



© LAT (3)

Cyborg Landscapes. The Optimised Nature of Nature 16th Weihenstephan Forum

Udo Weilacher

“A cyborg is a cybernetic organism”, the biologist and philosopher Donna Haraway explained in 1985, “a hybrid of machine and organism, a creature of social reality as well as a creature of fiction.”¹ Such hybrids have long since populated more than just science fiction. In human medicine, increasingly sophisticated implants are being developed that not only ensure a person’s survival, but also improve the quality of life of many people. The spectrum of today’s implants ranges from pacemakers, first implanted around four decades ago, to current “body modifications” that serve the purpose of “enhancement”, that is the technical optimisation of the human body. This technological progress is fuelling the social question of how far the fusion of nature and technology can go. What opportunities and risks does increasing hybridisation harbour? Cyborg landscapes, hybrids of machine and landscape, are also not a new phenomenon and are shaping today’s human living environment much more than most people realise.

Welcome speech by the curator of the symposium Udo Weilacher in the Schafhof – European Art Forum Upper Bavaria in Freising

Increasing digitalisation is driving hybridisation processes in the landscape. The call for technical optimisation of nature and landscape is becoming louder, especially in the wake of the ever-increasing challenges to environmental development, primarily due to global climate change. The variety of propagated environmental enhancements ranges from large-scale geo-engineering and the generation of hybrid energy landscapes to the local implantation of artificial trees, smart biotech fine dust filters such as the “Citytree”² with integrated moss modules, for climate adaptation in urban areas. Should current landscape architecture increasingly promote the development and application of such technical innovations and devote itself to the creation of new cyborg landscape types? Or do these efforts to optimise the environment through technology resemble the pursuit of a phantom that distracts from relevant, essential tasks in landscape architecture? Significant changes in the living environment were already clearly recognisable more than three decades ago.

Despite enormous technological progress, the impression at the time was that the global environmental crisis was not being alleviated – quite the opposite. Even before the catastrophic accident at the Chernobyl nuclear power plant in April 1986, high-tech solution strategies for more sustainable energy generation, industrial production, mobility, construction, and settlement activities had repeatedly proven to be prone to failure. At the end of the 1980s, landscape architecture students at the Technical University of Munich therefore no longer wanted to devote themselves to the topics of nature, landscape, and the environment exclusively from an engineering or scientific perspective, as prescribed by the curriculum. The academic and rational approach to nature and landscape at the university also lacked something crucial: an inspiring appeal that would touch people emotionally and inspire them to rethink their social value system and resource consuming lifestyle.

The students therefore independently founded the *Zeichen + Landschaft* (Sign + Landscape) initiative³ and invited artists such as Hannsjörg Voth from Germany (1991), Andy Goldsworthy from Great Britain (1993), Martha Schwartz (1993), Christo and Jeanne-Claude from the USA (1993), Dani Karavan from Israel (1996), and others to Weihenstephan for inspiring lectures. Workshops were also organised with the artists in former mining areas and on post-industrial wastelands to find out what different, direct access to the landscape art can facilitate. Initial findings from *Zeichen + Landschaft* were discussed in 1992 in a diploma thesis entitled “Von der Landschaftsarchitektur zur Land Art”⁴, which was later published as the book “Between Landscape Architecture and Land Art”⁵. The introduction states: “One of the main issues of our age is the disturbed relationship of man to nature and the ensuing world-wide threat to the ecological balance.

Participants in the panel discussion: Ilkka Halso, Natalie Gulsrud, Steven Velegrinis, Essam Heggy, Daixin Dai, Paul Roncken, and their host Udo Weilacher



More than 100 participants, including many landscape architecture students, followed the presentations of the international speakers live at the Schaffhof Freising

Our society is still seeking a technological solution to a crisis generated by this same technology. The realisation that the crisis facing the environment is being caused by man, who is not just a 'factor' to be predicted by rational means and researched by science, but is also a being perceiving through his senses and often acting intuitively, is only very gradually gaining acceptance. [...] Ultimately, the question as to whether we can overcome ecological and social crises is primarily a question of human behaviour.⁷⁶ This finding from 1991 has not fundamentally changed to this day, but the context is more problematic than it was three decades ago. Technical progress has accelerated enormously since the Internet was opened for commercial use in 1990 at the latest. Today, a thoroughly digitalised society is looking for high-tech ways out of the technologically induced environmental crisis, which has worsened to a catastrophic extent as a result of the almost total economisation of all areas of life. According to the World Economic Forum's Global Risks Report 2023, six of the ten most serious global risks in the coming decade are to be found in the area of the environment.

The report lists the top four risks as: "1. failure to mitigate climate change, 2. failure of climate-change adaptation, 3. natural disasters and extreme weather events, 4. biodiversity loss and ecosystem collapse."⁷⁷ In the fight against the consequences of the global environmental crisis, political and planning circles are currently focussing on improving the usefulness and efficiency of nature and the landscape. This is signalled not only by normative buzzwords such as "ecosystem services" (ESS), "nature-based solutions" (NBS), or "green infrastructure" (GI)⁸, but also by intensive research into new technologies for environmental control and a dwindling inhibition against ever more extensive technological interventions in the Earth's complex climate system, for example with "geoengineering"⁹. Farreaching interventions in global ecological processes are intended to counteract climate change. These range from the use of genetically modified plants in agriculture and the wrapping of melting glaciers in reflective tarpaulins to the underground injection of the greenhouse gas carbon dioxide using the Carbon Capture and Storage CCS process or the installation of solar sails in Earth's orbit. This environmental



technology on a planetary scale is labelled “nature-based”, but here too it is primarily about functionalism, the use of nature’s ecosystem services, their technical control and optimisation. The social consequences of these interventions are usually not really taken into account. Landscape architect Martha Schwartz, who began her career as a visual artist in the USA and was a guest at *Zeichen + Landschaft* at TUM in Freising in 1993, is giving a lecture today on “Climate Change and Why We Will Need Geoengineering”¹⁰. She hopes that the use of this cutting-edge technology will save time in the race against global climate collapse and wants to use the opportunity to recalibrate our relationship with nature. Perhaps she is right, but there is now a real fear that this will once again encourage the procrastination that has persisted for decades, in line with the realisation from 1991: “Our society is still seeking a technological solution to a crisis generated by this same technology.” It is obvious that an increasingly technology-orientated approach will change landscape architecture significantly in the future. Landscape is already a complex living superorganism that often reacts unpredictably to planning interventions. Like all complex systems, landscape is characterised by non-linearity, emergence, and surprise. In cyborg landscapes, increasingly interspersed with geoengineering implants, the complexity is increased, and this leads not least to the uncertainties with which we will be confronted – Environmental Impact Assessment or Social Impact Assessment will become almost impossible. As with the humanoid cyborg, the cyborg landscape also raises crucial questions. What intensity and severity of technological interventions are acceptable for the landscape and the ecosystem, and do they still exist in a sensible relationship to the expected ecological and social benefits for humanity?

How far can we push the hybridisation of man and machine, of nature and technology, without risking the organism as a whole becoming too susceptible to disruption and possibly collapsing completely one day?

Key questions such as these can only be discussed successfully in open interdisciplinary debates. Natalie Gulrud from Denmark, Daixin Dai from China, Ilkka

Halso from Finland, Essam Heggy from the USA and Egypt, Paul Roncknen from the Netherlands, and Steven Velegrinis from the USA have accepted the invitation to take part in such a round table discussion at TUM and, in their contributions published here, they offer trend-setting suggestions for dealing with the cyborg landscapes of the future.

- 1 Haraway, Donna: Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980’s. In: *Socialist Review* 80. 1985. P. 65 (65-108)
- 2 c.f.: <https://greencitysolutions.de/en/city-tree/> (downloaded January 2, 2024)
- 3 c.f.: Ernst, Annika: „Land Art in Freising“. Drei Vorträge der Initiative „Zeichen + Landschaft“ in: *Süddeutsche Zeitung* 1992
- 4 Weilacher, Udo: Von der Land Art zur Landschaftsarchitektur. Diplomarbeit am Lehrstuhl für Landschaftsarchitektur und Planung an der Technischen Universität München-Weihenstephan. Freising 1992
- 5 vgl. Weilacher, Udo: *Between Landscape Architecture and Land Art*. Basel Berlin Boston 1996
- 6 Ibid. p. 9
- 7 World Economic Forum (eds): *The Global Risks Report 2013*. 18th Edition. Cologne/ Geneva 2013; p. 6
- 8 c.f. COM(2013) 249 final Green infrastructure (GI): enhancing Europe’s natural capital, Brussels 2013, p. 2/3
- 9 c.f.: <https://www.umweltbundesamt.de/themen/nachhaltigkeit-strategien-internationales/umweltrecht/umweltvoelkerrecht/geoengineering-governance#was-ist-geo-engineering> (downloaded January 3, 2024)
- 10 <https://www.arch.rpi.edu/2021/02/s21-lecture-schwartz/> (downloaded January 3, 2024)