

VOM BAU  
MEISTER  
ZUM  
MASTER

Formen der Architekturlehre  
vom 19. bis ins 21. Jahrhundert

Carola Ebert, Eva Maria Froschauer,  
Christiane Salge (Hg.)

Forum Architekturwissenschaft  
Band 3

Universitätsverlag  
der TU Berlin

NETZWERK  
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Die Schriftenreihe *Forum Architekturwissenschaft* wird herausgegeben vom Netzwerk Architekturwissenschaft, vertreten durch Sabine Ammon, Eva Maria Froschauer, Julia Gill und Christiane Salge.

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Der Tagungsband versammelt Beiträge des 3. Forums Architekturwissenschaft zum Thema der historischen und gegenwärtigen Architekturausbildung – vom Baumeister zum Master –, das vom 25. bis 27. November 2016 an der Freien Universität Berlin in Kooperation mit der Brandenburgischen Technischen Universität Cottbus-Senftenberg stattfand. Die Aufsätze verhandeln Fallbeispiele der Architekturlehre vom 19. bis ins 21. Jahrhundert entlang von konstant bedenkenswerten Querschnittsfragen – wie jenen nach Akteursperspektiven, nach Lehrformen oder auch Institutionenpolitiken. Dabei werden Geschichte, Gegenwart und Zukunft der besonderen Ausbildungsdisziplin Architektur in einen Austausch gebracht. Es stehen auf diese Weise wissenschaftlich reflektierende Stimmen neben jenen, die aus der Unterrichtspraxis berichten. Die Sortierung innerhalb des Bandes bindet die Texte jeweils mit Hilfe einer überzeitlichen also systematischen Fragestellung aneinander.

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VERA KAPS, EKATERINA NAGIBINA  
UND JOHAN DE WALSCHE

# Environments of New Schools of Thought

*In response to on-going global changes and frustration about the inability of established models of architectural education to cope with them, new sites of thinking and mediation have arisen, both within and outside formal education. The research project NeST (New Schools of Thought) investigates such new sites. Based upon four cases in different sectors, this paper explores the interdependence between the environments of new schools of thought and their educational models. It identifies freedom, entrepreneurial thinking, strategic partnerships and process orientation as common key features, and connects them with the spatial dispositions of the building, the institute, the campus and the network.*

## Introduction

Since the late 20th century, architectural education has been reshaped by new policy regulations, digitalisation, and economic, societal and cultural transformation processes. The 21st century brought new changes: the creative sector, boosted by the start-up community, became an essential component of economic growth, employment and international trade in today's global age, entailing a belief and trust in young people.<sup>1</sup> Given its societal and multidisciplinary nature, architecture is a field in which these global changes are particularly at stake. Increasingly, architectural education is seen as a provider of human resources in the creative sector, rather than merely as a provider of building designers.

<sup>1</sup> Colette Henry, Anne de Bruin: Introduction. In: *Entrepreneurship and the Creative Economy: Process, Practice and Policy*. Cheltenham 2011, pp. 1–6; Quentin Hardy: *Technology*

*Workers Are Young (Really Young)*. URL: <https://bits.blogs.nytimes.com/2013/07/05/technology-workers-are-young-really-young/> (7 August 2017).

To respond to the ongoing global changes, and operate productively in this new and transformed society, fundamentally new models of practice are required, which implies the need for adapted models of architectural education.<sup>2</sup> On top of that, among educators and academics there is a general feeling of dissatisfaction with the current model. This feeling is triggered by trends such as an uneven distribution of power between teacher and student, subjection to measurable outcomes passing over the value of the process, a lack of collaborative thinking, an established client-consultant relationship along with a deficiency of actual collaborations, and an ineffectiveness in promoting learning and social change.<sup>3</sup> The research project NeST (New Schools of Thought) has identified tendencies towards the commercialisation and scientification of architectural education, but also a common need to close the gaps between academia and practice, and between architecture and pedagogy, as well as a need to resolve the mismatch between public awareness and financial support.<sup>4,5</sup>

<sup>2</sup> Rory Hyde: Introduction. In: *Future Practice: Conversations from the Edge of Architecture*. New York, London 2012, pp. 16–25.

<sup>3</sup> Gert Biesta: Good Education in an Age of Measurement: On the Need to Reconnect with the Question of Purpose in Education. In: *Educational Assessment, Evaluation and Accountability* 21 (2007), vol. 1, pp. 33–46; Beatriz Colomina: *Towards a Radical Pedagogy*. In: *The Metropolitan Laboratory Magazine* (2016), vol. 1, pp. 40–43; Dana Cuff: *Architecture: The Story of Practice*. Cambridge, Massachusetts 1991; Harriet Harriss: Introduction. In: Daisy Froud, Harriet Harriss (eds.): *Radical Pedagogies: Architectural Education and the British Tradition*. Newcastle upon Tyne 2015, pp. xii–xix; David Nicol, Simon Pilling: *Architectural Education and the Profession: Preparing for the Future*. In: *Changing Architectural Education: Towards a New Professionalism*. London, New York 2000, pp. 1–26; Henk Ovink: Introduction to Panel 3: *Collaboration between Architecture Education and Non-academic Partners*. In: Joanna Doherty (ed.): *New Directions in Architectural Education*. Berlin 2013, pp. 124–127; Rachel Sara: *The Pink Book*. In: Ebbe Harder (ed.): *Writings in Architectural Education: EAAE*

*Transaction on Architectural Education*, no. 15. Copenhagen 2003, pp. 120–133; Helena Webster: *The Architectural Review: A Study of Ritual, Acculturation and Reproduction in Architectural Education*. In: *Arts and Humanities in Higher Education* 4 (2005), vol. 3, pp. 265–282; Helena Webster: *The Analytics of Power*. In: *Journal of Architectural Education* 60 (2007), vol. 3, pp. 21–27.

<sup>4</sup> NeST is a research project conducted in collaboration with the following research partners: the Institute for Architecture and Planning at the University of Liechtenstein, the Architectural Association School of Architecture in London, the Institute for Art and Architecture of the Academy of Fine Arts Vienna, the Faculty of Design Sciences of the University of Antwerp, and Umeå University School of Architecture. We especially thank Angelika Schnell and Peter Staub, with whom the authors Vera Kaps and Ekaterina Nagibina investigated the cases on site.

<sup>5</sup> Vera Kaps, Celina Martinez-Cañavate, Johan De Walsche, et al.: *New Schools of Thought – An Investigation on Tendencies in Architectural Education*. In: *Manuel Couceiro*



Certain frustration in current models of architectural education has triggered the community of architectural educators to take initiatives and face the challenges for example the International Architectural Education Summit; the founding of an Education Academy under the umbrella of the European Association for Architectural Education (EAAE); some major research, especially by Harriet Harriss in the United Kingdom and Beatriz Colomina in the United States. However, when operating within the boundary of formal architectural education, existing frameworks and regulations are often used as an excuse to not change the curriculum.<sup>6</sup> This suffocates any possibility for experimental practices to emerge.<sup>7</sup> Although many attempts might be too timid to actually undermine the established model, some initiatives have emerged that are seeking for ways to differentiate themselves from prevailing formal architectural education with regard to content, methods of knowledge creation and transfer, and shifts in organisational structure. These initiatives identify and implement alternative approaches in response to the ever-changing environments of which they are part. We identify such initiatives as 'new schools of thought'.

### Research Interest / Interdependence between environments and an educational model

NeST defines such a new school of thought as a set of ideas and opinions on new methods of knowledge creation and on new forms of knowledge transfer, which a group of people dedicated to architectural design and spatial planning share about architectural education. Thereby, it is acknowledged that schools are no longer the privileged place for thinking. New sites of knowledge production and reflection have arisen, giving way to new types of schools of thought. Even though there is evidence of their initial

da Costa, Filipa Roseta, Joana Pestana Lages, et al. (eds.): *Architectural Research Addressing Societal Challenges: Proceedings of the EAAE ARCC 10th International Conference (EAAE ARCC 2016)*. Leiden 2017, pp. 859–866.

6 Tatjana Schneider: *Shaking up Alberti*. In: Joanna Doherty (ed.): *New Directions in Architectural Education*. Berlin 2013, pp. 82–85.

7 Colomina 2016 (note 3).

emergence in Europe in the 1980s, the concepts that characterise these new schools of thought have not been fully understood. Besides higher education, NeST has also identified secondary education, research and public mediation as expanded fields of architectural education.<sup>8</sup>

In this study, we aim at revealing the mutual interdependence between the educational model of a new school of thought and the environment it operates in, including both the physical environment (architecture and urban space) and the socio-cultural environment in which the cases operate, as well as the political and economic influences they are exposed to.

### Research Design

The empirical study consists of a multiple-case study that concentrates on the European context.<sup>9</sup> Within this limitation, twenty-one initiatives were long-listed based upon three parameters: (1) compliance with the definition of a new school of thought, (2) inception after the European educational reform of the 1980s and (3) prevalence of new approaches for knowledge creation and mediation in and through the field of architecture and spatial planning. Following the analysis of a questionnaire, four initiatives were identified as revelatory cases, each situated in a distinct type of architectural education: higher education, secondary education, research and public mediation. The research methodology consisted of a preparatory document analysis followed by an intensive case visit including observations and in-depth interviews according to Emerson, Fretz & Shaw.<sup>10</sup> In order to gain distinct perspectives, we talked not only to the director(s) of the initiative, but also to other actors – more specifically mediators/teachers, and users (children, students, the public).

8 Peter Staub, Vera Kaps, Johan De Walsche: *Challenging the Frontiers of Architectural Education: In Search of New Schools of Thought*. In: *Archithese* (2016), vol. 2, pp. 60–71.

9 Robert K. Yin: *Case Study Research: Design and Methods* (fifth ed.). Los Angeles 2014.

10 Robert M. Emerson, Rachel I. Fretz, Linda L. Shaw: *Writing Ethnographic Fieldnotes*. Chicago 1995.



It is not the aim of this study to assess feasibility or effectiveness of the cases – it is too early to do so. In contrast, the analyses of the cases focus on the key concepts of the schools of thought, and how they relate to the environment (physical, socio-cultural, economic and political) and vice versa. The findings of this paper are to be read as a reporting of opportunities and as inspirations for conceiving new models of architectural education, rather than as conclusions.

### Four Schools of Thought

Before elaborating on the interdependence between environment and the educational model, we shortly describe the four cases in order to give the reader a better understanding of the aims, target groups and organisational structures.

The art and architecture school *bildung* in Innsbruck, Austria, was classified as secondary education, yet it also addresses younger children. It is an art space for the exploration of painting, sculpture, architecture and media arts by and for children and adolescents from 4 to 19 years of age. Directed by Monika Abendstein since 2013, *bildung* combines the former children and youth programmes of the *KUNSCHTschule* and of *aut. architektur und tirol*.<sup>11</sup> It is a place with an independent programme that is not embedded in a school curriculum. It focuses on the development of young people through an aesthetic education.

*Confluence Institute for Innovation and Creative Strategies in Architecture* in Lyon, France, is situated in higher education. It is a private school of architecture founded by Odile Decq and Matteo Cainer in 2014. It provides a five-year education, following the European bachelor-master structure plus an advanced master (as a third cycle). Teaching is structured around five thematic fields: neurosciences, new technologies, social action, visual art

<sup>11</sup> To simplify matters, we refer to the makers of a school of thought by the name of the school of thought itself and thus use the third person singular.

and physics. The themes are approached in a transversal and non-hierarchical manner in order to reinforce the students' independent and critical thinking.

The *InnoChain* ETN network is a shared research training environment for 15 early stage researchers (ESRs), initiated by Mette Ramsgaard-Thomsen and Martin Tamke. It brings six European educational institutions focused on computational design and making together with 14 industry partners, covering fields ranging from architecture and engineering to design software development and fabrication. The network aims at training researchers with a strong industry focus who have the ability to affect current thinking, design, and building the physical environment.

*Aedes Network Campus Berlin (ANCB)* in Germany is situated in the field of public mediation. It is a public urban platform founded by Kristin Feireiss and Hans-Jürgen Commerell in 2009. *ANCB* uses Berlin as a test site in order to look for ways to confront and learn from urban phenomena. Through a variety of mediation formats, the campus initiates exchange among local and international students, policy makers, and experts from industry and design.<sup>12</sup>

### Findings / Inherent concepts of new schools of thought

The analysis of the cases brought about four prominent common characteristics: (1) they embody freedom and independence, which they consciously use to promote autonomy and responsibility; (2) they think and act entrepreneurially in order to organise their (educational) projects and creatively use their resources; (3) they use strategic partnerships to teach and communicate in an interdisciplinary and application-oriented way; and (4) they are process-oriented rather than result-oriented, thus promoting creativity and reflectivity.

<sup>12</sup> *ANCB* also operates in the realms of secondary education and, in part, higher education (without awarding degrees or running full-term studios).

## Embodying freedom and independence

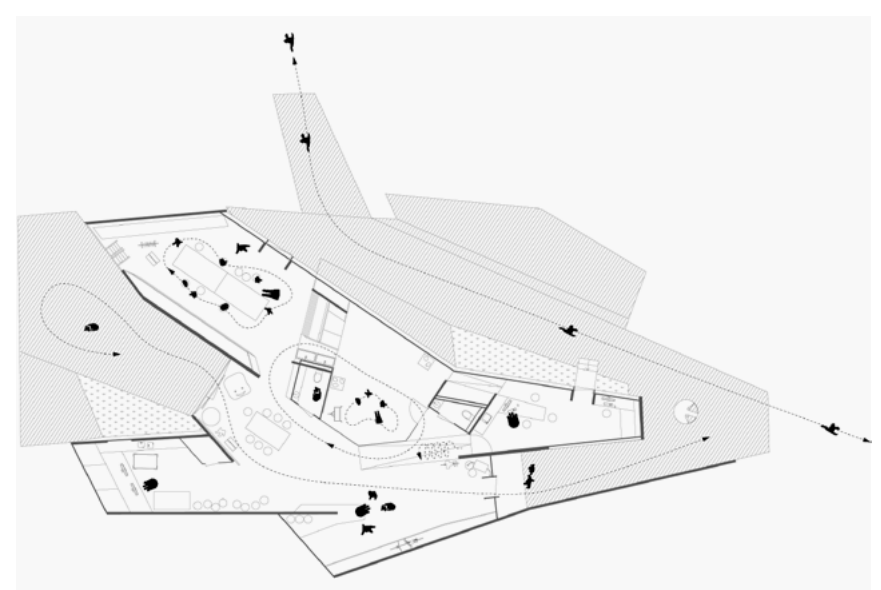
Being free implies that one is neither limited nor controlled, but has the possibility to act independently. In architectural education, limitations can be political regulations, social norms or established structures, as well as financing mechanisms that have not been questioned for a long time. In all four instances, the feeling of liberty is seen as an important impetus for creative activities. Especially in the users' appropriation of the classroom, a feeling of freedom is crucial for fostering creative processes and legitimising learning processes. As for financial independence, freedom from conforming to allocation models or providing justification to sponsors is seen as indispensable for an unhindered (forward) movement of architectural education. Maintaining freedom also implies giving confidence and autonomy as well as sharing responsibility and rights: in decision-making processes, composition of the curriculum, participation in the programme, and the use of physical learning environments. The most striking examples can be found with *Confluence* and *bilding*.

*Confluence* puts the burden of its low financial resources in favour of its students' autonomy. Instead of hiring a workshop manager, the students are responsible for the workshop themselves: they regulate operating times, decide on new equipment purchases and are responsible for the maintenance of their equipment. The students each get a key to the building that enables them to independently determine their working rhythm. This promotes their sense of responsibility for the school's spaces. Curriculum content and design method are negotiated, making students accountable for their own work and trajectory.

For *bilding*, the promotion of free creative development of young people is inextricably linked with the consciously designed architecture of its new building (conceived in cooperation with architecture students from the University of Innsbruck). In the architecture of the building, both mental and physical barriers are removed. The rooms flow smoothly into one another, without doors (figure 1). Children can move freely without having to ask for permission. On the contrary, the spatial design invites



● Fig. 1: The space of *bilding* is free of physical barriers, photograph, 2016. © Vera Kaps and Ekaterina Nagibina, protected by copyright/urheberrechtlich geschützt



● Fig. 2: The movements of *bilding*'s users, diagramme, 2017. © Vera Kaps and Ekaterina Nagibina, protected by copyright/urheberrechtlich geschützt



the children to move through the rooms in various ways – ramps invite them to race and tumble, and diagonal walls invite them to draw or lean on the floor, at a table or on a chair; either lying, sitting or standing – and thereby also taking different learning positions (figure 2). Additionally, *bilding* designed a loose workshop programme that is open for change and adaptations according to the kids' interests. Both spatial and programmatic freedom, as well as the trust shown by the programme leaders, encourages the children to take and implement decisions independently, and to experiment with new approaches. The director explains: "Mein Ziel ist der komplette Freiraum. Die Kinder haben so viel Potenzial! Zu sehen, wie wenig dann schlussendlich übrigbleibt, nachdem die ganze Maschinerie der Erziehung und Ausbildung sich durchgesetzt hat, ist erschreckend. Mein Wunsch ist es einen Ort zu offerieren, in dem Kinder und Jugendliche sein können, was sie sind. Die Zeit zu geben, um herauszufinden, was einen interessiert, und Wertschätzung zu geben, für was einer kann".<sup>13</sup> Next to an adherence to the principle of freedom, *bilding* is an emanation of an extreme belief in children's capacity for experiential learning - a children-centred approach, whereby the input of the educator is subordinate to learning-by-doing.

### Thinking entrepreneurially

Operating in complex social and economic environments, all of the cases have to think and act strategically in order to organise their projects and keep them running effectively. This calls for either innovatively generating resources (money, space, machines, staff, etc.) or creatively using the resources that they already possess. This strategic behaviour allows us to define

13 "My goal is complete freedom. The children have so much potential! It is frightening to see how little is left behind, after all the machinery of education and training has come through. My desire is to offer a place where children and

teenagers can be what they are. To give the time to find out what their interest is, and to give appreciation for what one can be." Interview Abendstein, 16 October 2016. All translations are by the authors unless stated otherwise.

the cases as entrepreneurships, as described by Howard H. Stevenson: "a pursuit of opportunity beyond the resources you currently control".<sup>14</sup>

Small administrative and managing bodies characterise all the cases. As Harriet Harriss has pointed out: "40 years ago in the UK — and this is actually similar across the world — 80% of universities' budgets were spent upon academics themselves — those directly responsible for teaching and research. Now, however, 80% of budgets are spent paying exceptional salaries to management and administration".<sup>15</sup> For the cases that were studied, the number of employees is limited to the bare necessity: the economic logic of *bilding*, *ANCB* and *Confluence*, is to flexibly attune their programmes with their staffing and vice versa.

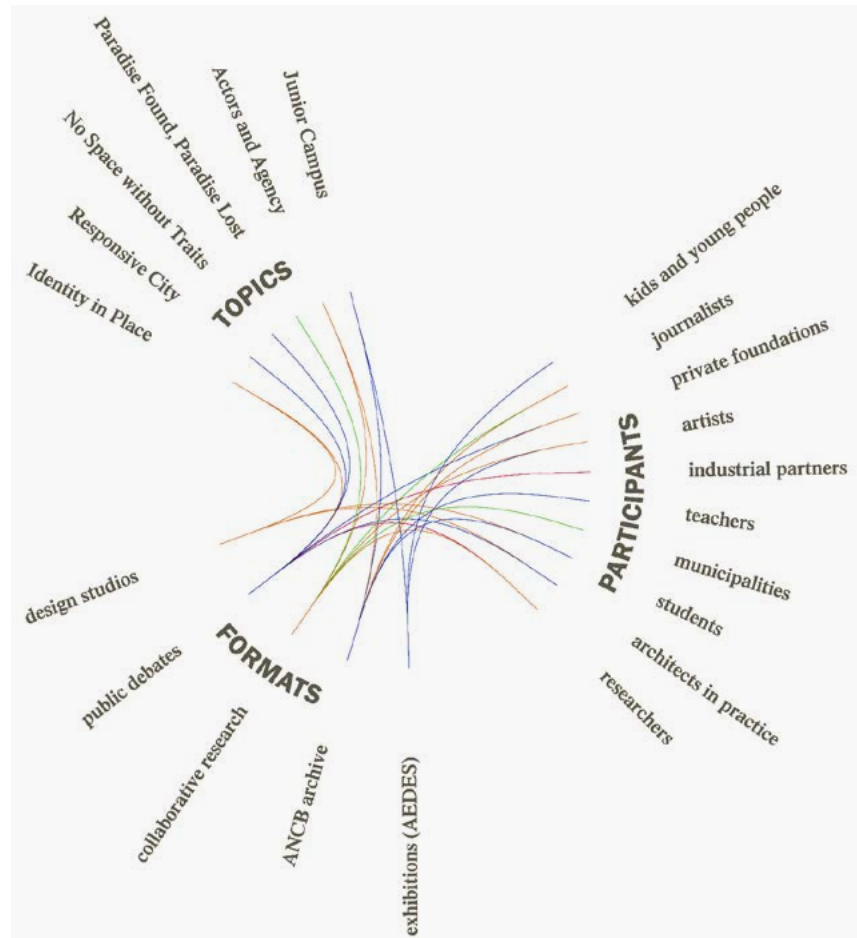
Being a private school, *Confluence* is entrepreneurial per se. Financial feasibility is an ever-present challenge, pushing the institute to come up with new ideas for its way of operating. The number of employed staff is related to the amount of paid fees. Thereby *Confluence* abstains from academic tenure, and minimizes permanent employment. It embraces a so-called Open Organisational Model, which is described by Chris Anderson as "the new industrial organizational model [...] built around 'small pieces loosely joined'. Companies are smaller, virtual, and informal. Most participants are not employees. They form and re-form on the fly, driven by ability and need rather than affiliation and obligation."<sup>16</sup> This kind of open organisation allows both sides to benefit from cooperation. For instance, thanks to the pedagogic format of intensive workshops lasting one to two weeks, teaching schedules at *Confluence* can accommodate the invited teaching staff's other occupations without imposing pressure to change their place of residence due to formal appointment.

14 Howard H. Stevenson: A Perspective on Entrepreneurship. In: Harvard Business School Background Note (1983), 9-384-131. pp. 1-13.

15 Vera Kaps, Ekaterina Nagibina (eds.): Conversation with Harriet Harriss, Johan De Walsche, Peter Staub, Andrea Wiegelmann. URL: <https://uni.li/nest> (31 August 2017).

16 Chris Anderson: Makers: The New Industrial Revolution. New York 2013, p. 151.





● Fig. 3: ANCB's didactic model, diagramme\*, 2017. © Vera Kaps and Ekaterina Nagibina, protected by copyright/urheberrechtlich geschützt. \*The diagram represents an exemplary combination of projects that does not necessarily correspond to reality

But the most important benefit concerns the curriculum. The fluid, ever-changing structure of invited teachers provides a dynamic teaching body, 'tailored' each semester for the specific topic. During the workshops, an intensive working atmosphere is created, as well as a strong bond between students and teaching staff, while keeping the relationship on the highest level possible. To which extent this 'fluid' approach is restraining the school from developing a proper research base and an own research

culture, including long-range research initiatives, is not clear yet. *Confluence* bases their revenue exclusively on student fees, not considering research as a source of financing. In any case, the entrepreneurial organisational model of *Confluence* coherently supports the message of the school: "[...] more than 60% of young people today do not want to work for somebody: they want to establish their own company. [...] This means we have to give students proper architectural skills but also the will and the means to do something else".<sup>17</sup>

*ANCB* chose a different but equally entrepreneurial path in order to find financial support and raise public interest. It structures its projects within an open time frame, which allows everyone involved to react dynamically to external influences. This pragmatic approach gives the organisers freedom and flexibility in the choice and composition of their themes and formats, such as exhibitions, university design studios and public debates as well as collaborative research projects. Instead of 'deductively' setting up a closed framework for approaching a topic with a fixed crew of people and a set methodology, *ANCB* defines a variety of topics of interest and approaches these 'inductively', directed by the features as they emerge during the process. *ANCB* includes people who can contribute and designs a variety of formats that potentially tackle more than only one topic, fully allowing for emergence of what will occur. Doing so, *ANCB* has created a unique didactic model (figure 3) that at the same time becomes its modus operandi.

### Using strategic partnerships

The role of the architect in the design process is shifting, partly because of the increasing number of new stakeholders. The field of architecture, which once belonged solely to the architect, is now shared with other professionals in a multidisciplinary setting. All four cases collaborate outside their own institutions, establishing strategic partnerships in order to tackle architecture's current

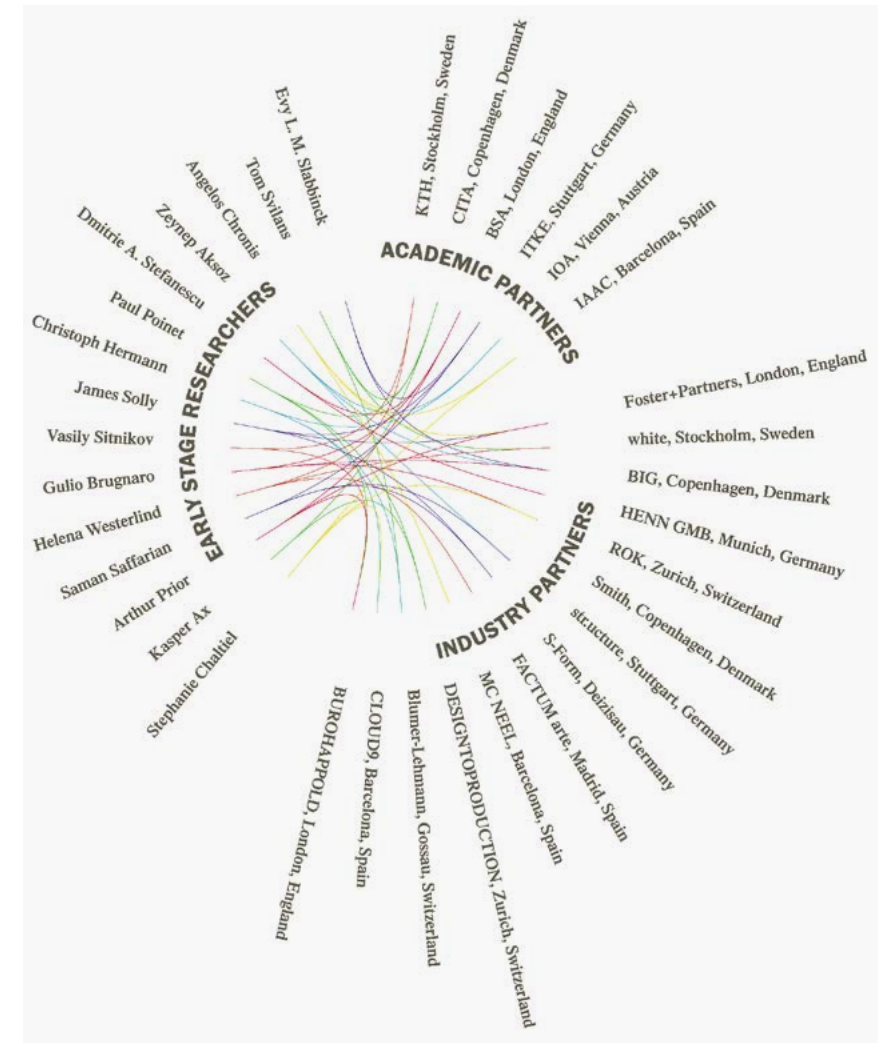
<sup>17</sup> Interview Decq, 14 December 2016.



issues from distinct perspectives. By strategic partnerships, we understand connections that aim at the particular mission of the school of thought, rather than following generic pre-specified learning outcomes. These initiatives cooperate with different professionals, non-hierarchically, equally depending on one another. *InnoChain* based its educational model on such a partnership, in which architects at different career stages (namely ESRs, academics and practitioners) and representatives of different industrial fields work together on equal terms (figure 4). The very aim of the network is to challenge the way different stakeholders in the design process currently communicate and work together. As one of the founders of *InnoChain* states: “This is a new form of collaboration in our community – combining speculative [theory] and applied [practice] approaches and we hope that it could be a really interesting platform for forward thinking and new ideas”.<sup>18</sup> Hence *InnoChain*’s educational model invites partners from both practice and industry to participate in research. By sharing the different partners’ knowledge as well as the struggles that they experience, *InnoChain* develops research that is highly relevant for current and future practices. Although the main focus for *InnoChain* lies in the field of computation, the model of such cooperation could be used for other multidisciplinary projects, and for institutions whose aim is to bring different disciplines, sectors and stakeholders together.

*Confluence*, for its part, is striving to become an open place for collaboratively developing design strategies for the Lyon region. The school is about to launch a co-working space for different start-ups and individual entrepreneurs, and to open its ‘creative maker space’ as a ‘fab lab’ for public use. At the moment it is difficult to predict how such actions will influence the educational model, but when sharing the very same space, the educational benefit of students’ exposure to the needs and struggles of entrepreneurs and the public is in any case very promising. The introduction of ‘others’ into the architectural industry is fundamentally important in order to avoid the self-referential loop of architects

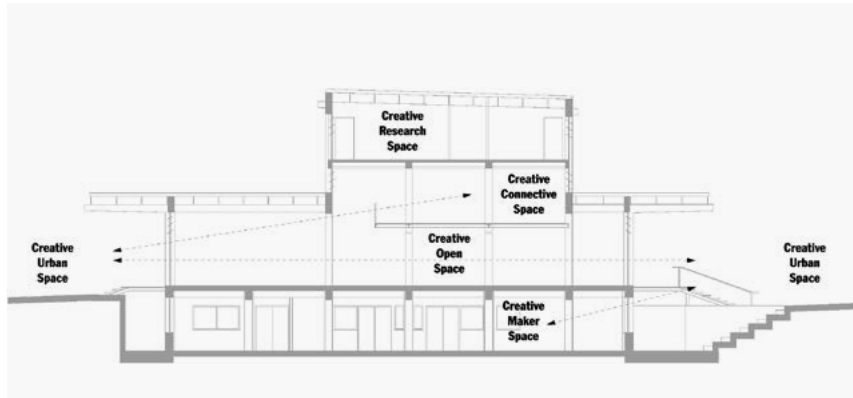
18 Interview Tamke, 7 March 2017.



● Fig. 4: InnoChain’s network of partners, diagramme, 2017. © Vera Kaps and Ekaterina Nagibina, protected by copyright/urheberrechtlich geschützt

being criticised by architects.<sup>19</sup> There is also a clear intention to collaborate with the public by inviting them to participate in design processes. “For me, it is important that people can understand

19 Sara 2003 (note 3).



● Fig. 5: Physical and visual connections between spaces at Confluence, diagramme, 2017.  
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what architecture is, or at least they understand that the school is a creative place. They can make something themselves with us, or we can give them something”, explains the director.<sup>20</sup> The physical space of *Confluence* itself encourages both planned and spontaneous collaborations to emerge. Different spaces for public engagement, for the studio, and for co-working are carefully articulated to still have visual and physical connections between themselves, allowing the city, students and professionals to be in constant dialogue (figure 5).

### Orienting to processes instead of outcomes

In all four cases, we observed a strong focus on processes instead of outcomes. The director of *bildung* writes: “Schulen sind sehr häufig Ergebnis orientiert [sic!], selten Prozess orientiert [sic!], was den Umgang mit kreativen Themen und Methoden schwierig gestalten lässt.”<sup>21</sup> Hence, *bildung* fosters free, creative and reflective development away from the pressures of success and competition, for instance by not awarding degrees.

20 Interview Decq (note 17).

21 “Schools are often result-oriented, rarely process-oriented, which makes it difficult to deal with creative topics and methods.”; survey 2016.

Additionally, *bildung*'s ‘professional creatives’ – as their teachers are called – stimulate mutual learning processes by working together with the youth on a project instead of only teaching with words.<sup>22</sup> Furthermore, *bildung* encourages young people to look at workshops that run in different disciplines simultaneously – thus the children learn how different disciplines approach subjects in different ways.

One of the two directors of *ANCB* emphasises that the most interesting findings do not arise from finished designs, but from the design process itself. *ANCB* aims at working interdisciplinarily and at mixing hierarchy levels in order to depart from conventional ways of addressing societal problems. An atmosphere is created that is not competitive, and instead allows errors and failure. Failure makes it possible to reflect on one's work and draw instructive conclusions. This openness encourages architects, urban designers and planners at all career stages to focus on the design process and, furthermore, to understand the built environment itself as a process instead of a product.

For *InnoChain*, in contrast to prevailing academic research practice, completion of a PhD candidate's dissertation (as an outcome) is not a goal of its own, but subordinate to a concern for teaching process-oriented action. One of the founders of *InnoChain* explains: “We intend to grow a new generation of researchers who will be able to act across disciplines, and who will connect academia and practice”.<sup>23</sup> *InnoChain* provides young researchers with an interdisciplinary group of senior researchers and actors from industry and practice. “We like to think of ourselves as a non-hierarchical network of students and partners – researchers at different stages of their career, working together”, he continues. The focus of the work is thus on the finding process, the experiment, freed from the requirement to produce a presentable result. Because the outcomes are not yet clearly established at the beginning of the research, this approach

22 Deliberately, *bildung* calls its teachers ‘professional creatives / Berufskreative’ in order to set the focus on mutual instead of hierarchical learning processes.

23 Interview Tamke (note 18).



presupposes a basic trust in one's own work and the value of the process. It enables spontaneity and is open for unpredictable development, which is the first step to innovation. The changing design project is in itself the unit of investigation: "in *InnoChain* the understanding of the design process is conceptually transformed from something linear into a cyclical process, which repeatedly touches areas of communication, simulation and materialisation".<sup>24</sup> Correspondingly, the project partners do not publish their results at the end of the research programme, but steadily communicate their process steps online on the ESR's blogs, social media channels, or the *InnoChain* website as well as offline through research exhibitions.

### Conclusion / New schools of thought and their spatial disposition

The analyses of the cases uncovered four features of new schools of thought – freedom, entrepreneurial thinking, strategic partnerships, and process orientation – and how they correspond to their inherent concepts and educational models. From the perspective of architects, we have a particular interest in the relation between the educational model and the physical constellation of these schools. In this concluding section we argue that such relation exists, and that it can be conceptualised in a set of four spatial dispositions: the building, the institute, the campus and the network.

A building – Embodying a mindset: Following Josef Albers' approach "Learning is better than teaching because it is *more intensive*; the more we teach, the less students can learn" [emphasis in original], *bilding* engages its students in experimenting and in learning by doing.<sup>25</sup> The architecture reflects and

24 Ibid.

25 Joseph Albers: *Werklicher Formunterricht* (Teaching Form through Practice). 1928. URL: <http://www.albersfoundation.org/teaching/josef-albers/texts/> (7 August 2017).



● Fig. 6: The studio space at Confluence is designed anew by the students every semester, photograph, 2016. © Vera Kaps and Ekaterina Nagibina, protected by copyright/urheberrechtlich geschützt

supports that approach. One of the design students explains that the building itself tells the institution's intention to the children and young adults: "von der Kraft des Kollektivs, der Lust zum Experiment und Risiko, der Wertschätzung des freien Denkens, der Flexibilität Umwege und Rückschläge zu verdauen, dem Potenzial der Selbstorganisation, dem Erkennen der eigenen Fähigkeiten, dem Vertrauen in eine starke Idee. Dieser Kraftakt vieler hat eine enorme Energie erzeugt, die spürbar durch dieses Gebäude fließt."<sup>26</sup> The name *bilding* associates the German concept of 'Bildung' (edification) with the English term 'building', thus connecting the school's educational thinking with the architectural body of a building.<sup>27</sup>

26 "About the power of the collective, the desire to experiment and risk, the appreciation of free thinking, the flexibility of detours and setbacks, the potential of self-organisation, the recognition of one's own abilities, the confidence in a strong idea. This feat of many has generated a tremendous amount of energy flowing through this building."

27 The term 'Bildung' is difficult to translate. In studies of educational philosophy one can find the translations 'edification', 'self-formation' and 'self-cultivation'.



An institute – Educating for autonomy: *Confluence* fosters its students' autonomy as a primary objective by giving them responsibility for their curriculum and the school's space. The open studio space invites them to design their working environment anew each semester, and thus to test and experiment (figure 6). The spatial proximity with start-ups creates an entrepreneurial spirit, which encourages the students to imagine not only school, but also practice alternatives. Their name, *Institute for Innovation and Creative Strategies in Architecture*, underlines this entrepreneurial thinking as the core of their educational model: to constantly question society, to strive for visions and the currently impossible, and to think differently. Odile Decq explains: “*Confluence* is not only the name of the site of the school in Lyon but it is the core concept on which the school's pedagogy and teaching is founded upon. Architecture must no longer be reduced to a professional or specialized education: it is a discipline that opens to the world, to a way of seeing the world and a capacity to act in the world.”<sup>28</sup> The place of education therefore is not just a building, but a building with an institutionalised mission: an ‘institute’.

A campus – Cultivating public discourse: *ANCB* engenders free speech and alternative thinking processes that are open for collaboration and political engagement, evoked by a very public and exposed ambience that simultaneously exudes a non-competitive and informal atmosphere. Consequently, it encourages architects, urban designers and planners to become cultural communicators, since architecture “is a discipline that intrinsically has the capability to synthesize the information from multiple fronts”, explains Martha Thorne.<sup>29</sup> She recommends that architecture “should take advantage of this potential to enrich its studies and seek to integrate more layers and complexities in the existing educational structure”. In that sense, *ANCB* approaches urban

28 Survey 2016.

29 Martha Thorne: Introduction to Panel 2: Interdisciplinary Strategies in Architectural Education. In: Joanna Doherty (ed.): *New Directions in Architectural Education*. Berlin 2013, pp. 96–99.

phenomena that can be found at many other places, using Berlin as its test site, and creating an open framework that links international and interdisciplinary partners through a variety of formats. In keeping with its name – *Aedes Network Campus Berlin* – the spatial composition of Pfefferberg, home location of *ANCB*, very much supports the idea of a campus, in its original Latin meaning of a ‘field’ for the community, for cultural and verbal exchange.

A network – Interweaving academic and practical research: *InnoChain* teaches early stage researchers to experiment and communicate beyond the borders of disciplines, countries and cultures. Programmatically, it forms a network that interconnects academia and practice with the help of new communication technologies rather than through physical proximity. Even by naming itself a ‘network’, *InnoChain* underlines that mission. In times of digitalisation, an educational space must no longer be confined to physical walls but may expand into digital space, where a set of rules for the regulation of pedagogical interactions and communications forms an alternative learning environment. As Chris Anderson explains, “we minimize transaction costs with technology, not proximity. A social network is our common roof. Skype is the ‘next cubicle’.”<sup>30</sup> Education has freed itself from physical space, to take place in the interconnected space of the Internet – the network as intangible disposition for gathering and teaching.

NeST investigated initiatives, programmes and schools that emerged after the 1980s. It is obvious that it is easier to adapt to a changing environment by creating from scratch, since “you need a system to undermine an existing system.”<sup>31</sup> Hence, future research should investigate how existing systems, namely traditional formal academic institutions, are actually reacting to their changing environments, and to which extent their actual spatial constellation is supportive – or not – for turning today's challenges into opportunities.

30 Anderson 2016 (note 16), p. 149.



## Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <http://dnb.dnb.de> abrufbar.

Universitätsverlag der TU Berlin, 2019

<http://verlag.tu-berlin.de>

Fasanenstr. 88, 10623 Berlin

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E-Mail: [publikationen@ub.tu-berlin.de](mailto:publikationen@ub.tu-berlin.de)

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Lektorat: Martin Pozsgai, Sabine Ammon

Gestaltung: Stahl R, [www.stahl-r.de](http://www.stahl-r.de)

Satz: Julia Gill, Stahl R

Druck: docupoint GmbH

ISBN 978-3-7983-3066-5 (print)

ISBN 978-3-7983-3067-2 (online)

ISSN 2566-9648 (print)

ISSN 2566-9656 (online)

Zugleich online veröffentlicht auf dem institutionellen

Repositorium der Technischen Universität Berlin:

DOI 10.14279/depositonce-7789

<http://dx.doi.org/10.14279/depositonce-7789>

Der Tagungsband versammelt Beiträge des 3. Forums Architekturwissenschaft zum Thema der historischen und gegenwärtigen Architekturausbildung – vom Baumeister zum Master –, das vom 25. bis 27. November 2016 an der Freien Universität Berlin in Kooperation mit der Brandenburgischen Technischen Universität Cottbus-Senftenberg stattfand. Die Aufsätze verhandeln Fallbeispiele der Architekturlehre vom 19. bis ins 21. Jahrhundert entlang von konstant bedenkenswerten Querschnittsfragen wie jenen nach Akteursperspektiven, nach Lehrformen oder auch Institutionenpolitiken. Dabei werden Geschichte, Gegenwart und Zukunft der besonderen Ausbildungsdisziplin Architektur in einen Austausch gebracht. Es stehen auf diese Weise wissenschaftlich reflektierende Stimmen neben jenen, die aus der Unterrichtspraxis berichten. Die Sortierung innerhalb des Bandes bindet die Texte jeweils mit Hilfe einer überzeitlichen also systematischen Fragestellung aneinander.

Universitätsverlag der TU Berlin  
ISBN 978-3-7983-3066-5 (print)  
ISBN 978-3-7983-3067-2 (online)