



WORKSHOP
Art, Science, and Philosophy
December 12, 2016
2–6.15 pm

2–2.15 pm

Ingeborg Reichle

Welcome and Introduction

Department of Media Theory, University of Applied Arts Vienna

2.15–2.45 pm

María Antonia González Valerio

Landscape, Environment and Molecular Biology: Perspectives about Teleology

Faculty of Philosophy and Literature, National Autonomous University of Mexico, Mexico City

2.45–3.15 pm

Virgil Widrich

Art & Science & the Small Bang Theory

Department of Art & Science, University of Applied Arts Vienna

3.15–3.45 pm

Bernd Kräftner

"Don't leave the kitchen!" A recipe for Art-Science Incubations

Department of Art & Science, University of Applied Arts Vienna

3.45–4.15 pm

Herwig Turk

Labsapes and Landlabs: Re-Reading Environments

Department of Social Design, University of Applied Arts Vienna

4.15–4.45 pm **Coffee Break**

4.45–5.15 pm

Tanja Gesell

Present Absent: Biomolecular & Artistic Structure Research

Department of Structural and Computational Biology, Max F. Perutz Laboratories & University of Vienna

5.15–5.45 pm

Christoph Bock

What if ... we all know each other's genomes?

CeMM Research Center for Molecular Medicine, Vienna

5.45–6.15 pm

Frank Rösl

Personalized Medicine:

A critical view from the perspective of a basic researcher

Division of Viral Transformation Mechanisms, German Cancer Research Center Heidelberg

Venue:

University of Applied Arts Vienna

Vordere Zollamtsstraße 3, 1030 Vienna

SR 24 (mezzanine floor)

Art, Science, and Philosophy

Workshop on December 12, 2016

Speakers:

Prof. Ingeborg Reichle, Department of Media Theory, University of Applied Arts Vienna

Prof. María Antonia González Valerio, Faculty of Philosophy and Literature, National Autonomous University of Mexico, Mexico City

Prof. Virgil Widrich, Department of Art & Science, University of Applied Arts Vienna

Dr. Bernd Kräftner, Department of Art & Science, University of Applied Arts Vienna

Herwig Turk, Department of Social Design, University of Applied Arts Vienna

Dr. Tanja Gesell, Department of Structural and Computational Biology, Max F. Perutz Laboratories & University of Vienna

Prof. Christoph Bock, CeMM Principal Investigator, Visiting Professor at the Medical University of Vienna, Coordinator of the Biomedical Sequencing Facility

Prof. Frank Rösl, Division of Viral Transformation Mechanisms, German Cancer Research Center, Heidelberg

Concept

The workshop „Art, Science, and Philosophy” will bring together philosophers, artists and scientists to rethink the concept of art and the concept of nature and „human nature“ in the age of technoscience, where the biological sciences become the new technological frontier. The workshop and the Angewandte Innovation Laboratory Talk of the Mexican philosopher María Antonia González Valerio is part of the research collaboration “Question about the Limits: Art, Science, and Philosophy” between the Department of Media Theory, University of Applied Arts Vienna, and the Faculty of Philosophy and Literature, National Autonomous University of México, Mexico City.

The collaboration project aims to initiate and develop a debate about the relationship of ontology and aesthetics in the age of technoscience from the perspectives of art, science, and philosophy: During the twentieth century science and technology acquired a dominant role in redefining the concept of life. Technology-driven science and research rendered the basic physical and functional unit of heredity, the gene, accessible to human manipulation, thus turning biology into technology. The genetic code and computer code became interchangeable, opening up new possible constellations for designing the biological sphere. Simultaneously we saw big shifts in the developments of the sciences in the least two decades, when fundamental principles and ways of doing science and research in the field of biotechnology began to erode, like the reproducibility of experimental settings. Today research processes are getting more and more outsourced, away from the laboratories of scientific institution to new start-ups, turning the research process into a black box for the scientist involved. On the other hand we see with the growing DIY movement cutting-edge technologies getting into the hands on non-professionals, and new genome editing technologies like CRISPR cheap and easy to use revolutionizing the question about the ontology of life.

This ground-breaking development went unnoticed in the art world: it was not until the 1990s that artists began to make increased use advanced technology to explore and create new art forms, such as digital art or bioart. Science-based art emerged, enhancing progressive encounters with science and technology and shifting the terrain of art towards cutting-edge technologies and the technosciences. With the rise of bioart, a variety of new materials, such as DNA, bacteria, cells, tissue cultures, and transgenic organisms, entered the art world as a means of artistic expression. Obviously, this also made it necessary for artists to get acquainted with new epistemologies and a new logic of producing reality within the techno-scientific re-

gime. By bringing their artistic endeavour with cutting-edge technology to the public's attention, science-based art has provoked greater reflection on the limits of manipulating and/or creating life with biotechnology, highlighting the new genome editing technologies like CRISPR and new approaches in the field of synthetic biology. Therefore, it is high time to shed some light on the relationship of ontology and aesthetics in the age of technoscience by focusing on the production of art that is related to techno-science; not only because of the technologies it uses — and recently also biotechnologies — but most importantly because from this relationship a model emerges which is fruitful for understanding and interpreting reality. Therefore, the question “What is art?” needs to be posed in the light of an ontology that deals with technoscience and the production of reality within biotechnologies. The philosopher María Antonia Gonzalez Valerio will frame the workshop with her introduction and investigation about the revival and reappraisal of natural philosophy in the light of biotechnology. Her approach, which she calls “the ontology of immanence” engages above all with predominant traditions that seek to answer the question as to the essence of nature and its relationality either with reference to language or to history. In the twentieth century these lines of thought have resulted in nature being subsumed under culture, and this is why it has repeatedly been deemed necessary to try to close off and dislocate parts of nature. In recent decades the remnants of nature left over from the grasp of culture have tended to be made over to philosophical anthropology, which does not offer any solution to the philosophical issues involved. A revival and renewal of natural philosophy must engage with the recent findings of the technosciences and biotechnology and relate them theoretically to the novel aesthetic ontologies that now seek to interpret the world of sensate organisms (plants and animals including humans).

Biographies

Ingeborg Reichle is a media and cultural theorist writing on contemporary art, new technologies, and new media with a focus on biotechnology and artificial life. She is chair of the Department of Media Theory, University of Applied Arts, Vienna. In 2004 she received her Ph.D. from the Humboldt University Berlin with her dissertation *Art in the Age of Technoscience: Genetic Engineering, Robotics, and Artificial Life in Contemporary Art*, published 2005 in German and 2009 in English by Springer publishers, Vienna and New York. She is co-editor of seven books, the most recent being *IMAGE MATCH. Visueller Transfer, "Imagescapes" und Intervisualität in globalen Bildkulturen* (Fink, Munich 2012). She completed her habilitation thesis in 2013 titled *Bilderwissen – Wissensbilder: Zur Gegenwart der Epistemologie der Bilder* at the Humboldt University Berlin, where she was FONTE professor from 2014 on. In 2010 she curated the BioArt exhibition *jenseits des menschen – beyond humans* at the Berlin Museum of Medical History at the Charite in the context of the conference *Leben 3.0 und die Zukunft der Evolution* at the Berlin-Brandenburg Academy of Sciences and Humanities in Berlin. Since 2000 she has been a guest lecturer and guest professor at various international institutions, including the School of Visual Arts (SVA), New York; the Department of Biology, Massachusetts Institute of Technology (MIT), Boston; the Life-Science Lab, German Cancer Research Center, Heidelberg; Timbusu College, National University of Singapore; and the National Autonomous University of México (UNAM), México City.

María Antonia González Valerio is a philosopher working in the fields of aesthetics and ontology with a focus on biotechnology and the arts. Since 2007 she is a professor at the Faculty of Philosophy and Literature, National Autonomous University of México (UNAM). She is the author of three books: *Prolegómenos a una filosofía natural. Escritos de ontología estética* (Herder, 2015), *Un tratado de ficción. Ontología de la mimesis* (Herder, 2010), and *El arte develado* (Herder, 2005). She is co-editor of five books, the most recent: *Pros Bion: Reflexiones naturales desde el arte, la ciencia y la filosofía* (UNAM, 2014). She is the coordinator of the art collective BIOS Ex machinA (workshop for the fabrication of the human and the non-human) and the head of the interdisciplinary research group *Arte + Ciencia* (Art + Science) based at UNAM. María Antonia González Valerio founded *Arte + Ciencia* in 2011 and it seeks to produce art and knowledge (art research) at the intersection of the humanities, arts, and sciences. *Arte + Ciencia* has organised several exhibitions including *Sin origen/Sin Semilla* (the first transgenic and biotechnological exhibition in México), MUCA Roma-MUAC, UNAM, México, 2012–2013; *Bioartefactos: Desgranar lentamente un maíz MACO*, Oaxaca, México, 2014; and *Bestiario del día final*, Quinto Piso,

México, 2015. It has organized workshops that reflect on the collaboration between art and science: “Artistic investigations into Robots and Plants” (2015), “Antropología del cerdo” (2015), “Vida maquinaria: Limitaciones y transgresiones en la relación arte-vida-sociedad” (2014), and “From Bioethics to Bioart: The Question about the Limits” (2014).

Virgil Widrich is a director, screenwriter, filmmaker, and multimedia artist. He works on a large number of films and multimedia projects, sometimes as part of a creative team, and is especially known for his short films and multimedia works. In 2004 Virgil Widrich was a member of the Ars Electronica jury and he chaired of the Austrian Film Directors’ Association until 2007. He is also a member of the Academy of Austrian Film. From 2007 to 2010 Virgil Widrich taught the class of digital arts as a professor at the University of Applied Arts Vienna. Since 2010 he is the chair of the Department of Art & Science with a post-graduate Master Programme in art and science. He is one of the founders and managing directors of the multimedia company Checkpointmedia GmbH and owner and managing director of Virgil Widrich Film- und Multimediaproduktions G.m.b.H.

Bernd Kräftner is an artist and researcher. He studied medicine, has worked as a filmmaker and a writer, and since 1998 he explores the messy interfaces between science and society. He has carried out various transdisciplinary research projects funded, for example, by the Austrian Ministry of Science; the Wellcome Trust’s SciArt Programme, London; the ZKM, Karlsruhe, and the Humboldt University, Berlin. He was co-curator of the science exhibition *The True/False Inc*, Vienna 2006. From 2008 to 2010, he was the principal investigator of the research and art project “Pillow Research: Multiple Diagnoses and Hidden Talents”, sponsored by the Translational Research Programme of the Austrian Science Foundation, and additionally he is principal investigator of the science and art project (2010–2012) “‘In the Event of?’ Anticipatory and Participatory Politics of Emergency Provision”, sponsored by the Arts & Science Call 2009, Vienna Science and Technology Fund (WWTF). Bernd Kräftner has conducted numerous transdisciplinary research projects on and at the interfaces of science, society, and art, he is the founder of the research group *Shared Inc.* (Research Centre for Shared Incompetence), and is a senior lecturer at the University of Applied Arts in Vienna in the Departments of Art & Science and Digital Art.

Herwig Turk is a media artist, working in installations, photography, film and digital media at the intersection of art and science, with a particular focus on the biosciences. He creates his artworks in the context of interdisciplinary discourses and in close collaboration with scientists and researchers. From 2010 to 2013 he was Artist in Residence at the IMM (Instituto da Medicina Molecular), Lisbon. From 2003 to 2009 he collaborated with Paulo Pereira, Director of the Centre of Ophthalmology at IBILI (Institute of Biomedical Imaging and Life Sciences, Faculty of Medicine, University of Coimbra). Recent exhibitions of Herwig Turk’s work include shows at the MAK Museum für angewandte Kunst, Vienna, the Seoul Museum of Art, Seoul, the Neues Museum Weserburg, Bremen, the TESLA Labor für Medienkunst, the Georg Kargl Gallery, Vienna, and the Transmediale festival, Berlin. His work is currently on show at the MMKK (Museum Moderner Kunst Kärnten) in his solo show *Herwig Turk. Landschaft = Labor* (September 29, 2016 – January 8, 2017). Since 2014 Herwig Turk teaches as a senior artist at the Institute of Social Design, University of Applied Arts Vienna.

Tanja Gesell is a postdoctoral scientist at the Department of Structural and Computational Biology, University of Vienna and a free artist. She holds master’s degrees in biology and fine arts from the University and the Academy of Fine Arts in Düsseldorf, with a major in experimental sculpture and minors in aesthetics, philosophy and art history. In 2003 Rosemarie Trockel also chose her as a “Meisterschüler”. In 2009, she obtained her Ph.D. in molecular biology at the University of Vienna with her dissertation *A Phylogenetic Definition of Structure*. Before her maternity leave, Tanja Gesell also did research as a mobility fellow at Harvard University and at the Broad Institute in Cambridge, Massachusetts, and as a Marie Curie Fellow at the European Bioinformatics Institute in Cambridge, UK. Tanja Gesell is a cofounder of and lecturer in the new Connectivity Seminar at the University of Vienna. In this seminar connections between various natural science disciplines, the humanities, and the arts are established with regard to the aspect of structure. Her research approach is using scientific and artistic practice for examining the structural concepts that underlie molecular research. Tanja Gesell’s current research includes the fields of biomolecular

structure, phylogeny, comparative genomics as well as artistic research, information-visualization and fine art itself.

Christoph Bock is a principal investigator at the CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences. His research focuses on dissecting the role of epigenetics in cancer and on developing high-throughput technologies for precision medicine. He is also a guest professor at the Medical University of Vienna's Department of Laboratory Medicine, scientific coordinator of the Biomedical Sequencing Facility at CeMM, and an adjunct group leader for bioinformatics at the Max Planck Institute for Informatics. Christoph Bock obtained his PhD summa cum laude from Saarland University and the Max Planck Institute for Informatics in 2008, followed by three years of postdoctoral research at the Broad Institute of MIT and Harvard University, where he contributed to the NIH Roadmap Epigenomics project. At CeMM, he co-initiated and leads Genom Austria, the Austrian contribution to the International Network of Personal Genome Projects, and he is a principal investigator in BLUEPRINT (International Human Epigenome Consortium). Christoph Bock has received several research awards, including the Max Planck Society's Otto Hahn Medal (2009), a New Frontier Group grant by the Austrian Academy of Sciences (2015–2020), and an ERC Starting Grant (2016–2021).

Frank Rösl is a scientist and since 2002 head of the Division of Viral Transformation Mechanisms, Research Programme "Infection, Inflammation and Cancer", German Cancer Research Center, Heidelberg. This field of research received considerable publicity when Harald zur Hausen was awarded the Nobel Prize in Physiology or Medicine in 2008, his mentor and colleague with whom Frank Rösl worked together for more than 15 years. Frank Rösl has been a professor at the faculty of Theoretical Medicine, University of Heidelberg since 2001. His research fields are: innate immunity and viral escape mechanisms; metabolic aspects, intracellular energy sensing; papillomaviruses and non-melanoma skin cancer, vaccine development. In 1986 he received his doctorate from the Department of Molecular Biology of DNA Tumor Viruses, German Cancer Research Center. His habilitation thesis in 1994 was in virology at the faculty of Theoretical Medicine at the University of Heidelberg. Because knowledge and innovation evolve not only within a well-defined field, but rather through transgressing boundaries and through developing open and creative communication, Frank Rösl endeavours to bring art, science, and the humanities together to enable epistemic transfers. From 2008 to 2011 he was a member of the interdisciplinary research group "Bildkulturen" at the Berlin-Brandenburg Academy of Sciences and Humanities in Berlin, and in 2008 was co-applicant of the research project "Transfer-Knowledge – Knowledge-Transfer. On the History and Contemporary Relevance of Transfers between the Life Sciences and Humanities (1930/1970/2010)" in collaboration with the Center for Literary and Cultural Research (ZfL), sponsored by the German Federal Ministry of Education and Research (BMBF) from 2009 to 2013.

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Photo: Sonja Bäümel in collaboration with
Manuel Selg, Metabodies
(2013 - ongoing). Courtesy of Sonja Bäümel.

