Spaces of Consequence: 
Scaling Collaborations of Artistic and Transdisciplinary Research

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Abstract
The paper presents an experimental visualisation of four different research environments where multidisciplinary and art research teams collaborate with strong motivation to share and actively develop new approaches to learning, knowledge and to research itself. The resulting images and their layered composites reflect space, time frames, and energies as defining characteristics of the collaborations. Instead of focusing on research as driven by application and evaluation processes that encourage rationalization and reproduction one might find that the ‘shapes and shaping’ of research environments hold keys both to understanding the potential of the work processes and to a larger awareness of the entanglement of individual positions, resources and methods. Artistic and transdisciplinary research do not align well with current inflexible evaluation systems and product focused research strategies. In particular this research’ lack of adaptability might suggest that such practices rely on other and transvaluing forms of incentives and organisational structures.

Keywords: Art, artistic research, transdisciplinarity, collaboration, scaling, models, research spaces, research financing, intrinsic motivation

Between boxes

In a snapshot from an art space’s daily business some time in the late 90ies we find a baby playing in a cardboard box. Much work today would be just as easy with persons of many generations around, contributing in their way. However, it takes a particular mind-set to live the different rhythms and time frames that such a ‘mixed’ work situation would demand. The image serves as a reminder that a ‘streamlining’ and efficiency in current workspaces and production structures has led to a detachment from many core qualities and values.

The past decades of affluence and digitalization have seen important changes in the lives of the global middleclass to which most academics belong. Individual and social practices where presence and materialization are central (such as singing, cooking, reading, drawing, dancing, crafting, doing nothing, collaborating) seem to have receded as we plug in the ear phones and eat the fast food. Though there are many counter-movements and much awareness regarding this global drift there is a specific urgency to enable a change in the academic realm because science and education hold such potential for bringing global change.

The transvaluation proposal and the results of the conference explicitly seeks change through
collaboration in all fields of academia. But arts and poetics seem to play a central role in that it as we see it today secures an open field where there non of the playing out of routines and heavy burden of reproduction which today seems to be one of the main threats to academic thought and invention. Long before artistic research appeared as a term it has been the role of the arts to investigate, research and invent to the shaping of the world, particularly enabling creation of individual and subjective spaces that are difficult to control and hence establish room for the flourishing of diverse incentives.

Today the commercial art world and its institutions from museums to concert halls promote a popular image of the genius artist, the outsider, or the hyper intellectual. However, there is a ‘duck’ to this ‘rabbit’. Should we not rather understand artists and researchers as individuals, who use their minds and bodies as fine-tuning instruments, create spaces (of poetic reality) and objects (of differently acting forms and matter) and make visible and audible basic conditions of change by investing their energy in the present rather than adhere to the already defined systems?

**Scaling – Creating Spaces of Consequence**

The ‘model’ developed here does not deal with the contents and impact of the research but seeks to make visible structural elements of artistic research and transdisciplinary work collaborations. One of the arguments for their specific quality is that they have avoided, or ignored, or simply do not align with current streamlining application and evaluation culture. Artistic as well as transdisciplinary research’ lack of adaptability might suggest forms of organisation that bring new methods and forms of engagement.

It is one of the assets of artistic research to record, analyse and move the attention of artistic production from object to process in an on-going movement of options at hand balancing the material in the present and in doing so dealing acutely with contemporary challenges (Harboe, 2015). Equally the ‘transdisciplinary’ researcher is preoccupied with themes of what in this terminology is called the ‘life-world’ (Hadorn et al. 2008). Moreover, both fields often get a raw deal when they apply for finances, because they do not define their goals as singular problems or products and have a significantly longer time for their work to show impact. This indicates a call for other narratives, different models to make the process and spaces visible.

On the following pages you will encounter sketches of four research groups of different shapes and sizes, which the author has worked in over the past almost 15 years. All groups were inter- and transdisciplinary, on the edges of mainstream research. They had distinct levels of institutional and individual autonomy and were driven by artists and researchers with much intrinsic motivation. The contexts involved different degrees of interaction between art and scientific research, as well as educational environments. The proposal is that art and transdisciplinary methodologies, and particularly their combination, may lead to an opening of concepts and situations and a larger presence of transvaluation in research. Though the arts do not alone change or dominate these presented contexts, they support structures that function well outside or in-between organisational conventions and may avoid a laming institutional clutch. Larger visibility of the factors around the processes of the work of such groups would support their development with more authority.

The thesis is that such insights into the ‘shapes and shaping’ of research environments would shift attention from the current demand for ‘post research efficiency’ or immediate impact, which
represents one of the most virulent paradoxes in current research funding and evaluation, to an understanding of what defines the more yielding or positively diverse setting for research. And that finding the right scaling method or balance provides a model for transvaluation from which to negotiate the relevance and potential of such research environments. The format for the model developed here as a basis for the visuals comes from one of the art based collaborations and on-going project Size Matters. On the Scale and Size of Models.

**Temple of the Winds as Method and Metaphor**

![Image](image1.png)  ![Image](image2.png)

fig.3,4

The wind tunnel of the *Size Matters* project, placed on the roof of Zurich University of the Arts, can among other things be defined as a *metaphor machine*, an artwork and a *boundary object*. It is a signifier which points to ways of producing robust form, applicable in specific contexts by adjusting interacting variables (for documentation of the project see the links in this paper below). All wind tunnels test objects or models, by measuring and balancing the interaction between a chosen time frame, speed, the viscosity or energy of the fluid used for testing (air) and the shape/space of the model itself. As an artwork the wind tunnel in Zurich may be inseparable from the ‘scaling powers’ of its beholder, as a concept any wind tunnel is a magnificent dragon of the 20th century, that appeared to test and create shapes that are part of the daily lives of most people around the globe. Because of the success and immensity of its method the wind tunnel points in many directions and the art project *Size Matters* delivers a platform for the understanding of its method and for the dancing of analogies.

Here the wind tunnel helps create a ‘thought model’ of balancing its scaling factors interpreted as time, energy, and space/size to the conditions and interactions of the work of the research groups. As we shall see the model does wriggle when the different cases are applied, but it may help create visibility and shapes of themes central to the work of present day research groups.

In order to make the line of thought more accessible let us start with the introduction of the research group and structure of the *Size Matters* project itself.

**Size Matters - On Scale and Size of Models**

![Image](image3.png)  ![Image](image4.png)

fig. 5,6,7

The research project *Size Matters* at the Zurich University of the Arts’ Transdisciplinary Laboratory initiated and led by the artist Prof. Florian Dombois consists of a team of artists from visual arts to music and performance (Florian Dombois, Kaspar König, Haseeb Ahmed (PhD candidate), Martin

The Size Matters project is ‘built’ with and around the wind tunnel. The tunnel is a concrete object and an instrument (see fig.5). The activities of the project relate to and create forms of interaction with the tunnel such as tests, performances, discussions. In that respect the space of the group is defined and fixed through the object. De facto the group members may be elsewhere most of the time, but the real and physical wind tunnel functions as their point of orientation. The tunnel and its associations define the imagery and visual presence, but more than that, as a functioning ‘machine’ making wind, and attracting tests and questions, the tunnel is almost seen as an active ‘group member’ generating an important economy of scale.

The factor time is defined by exterior factors. The time granted for such projects depends on a certain balancing of investments by the Swiss National Science Foundation. Size Matters is a three-year project with the option of a two-year extension. It is widely accepted that the depth needed for methodologically experimental doctorates in the humanities or the arts demands that half decade. As with most research projects in the arts support is abruptly distributed and the application frames rarely offer enough space to establish a sound connection between time and contents or action. The timeline of Size Matters can be seen as one of the vertexes that the wind tunnel produces, curly, diverse and decorative though the breathlessness imposed by the limited time frame may iron-out many of potential creases of the project. Ultimately the limits of the timeline, though ornamentally elegant, can easily be experienced as counter-productive to any basic research situation. However here as in the other projects the motivation and the invention of formats within the research project seems to be the basis for much resilience.

The energy of the engaged artists and scientists is developed through a series of common activities and this leads to a specific concentration and alignment. The analysis you are reading right now is an example of this. As an art historian a wind tunnel might not have been my first tool to explain the cases of research collaboration, however working with the tunnel, using its wind to test anything from thoughts to feathers, and tell tales, have produced the sketches for the method applied here to experiences including the other collaborations.

Using this ‘tunnel’s view’ I attempt to stay with the task of explaining the models and abstain from ‘positioning’ or referencing the many theoretical debates in other fields which could also have formed the paper in a more traditional setting. I will only provide a very thin layer of material or facts in order not to distract from the basic proposition of shaping the models. This slight audacity to simplify seems to be an important part of transvaluation.

The energy of the group members in Size Matters is also integrated through a practice or a principle which Florian Dombois has named the ‘Fahrkunst’ after the 19th century man engine used by miners to transport themselves up and down the shafts by stepping between moving ladders. Concrete the ‘Fahrkunst’ method is based on the artists and the ‘theoreticians’ exchanging practices and establishing a dialogue and learning directly from each other; building and reading, performing and discussing, exploring different forms of practice and analysis. Though it is painful to step outside the comfort zone of the discipline this changing of sides produces alertness and, as with the wind tunnel itself, diverse outcomes appear and push methodological boundaries and produce different forms of results (this present analysis being one).

The ‘Fahrkunst’ mode encourages trust, an open source culture, some playfulness and maybe even fearlessness, as should be the basis for any research (for more on Fahrkunst see the fourth issue of the wind tunnel bulletin available online).
The prototyped models of Size Matters show a visual interpretation of the space with the wind tunnel atop a floating blue and on the domineering grey art school building. The time ‘wave’ is limited, but has an ornamental vortex swirl, the energy is clearly defined by the switches of the different disciplines within the ‘Fahrkunst’ method.

Collegium Helveticum

Re-thinking the organisation of the sciences together with the humanities and from the inside, was a central theme of the Collegium Helveticum initiated by the author Adolf Muschg, with the philosophers of science Helga Nowotny and Yehuda Elkana. The innovative president of the ETH Zürich at the time, Jacob Nüesch, offered the group the then empty observatory of the university, where once Rudolf Wolf made seminal studies of sunspots, built in the 19th century by the architect Gottfried Semper. The freshly renovated historical building became the home of a progressive form of institute for advanced studies, where the focus was on the development and networking not only of established scientists, but of a group of 10-12 young scholars, who for a year were at the centre of the house’ activities. (The institute has since been differently organized, but a large number of publications document the early period and much material can be found on the website www.collegium.ethz.ch)

Collegium Helveticum 1997–2004 offered doctoral students from all fields and regions of Switzerland a platform for a year of exchange in a clearly defined setting. The formats were seminars and symposia to the annual themes. In the autumn the language spoken was English and the Collegium hosted a visual artist from an eastern European country supported by the Zuger Kulturstiftung Landis & Gyr, and in the spring the language spoken was German and an author was guest artist. In the first semester the Kollegiaten, the students, would present their dissertation themes and in the second semester they would work on a common project. The year at the Collegium Helveticum was fully financed by the university and the Gebert Rüf Foundation supported a project, which reflected the work of the institute.

The Sternwarte (observatory) building with several large rooms and offices served as an exquisite frame and workspace, but only allowed for limited physical or material action. The space/size was compact, structured for a meeting of brains gathered around a table as is the praxis of classic academic exchange. Only cooking common meals went one step beyond this. In this rather static setting the role of the visual arts was one voice or input among many. In the survey conducted as part of the research project the arts are mentioned as providing enriching experiences to the students particularly for those who had not encountered art as practice before (Gisler, Harboe 2003). Some artists e.g. Agnieszka Brzezinska and Orshi Drozdik, who were both specifically interested in scientific imagery, engaged with the stipendiaries and with ETH scientists for their projects using the rooms of the Collegium as their laboratory and/or studio producing publications and exhibitions.

In the structure of the Collegium the time frame was based on a fair exchange where young researchers invested a year off their ‘track’, but were rewarded for their input, and for leaving their research focus, with exchanges and feedback from peers and experts. The research collaboration was conducted, next to the yearly focus themes, mainly on a ‘meta level’ accessing history of science and transdisciplinary methods. As in the other examples mentioned here the
interdisciplinary group studied both how their respective fields interacted and how this or elements thereof might be transferred and used as a methodology.

The time was condensed in seminars where the bouncing of ideas, opinions and knowledge, reading and discussing of selected texts, sitting at tables positioned in an open square often in the presence of the authors, represented a unique core. The seminars were of a high intensity and the interaction expressed the condensed energy present at the institution.

Collegium Helveticum visualisations present dense models as an expression of the set-up’s efficiency. In the early period it enabled an exchange competently preparing participants for forms of transdisciplinary research. This was not a conventional research project, however the intensity created a setting for a contribution and groomed a generation of academics for re-thinking science.

Artistic Research Unit at the Lucerne School of Art and Design 2007-2012

The first ‘unit’ for artistic research at Lucerne University of Applied Sciences and Arts (LUASA) School of Art and Design was established parallel to the development of the school’s new master program (some references can be found on the then active www.kunstforschungluzern.ch). During the following five years about 18 artists and theoreticians conducted more than 30 projects testing a variety of individual and collaborative forms of artistic research, which offered diverse approaches to method, to transdisciplinary work, adjusting to but also in subtle ways ignoring institutional confinements.

The Swiss art schools were never academies as in other parts of Europe, crafts were valued over fine arts and the decentralization of the country emphasized regional art. Because of this tradition the Lucerne School of Art was integrated into the University of Applied Sciences and the investment in artistic research was parallel to stepping up and harmonizing the research of the whole university following the Bologna process.

The interest of the art faculty in the early phase was to develop the field from an artist’s point of view and this offered a unique basis for individually defining research. Artists, lecturers, professors and assistants interested in artistic research, were however faced with a paradox between freedom to choose how and what to work on combined with the requirement that they construct research projects to fit the same framework as the other disciplines.
In most new artistic research units researchers are given offices. This is a good indicator of the
difficult communication and understanding of research within the educational organisations. In
Lucerne the PhD candidates and researchers had spaces for desktop research and this may have led to
an unnecessary bureaucratic emphasis because the research space is the studio or where ever. Stefan
Gritsch, the most senior professor doing research, was able to set up a laboratory/studio at the school
both as a place to work and as an open space to negotiate and mediate the discussion about his
projects with students. For most of the ‘unit’ the challenge of the neutral office workspaces was
partly countered by using media that would establish a presence but not impact on the rooms.
However, resignation was the most frequent way of dealing with the neutral spaces, with not being
able to define the size of the daily physical activities.

The output was vaguely focused the general themes of the Master program art in public spheres
 and on the school’s profile materials’ research, however, the real lead was with the individual
 oeuvers, the interests and competences of the artists. The time factor set by the institution must be
 characterized by the ‘go&stop&go’ of application routines, however the currents of artists’ oeuvres
 would submerge any real time structures. Floating and unstoppable the individual approaches were
 like rivers in which research projects were launched, drifted along and were pulled out.
 No research in the arts can be done without individual artistic positions and access to this
 ‘river’ is a form of capital or energy which researching artists offer their schools. Intermediate
 outcomes are generated for the schools through projects, but the fragmentation in these entities also
 make the artists conservers and carriers of the actual knowledge. In Lucerne we installed active
 interfaces with teaching and this way diverted some energy in other directions.

From 2010 LUASA’s interdisciplinarity research foci facilitated collaborations between the art
 ‘unit’ and researchers from the other departments (Social Work, Informatics, Engineering and
 Architecture, Music, as well as Business). Because of common points of departure in co-written
 applications the arts were here partners and not—as is often the case—‘interpreters’ of scientific
 results. Though many disciplines today engage in innovation methodologies that originate or are
 close to artistic approaches the planning of these research projects between artists and sociologists,
 or regional planners, or computer scientists generated valuable knowledge about methods and the
 clash of disciplines. This was also developed in the context of CreaLab described below and created
 a different mix of the elements.

\[\text{fig. 13}\]

The scaling of space, time, energy and in this example from an institutional setting of artistic research
 shows the challenge or impossibility of keeping the flow of diverse oeuvres within a clear frame.
 Neither the energy of the oeuvres nor the time spent on the work can be defined. This may create a
 shape without clear contours difficult to grasp and evaluate. The ‘blurry zones’ also keeps questions
 of copyright and thematic mainstreaming at a distance and again draws our attention to process and
 contents and art’s agile action in the present.
The Future Laboratory CreaLab

*Future Laboratory CreaLab* is an interdisciplinary platform with a core team of professors and lecturers from different departments at the LUASA led by Prof. Patricia Wolf. From its beginning the incentive to work in the *CreaLab* was the opportunity to develop research in open communication with colleagues. The uniqueness of the collaboration is reflected by the focus on open, practice based methods and confirmed by the fact that the group has established an independent spin off exploring the position and searching for a meaningful contemporary business model between research, business and education. ([http://blog.hslu.ch/crealab/crealab-gestalte-die-zukunft-3/](http://blog.hslu.ch/crealab/crealab-gestalte-die-zukunft-3/))

*CreaLab* was founded as part of the LUASA interdisciplinary program in 2011. It was the vision of the management scientist Simone Schweikert to explore ‘future of society’ through the interdisciplinary potential of LUASA with a specific emphasis on innovation methods. Prof. Schweikert died just before the project started, however her vision has been confirmed: Less than five years later a cornucopia of projects and formats, starting with the founding of the first FabLab in Switzerland, as well as teaching modules integrating prototyping and planning for business students, both summer- and winter schools, and from 2015 a yearly practice based symposium the *Future Forum Lucerne* have been realized. A core team of 18 people have collaborated during the whole period. The *Future Laboratory CreaLab* is not an art project, but from the beginning interaction with artists and art’s methods has been central. The differently formulated calls for proposals and *CreaLab*’s profile welcomed dynamic and concrete projects such as Just Architecture ([www.justarchitecture.ch](http://www.justarchitecture.ch)) and the World Ornament Forum ([www.worldornamentalforum.ch](http://www.worldornamentalforum.ch)) in the Kirchner Museum Davos headed by the artist Ronny Hardliz with colleagues from other departments, as well as the architect Lars Schuchert’s on going projects around *Guerrilla Urbanism*. These projects radically combine notions of unproductivity, poetry, politics of architecture, gesture and ornament through informal action, indeed, one might say that they explore modes of transvaluation. With its form of action research, the *energy* and *space* of the *CreaLab* is close to the process driven methodologies of much art. As the website documents *CreaLab* is productive, but its productivity does not depend on one ‘research question’ its work centres on any chosen exploration of potential spaces of creativity. This openness of themes and practice is another key to the energy of the group.

A recent analysis showed that *CreaLab* developed and flourishes in the *spaces in-between* the multirationalities of the institution (Meissner et al. 2015). The ‘laboratory’ does not have any fixed rooms though the FabLab is often used, and meetings are rare. The spaces appear through practice led ‘building’ of methods while working on concrete projects often with external partners. This has established culture of learning by doing, or practice led thinking and improvisation, balancing disciplinary knowledge and interest in opening methodologies. Of course this does not rule out planning, but it encourages a high level of flexibility and is only possible because of trust between the participants.

Originally the *time* frame of *CreaLab* was set for three years. It was clear to the core team that the support of LUASA was important to their involvement, but not decisive. Eventually four departments decided to support the continuation with the *Future Forum Lucerne* enabling the project to remain both within the school and as the independent association ‘interspin’.
The shape of the CreaLab collaboration morphs from project to project. The Future Laboratory is its space, the time factor is concentrated in the compact encounters with partners. The implicit certainty that diverse competences of the team will push can always be incorporated and the incentive to learn in all situations is probably one central basis for flexibility, durability and Schwung.

**Composites**

The factors **time, space** and **energy** combined through the wind tunnel create interdependent portraits of conditions and possibilities of these four collaborative settings. *Collegium Helveticum*, the art based research ‘unit’ in Lucerne, the *Future Laboratory CreaLab*, and *Size Matters* have in common that their participants and work depended or depends on a high level of awareness of being in a process of building, applying and expanding methodologies. This is confirmed by the different reflections on the work that the groups themselves initiated. *Collegium Helveticum* was researched through a project funded by a private foundation, the artists in Lucerne took the initiative to present and reflect their ‘clash’ of methods with other disciplines in several applications, the *CreaLab* is annually interviewed by business students as part of their BSc final-year projects. The head of *Size Matters* has invited a ‘reflection group’ to accompany the process and the method ‘Fahrkunst’ used by *Size Matters* is a means of active self reflection.

The composite models support the general impression of variations the three factors. The most important lesson is perhaps that there is no one shape rather that there is a consequence with which the qualities interact. The flow of the art based research unit in Luzern that ‘embraced’ the diversity, the absence of fixed space in the CreaLab the compact solution in Collegium Helveticum all explain and support the other dimensions.

The interaction of individuals in groups, defining objects, or external partners in practice based research projects demands places and gestures developed with absolute attention. Understanding dialogues and spaces must be trained like a voice or the diluting of substances in laboratory experiments. The short intervals public funding for such environments is probably the one most ‘downscaling’ factor that has to be dealt with.
The well-documented experiences from inter- and transdisciplinary research confirm that the complexity of the open *life-world* research situations demands a specific form of patience and communication (Hadorn et al. 2008). As the variety of shapes developed from this virtual scaling should indicate paying attention to concrete dynamics and structures of collaborations expands insights and hence enables a view of options and arguments that could support artistic and transdisciplinary research deliberately positioned *in-between* as dynamic processes transvaluing any limited linear understanding of project or disciplinary bound research.

*post scriptum:* Each participant of the above collaborations would have her or his model to layout. The material evidence as well as published and unpublished reflections and outcomes of the four groups described here is huge and diverse. Any reader interested in further information will find references in the text to much of the documentation. “It’s only a model” as the bearer acknowledges in Monty Phythion and the Holy Grail (1975) when the knights finally reach Camelot.

### References

### Illustrations
1) forumclaque Baden 1997
2) Wind tunnel Size Matters, ZHdK, 3D mini-print by Kaspar König
3) Wind tunnel on the roof top of ZHdK
4) Visualisation with 3D print of the Size Matters wind tunnel, Kaspar König
5) Testing the Wind. Open house, ZHdK, Autumn 2014
6) Meeting, Size Matters group, Metal Workshop, ZHdK, Autumn 2014
7) Tests with smoke, Size Matters wind tunnel, Creative City, ZHdK, Autumn 2014
8) Visualisation Size Matters, ZHdK
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10) Project overview Art research ‘unit’ LUASA 2007-2012
11) Presentation at Stefan Gritsch’ research laboratory, Lucerne 2011
12) Meeting room, research space LUASA 2012
13) Visualisation Art research ‘unit’
14) 3D prints of the members of the CreaLab 2012
15) X-Mas Building, Future Laboratory CreaLab in action at Neubad Lucerne 2014
16) Workshop at Future Forum Lucerne 2015, Future Laboratory CreaLab
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18) Composite visualisations