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Interweaving Disciplines

How Workshop Spaces Generate New Forms of Creating

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↑ **Fig. 1 The project *evolving dronescapes* (2022) by Simon Lanz (BA Object Design) questions the perception of the organ as a traditional church instrument. Lanz de- and reconstructed a variety of organs, resulting in the creation of several new, experimental pipe instruments. A composition was written specifically for the newly developed sound assets by collaborator Tobias Lanz (BA Sound Arts, HKB Bern). The work culminated in a performance, in which the physicality and the sonic connections between the instrument and the space played a central role.**

The focal shifts brought about by the new curriculum have revealed that the idea of a workshop in a university context needs constant rethinking and adaption. To meet the ever-evolving needs of the institution and its students, it is not sufficient to simply provide tools and maintain project spaces. The strong emphasis on transdisciplinarity, especially at the intersection of analogue and digital technologies, requires an environment that allows for flexible and collaborative working. Thus, the compound of workshops located at HSLU[1] has seen several conceptional and spatial restructurings in the last years. This gave way for a stronger connection between the individual hubs. The workshop personnel has shown that these new ways of operating are therefore not merely an obstacle to overcome. They have created spaces in which multidisciplinary becomes a defining strength, which can clearly be seen in the work of the students who make use of the facilities.

In the following, the projects of Simon Lanz (figs. 1–2), Julian Stettler (figs. 3–4), Noah Ismael Wyss (figs. 5–6) and Nora Zürcher (figs. 7–8) are examined in more detail. Through conversations with those students, it is explored how workshops already encourage the interplay of digital technologies and traditional workshop processes – as well as how the new curriculum will allow for even more such ventures.

Dissolving boundaries

Lanz' process, for example, was characterised by working with existing materials. He collected used organ pipes and created entirely new objects out of them. In the wood and metal workshops these were ultimately assembled into a myriad of experimental instruments. Another crucial influence was the interdisciplinary cooperation with musician Tobias Lanz. Prototypes were made, collaboratively tested and adapted until a final form was found.

Stettler created a multimedia work that combines digital photography, print and installation. For his project he built an automated camera and created a model of the Fee Glacier from online data. In the final setup those different methodologies come together as layers in a three-dimensional space.

↑ **Fig. 2** ***evolving dronescapes*****, performance**

The digital and electronic components of *the glacier is a being* were created in collaboration with the MediaDock. As a next step, the work was finalised in the wood workshop.

The interplay of code and materiality is the focus of Wyss' project *Dancing with Robots*. He compiled his own image dataset and used it to train a GAN (generative adversarial network). The resulting images were then interpreted as objects and 3D printed. He subsequently created moulds of them and further experimented with varied materials such as wax, metal and acrylic in the casting process. In doing so, he primarily made use of the various departments of the 3D workshop.

> The tools provided by the workshops not only made these projects possible, they actively helped to shape them.

In Zürcher's *It Was All A Dream*, the contrast between the digital and the analogue is a core theme. In her process she used several 3D scanning and modelling tools, adopting both traditional sculpting methods as well as software. She blended them in a way that makes it hard to distinguish between what was created manually from what was artificially generated within her final output. To achieve this, she taught herself how to use various 3D technologies with the help of the MediaDock team.

The tools provided by the workshops not only made these projects possible, they actively helped to shape them. Their capabilities, limitations and the way they can be combined has an undeniable impact on student projects. This can be seen particularly well in *Dancing with Robots*. Here, both the digital input from the GAN and the specific properties of the materials used contributed their share of contingency. In Wyss' case, this circumstance can be seen as an effort to reflect on the implemented technologies. How an expansion of the workshop benefits students can be seen in Lanz' process. It was the acquisition of a nylon printer that allowed him to further refine and complexify his work. But the introduction of new tool brought not only new possibilities. It also effected a change in thinking and a further adaption of knowledge.

↑ **Fig. 3 *the glacier is a being* (2022) is a work by Julian Stettler (BA Camera Arts). Using time-lapse photography, Stettler examined several Swiss glaciers and ultimately recognized them as more than static or passive domains. By collecting and contextualizing time documents, geographic data, and other supporting information, they are revealed as vast, ever-changing organisms – actors in an interconnected web that contains all forms of existence. The investigation is presented as a book as well as a video installation that includes a model of the Fee Glacier.**

This holds especially true for projects that bring together a variety of instruments in unique ways. Several students made this experience when translating between digital and analogue working methods. While editing his data for CNC milling, Stettler found that different workshops require widely different workflows and standards when it comes to file preparation. Just a few megabytes can overwhelm and shut down such devices if the information provided is too complex. The opposite occurred for Zürcher, who scanned manually produced clay figures. She had to deal with challenges such as large amounts of data or the loss of information through digitalisation. Eventually, she integrated and even exaggerated some of these unavoidable visual irregularities in her project.

Ultimately, collaborating in multiple workshops challenges students to transcend disciplines and create new thematic connections. Stettler describes this workflow as a kind of satellite situation, in which he informs himself about the methods he needs and then finds the appropriate place for support. In this way, the creators become links between the individual spaces. They carry their acquired skill set and knowledge from one place to another and thereby establish new connections between existing areas. But this process does not only occur between the students and workshop staff. Another crucial point is the encounter and exchange between participants from different study programmes. Wyss, for example, puts a great deal of emphasis on such interactions and credits them as a vital part of his process. Projects thus become interplays not only between different technologies, but also between diverse academic currents.

> ...the creators become links between the individual spaces.

Creating access

Looking at how the workshops were accessed during these projects, it is easy to see where the new curriculum can do even better to promote transdisciplinary approaches. In Lanz' case, familiarisation with the workshops began primarily through the mandatory introductions during his

↑ **Fig. 4 *the glacier is a being*, glacier model close-up**

course of study. Here, an initial overview could be provided which would allow students to further educate and specialise themselves. Thus, these introductions also serve as facilitators of an independent way of thinking and working. Stettler, on the other hand, often became aware of certain opportunities through additional evening workshops. The new study structure will allow even more contact with such offers in the future. Last year, however, it also became clear that reaching students in this area cannot be achieved through the course structure alone. All four participants state that they visited the workshops' new online platform.[2] This is an opportunity to present various practical tools and theoretical inputs and to connect them with each other beyond disciplinary boundaries.

> The new study structure will allow even more contact with such offers in the future.

The students' diverse needs, which go hand in hand with their unique ways of working, can present a further challenge. This becomes clear when, for example, Stettler's and Zürcher's approaches are compared. *the glacier is a being* started from a point where a mostly complete, research-based idea needed to be implemented. In this case, many technologies were utilised only because a concrete demand arose. Here, the workshop functions primarily as a means of selective technical assistance at a given moment. Zürcher's project, on the other hand, was more process-based. Her way of working was characterised by constant experimentation, which in turn influenced the overarching concept. In such situations, it is important to support students with extensive information for further processing and contextualisation. Therefore, it is crucial to create spaces that are flexible and responsive – providing refined assistance as much as a stimulating lab environment.

A constant shift

These insights show that the new workshop structures bring as many opportunities as challenges. Therefore, this reflection is not intended as a presentation of a definitive new state of the art. Rather, it aims to show that the interlinking of disciplines and the resulting strategies allow us to respond to the constant changes within a cultural

← **Fig. 5 Noah Ismael Wyss' (BA Fine Arts) *Dancing with Robots* (2021–) addresses the possible future beyond a dystopic conflict between human and machine. Wyss adopted technologies of machine learning to then interpret and translate their outputs into haptic bodies. During the creation, experiments with code and materiality constantly informed each other – resulting in a collaborative symbiosis between him and ‹artificial intelligence›. The outcome is a myriad of objects that emerged as much from datafication as they did from the serendipity which occurs during manual processes.**

> ...using the workshops was not only a means for them to realise their projects, but also led to subsequent ideas and discoveries...

context. They give way to new, important formats – between theory and praxis, digital and analogue, or art and design.

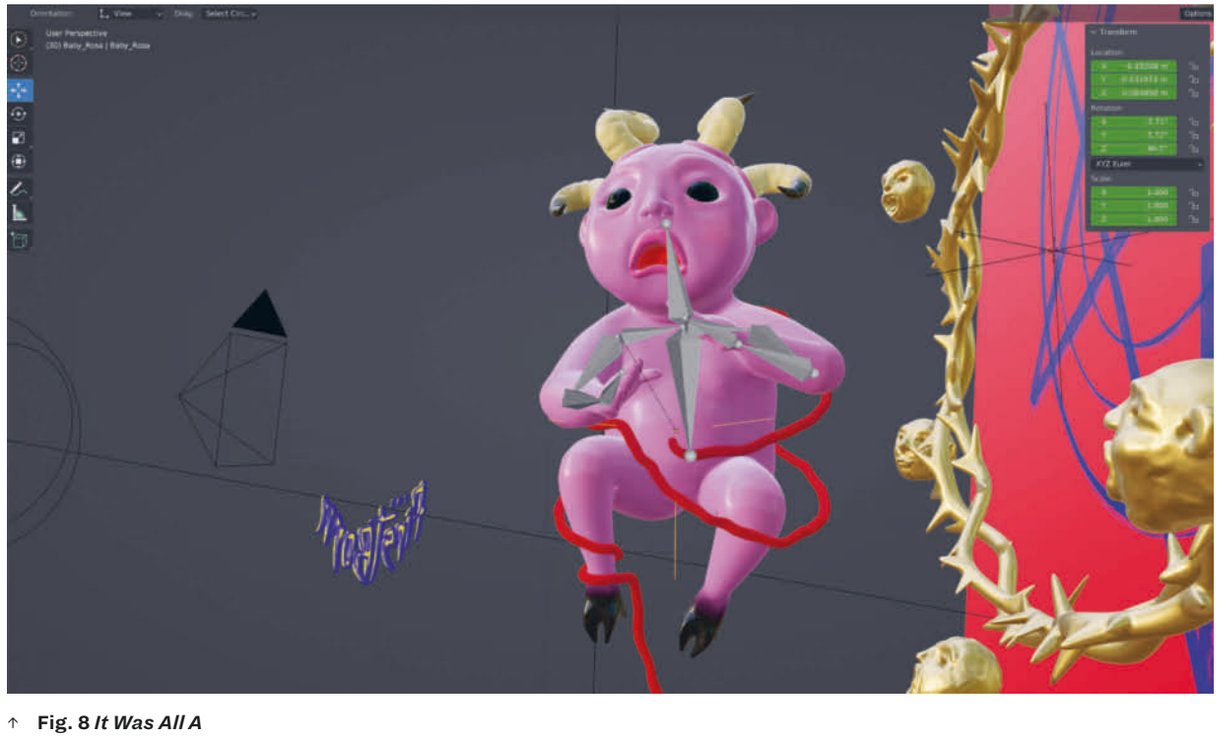
For instance, all the artists and designers interviewed said that using the workshops was not only a means for them to realise their projects, but also led to subsequent ideas and discoveries, which were incorporated back into their projects. Wyss specifically mentioned how he considers these spaces and the opportunity to use them flexibly as one of the major assets offered by the university. This shows that a transdisciplinary approach does not stop with the implementation of infrastructures that allow such processes. The active communicating and teaching of such concepts to students is just as important a part of this development.

↑ **Fig. 6 *Dancing with Robots*, GAN output**

1 This network includes the room for colours, the wood, metal, textile, 3D, digital fabrication, digital printing and publishing, manual printing and AV workshops, the photography lab and studio, as well as the MediaDock.

2 https://sites.hslu.ch/werkstatt

→ **Fig. 7 In *It Was All A Dream* (2022) Nora Zürcher (BA Illustration Fiction) explores the cinematic nature of her own dreams. As she combined digital and analogue technologies, Zürcher captured the alienating, often absurd feeling of this ambiguous state of mind. Four of her nightmares were illustrated as printed movie posters, each one accompanied by a short trailer. These animations, which can be viewed via an augmented reality application, once again interlace two different realities with each other.**



↑ **Fig. 8 *It Was All A Dream*, digital 3D modelling process**