

EXHIBITION:
24-27.6.2014 • 07:00-21:00

23.6.2014 • 10:00-18:00
TRANSDISCIPLINARY PLAY IN 3 ACTS

BIOSPHERE n+1

MODELS AND REALITIES:
VERSIONS OF SUSTAINABILITY

University of Natural Resources and Life Sciences, Vienna (BOKU)



[DOCUMENTATION]

This is a catalogue of the BIOSPHERE n+1 event and exhibition that took place in June 2014. A cooperation between students of the Art & Science master's programme and the Doctoral School of Sustainable Development.

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BIOSPHERE n+1

Models and Realities: Versions of Sustainability

Transdisciplinary Play in 3 Acts:
Monday 23 June 2014, 10:00–18:00

Exhibition:
24–27 June 2014, 07:00–21:00

University of Natural Resources and Life
Sciences, Vienna (BOKU),
Foyer of Franz Schwachhöfer Haus,
Peter-Jordan-Straße 82, 1190 Vienna

Envisioning a sustainable future of our planet leads to many attempts to integrate scientific disciplines and respective research methods.

Biosphere 2 was a living model world with the aim to study the interactions between humans, farming and technology. The ecological experiment was implemented in the 1990s in the Arizona desert and tried to build a closed, independent system that resembled the most important factors of Earth's ecosystem. Compared to today's fine-tuned computational models, which are used to understand, simulate and control real-world systems and tackle transformation towards sustainability, the project of *Biosphere 2* can serve as a model for an experimental and performative mode of living that dreams of new ways of doing the natural and the social. The cooperation between students of the Art & Science master's programme and the Doctoral School of Sustainable Development uses *Biosphere 2* as a starting point to develop a transdisciplinary play that enacts "biospherian" versions of sustainability.

SCHEDULE [23 JUNE]

09:00-10:00 / Check-in

Please check-in to confirm your attendance,
or register if you have not done so already

10:00-10:45 / Introduction

Welcome and introduction to BIOSPHERE n+1: Virgil Widrich
(Art & Science, Angewandte), Andreas Muhar (dokNE, BOKU)

11:00-12:30 / Act 1

Metaphysics of
Opportunity Costs
Foyer



The Green Storm
Seminar room Landtechnik

Taste the Abstract
Foyer



12:45-13:30 / Intermission

Buffet will be provided for lunch

13:45-15:15 / Act 2

Meat the Action!
Arena
Seminar room 6



Publication Quota
Seminar room 10



15:30-17:00 / Act 3

Lecture by
Ralo Mayer
Wilhelm Exner Haus,
Lecture room 2



The Green Storm
Seminar room Landtechnik

Taste the Abstract
Foyer



17:15-18:00 / Discussion

Wrap-up of the day's activities

[24-27 JUNE] Exhibition of module artifacts and installations

Foyer

Models and the Real: Martin Schönhart
interviewed by Christian Münchner

Wilhelm Exner Haus,
Lecture room 2

On show
through the day

Taste the Abstract

Foyer

The Green Storm

Seminar room
Landtechnik



maNature:
The missing gap

Seminar room 6 / 7



What is Growing I

Staircase

What is Growing II

Staircase

Foyer

Metaphysics of
Opportunity Costs

Foyer



EXPERT PROJECTION

Lift

Staging HNR

Staircase

Mea Culpa

Staircase

Foyer

1. Metaphysics of Opportunity Costs Foyer • Act 1/2

2. Taste the Abstract Foyer • Act 1/3

3. The Green Storm Seminar room Landtechnik • Act 1/3

4. maNature Seminar room 6/7 • Act 1

5. Meat the Action! Arena Seminar room 6 • Act 2

6. Publication Quota Seminar room 10 • Act 2

7. Lecture by Ralo Mayer Wilhelm Exner Haus, Lecture room 2 • Act 3

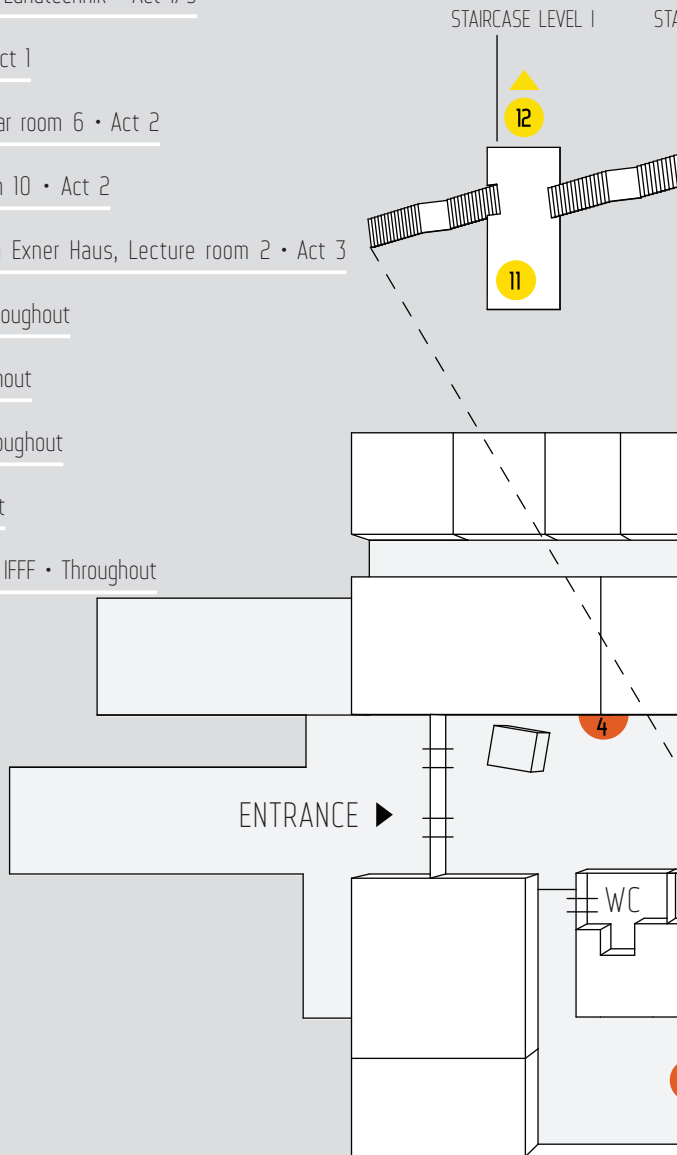
8. What Is Growing Staircase • Throughout

9. Staging HNR Staircase • Throughout

10. EXPERT.PROJECTION Lift • Throughout

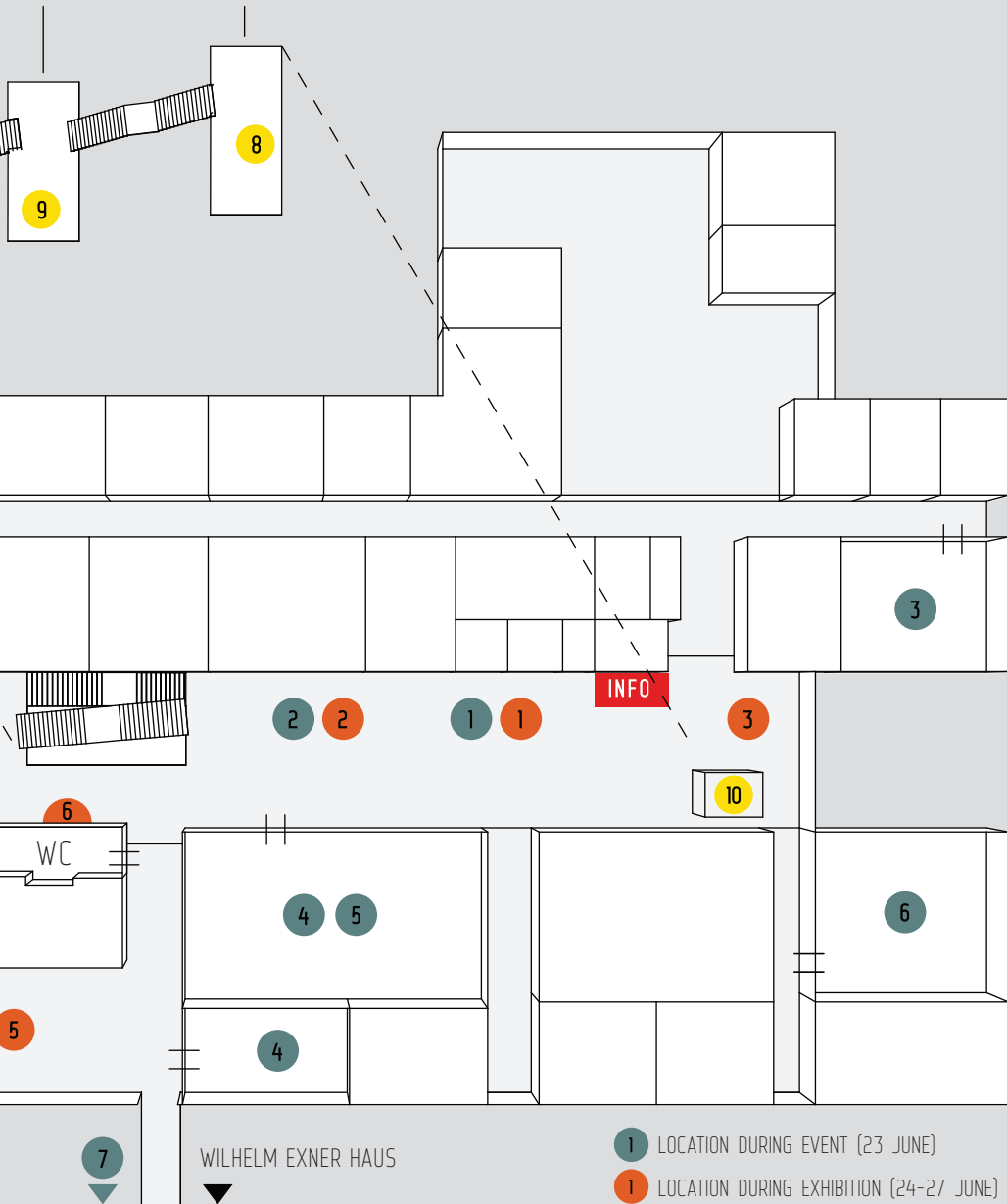
11. Mea Culpa Staircase • Throughout

12. dokNE Posters Practicing room IFFF • Throughout



STAIRCASE LEVEL II

STAIRCASE LEVEL III



WILHELM EXNER HAUS

1 LOCATION DURING EVENT (23 JUNE)

1 LOCATION DURING EXHIBITION (24-27 JUNE)

1 LOCATION THROUGHOUT

Metaphysics of Opportunity Costs: Shaping spaces of sustainability



Installation view during workshop.



Landscape-sculptures created by the participants in the Foyer of Franz Schwackhöfer Haus.

Artists: Margit Busch, Mathias Kirchner, Bernd Kräftner, Hermine Mitter, Christian Müncher
2014

Participatory workshop

Making decisions is a complex process. Not only does it require the individual to take into account various factors like opportunity costs, estimated consequences of a decision and the workload involved, it almost always involves communication and collaboration with others as well. The importance of a factor has to be considered and discussed and more often than not it turns out, that what seems sustainable to one actor is considered beside the point and not taken as seriously by another.

Participants were asked to cooperate in small groups to construct a sustainable landscape

and attach specific properties to the materials involved. They were confronted with a (playful) decision making process - the outcome was transferred to a model and assessed. The collaborative creative action reflects the qualities of apparently mainly rational scientific and less rational artistic decision making and gives an idea how those different approaches can cross-fertilize. The resulting patchwork landscape-sculptures are displayed in the foyer.

Taste the Abstract



Participants tasting the abstracts.



Photograph: Christina Czachis.

Exhibition view.

Artist: Martina Lang
2014

Installation, participatory performance

The goal was to transform theses into taste experiences. Eating and tasting was used as a tool to internalise a theoretical piece of work into a body experience. The main focus here was on the taste and how the taste correlates with the written theses. Participants had the chance to discuss the tastes and interpret the experience. Within the group an open free associative, reflection was started on the basis of the taste experiences and the transformative process of redigesting knowledge.

The Green Storm



Introductory speech to the Emergency Meeting. Actress Anna-Sophie Fritz performs the role of Mrs. Sharp.



Documents and scenography elements displayed in the Foyer of Franz Schwackhöfer Haus.

Artists: Ana Daldon, Benedict Endler, Matilde Igual
Capdevila, Adrijan Karavdic, Gerardo Montes de
Oca Valadez
2014

Participatory workshop

A storm is coming. A terrorist group is threatening the balance of modern day life. What are you willing to give up? The module took the form of a scenography simulating a meeting of high-profile world leaders, where the assistants are asked to participate by voicing their opinions and discussing among themselves until reaching consensus. The simulation intended to question the rationality of global decision making processes and the role of models in it. In the cross media performance the borders between faith and knowledge start to blur.

"Vienna, 23 June 2014.

While the 1st International General Assembly Summit for a Sustainable World is taking place in Vienna, a group of eco-activists (eco-terrorists), known as The Storm, launches an attack on Manhattan and a threat to the planet. The world leaders attending the summit in Vienna are to take a decision upon the Storm's ultimatum."

Performed by:

Anna-Sophie Fritz as Mrs. Sharp
Rafael Bettschart as Colonel Pierce
Florian Bösel as Dr. Spencer

With the help of the MA48.

maNature



Discussion.

Photograph: Kerstin Böck.



Discussion.

Photograph: Salmaz Farhang.

Michael Brait, Marianne Penker, Katharina Schodl,
Peter Walder, Christoph Winckler
2014

Experiment

Motivating a "behavioural change" is often a major goal of governance strategies, public policies, private initiatives, or marketing strategies. In some respect the borders to "manipulating" people's behaviour are fluent. However, research focusing on revealing drivers and barriers of behavioural change is aiming to understand how a modification of people's behaviour can be achieved. In this context, research on different types of Human-Nature Relationship offers a wide range of explanatory value, assuming that different patterns of this relationship are present in each person, and that activating a specific pattern leads to a certain behaviour.

The primary goal of the module 'maNature' was to test this theory in an experimental design, which initially was not communicated to the participants. For this, the audience was divided into two groups. Both groups should discuss agriculture and climate change based on introductory texts, which emphasised different aspects of the topic: one group was given a text and pictures assigned to the so-called Master type (Mankind stands above nature and can control nature) whereas the text and pictures for the other group could be more attributed to the Partner/Participant types (Mankind and nature are equally important and humans treat nature as a partner). The intention behind these different introductory texts was to trigger different patterns of Human-Nature Relationship in the participants, which should result in different discussions and outcomes in the two groups. In order to make these differences visible, participants were asked to note down three aspects of agriculture and climate change that came to their mind after

the 'priming'. These aspects are depicted in the word clouds.

Additionally, the participants in each group discussed policy measures that could be implemented in order to face challenges related to agriculture and climate change. Finally, the outcomes of both groups were presented in a 'press conference'. Differences in the policy recommendations were discussed to explore how the experimental setting influenced the output of both groups.

dokNE-projects in the context of this module:
.Transition towards sustainable energy behaviour
- a comparative analysis of individual and collective engagement in photovoltaics (Michael Brait)

.Implementation and evaluation of measures aimed at integrating aspects of sustainability into pig fattening (Katharina Schodl)
.The impact of farmers' individual behaviour on the provision of environmentally sound production methods (Peter Walder)

Guests involved:

Christian Baumgartner (Naturfreunde International), Rodrigo Lozano (Corporate Sustainability, University Utrecht), Christian Pohl (Transdisciplinarity, ETH Zurich), Michael Proschek-Hauptman (Umweltdachverband)

Meet the action! Arena



The discussion process was followed in real time. Nails represent stakeholders, and strings indicate the frequency of speech.



Analysis of the discussion, the artistic board model.

Artists: Kerstin Böck, Andrea Tony Hermann,
Martina Lang, Tamara Mitrofanenko, Klengkay
Ounmany, Anna-Sophie Santner
2014

Participatory stakeholder discussion - roleplay

The main idea was to recreate (model) a hypothetical discussion among several stakeholders about replacing 50% of the meat consumption in Vienna. Predefined roles were assigned to participants, and a discussion was stimulated among them. This discussion was analysed with various scientific, artistic and mixed methods. The main focus here was on group dynamics, different forms of knowledge and a comparison between modelled and real world, as well as on human-nature, relationships. Different artistic methods were used, following the discussion process in real time. Nails

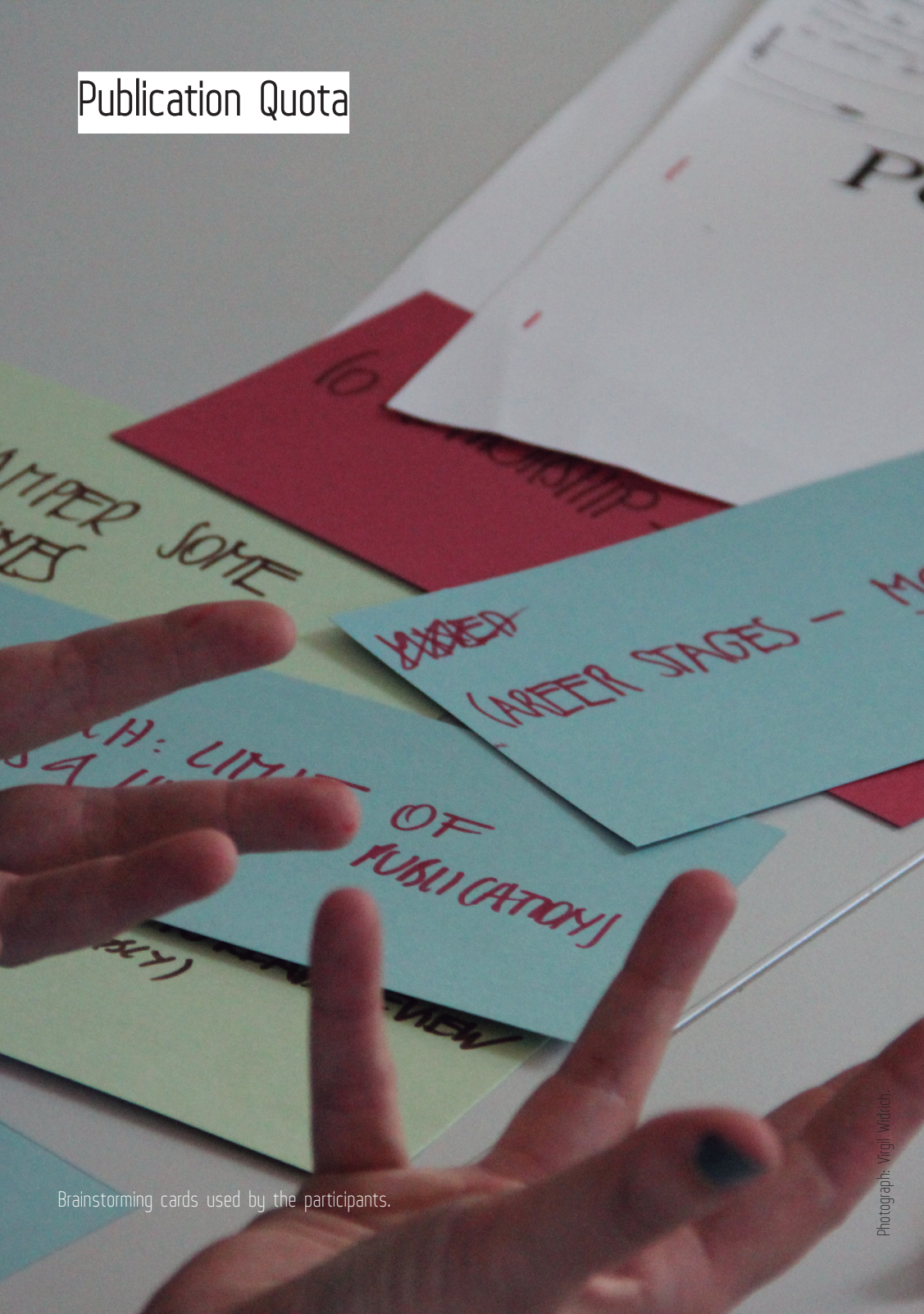
represent the stakeholders and a string indicates how the discussion went with regard to frequency of speech and direct interaction with other participants.

Guests involved:

Christian Pohl (ETH Zurich), Christian Baumgartner (NFI), Konrad Domig (BOKU)

Thanks to Marianne Penker for moderating the discussion and Margit Busch for the artistic analysis.

Publication Quota



Brainstorming cards used by the participants.



Photograph: Schmaaz Rahang

Discussion session.

Artists: Ana Daldon, Adrijan Karavdic, Andreas Muhar, Resty Naiga, Virgil Widrich, Christoph Winckler
2014

Discussion

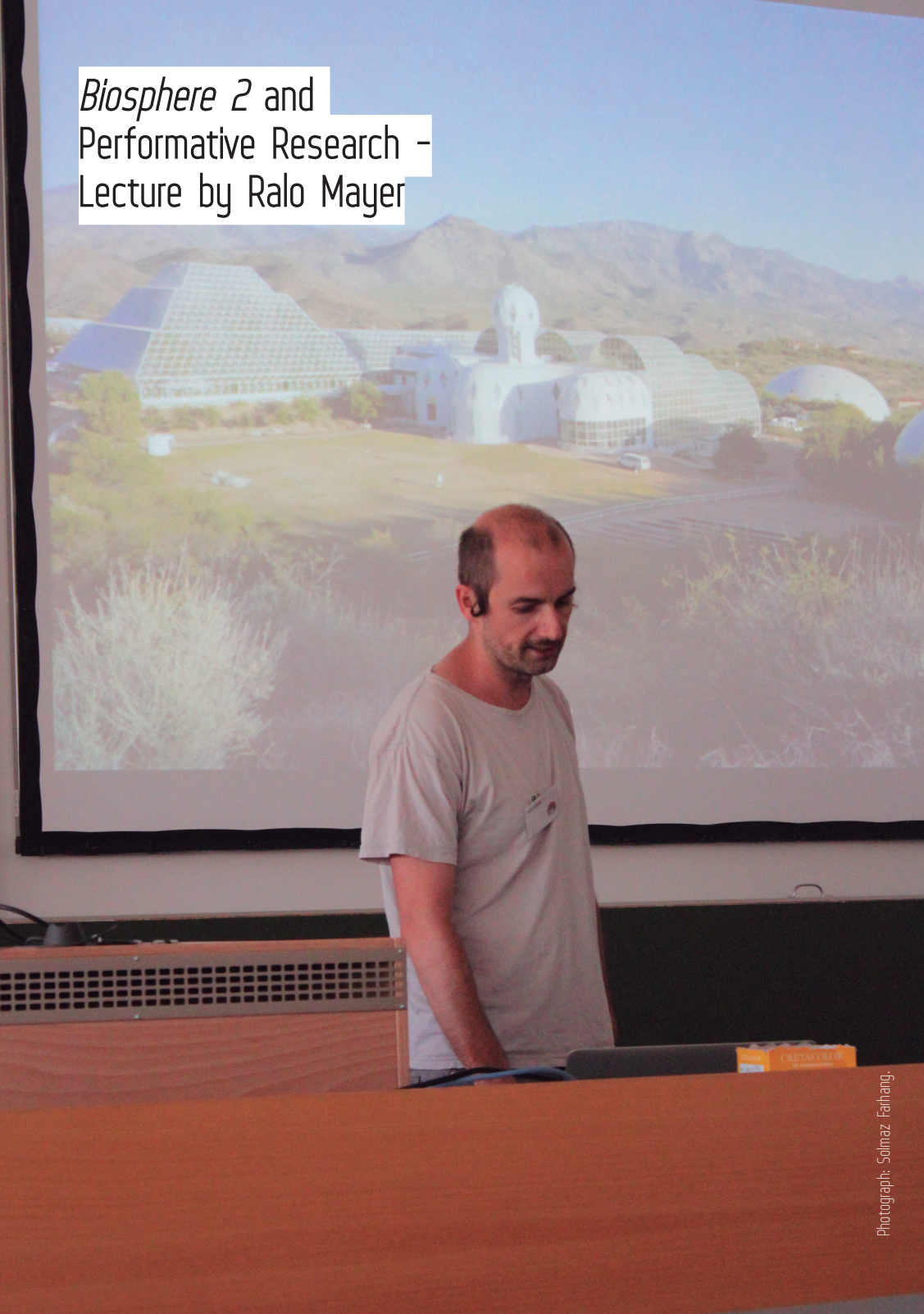
The module "Publication Quota" offered the symposium audience the possibility to apply well-established marketbased approaches to achieve reductions in CO₂ emissions to other sectors where exponential growth is taking place: Scientific publishing and artwork production. Participants were confronted with the idea that publishing/producing as much as possible is no longer a goal, and that each researcher/artist would only be allocated a certain yearly allowance of publications/artworks. Researchers who want to publish more would need to buy unused allowances from others on the market,

similar with artists. This should reduce the flood of publications/artworks and result in better quality. The participants discussed the effects of such a measure on individual careers, evaluation schemes and the publishing/arts market.

Guests involved:

Josef Glössl (Vice Rector for Research, BOKU), Katharina Gugerell (University of Groningen) Rodrigo Lozano (Corporate Sustainability, Utrecht University), Martin Reinhart (Artist), Werner Schneider (BOKU), Patricia Stokowski (University of Vermont)

Biosphere 2 and
Performative Research –
Lecture by Ralo Mayer





Ralo Mayer presenting his artistic research.

Lecture by Ralo Mayer
2014

Lecture

From 1991–93 eight people lived inside a closed ecological system in the Arizona desert. The miniature world under glass included its own ocean, rainforest and farm, its crew explored both future life in space and our planetary biosphere. Ralo Mayer's artistic research investigates *Biosphere 2* in the context of socio-political and technological global changes of the past decades.

WHAT IS GROWING



Fachbibliothek
Wald - Natur - Technik
Öffnungszeiten
Mo, Mi 11.00 - 15.30 Uhr
Di, Do, Fr 9.30 - 12.00 Uhr
1190 Wien, Peter Jordanstraße 82
Schwabenhofstr. 82
Tel. ++43/1/47654-4371
E-Mail: info@bibliothek-wald.at

Alpine Natur
Ingenieurbiologie
und Landschaftsplanung

Anton Eipeldauer
Reine Freude
an
Zimmer-
pflanzen
1000 Ratschläge
für ihre Pflege

Withered Yucca with mended leaves and indoor plant book (Pure Joy with)



Photograph: Christina Czachs.

Installation view: Withered Yucca, Cylindrical Snake Plant (*Sanseveria cylindrica*) with easy care label, indoor plant book, self-made plant guide, slide show.

Artist: Margit Busch

2014

Installation and participatory action

A trip to the diversity of Viennese indoor plants and their environments.

The slide show presents images of indoor plants at various Viennese locations open to the public. In the self-made guide, plants found at Viennese locations and those abundant in the Schwachhöfer Haus, are depicted and described. The guide is an invitation to go on a discovery tour of the building to identify the plants described in the guide.

STAGING HNR*



Ceramic sculptures, part of the participatory installation.



Photograph: Solmaz Fathang.

Detail of figures.

Artist: Anna-Sophie Santner
2014

Participatory installation

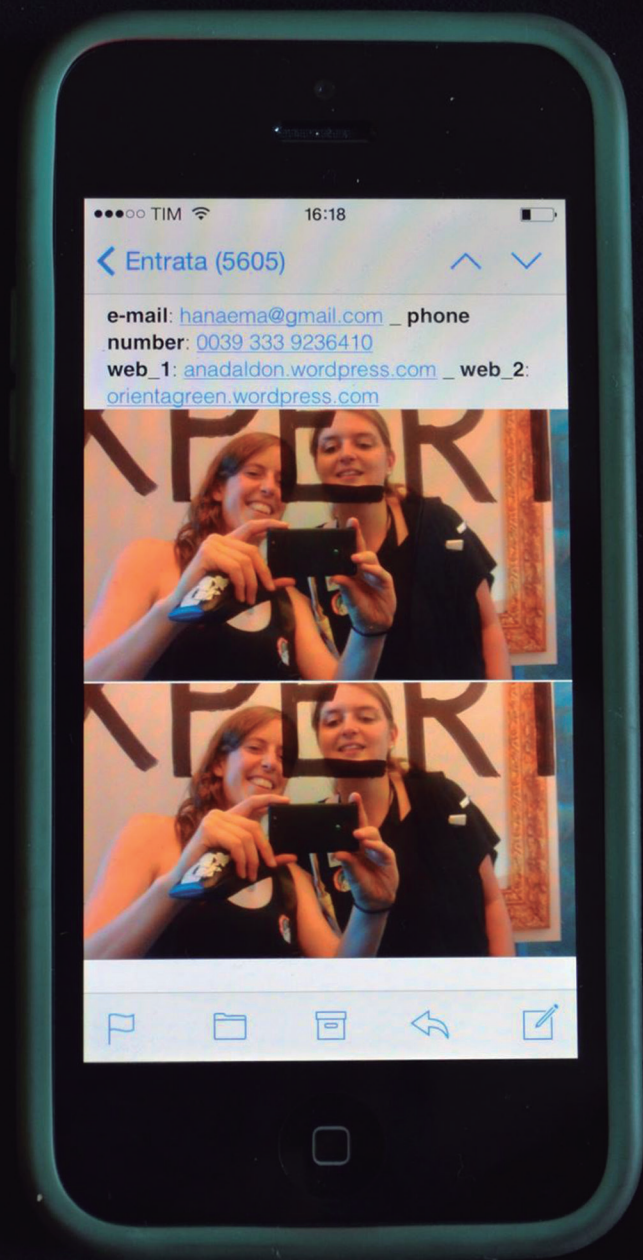
*Human-Nature-Relationship

As some of the BOKU doctoral students are concerned with human-nature-relationships I took up this theme and decided to make sculptures that could represent different forms of relationships to nature. They are not complete on their own, but attempt to start a dialogue or personal reflection on your relationship to nature.

Viewers can stage the sculptures and in this process reflect on their current, past, desired or ideal relationship to nature, for example. They can note these thoughts on the provided sheets of paper, draw sketches or make a picture of the scene.

As a next step I would like to evaluate this material and bring the outcomes back to the BOKU-students, to reflect together on the issue.

EXPERT•PROJECTION



Labelled experts sharing photograph.



You are the expert. Installation in the elevator of the Franz Schwackhöfer Haus.

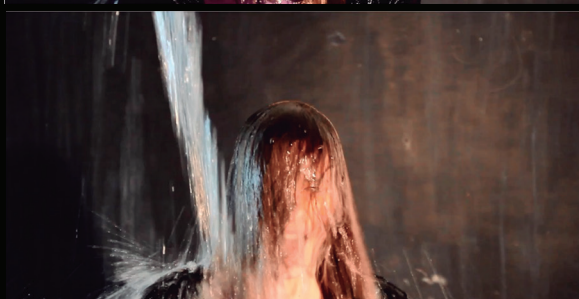
Ana Daldon, Anna-Sophie Santner

2014

Frame-poster, marker on mirror, you

EXPERT•PROJECTION is an intervention in private-public spaces. The project explores the role of experts in society and raises the question if and how the controversial nature of expertise in society is predominant, influencing decision making-processes or affects our identities. The elevator represents an interface of public and private space and was therefore chosen for this installation. People are facing themselves in the framed mirror and are labelled as experts. This fleeting expression and image can serve as an impulse – leading to further reflections or creating continuous effects.

Mea Culpa



Film still.



Photograph: Benedict Endler

Film still.

Benedict Endler
2014

Interactive video

In modern day life it is virtually impossible to live completely sustainably. Nevertheless pop culture is full of examples in which people are punished for their 'eco-sin'. Does this make us more conscious about our actions in the world or are we rather just forced into a position in which we feel obligated to find excuses for our actions without substantially changing them?

Documentary notes from the talk by Bernd Kräftner

Biosphere n+1

Biosphere {1}:

The real thing (as we are told):

"The place on Earth's surface where life dwells."

"The sum of all eco systems, integrating all living beings"

"The thing that we think is endangered since entering into Anthropocene"

Biosphere {2}:

Big, clumsy, expensive, a kind of closed system, a socio-technical device that aimed at modeling the "real thing" (a model that resembles the huge map that appears in the short story "On exactitude in Science" by Jorge Louis Borges: a map that becomes too large as to represent any kind of territory and thus becoming a territory in itself?). A model made from hardware, software, wetware –empirical, performative, messy.

And then there is *Biosphere n+1*:

To this effect, maybe, we could think of integrated interdisciplinary modeling frameworks, iterative methods that look into the future; tiny machines, smart code, the kind of simulations that qua media itself, qua digitalisation itself, create their own problems and solutions. Thereby seemingly circumventing the problem of induction: the problem of "when it is true here and now – is it, then, true everywhere and anytime??"

Models & Realities

Scientific methods are not innocent: these models may not represent or describe a pre-given reality. Rather, they contribute to its creation. We could think of the development of modern fiction that comes along with our modern understanding of probability. Both, Don Quichote and the St. Petersburg paradox, since the end of 17th century, started to alter how we refer to reality.

So, the use (or not) of quantitative research methods complicates the picture. Many quantitative methods in the natural sciences rely on instruments that cannot capture exhaustively the features of the objects under study. In order to do statistical analysis, researchers in many fields construct or select measures that they know are partial and inexact characterisations of the phenomena in which they are interested in.

This renders the case of "Sustainability", the question of rethinking "the nature", or "the social", interesting for everyone of us and even more so for artists: how to contribute to an object of research (the climate, the food security ... you name it) more extensively?

When models tend to impoverish a multilayered and complex issue at stake? How to render an object of research or a phenomenon to be more rich, more interesting and more unexpected? By the way, this is also a political question.

3 Acts

What do we mean by that?

Is theoretical modeling a new performative way of referring to our reality and future? Is modeling, where worlds are not analysed but new worlds are created in silico, a theater of hope and fear? Does this imply that dokNE (The doctoral school of "sustainable development"), becomes a theatre company? A theatre company where its actors write and perform a transdisciplinary play with the title: "Sustainability"?

If yes, then it makes sense to ask "artistic" questions about the roles that different kinds of knowledge may play in our society. Who is entitled to take part in this theatre?

If we enter a new era of telling stories, fairy tales and fables; who is entitled to do so: scientific experts? Can there be collaborative ways of enriching imaginations of the future of our planet?

This is the topic of the day: an attempt, together with the visitors, experts, non-experts, citizens, to reflect on the notion of sustainability, on our own roles that are entangled in the way of how we frame this problem.

-and-

How we frame the conceptions that we have of our nature or the social or the economy.



Registration point.



Interview between Martin Schönhart and Christian Münchner.



Participants during introductions.



Posters aligning the staircase of Franz Schwachhöfer Haus.



Presentations of dokNE projects to board members.



Event view: foyer of Franz Schwachhöfer Haus.

BIOSPHERE n+1

Models and Realities: Versions of Sustainability

Transdisciplinary Play in 3 Acts:

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Foyer of Franz Schwachhöfer Haus, Peter-Jordan-Straße 82, 1190 Vienna

Works by:

Michael Braito, Kerstin Böck, Margit Busch, Ana Daldon, Benedict Endler, Andrea Hermann, Matilde Igual Capdevila, Adrijan Karavdic, Mathias Kirchner, Bernd Kräftner (Art & Science, Angewandte), Martina Lang, Tamara Mitrofanenko, Hermine Mitter, Gerardo Montes de Oca Valadez, Andreas Muhar (Landscape Development, Recreation and Conservation Planning, BOKU), Christian Münchner (ReThink), Resty Naiga, Kiengkay Ounmany, Marianne Penker (Sustainable Economic Development, BOKU), Anna-Sophie Santner, Katharina Schodl, Peter Walder, Virgil Widrich (Art & Science, Angewandte), Christoph Winckler (Sustainable Agricultural Systems, BOKU)

Artistic and scientific direction:

Bernd Kräftner, Andreas Muhar, Virgil Widrich

Realisation:

Brishty Alam, Michael Braito, Christina Czachs, Valerie Deifel, Tamara Mitrofanenko, Peter Walder

Event photographer:

Solmaz Farhang

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