my viewer.

Contemporary South Australian artist Janet Ayliffe's work inspired me to experiment with composition and push traditional boundaries of art for scientific documentation, incorporating the chaos and complexity of ecosystems. I developed confidence in utilising compositional tools to deepen viewer understanding. Ayliffe's use of symbols further supported my earlier research into Indigenous symbols in art, and I considered how I could use symbols as part of scientific communication. Finally, the work of Philippa Nikulinsky, another contemporary Australian artist gave me an appreciation for documenting interactions, life cycles, and the beauty and function in all aspects of a species across its lifespan. I became interested in looking at how two species might interact, and how I could communicate this visually in an artistic form. I attended several museums, art galleries and exhibitions, which contributed to my thinking, in particular the 2022 Waterhouse Natural Science Art Prize, which encouraged me to think broadly about different media, and how to elicit emotion from the viewer.

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I explored a range of media and techniques in conjunction with artist research, developing my style and preferences. I experimented with watercolour paints, graphite, oil pastels, oil paints, Prismacolor pencils, collage, dry point etching and pen work. I experimented with the portrayal of both flora and fauna anatomy, extending my skills in the realistic portrayal of natural textures, tones, contours and form. This allowed me to investigate the most appropriate media and techniques to capture my intended level of accuracy and realism, for the scientific integrity which I hoped to achieve.

Through synthesising my artist research and experimentation, I decided to complete three watercolour works and one pottery piece, to document biological processes.

*Evolutionary Speciation* highlights the unique adaptations of the Lace Monitor (*Varanus Varius*). The overhead perspective, characteristic of Haeckel's works, showcases structural detail and adaptations. As inspired by Janet Ayliffe, text is incorporated as a termite trail, to provide additional scientific content about the species' evolutionary history and biological interaction with termites. Habitat is symbolised by a circular highlight, detailing eucalypt forests and alluding to arboreal behaviours, further supporting evolutionary adaptations.

*Ecosystem Engineer* portrays the role of the Superb Lyrebird (*Mechura novaehollandiae*), as an ecosystem engineer, ensuring the survival of the eucalypt woodland ecosystem, by accelerating leaf litter decomposition through foraging behaviour. A musical stave and notes were incorporated into tail feathers of the bird to symbolise their mimicry behaviour, and text was added along feather lines to further support this scientific communication.

Documentation of life cycle, as inspired by Merian, was achieved in the leaf litter, integrating colour variation and leaf shape and blemishes throughout. Leaf skeletons were included as focal points to draw viewer attention to the beauty of the decomposition process. Text was applied around the leaf litter for further communication of the species' importance within our ecosystems and map detail was integrated into the leaf litter, reflecting the distribution and importance of the species across Australia. Habitat is further reinforced with a symbolic circular feature, inspired by Ayliffe, containing an overlaid map to provide locational context.

*Symbiotic Pollination* documents the symbiotic process of pollination through a Grevillea Superb, Grevillea (*Banksii bipinnatifida*) and the Blue Banded Bee, (*Amegilla cingulata*). Inspired by Merian and Nikulinsky, all stages of the grevillea flower are detailed, with imperfections within the plant ensuring accuracy and realism. Circular highlights include a bee in close up, to detail form and function; habitat with maps to highlight species distribution; and a body of text to detail pollination and its global importance, eliciting emotion to engage viewer connection. I hoped that the repetition of circular highlights would create a sense of cohesion across the three watercolour works.

In *Ontogeny*, I documented the life cycle of the Woolly Orange Banksia, (*Banksia victoriae*). With influences of Merian and Nikulinsky, I portrayed all the unique forms and textures of the iconic Australian plant in this work, from seed through to spent flower, on a cylindrical pottery vase to mirror the ontogenesis of the plant's life.

Through the development of my folio and final body of work, I have had the opportunity to explore my interests, purpose and style. I believe that art has a critical role in scientific communication about nature and a place in engaging human connection to nature through evoking emotion and an appreciation of the incredible beauty and complexity of the world we share.