

A MULTISPECIES RED-LIGHT DISTRICT for AMSTERDAM

A Propositional Image

Tina O'Connell and Neal White

This project was made in relation to the exhibition *Perfect Nature* with Dutch hosts zone2source, who are based in Amstelpark, the location of our three-month "Test Site" residency.¹ The research we undertook highlights art's role as an eco-social practice that requires forms which respect futures orientated toward cohabitation and coexistence with other species. In this brief text and visual essay, we explore light as pollution as we gradually shifted our gaze away from *operational* images of anthropogenic noise toward a *propositional* image both in situ at Amstelpark and further afield through symbiotic activism.

Note: for readers of the print version, these black-and-white images give you an idea of how other animals perceive color in the real world, owing to the different number of cone photoreceptors in the eye. For full color, see the online version. With three cone photoreceptors, you will perceive better than a dog, which has only two photoreceptors, if not as well as the moth with its six cones.

Phase 1: Situating Anthropogenic Noise; Perpetual Daylight

The warm sulfurous phosphorescence associated with suburban lighting is increasingly being replaced by the new snaking pathways of bright white LED (light-emitting diode) light that illuminates roads across our cities and that thread across our rural landscapes at night. The human need for artificial light that is entangled with the challenge of low-impact energy use actually



Figure 1 NASA—Black Marble Satellite Images. Northern Europe focus. © NASA.

saturates other worlds with a form of visual pollution. While some forms of anthropogenic noise, such as auditory pollution, are evident in terrestrial and aquatic ecosystems (see Kok et al. 2023; Kunc and Schmidt 2019; and Nemeth and Brumm 2010), light is a pollutant prevalent in areas in northern Europe densely populated by humans and linked by scientists to biodiversity collapse.

Given the lack of action by government agencies to deal with the widespread increase of such anthropogenic noise, as concerned citizens and artists equipped with acute visual interests, we felt compelled to engage with the issue directly. Across areas of Holland, a form of perpetual daylight has become a feature over recent years, a prismatic spectacle where vast landscapes of greenhouses require artificial light through long winter nights, illuminating skies with pink and orange hues.² This vast postnatural landscape, an essential dimension of our shift to produce fresh salad for markets

twenty-four hours a day, is also a glazed unnatural landscape that annuls seasonal change and operates in defiance of planetary cycles. This postnatural landscape is increasingly regulated, but close by, among the urban sprawl, further saturation of nocturnal light intrudes on the senses of resident lifeforms. As Douglas H. Boyes and colleagues (2021) observe, “Based on the visual sensitivities of many taxa, including nocturnal insects,” white broad-spectrum LEDs have significant “potential for ecosystem disruption.”

A Propositional Image—Integrating Operational and Embodied Vision

Our research integrates both operational images and embodied vision to create propositional images. *Operational images* refers to geospatial satellite visualizations of light pollution that use machine vision from space to make visual information legible.³ As Jussi Parikka (2023:18) notes, it can be argued that operational images

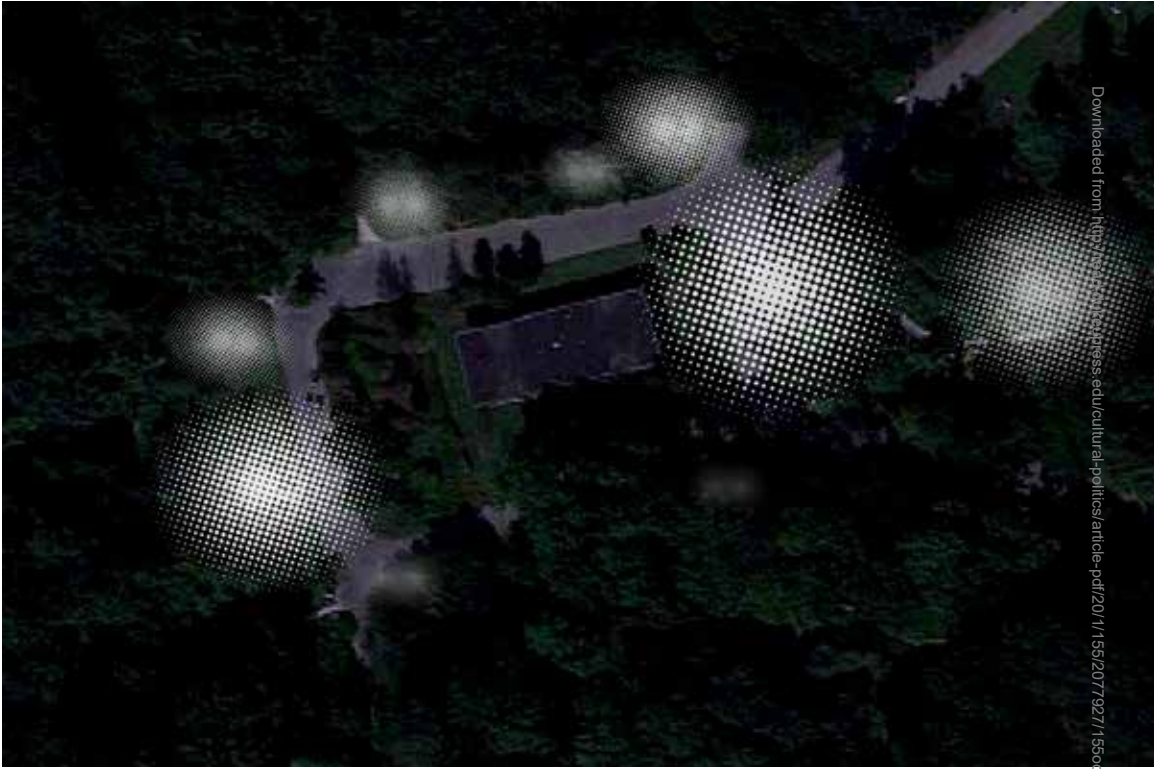


Figure 2 Measurement of lighting around the exhibition *Perfect Nature*, using handheld sensors. Glazen Huis, Amstelpark, May 2023.

organize the world, as well as “organize our sense and skills in terms of how we are trained to approach such images, from the photogrammetric mapping of landscapes to pattern recognition, astronomy datasets to Mars Rover imaging practices.” In our practice, an operational image can be only one part of a critical artistic method. It represents to us a scientific mirror that is part of a vast instrument, the product of both a techno-scientific and military-industrial global complex.

Thinking with Donna Haraway (1988: 581), we contrast the operational image with Haraway’s assertion that we should reclaim the nature of all vision as embodied. In this case, we approach the subject phenomenologically, to “reclaim the sensory system that has been used to signify a leap out of the marked body and

into a conquering gaze from nowhere.” Our practice recognizes the gaze from nowhere—the operational image we associate with both surveillance and geospatial data, while drawing on our embodied senses as artists to create action. These are scalar issues, and we remain focused on a form of grounded local action as a response to global crises that have been defined by Karl Marx as a metabolic rift⁴ (Foster, Clark, and York 2010; Saito 2017), which separates society from nature in cascading ecological crises driven by capitalism.

Phase 2: Amstelpark, Deep Fieldwork

We created a new work called “Truth to Nature” for the exhibition *Perfect Nature* that demonstrates the essential need for embodied response to biodiversity. This starts with our use of scientific literature



Figure 3 Beautiful arches—a pixelstick-generated image of a machine scan of a moth specimen taken from Natural History Museum (NHM) Collections.

dealing with the impact of anthropogenic noise on nocturnal insects, moths in particular, whose populations have declined enormously across northern Europe. Referring to butterflies, Arco J. van Strien and colleagues (2019) note that over a century of data reveals more than an 80 percent decline in the Netherlands.

Our grounded approach to fieldwork in the nocturnal landscape is to use a technique of light painting and drawn images of moths using a tufting gun and neon wool to place disappearing moths back into the park. We select species using scientific sources that indicate decline in northern Europe, such as the viper’s bugloss, the conformist, and beautiful arches, among others. In addition, we included moths linked to polar migration, heading north

to avoid the heating climate of the Mediterranean (such as the hummingbird hawk-moth). One of the moths we were interested in is, in a sense, postnatural: the Friendly™ Diamond-Back, which is a genetically modified terminator organism. (We have a long-standing interest in postnatural landscapes; see, for example, Office of Experiments projects; Redactor featuring Rich Pell [2010], or Tiny Love Songs [2018], commissioned by zone2source, Holland.)

In Amstelpark, our images of moths are created using a pixelstick—a tool that magically produces images temporally in the camera’s open shutter—while remaining imperceptible to the human eye as a simple set of lights flashing on and off. The images we made on location led to a film installation inside the park’s

glass box gallery; Glazen Huis, which was integrated with an experimental installation that included its own twenty-four-hour perpetual sound and light scape. This immersive light element is generated from field recordings of local bat populations, as they use echolocation to close in on moths on the wing. The recordings were slowed down in order to be perceptible to the human ear. Seen and heard at night through the glass walls of the gallery, the installation made us aware of our own agency on the park as we also added to the illuminated landscape. This aspect gave us pause for thought.

The following photographs in this section were made by taking elements of our studio practice used to create the neon wool images of moths using ultraviolet (UV) black light, further into the park. We equipped a mobile cargo bike with a large array of UV lights and cycled it through the closed park at night. We immediately began to get some idea of what other worlds could be sensible to other species exploring this nocturnal landscape.

With zone2source, we led other artists from the School for Multispecies Knowledges on nocturnal visits in the park, to discuss and exchange ideas. We handed out light-measuring instruments and began to map the perpetual lights within the park. We moved into the rhododendron gardens, into the woodland, as night fell. We began to see nighttime flora and fauna by glimpsing the world of the deep ultraviolet.

***Phase 3: A Multispecies Red-Light District for Amsterdam:
A Propositional Image for Action***

It was not our intention when embarking on this research to propose a solution to the urban light pollution of Amsterdam or within Amstelpark that could be extended to other parks across Amsterdam. We were drawn to anthropogenic noise as



Figure 4 "Truth to Nature." Hand-drawn moth based on NHM Collections. Tufted with neon wool and illuminated using ultraviolet lights.



Figure 5 "Truth to Nature." Hand-drawn moth in wool depicted using pixelstick and the open camera shutter.



Figure 6 "Truth to Nature." One of a series of ten archive specimens from the collections of the NHM, that featured in the film, showing moths of various species that have recently arrived or departed from Holland because of climate change and biodiversity loss. An image created in the open shutter of the camera using a pixelstick.

Downloaded from <https://read.dukeupress.edu/cultural-politics/article-pdf/20/1/159/2077927/159000neil.pdf?guestAccessKey=11e17227-580a-427e-4191-9a6c-e04f22e1a8b> by guest on 29 May 2024



Figure 7 Cargo bike with UV lights.



Figure 8 Exploring Amstelpark with artists from the School of Multispecies Knowledges.



Figure 9 Manifest images. Using projected ultraviolet light, we are able to both see and understand the nocturnal landscape of the moth, who can see into a deep ultraviolet blue spectrum.



Figure 10 The red streetlights use a spectrum that is friendlier to both bats and moths.
© Compass. <https://www.compass.nl>.



Figure 11 A potential lighting solution for Amstelpark with lights related to those developed by Signify/Philips using a lighting “recipe” that does not impact certain species of moths and their predators—bats. Computer rendering, Cassius O’Connell-White.

a manifest visual toxicity in which multiple species are prevented from roaming across natural habitats. Our intention to explore anthropogenic noise in relation to the metabolic rift in relation to climate and biodiversity crises does, however, align with Diann Bauer’s work on the *propositional image*, a form of visual activism. She based her ideas in part on the work of Wilfred Sellars (2007), which creates a distinction between a “manifest image,” one that we experience as we see the world, and a “scientific image”—one that explains what we know of the world—a binary that is reflected in our interest in the operational and a situated image or embodied vision. As Bauer framed it, the propositional image⁵ is not an image at all, but a way to articulate a future that can be apprehended and then shaped. It is neither speculative design nor science communication. It draws from the images associated with climate data but separates

them from scientific solutions, partly as a critique of the failure of science to lead behavioral change alone.

Our research has led us toward a convergence with what might be termed a propositional image, through our observation of light in the nocturnal landscape and in relation to visual ecology—the knowledge of how other species see. As we proceeded, we also became aware of existing technologies already in existence (Signify/Philips and Innolumis) that are scientific solutions to our concerns—lighting that is both bat and insect friendly. Their “bat lamps” use a lighting “recipe” that is perceived optically by humans as a form of amber or red light. However, there appears to have been no research into why the adoption of such systems across parks or other urban areas has had poor uptake. We assume that costs, application (including patents), or cultural associations of red light might be a factor, combined

with issues relating to the safety of pedestrians at night. Our question nonetheless was, how could this or other open-source technologies be developed and used in parks? What role might propositional images or art in its manifest forms play in this scenario? This is the basis for our next phase of eco-social art and our interest to create insights here that might help toward generating collective responses immediately. A call to action.

Summary; or, Toward the Symbiocene

In advanced economies our assumptions are that there is no capitalist logic that trumps cost/energy savings of replacing phosphorescent lights with new LED systems. The applications may be there for other LED recipes, but there appears to be slow behavioral change. We experienced in conversations and dialogue with park keepers, conservationists, and the public engaged with ecology in Amstelpark a general lack of widespread awareness of the impact of white LED light on other species and in turn our ecological futures. In terms of our project, which is focused on biodiversity and anthropogenic noise, we feel that means there is no alternative but to move forward to embrace solutions, technological or collective, that positively engage symbiotic futures. As artists we observed light as both a toxin in the nocturnal landscape and an immaterial presence that gave us an insight into how to achieve a “sensible” propositional image that can lead to direct action for all species.

We are therefore asking the reader to go change the bulbs on your own streets, or around the exterior of your homes. To work with other generations, parents, children, to take control. To wrap existing LED lights with red filters or use ~630 nm (“high-efficiency red” or orange-red) LEDs (Spoelstra et al. 2017), or find alternative homemade solutions using lights with

these different spectrums. To work with other species to enact behavioral shifts and alter our own nocturnal worlds.

To move toward a more general activity that addresses symbiotic forms of activism, to address other similar issues within and across the institutions we are based, we also propose both functional changes and adjustments to how artists work and are taught, how we interact in symbiosis with the natural world, to address a range of needs. This includes thinking through how we expand our definition of society, or community, to include other species and more-than-human rights and responsibilities. To use science as a source to ensure that we apprehend the impacts we are having on environments alongside multisensory, multi-species knowledge. We need to rethink opportunities so that we can create situated placements at sites so that artworks or eco-social art practices can address the needs of multiple species. In pedagogic terms, we need living pedagogies that extend the role of art schools with a focus on multispecies justice and knowing. These changes also need to be attentive to time and temporality, to provide for extensive research periods that lead to potentially meaningful change. Lastly, we recognize that to balance cohabitational and coevolutionary terms, we need ecological and social justice for future generations of all species. Toward art as a symbiotic activism.

Notes

1. Test Site is a concept developed by our colleague, Arts Catalyst curator and founder Nicola Triscott. Between 2016 and 2018, Neal White undertook research exploring Poole Harbour with Arts Catalyst, using this method of co-inquiry with multiple collaborators, from ecologists to tourism experts.
2. Visible from flights in and out of Schiphol Airport and as recorded in Tom Hegen’s aerial photography, “The Greenhouse Series” (2019).
3. Harun Farocki is widely accredited with the idea



Figure 12 A pixelstick image of a moth pictured with the public (here with a member of the zone2source team) that formed part of our social media campaign about moth population decline and lighting that formed part of an event in Amstelpark.

of an operational image, but it has been adopted by other artists such as Trevor Paglen and Hito Steyerl, and is the focus of projects by Forensic Architecture, Territorial Agency, and multi-institutional projects including More-than-Planet.

4. Here, we thank artist Vivek Vilasani, who so passionately described the metabolic rift as an idea that links degrading soil health to capitalism. Vivek was part of the The Soil Assembly, an event at the Kochi Biennale February 2023, cocurated by Neal White, Meena Vari, Ewen Chardonnet, and Maya Minder, <http://www.soilassembly.net>.
5. Neal White was supervisor to the late artist Dr. Diann Bauer, who in her unfinished PhD thesis, "Xenotemporality," was also exploring how we might create alternative visions for the future. Working with Deep Field Project (University of Westminster) and colleagues in the AST (Alliance of the Southern Triangle, USA), she proposed an alternative vision of our shared ecological futures through films and media, drawing from operational images as assemblages to create a dynamic "prototype propositional image" of the world.

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Tina O'Connell is an Irish artist based in London. Following a masters in fine art, Chelsea College of Art, London, Les Beaux Art de Marseilles, France, and as recipient of the Henry Moore Fellowship in Sculpture, she developed works that examined the nature of permanence, stability, and materials associated with public sculpture, before working with a range of nonsculptural materials, from bitumen to light. Her investigations and material inquiry remain grounded in key themes of deconstruction, temporal decay, and, of late, anthropogenic noise. She cocurated *Perfect Nature in Amstelpark* (2022), which linked with the residency at *Nieuw en Meer / Zone2source* in Amsterdam with Neal White. Their findings were first presented as part of *The Soil Assemblies* (Kochi Biennale, India, 2023) as part of a wider project that explores the long terms impact of anthropogenic noise (human pollution) through media including film, sculpture, and performance based investigations. She is currently an associate professor in art at the University of Reading.

Neal White is an artist whose experiments, fieldwork, and practice use a range of digital/traditional visual media. In his work with performance, digital installation, and imaging, he has explored subjects ranging from self-experimentation to secrecy, creating epistemic things and experimental institutions, shaped by conceptual inquiries that explore our contemporary relationship to converging landscapes of nature, science, and technology. White has an international exhibition record, including solo and collaborative projects at Amstelpark, Amsterdam, Venice Biennale of Architecture, Kunsthalle Trondheim, Royal College of Art, Portikus, Frankfurt, and Henry Moore Institute, amongst others. He works closely with artist Tina O'Connell and Office of Experiments and is currently professor of art / science at University of Westminster, where he is also a director of CREAM (cream.ac.uk). He cocurates with the international collective, *The Soil Assembly*, featured recently at Kochi Muziris Biennale, 2023 (soilassembly.net).