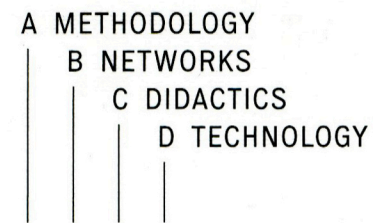


EXPLORATIONS IN ARCHITECTURE
TEACHING DESIGN RESEARCH



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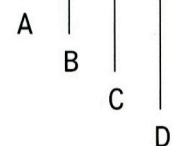


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* Research Environments at the Swiss Federal
Institutes of Technology in Lausanne and Zurich,
photos by *Maris Mezulis*

ALICE

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EXPLORING UNCOMMON TERRITORIES:
A SYNTHETIC APPROACH TO TEACHING ARCHITECTURE

Dieter Dietz

"My NAME is Alice, but—"

"It's a stupid enough name!" Humpty Dumpty interrupted impatiently.

"What does it mean?"

"MUST a name mean something?" Alice asked doubtfully.

"Of course it must," Humpty Dumpty said with a short laugh:

"MY name means the shape I am—and a good handsome shape it is, too.

With a name like yours, you might be any shape, almost."

—Lewis Carroll, Through the Looking Glass

RÉALITÉS PARALLÈLES

In its approach to teaching, ALICE explores uncommon territories. The choices of topics and sites purposefully combine the familiar with very particular geographical, economical or morphological circumstances. We emphasize working concurrently with multiple tools, such as physical models, 3-D software, images, 2-D programs, computer aided manufacturing, etc. ALICE modifies its curriculum each year to encompass new material and domains.

The idea of a parallel approach to the conception and production of architectural design is a central aspect of the didactic structure. All projects are literally developed both in the digital as well as in the physical world. With "Réalités parallèles" (parallel realities) we propose a method of intense engagement with the idea of making, not only in a physical sense—as in the crafting of models, drawings, or hand-drawn sketches—but also in a virtual sense, as in the production of digital models, visuals, databases, images, etc. The design process is constantly challenged by catalyst reactions in the respective fields of production.

In recent times, the size of our geophysical earth, the "physically far," has constantly been challenged by the "technologically near." Our planet has shrunk and continues to shrink into a comprehended object. Our experience of journey, both physical and mental, is being unintentionally eradicated by the loss of intervals and temporalities. On the other hand, this presents us with a fresh vantage point that we cannot occupy directly: the agravitational horizontal window relentlessly scanning the earth's surface: humankind's third eye.

How can architecture not only engage with, but possibly create resistance to this new frictionless world, using the available new technologies? Can architecture still perform as a conductor of flows, while working against the grain of the ever smoother, the ever faster—while remembering that the earth pulls us?

THE DESIGNER WITHIN

One of the key ideas underlying our design approach is the constant discourse between the conceptual framework of an architectural idea and its translation into an actual project. In an educational context at the bachelor level this involves on the one hand the articulation of an architecture project as a proposal represented in models and drawings, and on the other hand the development of a coherent program according to this architectural idea. While projects are usually developed with typical architectural drawings and models to represent a given proposal, we are presently exploring the potential of expanding the project scale into a one-to-one condition. The intention is that the structural constraints present at this scale as well as the potential physical and spatial impact will encourage synthetic thinking and a holistic approach to design issues.

In the academic year 2007/2008 a series of explorations of gravity formed the beginning of the semester. The students first produced a physical construct declaring gravity at work. This initial artifact was then subjected to a process of analysis, reevaluation and reinterpretation in 3-D software, physical models and architectural drawings, and was finally transformed into a proposal for a site-interactive installation or “pavilion” for the London Festival of Architecture held in June 2008. At the end of the first semester these proposals were entered in an internal, juried competition, resulting in a team of twelve students who would further develop the design and bring it to completion.

To realize construction of a pavilion or installation in a remote city with a second year design class is an experiment. The basic idea behind it is to expose students to processes in architectural production, from conception, to planning, to realization, to the ultimate removal of the architectural artifact—thus, the full life cycle of an object.

At the same time, such a project calls into question the position and the viewpoint of the designer. Here, the architect is not just a creator, he is also a craftsman, a producer, an engineer, a manager, etc. Thus the designer is not only acting from without or above—from a top-view position or a bird’s-eye perspective—but also from within. The employment of different digital and physical tools, in addition to the actual building of a one-to-one structure, both presents multiple reference frames for the maker of the design, and also transgresses these frames. This altered position of the designer-architect implies understanding architectural design as an emergent process.

A SYNTHETIC APPROACH

This “synthetic” approach relates to the core concepts of “learning by building” and “embodiment” as they are employed in current research on artificial intelligence. In their recent book *How the Body Shapes the Way We Think*, Rolf Pfeifer and Josh Bongard argue that, in contrast to a view of intelligence as “control and computation,” we cannot understand intelligence without building physical agents (robots) that are able to interact with the real world.

In our studio we employ a “messy” method that entails constantly making things on the foundations of formerly conceived ideas, and bringing them into a test-condition in physical reality. This testing will feed back directly into the realm of the project’s ideas. The constant process of conceiving and testing is recorded in project-based sourcebooks, compilations of “archive copies” of images and reference material in chronological and indexed order. Thus, the ongoing process can be accessed or revisited at any time, by the student designer-makers or anyone visiting the ALICE website.

By expanding our project scales towards life size, we are now exploring the possibilities of “learning by building” in a one-to-one framework. While physical models can be seen as mediating tools between the abstract and the real, allowing for visual/physical simulations of spatial ideas and concepts, the one-to-one scale directly employs the human body as an interactive component of spatial exploration. The structures built at one to one are spatial agents and become part of our physical environment.

ALICE’s main focus is space, as suggested by the name to which its acronym refers. Though a seemingly common property of architecture, the notion and concept of space are rarely addressed directly. Other aspects, such as tectonics, structure, materiality, as well as function, economics or further subtexts, tend to dominate architectural discourse, and space is often left as a residue of the many tasks that architecture is asked to perform.

It is our goal to explore the possibilities for reestablishing space as a flexible and powerful criterion in the discourse of environmental, urban, and architectural planning. The initial assumption is therefore that space in itself is not neutral or merely present.

This is a starting point of relevance for the consequences of constantly changing environmental conditions affecting the built space: a growing world population and subsequent urbanization; increased mobility and intensified supply chains; far stretched boundaries of the perceivable world through evolving cultures; any of these matters affect the conditions of physical space and infer a constraining interaction between the urbanized and the non-inhabitable space on our everyday life.

In light of the revolutionary attitude of human projections on the environment throughout history, there is a clear need for any non-deterministic design methodologies that assimilate hypothetical knowledge and data analysis at the same level through a synthetic design approach. Therefore our design research examines the tools that are necessary to establish the link between different spatial frames at the interstices of the natural environment and its artificial surrounding.

PROCESSUAL KNOWLEDGE IN ARCHITECTURAL EDUCATION

Education is based on, incorporated as and processed by knowledge. To focus on knowledge as an event in process bypasses the dangers of a one-sided empirical or rationalist approach to knowledge as pure database. Instead, it embeds the process of design within the field of research itself.

We are interested in this shift of focus from knowledge as database towards knowledge as process, because it implies a substantial change in the structure of learning/teaching itself, a shift from making as reproducing towards making as reflecting the made in an ongoing process. Goals cannot then be described as determinate entities but are a “process towards” or a “way to.” They are in permanent need of adjustment. This also partially implies that the search for predefined solutions is losing currency, while architectural instruments such as type and program remain tools (or parts of a language) that need constant reevaluation.

While design activities employ the methods and implements from domains adjacent to architecture—and therefore collaboration with experts in those fields is of great benefit—architecture also has the unique potential to explore knowledge processes as spatial events.

In grasping spatial aspects of knowledge processes and transforming them into a visual form or a spatial construction, this process of interpretation itself becomes a process of knowledge. Ultimately, the aesthetic reevaluation of a process becomes a project: scientific and architectural at the same time.

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