



Abstract

One of the frameworks for understanding and addressing the environmental crisis is the pursuit of a balance among human, natural, collective and artificial agents – a balance that can be grounded in concepts from environmental ethics and information ethics. Works of art are considered functional models for the coexistence of human and non-human entities. Special attention is directed towards technology, as it figures as both the problem and a possible solution to that problem. At the same time, it also creates new phenomena at both the level of social relations and that of environmental change. The text presents three approaches in the domain of contemporary technological art that model environments and environmental issues to construct possible model solutions. Ars Electronica in Linz integrates art, technology and society through related platforms and initiatives, from artistic-research, scientific-technological, educational and discursive practices to sociopolitical actions. In reviewing the functioning of the Ars Electronica ecosystem, the article shows the diverse methods with which artists develop their projects, with special attention to Slovenian contributions to these festival editions. As an early example of ecological media art, the article considers the work of Paul Ryan, his method of recording the state of the Earth and reaching consensus through threeing and video technology. A third way of modelling ecosystems is observed in the artworks by Pierre Huyghe, which do not necessarily presuppose a human agent but achieve a certain degree of independence and openness in self-regulation.

Keywords: ecological art, video, new media art, infosphere, constructionism, Ars Electronica, Paul Ryan, Pierre Huyghe

Narvika Bovcon is a professor of video and new media art. She teaches at the Faculty of Computer and Information Science and, as an external collaborator, at the Academy of Fine Arts and Design, University of Ljubljana. Her research interests include user interfaces for exhibitions on online platforms and in virtual- and augmented-reality environments, the theory and practice of new media art, information visualisation and digital humanities. Since 2016, she has been the editor-in-chief of the journal *Likovne besede / Artwords*.

narvika.bovcon@fri.uni-lj.si

Artistic Modelling of a Sustainable Balance between Human and Non-Human Agents: Ars Electronica Festival, Artists Paul Ryan and Pierre Huyghe

Narvika Bovcon

Faculty of Computer and Information Science, University of Ljubljana

The article discusses three systematic approaches in the domain of new media art that construct environments as possible model solutions to environmental issues. Works of art are considered functional models for the coexistence of human and non-human entities in the infosphere, that is, the environment viewed from the perspective of Luciano Floridi's information ethics. The aim is to expand environmental ethics from living beings to inanimate and artificial ones – in the most general sense, to all conceivable and detectable entities.

The first part of the article presents the Ars Electronica festival, which addresses contemporary challenges at the intersection of technology and society through the lens of art, as well as through symposia and displays of implemented educational, industrial, infrastructural and legislative solutions developed in European, global and local projects. When mapping the central themes and approaches in artistic projects at recent festival editions, the author relies on Janez Strehovec's analysis of the ways and opportunities for art's ecological function. Using examples, the author shows that artists incorporate a variety of methods: art and design thinking; associative linking of motifs and concepts using travelling metaphors across disciplinary boundaries; speculative methods for modelling how systems function; transdisciplinary research; constructionist search for solutions based on issues and requirements; raising audience awareness through documentaries and storytelling; data visualisation; generative artificial intelligence models; exploration and development of new physical materials; participatory projects for community learning; performative experiments fostering empathy and interspecies connections; activism for achieving environmental and social equity, equality and justice.

The second part of the article looks back to the early period of media art. It presents the *Earthscore* method for recording the state of the Earth and achieving consensus through the so-called *threeing* technique and video technology, as conceived by the ecological artist Paul Ryan. His writings on semiotic and topological models of the communication code of video are collected in the book *Video Mind, Earth Mind* (1992). Ryan's relational circuit is based on Gregory Bateson's cybernetic theory, which postulates a system as a closed loop that regulates itself by changing the differences occurring in its parts. Ryan interprets the non-directional system as a new evolutionary paradigm of video in comparison to the directional systems of writing or speaking. His relational circuit, diagrammatically presented as a Klein bottle, is undirected, since within it three people arbitrarily move between six positions, each occupied once; thus, the system internally balances itself through the three experiences of each person. Ryan understands the positions of firstness, secondness and thirdness following the tradition of Charles S. Peirce: firstness is characterised by spontaneity, secondness is marked by facts and reaction, and thirdness is the position of moderation, establishing a correlation between firstness and secondness. The video is filmed in threes: person A films a selected natural motif, person B films their response to person A's footage, and person C proposes a montage of the footage from persons A and B. These ecological videos are Ryan's idea of the message that will trigger a change in thinking and an appropriate ecological response in the community that actively practises threeing, because, as Ryan notes, we can only survive together with the environment.

A different vision of the environment is shown in the artworks of Pierre Huyghe, for example, in the project *After A Life Ahead* (2017) and his solo exhibition, *Liminal* (2024). These are environments in which humans are no longer present, but have left some traces that operate embedded between the subjectivities (living, non-living, conceptual, computational) of the environmental system, which is regulated through various sensors of these organisms or information entities and their responses to perceived conditions in the environment. Huyghe orchestrates environmental concepts that are at the same time models that enable thinking about reality beyond anthropomorphic projection, based solely on information and matter. In these environments, entities operate that bear similarities to humans to the extent that they find their own imperfect reflection in them, for example, masks of human faces and inanimate or semi-human bodies. In the computer simulation *Liminal*, Huyghe creates a model of an artificial human being that emerges through a response to the environment in a dynamic relationship of embodied suffering and progressive rationality, generated by two neural networks that regulate the movement of a photorealistic simulation of a female body without a face.

The article presents three systems that model the possibilities for balance among humans, nature and technology. The Ars Electronica ecosystem comprises a wide range of transdisciplinary artistic methods and practices across various social contexts that connect in a focused, effective search for solutions to the environmental crisis. The *Earthscore* method for recording the state of the Earth and achieving consensus on environmental issues, practising Paul Ryan's *threeing*, is a closed system that encompasses communication in its entirety. Both systems, Ars Electronica and Ryan's relational circuit, are focused on humans and their connections with the environment to ensure coexistence. A third, different kind of system is observed in the conceptual environments of Pierre Huyghe, which do not assume humans as a necessary part but contain their traces, which in these environments serve as a kind of initiation for artificially intelligent organisms that learn from them to simulate humans. In this final case, what is at stake is the dynamic balance of ecosystems made up of different entities, over which humans have no dominance and no longer bear responsibility for preserving either themselves or life.