



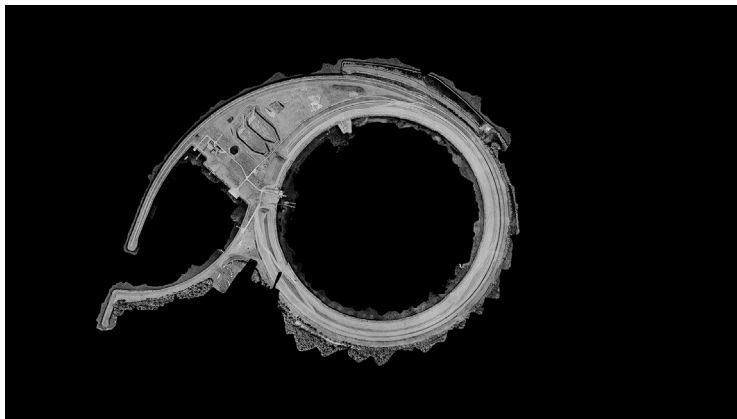
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Models for Environmental Literacy

Keywords: Artificial Intelligence, Machine Learning, Photogrammetry, Digital Storytelling,
Eco-Science, Eco-Philosophy, Eco-Fiction

Models for Environmental Literacy is a series of digital animations and A.I. generated narratives that creatively and critically explore the challenges of describing a landscape, an ecosystem, or the specter of environmental collapse through human language. The project further explores how language and vision are impacted by the mediating agency of new technologies. How do we see, feel, imagine, and talk about the environment in this post-digital era, when there are indeed non-human/machine agents similarly trained to perceive “natural” spaces? This project explores these questions, as well as emerging relationships with drone/computer vision and A.I..

Description

In the face of climate change, large-scale computer-controlled systems are being deployed to understand terrestrial systems. Artificial intelligence is used on a planetary scale to detect, analyze and manage landscapes. In the West, there is a great belief in 'intelligent' technology as a lifesaver. However, practice shows that the dominant AI systems lack the fundamental insights to act in an inclusive manner towards the complexity of ecological, social, and environmental issues. This, while the imaginative and artistic possibilities for the creation of non-human perspectives are often overlooked.

With the long-term research project and experimental films *Models for Environmental Literacy*, the artist Tivon Rice explores in a speculative manner how A.I.s could have alternative perceptions of an environment. Three distinct A.I.s were trained for the screenplay: the SCIENTIST, the PHILOSOPHER, and the AUTHOR. The A.I.s each have their own personalities and are trained in literary work – from science fiction and eco-philosophy, to current intergovernmental reports on climate change. Rice brings them together for a series of conversations while they inhabit scenes from scanned natural environments. These virtual landscapes have been captured on several field trips that Rice undertook with FIBER (Amsterdam) and Bio Art Society (Helsinki) over the past two years. *Models for Environmental Literacy* invites the viewer to rethink the nature and application of artificial intelligence in the context of the environment.

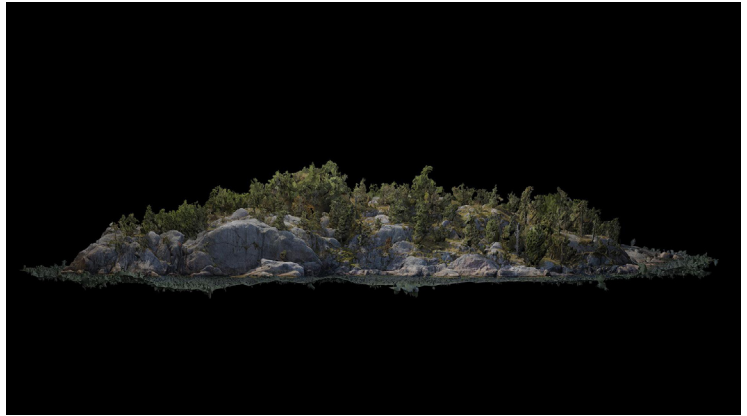
Chapter One: *Whisper Poems*

The Baltic Sea – Finland

Duration 13'5"

Whisper Poems maps the small islands surrounding Helsinki, which are rising twice as fast as the surrounding waters of the Baltic Sea. This is part of a 10,000 year process of post-glacial rebound, so instead of reflecting an uncanny image of human intervention, they present a more paradoxical image of a system operating in geo-historic rather than human timeframes.

Fig. 1. *Models for Environmental Literacy*, 2020. 4K Video, Computer Generated Text, duration: 36'40". Link to complete documentation: <https://tivorice.com/models.html>



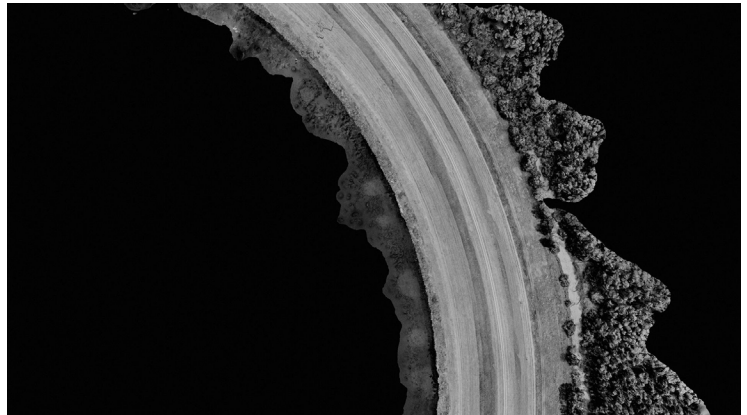
Chapter Two: Circular Conversations

The IJsseloog – Netherlands

Duration 10'05''

Circular Conversations maps the IJsseloog, arguably the strangest visual landscape in the Netherlands – a perfectly circular island, 1 kilometer across, built for the deep storage of industrial toxic sediment. After first seeing this circle on satellite images, then during subsequent field trips to drone-photograph the site, I couldn't help imagining it as a kind of monumental frame upon, or a portal into the past, present, and future of the local environment. In some ways, the IJsseloog is a kind of punctuation mark (like a period or a comma) in the story of the Zuiderzee Works, the land reclamation project that shaped the Netherlands's northern coastline.

Fig. 2. *Models for Environmental Literacy*, 2020. Video still, Chapter 2.



Chapter Three: *Echo Chambers*

The Volkerak – Netherlands

Duration 13'13"

Echo Chambers focuses on the southwest of the Netherlands, where the Delta Works creates a different kind of engineered environment. During FIBER's *Cartographies of the Vanishing Now* workshop, we traveled to the Volkerak to observe the algae blooms lining the shores, and to discuss the complex cultural, hydrological, and agricultural histories that have deeply impacted that ecosystem.

Fig. 3. *Models for Environmental Literacy*, 2020.
Video still, Chapter 3.

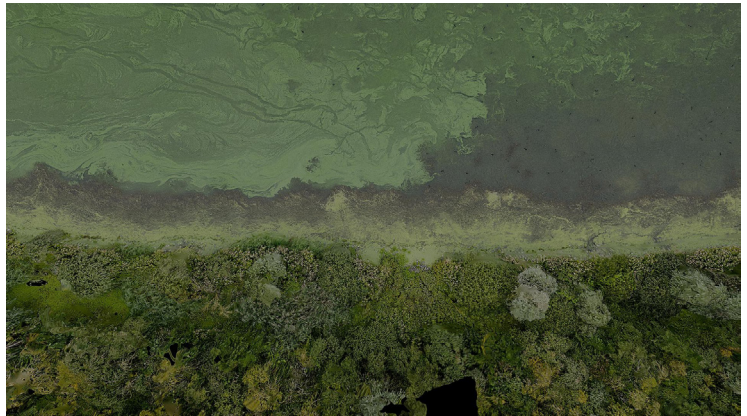
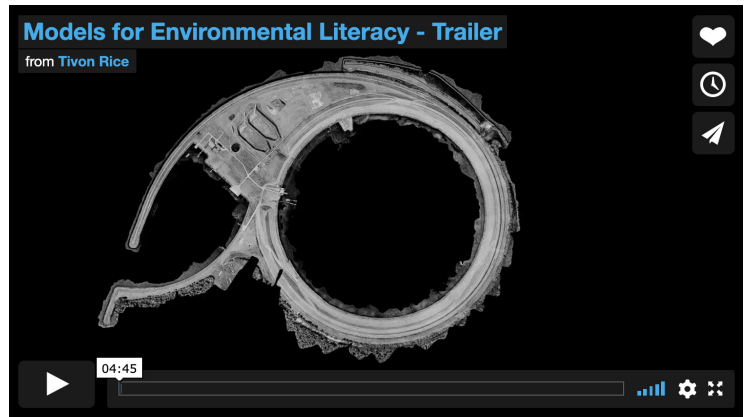


Fig. 4. *Models for Environmental Literacy*, 2020.
Link to Trailer: <https://vimeo.com/459776036>



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Sound by Stelios Manousakis (NL/GR) & Stephanie Pan (NL/US), with voices by Esther Mugambi (AU/NL), Arnout Lems (NL), & Michaela Riener (AT/NL)