Image: Machine Wilderness, Danger squirrel nutkin, Ian Ingram

**Machine Wilderness**

**Alice Smits and Theun Karelse**

Machine Wilderness is a speculative arts and science program which explores what our machines could look like now that they are becoming permanent inhabitants of ourlandscapes, part of material flows, foodchains and layers of communication. In particular it looks at environmental robotics, designing ‘pseudo-organisms’ as agents in their own right that inhabit and participate in specific habitats and eco-systems.

The challenges associated with the anthropocene make evident that the earth’s systems are not separable from human activity, and really never have been. For centuries civilization meant separateness from nature while connectedness to nature was deemed as primitive. Our modern sense of emancipation and freedom is caught in this opposition to nature. Now that it has become clear that our cultures and technological innovations are destroying the very earth that supports our existence, we need to find a new meaning for emancipation and rationality coming from a new sense of connectedness and co-habitation.  
  
The responses to the current ecological crisis show different attitudes towards technological development: The first of these is based on a belief in technological progress which maintains that now that we understand the consequences of our actions the solution to the problems we created is even more technology such as geo engineering and genetical manipulation. Machine Wilderness supports another approach which is based in the understanding that we as humans will never completely understand the effects of our inventions and try to take nature as a learning school, designing processes that imitate and work with nature.

The environmental damage we are witnessing shows that our design processes underestimate the level of exposure for our landscapes to human activity. Our infrastructures, technologies and machines are not temporary visitors to our landscapes; they have become permanent inhabitants. Machine Wilderness explores these new anthropogenic landscapes in which nature and culture have collapsed in order to research the relation between our machines and biological life forms, by speculating on how a robotic machine could navigate a food forest, engage complex communication systems through chemicals, sound, smell, vision; find out how it can take its energy from flows, ocean ties or atmospheric waves which it inhabits; how it can die and recycle its material construction. Post-humanism does not only refer to the collapse of hard- and wetware but to the development of different relations between biological life and machines and the recognition of multiple forms of agencies that together shape life on earth.

So how can we start designing technologies that work with, instead of against, nature? Machine Wilderness sets out to rethink our technologies by starting to design from an environment; to imagine machines that are not human centered but, first of all, before thinking of an objective and instrumentalization, engage and can exist constructively in the specific environment they dwell in. To engage these questions Machine Wilderness explores experimental design methods that aim to include diverse ways of knowing so we can begin with taking into account a wide understanding of the characteristics of the eco systems we place our technologies in. In collaboration with artists, ecologists, engineers, choreographers, designers, environmental philosophers, farmers and many others from diverse backgrounds we aim to trace out new contours and map new domains for ecological robotics based on specific landscapes.

Through symposia we focus on the changing discourse concerning the adaptation of our technologies to nature and exploring the newly appearing hybrid nature-culture landscapes. Machine Wilderness was launched during a symposium at Artis Royal Zoo in the city of Amsterdam, in which as a zoo that aspires to return to its origins as a place for nature, culture and science, the project met an interesting context. In speculative design workshops we set out to describe specific ecosystems to imagine together with participants from varied backgrounds the technological creatures that could coexist and collaborate within it. For the Symbiotic Systems workshop we worked together with Ivan Henriques, a Brazilian artist who developed an ecological robot which obtains its energy from consuming photo synthetic organisms such as algea. The workshop was a design exercise to explore how to adapt a machine to natural systems. It focused on the needs and functions of a bio-robotic structure inspired by the specific landscape of the Amstelpark in Amsterdam where it was held. We investigated the relationship between this hybrid system and the resources and opportunities the park offers so we could re-think a different equation: how to adapt machines to natural systems while looking at the environment as a partner from which we can learn to communicate with the living and non-living environment.

# For the workshop Forest Bathing we worked together with anthropologist Judith van der Elst, who focuses on the semiosphere –the sphere of communications- and the way technologies can be developed for the enhancement of sensory experiences. The main objective here is to develop technologies that enable recognition and navigation of sensory qualities in the environment. The urgency of this project is to reconnect the digital back to the physical world and identify the looming loss of such qualities. It introduces the concept of biosemiotics that underpins a new direction in sensory research and design. Biosemiotics is considered the transdisciplinary field focused on the myriad forms of communication and signification observable both within and between living systems, the study of representation, meaning and sense. The workshop concentrated on rethinking and considering prototype technologies that can function as ‘interpretants’ to facilitate inter-species’ communications and imagine how a robotic creature can function within the existing semio-sphere. Machine Wilderness also organizes art science residence programs in Anthropocene landscapes such as our first expedition to Ars Bioarctica where artist Ian Ingram and Antti Tenetz joined Theun Karelse for field work at the Kilpisjarvi Biological Research Station in the Finnish polar region where they tested and designed new works of ecological robotics.

At the Digital Design Weekend, Machine Wilderness will set up in the gardens and present amongst others works by Ian Ingram, whose robotic creatures explore the possibility of communications with biological life forms through various means of gesturing and sound installed at a nearby tree and pond, while Slovenian artist and biologist Spela Petric’s project Naval Gazing consists of a kinetic art machine, which simultaneously acts as a platform for the attachment of organisms, creating a travelling, uncontrollable transient biotope in the oceans. Machine Wilderness will offer video documentation of further projects and workshops as well as protytyping design tables where we invite the audience to participate in the imagining of ecological robotics.

Machine Wilderness is a collaborative research project between Theun Karelse of FoAM, a cultural laboratory re-imagining possible futures in the interstices of art, science, nature and everyday life and Alice Smits, initiator and artistic director of Zone2Source, an exhibition platform in three pavilions in the Amstelpark in Amsterdam which presents art projects, discussions and workshops focusing on developing new relations between art, nature and culture/technology. Machine Wilderness was the theme given by Andrea Polli to the ISEA 2012 symposium, and originates from writings of cultural geographer Ron Horvath in the 1960s who considered the impact of cars on the planes of the Southwest. Machine Wilderness referred to the task for artists and technologists to present “ideas for a more humane interaction between technology and environment, in which ‘machines’ can take many forms to support and sustain life on Earth.” It is used here with full respect for that context.

[www.machinewilderness.net](http://www.machinewilderness.net)  
[www.zone2source.net](http://www.zone2source.net)  
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