Dr. phil. Vera Bühlmann

MA in English Language and Literature, Philosophy from Zurich University (2003)

PHD in Media Studies from Basle University (2009)

different Art and Design Schools in Switzerland

metaworx, pre-specifics

/ ITA
Institute of Technology in Architecture
Faculty of Architecture / ETH Zurich

Chair for Computer Aided Architectural Design [CAAD] / Prof. Ludger Hovestadt
ETH Zurich / Building HPZ / Floor F
Phone +41 44 633 34 89 / Fax +41 44 633 10 50
Schafmattstrasse 32 / CH-8093 Zurich
caad@arch.ethz.ch / www.caad.arch.ethz.ch

Applied Information Technology has reached such a saturation that its density-effects among people and things constitute a new symbolic plateau we can learn to inhabit and build on.

The *laboratory of applied virtuality* was foundend in 2009 in order to invent an integrative, orthogonal theory vector

/ ITA
Institute of Technology in Architecture
Faculty of Architecture / ETH Zurich

Chair for Computer Aided Architectural Design [CAAD] / Prof. Ludger Hovestadt
ETH Zurich / Building HPZ / Floor F
Phone +41 44 633 34 89 / Fax +41 44 633 10 50
Schafmattstrasse 32 / CH-8093 Zurich
caad@arch.ethz.ch / www.caad.arch.ethz.ch

global media networks

global logistic networks

internet

web of things

web of global energy

...

The lab explores this *new plateau* and aims at contributing to an *architectonics* for constructing within the symbolic.

what is a plateau? what are its strata, elements, forces?

mediality

what do we mean by ,the symbolic'?

signs and models

why do we need a different architectonics for it?

virtuality

the fabric of the social in modern civilizations

what is mediality?

the softening of traditions

the media

early 17th century   **printing** newspapers

early postal systems in 19th century (trains)   sending letters

early 20th century (literacy)   public libraries

first patent by Bell in 1846   talking on the telephone

second WW   listenting to the radioprogram

mid 20th century   watching television channels

presenting your profile on the internet

twittering your news

not what *are* media, but what are media *doing*?

how can I reach you?
proximity in space and time, deterritorialization

who is speaking?
identity building, having a say in democracies, transparency

public access to information
self-determination, freedom, political responsibility, knowing

mediality

taking influence

inspiration, fascination, illusion, instrumentalization, affection

orchestrating and streamlining people

one-way communication, authority, mass-media, collectives

finding support for your plans

stabilizing social support systems beyond the order of tradition

imagination

you can make it! anything is possible

why give these changes so much weight?

demographical data

3000 BC 25 million

1 AC 200 million

world population

1000 AC 310 million

1750 AC   791 million

1900 AC 1650 million

2000 AC 6707 million

... technology, industrialization, urbanization

incapacity to organize megacities

scarcity of resources

limits of growth?

megaplayers in globalized economy (google & Co)

Are we not, in the contemporary crisis-conditions of global culture, experiencing nothing else but the very limits of the capacities of our geometrically trained imagination as well as reasoning?

How can we orientate our thinking? Relating thought to its outside system

what is architectonics

from an animistic, mythical world image to a philosophical, scientific one

?

1728 BC **Babylon** art, science, mathematics
early scribal culture: lists, tables, oracles

380 BC **Aristotle** architectonics of being
Euclid's geometry: idea of system and axioms, method as dedu

1596 BC **Descartes** architectonics of thinking
analytical geometry: zero, system of coordinates, equations with more than one variable, expressing geometrical elements by symbols, operation and function, the notion of the subject

1724 BC **Kant** architectonics of knowing
constructing systems is an art (architectonics), providing the philosophical foundations for legitimation

Relating thought to its outside by cultural techniques

what is virtuality?

information technology operates of the substrate of mediality, not of physical forces

electricity

deterritorialization

complex numbers

not a *form* of energy, but the *potentiality* of energy

artificial light

apparatus' as a consumer good

popular culture

availability of lifeforms

imagine!

Spreading the referentiality of words into a sign-situation and the unfolding mediality therein. Considering efficacy within the symbolic

from bridging the gap
from an ideal to cultivating it.
approximation to Crop-growing cultural
calibration according to capsules of power concepts
aims and context, based
on an empiricism of
concepts
Models

sign-situation

Substrate for anything to become significant (qualified) is measurable

Milieus, signals, fluctuations in frequency, density, concentration *quantifiable*

become meaningful *qualifiable*

before the background of social habits, decorums

mediality

from forms to operational formats (abstracting from the geometrical intuition)

formally conceived as the differential of sign-situations dy/dx

existential operator allowing to model decorums related to decorums

the projective continuity of mediality

virtuality

potentiality, energetics of sign-situations

abstraction of the idea of universality, can in principle but not positively be determined or articulated - depends on the context of actualization and is always locally applied

from grids to networks

mechanisms in grids

Functions establish relations *as lines of cause and effect* between one area and another.

$$y = f(x)$$

links one set of variables y with another set of variables x.

Departing from assumed *states* that can be described.

What if instances belong to several sets at one and the same time?

If there are no objective states to be determined?

mechanisms in networks

these relations, strictly speaking, are mere mappings.
one set, under certain conditions, can be represented as another set.

Stepping from geometrical analysis to topological analysis

from **every** to **any**

from functions
to the mapping of functions

construction within the symbolic

The law of rocks, stones and fire as their principle for transformation, established and at work for eons, together with the more recent sway of mechanics, today seem to be caught up in a process of dissolution.

metalithic era

Until quite recently, the metamorphoses of earths, ores and metals have been the main templates for cultural techniques that have helped us to domesticate our habitats. Today, information challenges the primacy of matter as an infrastructural seminal figure which has proved so successful ever since the Neolithic revolution, and the relations between matter and imagination seem to reverse their direction.

This turning away from the cultural inheritance of stones and metallurgy might prove to be of consequences so profound, that we suggest to speak of the beginning of a metalithic era for this epochal change we see driven by the invention of electricity, the mathematics constitutive for this, and the collective imagination set free by it. Data mining shares but the allegorical name with the Neolithic legacy, its constraints are of a different order which we are only yet beginning to grasp in the powers of networks.

theory-construction

medialization of architectonics

as the

application of virtuality

co-ordinals

not beyond, but within representation

for projecting sign-situations
and their analysis

4 poles *as irreducible singularities*
spanning a hyperbolic space of infinitesimal
differential vectors

figures and *forms of movement*
in thinking can be drawn, projected,
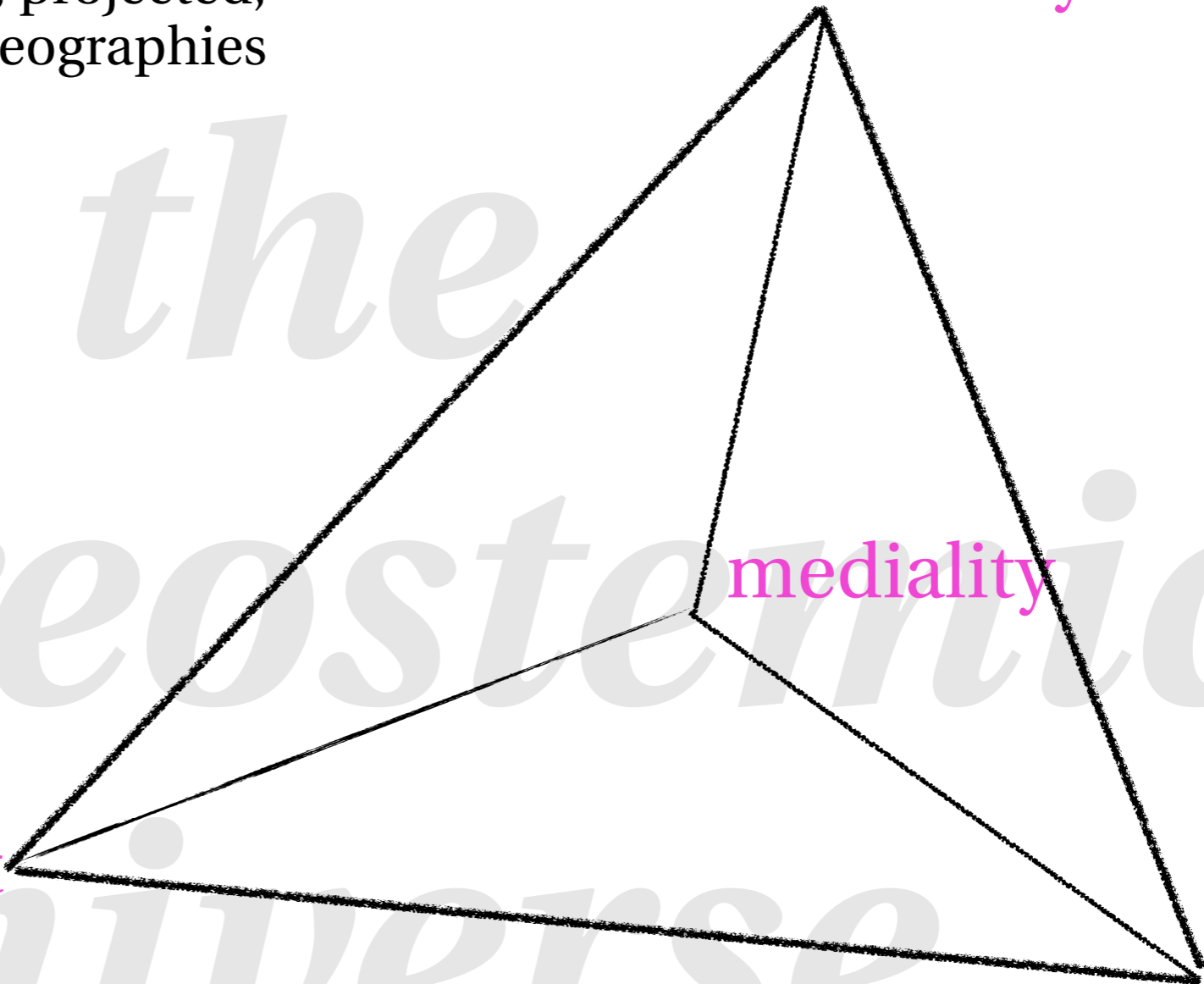mapped, arranged in choreographies

virtuality

mediality

concept

model

the choreostemic universe

laboratory for applied virtuality

applying virtuality as the possibility of *systematical* beyond-the-grid-thinking

engaging ... in terms of with the **narrative** conditions of **infrastructures** integrability

Research at the *theory lab for applied virtuality* equally draws from the pragmatism and the projective space of possibility proper to the engineering sciences, as well as from the power of invention and symbolization proper to philosophy

/ ITA
Institute of Technology in Architecture
Faculty of Architecture / ETH Zurich

Chair for Computer Aided Architectural Design [CAAD] / Prof. Ludger Hovestadt
ETH Zurich / Building HPZ / Floor F
Phone +41 44 633 34 89 / Fax +41 44 633 10 50
Schafmattstrasse 32 / CH-8093 Zurich
caad@arch.ethz.ch / www.caad.arch.ethz.ch

the [power] book

a radical pathway from energy crisis to energy culture

the abundance initiative

international interviews about the structures of scarcity

starting to talk about the metalithic era

workshops, lectures, salon talks with partner institutions