LEARNING SPACES LABORATORY
NEW LEARNING SPACES
AT THE UNIVERSITY OF BASEL

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SCHRÖER SELL ARCHITEKTEN
UNIVERSITY OF BASEL EDUCATIONAL TECHNOLOGIES

CONTENTS

Designing in Dialog

Does the traditional campus fit the way we study today? Innovative teaching formats – which often use digital media – are changing the way we learn; at the same time, numerous influences are altering the overarching framework of university studies. One particularly noticeable change is that students are spending more time on campus, and the demand for learning spaces in the setting of the university and its lecture halls and libraries is increasing.

The refurbishment of a large learning space on Petersgraben in 2014 marked the beginning of a long collaboration between the University of Basel and the Basel architectural firm Schröer Sell. It has proved serendipitous for both parties, particularly as the new learning spaces emerged from dialog, with their creation proving a learning process for both parties – for the University of Basel as the client and for Schröer Sell as the architects. The openness of all the participants fostered new perspectives and unconventional solutions; a key element here was the participatory process that incorporated a wide variety of user groups, students and staff. The project outlined above – the "Lernoullianum" – was followed by further projects: the Verso, a student leisure and event space; the seminar rooms in the Kollegienhaus; the outstandingly innovative lecture halls in the same building; and the learning landscape in the University Library.

The collection of texts in this volume opens with a reflection on the development of the University of Basel within the urban landscape of Basel (Tilo Richter). Other contributions describe current changes to the Basel campus (Sabina Brandt) within the historical context of learning spaces and their development (Katja Ninnemann), illustrated via examples of changes through history in particular areas, such as the library's reading room (Alice Keller). We also consider the development of individual buildings such as the Kollegienhaus and the University Library (Dorothee Huber), while short texts focus on individual projects which have recently been realized in these buildings. A series of interviews introduces participants in the "University Library Learning Landscape" project as well as learning space researcher Katja Ninnemann. In lieu of an afterword, we finish with some reflections from Thomas Grob, Vice President for Education at the University of Basel. Throughout the book, numerous photographs illustrate the projects.

This publication can be understood as an expression of confidence in the everyday usability of these new learning spaces on the part of both the University of Basel and Schröer Sell Architekten. As the trade press commented in reference to the learning landscape in the University Library: "The result is a project with no superfluous elements, which has received wide acceptance and which brings out the spatial beauty of the existing structure." (Hochparterre 8/2022)

Usage will change over time, and the university will continue to adapt and develop its campus in the future as well. In the process, it will continue to honor its traditions, respect its continuities, and foster innovation and experimentation. Or to put it more simply – to learn.

Sabina Brandt
Educational Technologies in the Vice President's Office for Education at the University of Basel

Gerrit Sell
Schröer Sell Architekten

1_BACKGROUND

Despite the concentration around Petersplatz, Basel's university learning spaces are typified by a disparate network of small-scale sites for the departments, faculties and institutes.

TILO RICHTER

A PLANETARY SYSTEM WITH A CENTRAL STAR: UNIVERSITY DEVELOPMENT

The development of the university takes us from the first nucleus – the Lower Kollegium on the Rheinsprung and the Upper Kollegium in the former Augustinian monastery on Augustinergasse – to the western plateau around Petersplatz. It was a rocky path, beginning in the second half of the 19th century. The university's growth and its expanding presence in the urban landscape resulted from a rapid, ongoing rise in the number of students along with a continual broadening of subjects over the decades.

1   Left: University sites in the city center and Kleinbasel (section).

The 400th anniversary of the university's founding in 1860 provided an opportunity to reflect on the (lack of) traditional educational facilities in the urban landscape. "In a period of significant scientific and technical progress, increasing student numbers and exponential growth of scholarly collections, the university was still confined to the Lower Kollegium on Rheinsprung and to the museum on Augustinergasse. The university lacked appropriate spaces (auditoriums, seminar rooms, storage areas, etc.) and modern infrastructure (laboratories, equipment, etc.)."[1] A range of recommendations and concrete plans were tabled, with the most significant initiated in 1883 by Heinrich Reese, who served as Cantonal Building Supervisor from 1875 to 1894, and head of the Building Department until 1905. Reese pushed through new construction of a Kollegienhaus and additional university facilities on the western plateau; even then he was envisioning an entire university district.

2   View of the old university (Lower Kollegium), buildings on Rheinsprung and Augustinergasse, the Münster in the background, upstream view of the Rhine. Steel engraving by Thomas Heawood after a work by Ludwig Rohbock, c. 1850.

In the last quarter of the 19th century, the new face of the University of Basel began to take shape. In 1874, it inaugurated its first dedicated science building: the "Bernoullianum", which was equipped with an astronomical observatory. This "university establishment for physics, chemistry and astronomy" was designed by Johann Jakob Stehlin the Younger, and was built on the foundations of the "Wasenbollwerk", a site freed up by the demolition of the city wall. Interestingly, the impetus for this building project came from a private initiative for the construction of an observatory on the western plateau. The plans were drawn up in 1863 by Ludwig Maring, an architect best known at the time for designing railway stations.

The new University Library, adjacent to the Bernoullianum and designed by Emanuel La Roche, opened to readers in 1886. For the first time, the university had a single, dedicated store for its immense book holdings which had been held in widely scattered locations for hundreds of years. The Vesalianum, home to the Institute of Pathology designed by Paul Reber, was inaugurated the previous year. At about the same time, in 1896, the "Gewerbeschule" (trade school) and its associated museum, which were not part of the university, were erected at the intersection of Petersgraben and Spalenvorstadt. The Botanical Institute, with its Botanical Garden and the "Viktoriahaus" greenhouse, followed in 1898, in a space between the new library and the Spalentor. These building projects were partly enabled by the "Freiwillige Akademische Gesellschaft" (Voluntary Academic Society), which was founded in 1835, two years after the canton of Basel-Landschaft split from the canton of Basel-Stadt.

Concrete plans for a new Kollegium building to replace the old Lower Kollegium on Rheinsprung, which was practically bursting at the seams, date back to 1906, after the Petersplatz area once again figured in the heated discussions around the location in 1886. However, even then the gears of the city and the university turned slowly, and during the First World War, neither had the financial resources for large building projects. The involvement of liberal, conservative forces in the late 1920s introduced the idea of the "citadel project" which would concentrate university buildings on Münsterhügel – including the existing Lower Kollegium and the Weisses Haus at Rheinsprung 18. This would also have seen the neo-gothic "Allgemeine Lesegesellschaft" (General Reading Society) at Kleiner Münsterplatz replaced with a new construction for the Public Art Collection. As well as proposals for expansion, this period saw the first donations – some of them highly generous. However, it took three architectural contests (1915, 1931, 1933) and a decisive win in a public referendum in 1936 before the new Kollegienhaus, designed by Roland Rohn (successor to Otto Rudolf Salvisberg) was inaugurated on the site of the old armory in 1939. As Alfred Labhardt, then President of the university, stated: "The armory, the symbol of violent power, has given way to the university, the symbol of intellectual power."[2] The most important driving force in these years was Fritz Hauser, head of the Education Department from 1919 to 1941. Hauser was committed to this new university building as much as designated Director Georg Schmidt was committed to the construction of an art museum – a project that had been under discussion for a similarly long period.[3]

After years of struggle, the new Kollegium building finally emerged to form the center of university operations on the western plateau. Rohn's ensemble of buildings is largely closed off from the city – much like a monastery – but the complex is open and communicative from within. However, the extensive university district once envisioned by Reese never materialized.[4] Instead the university is divided into institutes and facilities spread almost exclusively throughout Grossbasel, with some of them now forming clusters. Teaching and learning spaces have found quarters in historic buildings; for example, German Linguistics and Literature in Engelhof on Nadelberg (since 1990), Art History in the Laurenzbau on St. Alban-Graben (since 2002), and the Center for African Studies at Rheinsprung 21 (since 2016). Others have managed to take ownership of purpose-built structures, such as the Faculty of Business and Economics in the Rosshof on Petersplatz (Naef, Studer and Studer, 1988; since 2010 the Department of Ancient Civilizations). The natural sciences cluster in lower St. Johann consists of the Physical Institute – now the Department of Physics (Institute for Physics and Chemistry, Klingelbergstrasse, Theodor Hünerwadel, 1926/1966), the Institute for Organic Chemistry, now part of the Department of Chemistry (Julius Maurizio, St. Johanns-Ring, 1952) and the current Life Sciences Campus at Schällemätteli (2021).

The architectural history of the University of Basel and its faculties and institutes, which today are scattered across 83 sites, attests to a pragmatism that favors renovation of existing structures alongside selected new constructions. As Georg Kreis noted in 2010: "The spatial history of this university is a history of spatial expansion, but not a history of progress with a recognizable linearity to speak of – it presents as a chain of construction sites, relocations and constantly changing uses for buildings."[5] In the 1960s, Building Director Max Wullschleger saw "the interweaving of university structures with the rest of the city" as "a distinct feature of the University of Basel".[6] So while the entrance hall to the old library and its prominent dome were demolished, the historic library depot on Bernoullistrasse remained. The new entrance hall with the reading room behind it, built in two phases between 1962 and 1968 by architect Otto Senn and engineer Heinz Hossdorf, confidently embraces La Roche's open stack building, which is almost 100 years older. The dialogical, equal co-existence of the two volumes is not smoothed over, rather it is emphasized as an architectural history narrative, both in the interior and exterior.

1   Sandra Fiechter, "Grünzone im Hochschulbezirk. Der Petersplatz auf dem Westplateau" in: Christoph Merian Stiftung (ed.), Basel ungebaut, Basel 2022, p. 75.

2   Alfred Labhardt, Geschichte der Kollegiengebäude der Universität Basel 1460-1936, Festschrift, Basel 1939.

3   See also: Charles Stirnimann, Baumeister des Roten Basel. Fritz Hauser (1884-1941) in seiner Zeit, Basel 2021.

4   Reese's scenario failed for various reasons, including opposition to the demolition of the medieval granary. See also: Sandra Fiechter, "Grünzone im Hochschulbezirk. Der Petersplatz und das Westplateau" in: Christoph Merian Stiftung (ed.), Basel ungebaut, Basel 2022, pp. 71-84.

5   https://unigeschichte.unibas.ch/behausungen-und-orte (retrieved 5 February 2022).

6   Quoted by Georg Kreis, Orte des Wissens. Die Entwicklung der Universität Basel entlang ihrer Bauten. Beiträge zur Basler Geschichte, Basel 2010, p. 167.

Similarly, the newest phase of the university's spatial expansion blends new construction – the new Biozentrum by Ilg Santer Architekten, which opened in fall 2021, for example – and targeted adaptation of existing structures to new modes of use, appropriation of existing spaces and skillful contemporary reinterpretation which benefits researchers, teachers and students. The university's decentralized physical presence in Basel's urban landscape, with multiple clusters and various individual sites, remains ones of its characteristic elements. Thanks to the early, intensive involvement of the people who will use the university's new facilities, the (re)design of its spaces generally finds broad acceptance, with the students adopting them as their own.

3   Poster for the referendum to decide on construction of the new Kollegium building on Petersplatz. Design: K. Dietiker, printer: Wassermann AG, Basel, 1936.

Schröer Sell Architekten

USING RESOURCES, UNDERSTANDING STUDY, CREATING SPACES

When the University of Basel contacted our practice about upgrading the learning space in the former church on Petersgraben in 2014, we approached the task with an open mind. We had previously come into contact with the university as a tenant in the context of the renovation of a building in the Old Town, and we already knew that collaboration would be an important part of the commission. Further projects that we have had the privilege of carrying out with and for the University of Basel have given us an insight into all the additional criteria that go into planning a learning environment that enjoys broad acceptance, and how deep this process goes. These projects range from the "Lernoullianum" to the hub for student leisure and events known as the "Verso", from seminar rooms in the Kollegienhaus and the two outstandingly innovative lecture halls in the same building to the learning landscape in the University Library.

In this complex process, our goal is not simply to provide a certain number of learning spaces; above all we aim to develop a stimulating learning environment on campus that meets contemporary didactic demands. At the same time, designs have to reflect the individual needs of the users and, last but not least, fit into the context of existing university buildings which have emerged over time, and respond to these structures.

Our work over these past few years has been an exciting learning process. In particular, it is the various forms of participation on the part of university staff and students who will use the spaces in the future that have opened up new perspectives for us. Their contributions form the foundation of the decisions we make with the university. Where do the users need cloakrooms and workspaces, electrical outlets, Wi-Fi or coffee machines? Who works when in which groups, do they work in "learning families" or alone? Where do people come together informally and where do they meet for intensive collaboration? Where can you find peace and concentration, where is there space for encounter and interaction?
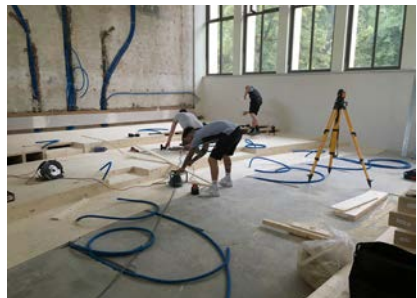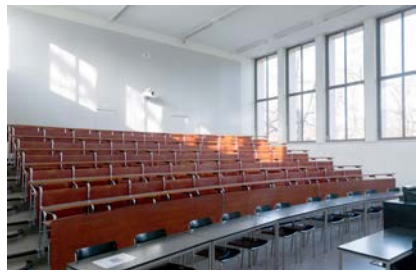
Taken together, the answers to these questions provide a clear picture of learning practices in our time. Just as growing digitalization and mobility are changing our society – and educational institutions along with it – both individual and communal experience of study and research is taking on new forms. The co-working spaces of today's market economy, which are increasingly a feature of urban centers, are evidence of this transformation. Information needs to be accessible just about everywhere these days, enabling opportunities of working individually without disturbance, ideally around the clock. Work and leisure time are increasingly overlapped. This clustering effect is also reflected in learning spaces; ideally their structure, atmosphere and fittings should facilitate or even encourage this switching between different usage modes.

Building under these requirements means remaining open and flexible rather than building by the textbook. The results of our collaboration evolved in an experimental search for ideas that was happily unburdened by quantitative requirements from the outset. Partnering with a client that is committed to creating a sustainable learning environment based on the latest scientific findings, that is prepared to break new ground, to experiment – this has inspired our work for years now.
We happily accepted the challenge of approaching design issues not just with transparency, but precision and declarative intent as well. The guidelines of our work formed on multiple dialogical levels: in consultation with the client, in conversation with users, and in reference to the history of the buildings and their interiors.

Conversations with the Learning & Teaching department and the "Learning Spaces" working group about current international projects and studies on the topic of learning were particularly helpful and productive in dialog and development. This personal interaction, which took the form of collaborative processes at all levels of the university and with a wide variety of participants, resulted in widespread appreciation and acceptance of all the completed projects – never a given when you have so many stakeholders.

4a–f   Lecture hall, Kollegienhaus, under construction

Construction in existing buildings always requires a sharpened awareness of the property, a sensitive and respectful handling of the existing structure, and openness to appropriate transformation. In most cases you need to go further than simply refurbishing the tables, chairs and surfaces. Our work on the Lernoullianum and the Verso proved that aspects of acoustic and thermal comfort are just as significant. The appearance of "intact" historic spaces can also be deceptive. Some spaces require intensive structural intervention; to ensure fire safety or provide escape routes, for example, or to eliminate asbestos and other contamination, or to meet new functional requirements for learning spaces. The client may well want numerous power outlets, new lighting and audiovisual technology, but first you have to work out where all the bulky cabling will go. So in dialog with the client, we develop guidelines step by step, summarizing the future qualities of the building and describing what it can and must achieve in its next life cycle.

By weighing up economic and ecological, creative and aesthetic, and conservational arguments we arrive at a series of decisions on how to handle the existing structure. Present-day interventions must be rooted in an intensive and thoroughly interdisciplinary examination of the building for the renovation or modification to meet the quality of the original architecture on equal terms.

As experts in building within existing structures, we take great pleasure in using these projects on the historic campus to demonstrate that you don't necessarily need new construction to create a contemporary learning environment. Existing buildings can be readily adapted to meet the demands posed by new modes of learning. For us as architects it means we never start from scratch, as we would with a new construction on a greenfield site. And the users already have their own emotional connection – the redesign benefits from a certain natural and established proprietorial relation to the spaces. Use of historical inventory saves resources, and it is particularly suited to the creation of individual learning environments that forge an identity with sustainable links to the city and its culture.
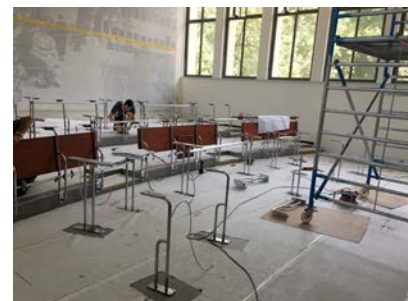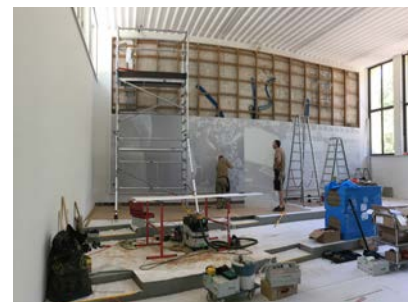
Finally, in our projects for the University of Basel, we don't want to neglect design interventions that have led to a democratization of the spaces. Hierarchies and privileges are barely manifest in spatial structures any more, if at all, in part because different groups of users mix and interact far more than they did in the past. One example is the lecture halls in the Kollegienhaus at Petersplatz, where new changes enable seamless transition from lectures to group work. This makes much better use of the existing potential of a space; the circle of users grows, along with appreciation of the buildings. As such the new way of thinking, the transformation of learning is directly reflected in these spaces.

4g–l   Lecture hall, Kollegienhaus, under construction.
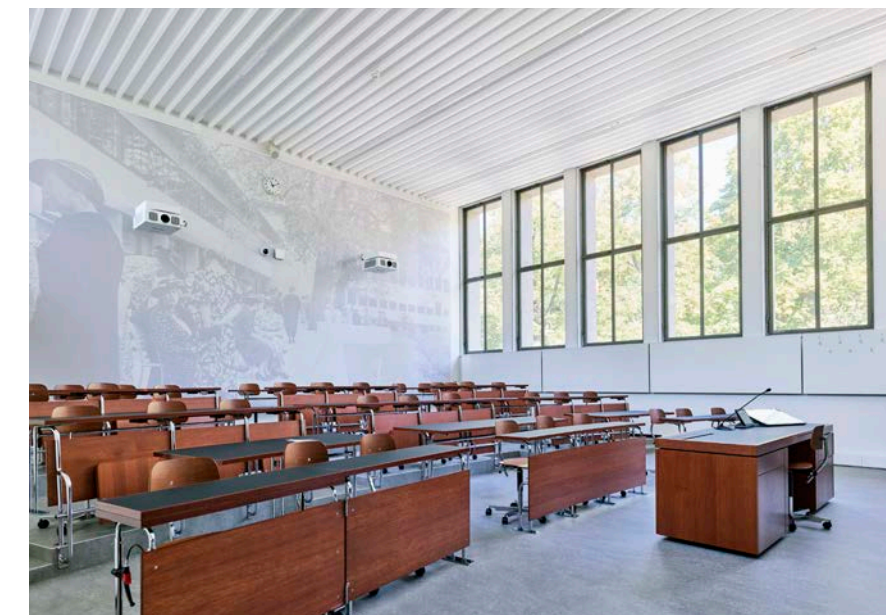
2_CONCEPT

"If you want to make a good study area out of this space, you'll have to blow it up first …!"

SABINA BRANDT

Pathways of learning on the campus of tomorrow:

"If you want to make a good study area out of this space, you'll have to blow it up first …!" This scathing judgment from a colleague about a learning space – now the Lernoullianum – marked the beginning of our shared path to the "campus of tomorrow". The large learning space, set up hastily in a rented former church in response to an enormous increase in demand and furnished from existing inventory, had extremely poor acoustics. Every rustle of paper, every cough and whisper, every movement of a chair, every clack of the keyboard was clearly audible throughout the entire space, and drew attention. This meant that, despite the great demand for space, the area was rarely used by more than two students at a time. It was impossible to avoid disturbing one another. Narrow desks stood in regular rows, the stone floor gave it a cold feel and the overall atmosphere of the high, reverberating space was lifeless. There were no provision for group work. Ancillary services, such as coffee machines, quiet areas and lockers, were entirely absent. But university management looked at the low user numbers and began to wonder whether there really was such a great need for a learning space after all.

Today, the remodeled Lernoullianum, which was named by students with reference to other university buildings such as the Bernoullianum and the Vesalianum, is one of the most popular learning spaces at the university. The building facilitates both individual and group study, and one of the group areas can be reserved. Foam discs are suspended from the ceiling, which creates a "cozier" atmosphere than the high church ceiling and also significantly dampens the ecclesiastic acoustics, which were designed to make a single voice easily audible. The building has a kitchen, lockers and a quiet zone leading to a separate area for prayer and meditation – this "room of silence" was requested by students and staff and provided the inspiration for the acoustic renovation, which was expanded to encompass the entire ground floor and the galleries.

As the University of Basel's only building to date that is dedicated solely to learning space with no connection to a library or department, the Lernoullianum is unique. Students can access it during the day and until late evening with their Basel student ID. The generous opening hours were set in consultation with the student union, and they now also include weekends. Occupancy varies depending on the time, the day of the week and the imminence of exams, but the building and in particular the main study area are nearly always well frequented.

Besides innovative ideas for changing the spatial acoustics, communication with users was central to the redesign. User surveys yielded highly complex results – far from unusual in this type of project. Surveys often only reflect the temporary needs of one reasonably large group, yet a closer look revels very heterogeneous needs and preferences: due to highly individual academic situations, very different approaches to work and teaching methods of the different academic subjects at a full university, or due to requirements in the course of the academic year, from interactive elements during the semester to individual exams.

Additionally, an explicit goal of the project was innovative construction for the future that didn't just reproduce familiar elements. "If you ask children in a playground what they need to play, they will answer: slide, swings, sandbox – that's what they know," said Jürgen Dürrbaum, an expert from the furniture design company Vitra, during the ITSI project (see the interview in Škerlak et al., 2014: 183-190), commenting on the challenges facing spatial designers working with users. "That's why it's important to ask what activities the space is meant to facilitate or encourage: What do you want to do?"

Therefore, the user workshops on the design of the campus study environment hosted by the "Learning Spaces" working group focus on precisely this question. This focus also enables decision-making and a degree of precision within spaces where flexibility is desired. Ultimately, a space in which all the furniture and walls are movable is really only suitable for a handful of use cases – and

not just because folding partitions are generally not soundproof. The lack of affordances in these spaces can also overwhelm users and force them into negotiation with each other. So it's important to think in terms of specific scenarios, to focus on just two or three activities and to "let the space speak". Olaf Eigenbrodt points to the example of libraries and the growing pressure for multi-purpose spaces. "It's not enough […] to simply look at the solution that offers the greatest flexibility, as this ultimately says nothing, resulting in spaces that don't make any kind of statement" (Eigenbrodt, 2014: 31).

Drivers of change and the response of campus design

Teaching and learning are changing as a result of the educational reforms of recent decades and in light of digital transformation and other societal developments. This "shift from teaching to learning" that we often hear about represents a paradigm shift. We no longer conceive of teaching in terms of defined content to be conveyed, but rather as competencies that students acquire. The goal is that they should ultimately "develop into independent and active members of an increasingly digital society" in order to meet the challenges of the digital transformation (Strategy "Digitalization in Teaching" of the University of Basel, 2018).

This shift from teaching to learning is also changing the role of instructors. "Learning processes become […] communication processes characterized by diverse approaches, learning methods and outcomes" (Stang/Becker, 2020: 195). This means that teaching staff are increasingly expected to serve not

only as conveyors of expert knowledge, but also as advisors and "guides" on these pathways of learning, who build feedback structures into the design of communication processes and promote peer learning.
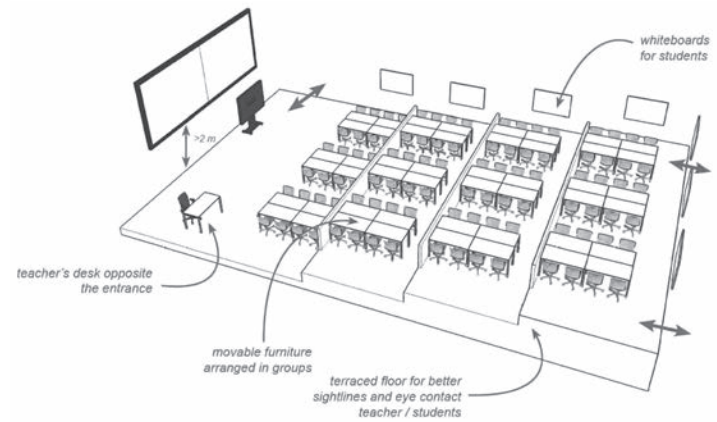
One example of how the campus can respond to these new demands is the shifting concept of the lecture hall. No one would question the value of a good lecture, but today we *have* a new approach to the task of linking an expert presentation with discussion, transfer and individual academic work. Instead of a clear division between the lecture hall and the college as a venue of collaboration (see the article by Katja Ninnemann, p. 40–45), the two spaces are now merging, and can quickly switch back and forth.

Two lecture halls in Basel were redesigned based on models from Norway as well as an approach that arose in the Netherlands. At NTNU Trondheim (fig. 5), a space for lecture-style teaching and group work was driven by the need to regularly integrate large numbers of students who lived far from campus into the group. These spaces therefore incorporated comprehensive technical equipment that was also well suited to hybrid teaching – long before the coronavirus pandemic.
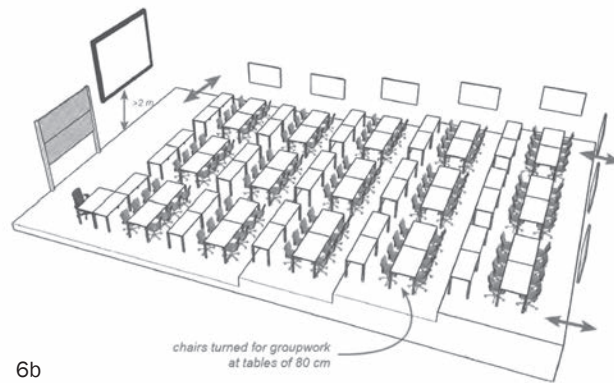
5   Lecture hall R02 at the Norwegian University of Science and Technology, Trondheim.

6a, 6b, 7:
Sketch from the "Cookbook Education Spaces", TU Delft, multiple configurations of group tables in a lecture hall with 180-degree rotation.

6a

The redesign replaced the steep rows of fixed seats in the space with three larger levels, each of which can accommodate several small groups. When these groups come to present their results, the dual projection shows both the group's laptop monitor, visible to everyone, and the video image of the group.

At TU Delft in the Netherlands, the "Cookbook Education Spaces" (Van der Zanden et al., 2018) illustrates the requirements for modern learning environments, schematized and applied to the combinations that defined spatial types and usage modes offer. The idea of a "mixed practice" blending lecture and group work, along with the model from Trondheim, formed the basis of the redesign of the two lecture halls in Basel.
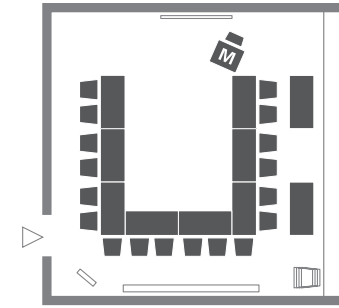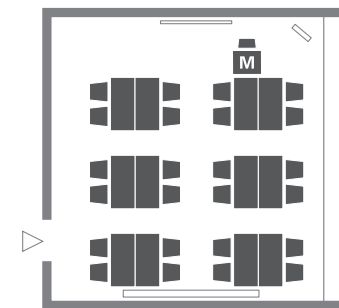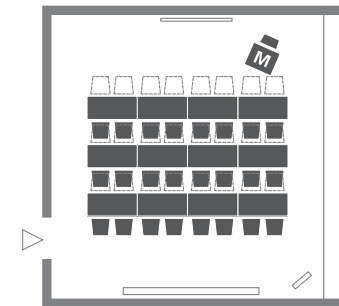

6b

7

8a–d:
Furniture layout with variations – mounted in these spaces as suggestions for the users. Includes an example of each configuration.

As part of a pilot project, variant 6b with 180-degree rotation was implemented in both the Basel lecture halls (see photos on pp. 52-57). Additionally, a planned renovation of the A/V media allows the seminar rooms of the central Kollegienhaus to be adapted to more innovative learning formats. They now support various configurations of the furnishings, which will be lighter and more flexible (see photos on p. 58f.) as well as more flexible use of three walls with chalkboards, a projection screen for a digital projector and visualizer, and magnetic whiteboards (Talbert and Mar-Avi, 2019 offers an overview of the research into polycentric "active learning spaces" with flexible furnishings and support for digital media).

U-shape (18 seats)

Groups (24 seats)

Lecture-style (24 seats)
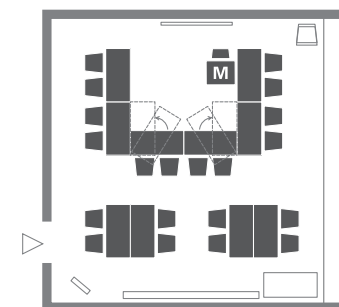
U-shape and groups (20 seats)

8a–d

The idea of not simply adding more usage options, but instead implementing them in ways that overlap and relate to each other is relevant to the design of learning spaces in general, not least in the interests of sustainability. The possibility of creating a variety of learning scenarios in lecture halls can reduce the number of "breakout rooms" for group sessions. This also compensates for the loss of nearly a third of the space resulting from the renovations pictured here, since innovative learning scenarios and the desired flexibility require more space than lecture-style instruction. In this respect, our experience in Basel corresponds with that of our peers in Delft and Trondheim.

Studying on the go

One persona that has accompanied our many years of musings about the "campus of tomorrow" is the "wandering learner". In the context of the project "Auf dem Weg zum Campus von morgen" (On the Way to the Campus of Tomorrow; cf. Škerlak et al., 2014), a participating student said of himself: "I am a wandering learner." This species is all about "studying on the go".

They follow a route through campus, planned to a greater or lesser degree, and stop at various locations. There are routines, fixed commitments such as courses, appointments for sports and meals. But between these times, the wanderers are flexible; in every instance they seek out the location that best fits their current, individual needs (which also takes into account the context of free time, side jobs and childcare, for instance). They also use "in-between time"; for example, commuting time or time between classes. If a place isn't "right" – perhaps because it's too busy – they move elsewhere. A typical trait is that they will make little effort to adapt spaces, largely ignoring the possibilities of flexible configurations: Either they find a space that immediately fits their purpose or they move on to somewhere more suitable. Wandering learners prefer to rely on particular spaces that allow for specific usage, and which are configured for the purpose; this helps explain why these students are less drawn to modification options, and why they are more likely to keep wandering rather than moving, mixing up, or rearranging furnishings. This also represents a stark difference between wandering learners and faculty, who expend time and effort in arranging learning settings for themselves and their students.

The extensive flexibility that wandering learners enjoy is mainly facilitated by digital media: learning platforms, digital teaching/learning materials and accessible infrastructure at nearly all locations on campus (and beyond). At the same time, tight schedules mean that today's students are spending more time on campus, frequently changing their physical and virtual location between classes, study times and free periods. Wandering learners carry bags, and they want to be able to leave them in certain locations and pick them up on a flexible schedule.

Another trait is that large numbers of wandering learners often leads to a "rush" in particular locations, which can be difficult to foresee or plan for. But there are always trends to observe, and this is particularly true of learning spaces; certain areas have greater foot traffic at certain times, a pattern not just determined by the semester cycle, but larger time frames as well.

Wandering learners seek out study locations according to various criteria and – much like the learning space design itself – move within various fields of tension in the process (outlined in greater detail in the publication by Škerlak et al. on the project "On the Way to the Campus of Tomorrow", cf. in particular Bachmann, 2014: 96-116).

1.
"Anytime, anywhere" v.
"home base"

This first field of tension can be seen in the desire to be able to study whenever and wherever they want, but at the same time to have locations on campus where they can sit down for a while, settle in and find retreat. Besides the various usage possibilities of such locations, important factors are the simple availability of outlets and wi-fi, as well as information, ideally in real time, onthecapacityandavailability of spaces.

2.
"Borders and checkpoints"

Students' personal learning environments, whether digital or on-campus, should offer as many possibilities and meet as many needs as possible, but should also be easy to understand and enable divisions; e.g. between private life and studies, or between individual learning and exchanging ideas with peers and faculty. "Integrated" mixed uses are often desirable (whether virtual or physical), but sometimes they are explicitly not wanted – a balancing act with many open questions that must be repeatedly revisited in projects: How flexible or specific must/can a space/tool be (see above on the idea of providing clear affordances)? How much openness in the design and use makes sense, and how much flexibility is practicable?

3.
"Service demands vs.
personal responsibility"

This third field of tension has to do with the role of the students at universities. Depending on students' self-image and the ideas of various stakeholders at the university (from professors to caretakers), students may expect services and offers as "customers", be expected to comply with a set of rules (often communicated explicitly by prohibition signs in a space, but also implicitly palpable), have leeway as members of the university (in self-administered learning spaces, for example), or be perceived as a disruptive factor. The campus and its rules and freedoms have a major influence on whether students develop a sense of belonging to the academic community and the university.

4.
"Faculty culture v. university"

There is no question that interdisciplinary discourse in the face of complex tasks is more important than ever, but a foundation in one (or several) subject areas remains just as important, both for subject-specific expertise and socialization as well as for students' ability to develop and reflect on their own perspectives. This can be clearly observed when students are encouraged to set up lounges or learning areas in discipline-specific spaces themselves.

5.
"Individual v. discursive"

The fifth field of tension accompanies students both in the course of their days and throughout the semester cycle; for example, with more discursive phases during the semester and a more individual kind of study during examination time. The various forms of col- laboration and their various degrees of loudness must be accounted for in the spatial design and interwoven or coordinated with each other; also, for example, with the option to book a certain kind of space.

6.

"Living room v. workspace"

The sixth field of tension focuses primarily on the atmosphere of learning spaces, which ranges somewhere between a comfortable lounge area and sober workspace. This is ultimately a matter of (physical) comfort within a professional framework. The central role of catering cannot be underestimated here, along with the option of bringing food from home to heat and consume on campus. This field of tension, in which learning spaces are additionally configured as living spaces, was clearly seen in reverse during the coronavirus pandemic when private spaces suddenly served as learning spaces.

The challenge in planning is to consider these fields of tension as hybrid rather than binary. A perceived conflict of interests can often be resolved chronologically or spatially; the teaching space can function as a learning space outside of formal teaching times instead of lying idle, and what one building doesn't offer, wandering learners may find next door. As such, incorporating these fields of tension into the design of teaching and learning spaces requires comprehensive planning of campus services which integrates numerous users (for a discussion of the significance of the organizational level in innovative design of learning spaces, see Ninnemann 2018: 80ff. and 201ff.).

The "Learning Spaces" working group was founded in Basel to better understand and reconcile precisely these complex desires and needs, and to gain shared insights about the "campus of tomorrow". Its members were drawn from the fields of real estate planning, space allocation and operations, as well as Educational Technologies, the University Library and the student union skuba. Since its inception, the working group has managed to initiate or prepare a number of pilot projects based on new understanding of learning spaces. The results can be seen in the photos illustrating the article "A laboratory for learning" (pp. 86-99). Each of these projects addressed points within the fields of tension outlined above to find a suitable solution.

A fresh look at on-campus learning

During the coronavirus pandemic, online courses were expanded or redesigned and digital forms of collaboration established with faculty and fellow students. Over a long period of time, the students' learning environments were integrated into their living environments. During the months of exclusively online learning, participants greatly missed opportunities for interaction, leading to a keener appreciation of the advantages of on-campus learning than perhaps ever before (cf. the survey "Studieren in Coronazeiten", Basel 2021).

Today, learning spaces such as the Lernoullianum are full once more; in fact opening hours have been extended due to student demand. Perspectives on the campus have changed; both students and faculty want to see increased use of on-campus time for discussion and collaboration in the future and, at the same time, ongoing implementation of new digital offerings, such as the model of the "flipped classroom", which blends digital input with on-campus interaction and exploration. With these experiences – and the digital transformation – in mind, the pathway to the campus of tomorrow is also the pathway to the best of both worlds.

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Sabina Brandt and Gerrit Sell

A HOUSE FOR STUDENTS: THE BASEL LERNOULLIANUM

In response to increased demand for learning spaces, a disused church space from the 1980s was rented and converted in 2014 to become a student work space with options for individual and group work, a quiet zone and a prayer area. Requirements were collated in a series of workshops with students from all faculties, who were also involved in all decisions. Options for individual furnishing elements were also presented for discussion among all interested users. The focus group that emerged from this process continues to participate in academic building, development and IT projects to this day, across different generations of students.

The goal was to offer students a largely self-administered building in this central location that, as well as study areas, would accommodate student union offices, a kitchen for self-catering options, a quiet zone for relaxation, and a "place of silence" for prayer and meditation. In response to student demand, lockers were provided for the storage of different materials throughout the course of the day. A contest was held to name the building, and the students decided on "Lernoullianum", a reference to existing University of Basel buildings such as the Bernoullianum and Vesalianum.

Dramatic changes to the acoustics of the former church were at the heart of renovations. Previously, the aim was that a single voice would be clearly audible throughout the space, while the renovation sought to create an environment that would be as quiet as possible, even with numerous users on site. The minimal budget and short time frame established strict parameters for the project. Suspended acoustic panels helped to improve sound absorption. The physical presence of this "acoustic sky" also divides the space into different areas: work space on the ground floor, quiet zone in the galleries, and prayer area in the rear upper floor.

The original structure was characterized by a complex design and material vocabulary. The remodel toned down these elements by directing focus to the acoustic sky, which was intended to both dominate the space and introduce harmony, mediating between the two levels. The chandeliers were replaced with general lighting integrated into the acoustic ceiling. In the lower areas, table islands for individual and group work accentuate the horizontal. Larger tabletops are set on frames that the university had used previously; table lamps were also reused. At the desks, three different

models of chairs in a range of colors offer individualized seating comfort and provide design accents. The galleries, with their low acoustic ceiling and upholstered steps and beanbags, invite students to read or relax. The prayer zone can be divided into different sections with fabric drapery.

In the lower level, a separate space was created for group work, reflecting the students' desire for a clear division between areas for quieter study and those for group work. The lower level also accommodates student union offices and a free book exchange, and offers access to the garden. The building is now highly popular, with a wide variety of usage modes.

9　Neuapostolische Kirche, Teff Sarasin, view of the church before the renovation.

10　Right: transformation from church to learning space on the ground floor..
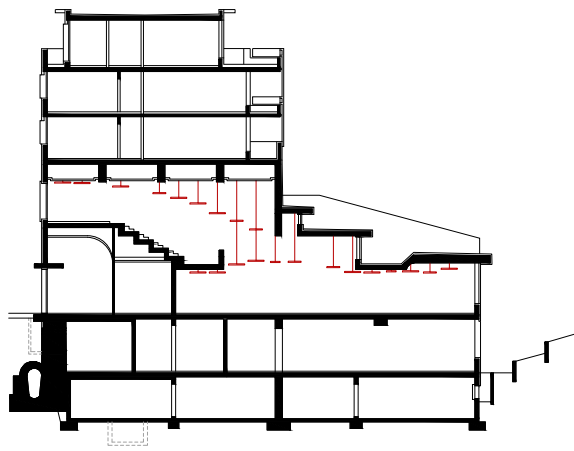
Section
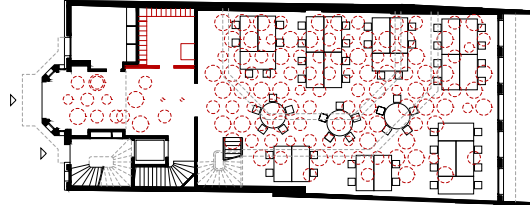
Ground floor
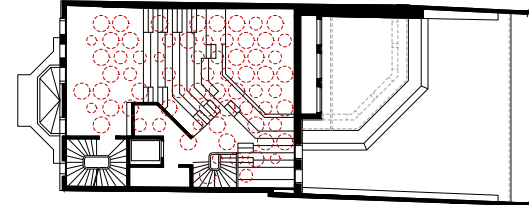
1st floor

11–14   The transformation from church to learning space on the ground floor and the quiet zone in the gallery.

3_ADAPTATION

SABINA BRANDT AND GERRIT SELL
<u>A CONVERSATION WITH KATJA NINNEMANN, BERLIN</u>

"A PLACE ALWAYS HAS TO SPEAK A CLEAR LANGUAGE"

PROFESSOR KATJA NINNEMANN TEACHES AT
HTW BERLIN AND RESEARCHES SPATIAL DESIGN
PRACTICES AND PROCESSES OF HYBRID LEARNING
AND WORK ENVIRONMENTS. THE "LEARNING
SPACES" WORKING GROUP IN BASEL HAS BEEN
IN DIALOG WITH HER FOR MANY YEARS.

Perspectives on the campus and its contexts, and in particular on learning environments, have changed a lot in recent years. What developments stand out right now?

I think we need to differentiate between the time before and after the pandemic. There had already been a relatively long period of development around formal and informal learning spaces at institutions of higher education prior to the Covid-19.

One thing we recognized before the pandemic was that we can learn anywhere and at any time, and that we also need to master the challenge of integrating new technologies to gain flexibility of usage. In this process we need to look at the campus as a whole, as well as the immediate surroundings; we have to open the gates and think with and within the city. Besides the city, there are other spatial aspects to consider. At the building level, we need to move away from mono-functional thinking, this idea of "here's where we study, that's where we teach, that's where we work". These activities are increasingly intertwined, which can benefit both stakeholders and spaces.

At the level of actual learning and teaching environments, we are increasingly feeling the impact of the shift from teaching to learning, which has brought completely different settings. This includes the development of wonderful spatial configurations where formal learning spaces can transform into informal learning spaces. When class is over, I can stay in the classroom if the furnishings allow and I have access to certain technology. It's tremendously exciting; we are not only rethinking innovation in teaching, but also considering multiple usage modes in spaces, something that is increasingly important to me in the interests of sustainability.

What changes did the coronavirus pandemic bring?

Of course, this is where it gets really interesting: why do we actually keep coming to campus? What motivates students and faculty to study and work here? After all, everything works just fine online. I believe the advantage lies with spaces that have a certain usage quality and which enable interaction. What is it that we are all longing for when we sit at our computers? We want direct interaction with others – and we don't get that in a lecture setting where one person stands in front and conveys information, we get it in settings where we can talk to each other. That's why I believe that the places that support this are even more significant now; this also applies to informal locations, such as cafeterias, libraries, all the places where we can meet and communicate with each other.

If you don't have these things, students really miss them, and so do teachers and researchers. I believe we have to work towards providing and activating these locations on campus. We have now made a giant leap forward in terms of technology and use of virtual spaces. I can imagine that in the future there may be a lot of pressure to offer far more specialized, interactive sites on campus that convey a sense of value, quality and atmosphere.

And how do you go about creating a site with a particular atmosphere that encourages people to take up activities, and which offers specific features?

There are many different definitions and concepts of "atmosphere". It's a term that in one sense is highly individual, a matter of "what we like". But I also believe there is one point that summarizes all the varying demands – the theme of identity and identification with a site. I believe that a place always has to speak a clear language. The worst thing is spaces that are so multi-purpose that they no longer have a personality of their own. A space that allows too many usage modes is ultimately not suitable for anything, because no one understands what it was actually intended for. I believe that atmosphere has to do with the highly intentional transmission of signals and use of symbols; for example, I can use the furnishings to support particular modes of social interaction. And that has to be recognizable; it has to be conveyed. I can achieve that with a clear statement. And this brings us back to the issue of flexibility: I would say that we need many different variants of spaces so we can support certain identities and thus different activities. But we as users have to remain flexible as well. We are in motion, searching for suitable locations,

There is one other point that I consider highly important: value. Doing things right is a good investment of money – and that includes the long term, which brings us back to sustainability once again; it means working with materials, with light, with color, with textures and with an approach to design where cost is not the sole focus. What is economical? When people are enjoying a space, gathering in a buzzing location where everyone wants to be. That is more economical than a location that may have been cheap to create, but isn't used because it doesn't appeal, because it's dull and gray, because it has no atmosphere or personality. I believe this is the value that you can convey: we value you, we are glad to have you on campus, we have prepared something here for you. That involves a gesture of invitation, a sense of value.

In speaking to students about atmosphere, the issue of color often comes up. Students often want environments that don't feel sterile – "not black, white and gray". But we also don't want a uni in garish colors. What are your thoughts on the issue of color in learning environments?

With students, we have observed that when people feel comfortable, they enjoy learning, and that improves both their motivation and success in learning. Color is closely related to comfort, to well-being, to a sense of feeling at home. Reduced, low-cost spaces painted white do not fulfill this criterion. But it shouldn't be candy-colored either; we aren't in kindergarten, after all. This is adult education. Young people at university want to be perceived as adults rather than schoolchildren.

But universities are often located in old buildings that are subject to historic preservation orders. For reasons of preservation, we have to reuse or rediscover old color schemes, which can also be reinterpreted for new projects.

That is precisely what has happened in the Basel Kollegienhaus – the walls returned to their original warmer white shade. The original color was not as "sterile" as the more recent shade; the stark white was the result of a previous renovation. And along with the older color scheme, these spaces have regained a more personal atmosphere.

What makes a space successful? And how can you tell?

That is always the central question for me in evaluating a space. Of course we can monitor the occupancy of the space and ask people if it makes them feel comfortable and things like that; for example, are the lighting, colors and materials right? And then there's another point you have to consider that goes beyond this spatial coherence: does the design suit the interactions planned for the space or which the users otherwise engage in? These are factors of social behavior, and I have to assess them in a different way. When it comes to learning spaces, for example, I ask about the learning motivation, examining factors like the sense of competence, social integration and autonomy; these are things I can measure. When I am in an environment that limits the ways in which faculty and students can act, that has a direct impact on the learning motivation. In other words, I may have found the right place and I may have created a space that is consistently harmonious within itself, but it simply doesn't suit the day-to-day lives and needs of its users. The answer to this question would be threefold: the right place, a coherent atmosphere, plus suitability to the actions intended to take place there. These are three aspects that we always have to return to and examine at length.

We refer to the persona of the "wandering learner" because we have observed that students, at least in Basel, are more inclined to switch locations than use the flexibility of a space to the full. What are your observations: do people at other universities move the furniture around and arrange the space to suit their needs?

Hardly ever. You use things in the configuration in which you find them. I don't know if our students have lost the habit, or perhaps in school they were socialized to believe that what's there can only be used in a certain way. But we have seen exactly the same thing, that students don't take advantage of flexibility in furnishings. In the preliminary stage, surveys indicate that people find this highly important, but then, for example, adjustable-height desks are never actually adjusted, even though we put up signs everywhere explaining what you can do with the furniture. It's exactly the same for us; it's not a Basel phenomenon. I don't think it's about flexibility here, it's about being able to immediately recognize the function of a space or area when you enter it. We don't need this flexibility as much as we need variety, so then *I* can then think about where I want to go.

How is the role of students on campus changing?

Right now, in a lot of places we still have the sense that they are guests who come because I call them to class. They arrive, they are there and then they leave, and then it's "our" campus. Our offices, our labs and our environment. And I think, if we want to make the shift from teaching to learning on campus, then students can't just be guests; they have to feel at home here, with all the advantages and disadvantages that brings. This may also mean that I need more space because group projects with peers come with greater requirements and so forth, but I say insofar as this contributes to success in learning, it is money well invested. Because the goal is actually to support learning processes, not optimize teaching. So it's actually our perspectives that need to change.

That raises the big question: how do we allocate space now? Can you point to figures or experience that says you have to have this many fixed workspaces, depending on the subject area? Can you make that kind of generalization?

That's an interesting point. We are much farther along in this respect in work environments, with "activity-based flexible offices", where we can determine whether we need quiet, open, collaborative or social spaces based on work processes. We don't have this yet for learning environments. Compared with design for work contexts, we are lagging many years behind, even though we actually need "activity-based learning environments", because we have all kinds of learning situations in all the different subject areas. But that doesn't exist. We still have the standard seminar room and lecture hall. We simply need a lot more variety.

How do you go about estimating how many places, of what type, or even just how many individual workspaces and how many group learning spaces you need to offer? Particularly when that constantly changes throughout the semester?

I think we're still working with such small numbers that everything we offer is inevitably far too little. We're nowhere near the point where we can say we have too much of something. So for now, I believe anything we can offer is appropriate. If we had that problem, we would be at a different point entirely.
However, it is important that we can make adjustments to new construction projects as well as in alteration of existing spaces. I believe we need points of contact during projects and after completion – an intermediary between users and the people implementing the changes – in whatever form, internal or external or a combination of both.

When we talk about planning these spaces, three phases stand out: identification of needs, planning and implementation and, third, this reworking or adjustment, as well as orientation or support for the users of the space.

I always refer to this third phase as adjustment, because there are two ways of going about it: I can try to convince the user and show them what they can do with the space, or what our intention was. But perhaps what was planned in theory, even in collaboration with users, will give rise to different associations after implementation that don't work quite as planned – sometimes that's just how it goes.
Ideally, I would like to see 10% to 20% of the budget for learning space projects held back so we still have adequate funding for adjustments. Because we're learning all the time, and it would be a shame to say – it doesn't work, but now we have it, that's how its, now we just have to live with it for the next few years. Sometimes it takes a storage space with things we can try out, or model spaces we can explore with various stakeholders to get a real sense of the effect. Just explaining it on paper isn't enough – even with everything we have, with 3D visualizations, virtual reality, and so on. Even with all that, spaces are still different after you have implemented the plans, because all kinds of internal and external factors have an influence. And this adjustment phase is essential to the users' adoption of the space.

On that point: what does it mean to create sustainable learning environments?

It's not just about efficient use of materials or alternative resources, it is also a question of sufficiency: what do we actually need? So when we say we are using hybrid teaching settings, that doesn't mean that all lecture halls are superfluous, it means we may want to consider whether we can do without something and direct it to other uses; by creating an open-plan work space, for example. Like the Basel pilot lecture halls, where the lecture space as such was broken up to enable group work. We have to ask ourselves which places we can use more intensively and better combine. A densely populated city, for example, comes with major advantages. And that's what makes it really exciting, that vitality. From the planner to the operator. This is also an enormous opportunity for considering innovation *and* sustainability in concert.

"What we can learn today from yesterday for tomorrow."

15   University inaugural ceremony in the Basel Münster: Bishop Johann von Venningen appoints Georg von Andlau (left, kneeling) as the first President of the University on 4 April 1460, and hands Mayor Hans von Flachslanden the deed of foundation. Rektoratsmatrikel der Universität Basel, Band 1, 1460.

THE HISTORY OF THE UNIVERSITY'S SPHERE OF ACTION AND THE RELEVANCE OF SYMBOLIC SITES

When one considers the interaction of the various participants who contributed to the development and dissemination of the *universitas magistrorum* et *scholarium*, the university of the Middle Ages can be characterized as a collaborative, interactive and communicative sphere of action (cf. Krüger et al., 2016; Ninnemann, 2018:23ff.). One aspect that supports this conclusion is that for a long time, universities lacked buildings of their own, and then failed to develop their own building typology, "although buildings were created in the Middle Ages for specific tasks [...] such as city halls, stores, hospitals and monasteries" (Linde, 1969:25). However, the history of the European university also demonstrates that the global spread of the concept of a knowledge community must lie in the configuration of a social space consolidated by actions and symbols (cf. Dauss & Rehberg, 2009). The human-centric factors of collaboration, interaction and communication require specific places to develop and function, since "spatiality is an essential characteristic of human existence" (Bollnow, 2000:22). The historical development of the university's sphere of action and the intentional localization of teaching and learning processes that accompanied it convincingly demonstrate that knowledge of the significance of symbolic sites is not solely based on current findings in the field of neuroscience. "Modern memory research demonstrates that for every piece of knowledge we learn, we also learn who is providing this knowledge (source memory) and when and where the learning takes place (spatial and temporal memory)" (Roth, 2003:27).

Following the disruptive innovation leap in digitalization of teaching and learning during the Covid-19 pandemic, there is currently a discussion that addresses changes in the university's sphere of action in light of (ongoing) development of hybrid teaching and learning processes, and the reorganization of institutions of higher education with the (re)design of hybrid campus infrastructure (cf. Ninnemann et al., 2020; Ninnemann, 2021, 2022a, 2022b). The return to campus, however, is currently raising more questions than answers about the future of the university as a learning space. This article links existing knowledge about the development of the European university (Ninnemann, 2018) with current developments in the design of hybrid learning environments to facilitate discussion of future opportunities and challenges to the symbolic localization of universities and their collaborative, interactive and communicative sphere of action.[1]

1   The terms "hybrid action spaces" and "hybrid teaching and learning processes" subsume social interactions that can be customized in respect of time and place via the use of technology. This means that teaching and learning actitivities can be planned and implemented at the same time in different places, as synchronous hybrid settings, or at different times in the same place respectively time-shifted at different places , as asynchronous hybrid settings (cf. Reinmann, 2021:4).
"Hybrid campus infrastructure" or "hybrid learning environments" can be conceived and implemented through a wide range of combinations offered by temporal and spatial choices in pedagogical settings. Integrating information and communication technology in building projects can facilitate a seamless connection between virtual and physical places at the different levels of region, city, campus, building and space, so that online and offline worlds increasingly intertwine as "onlife spaces" (cf. Ninnemann, 2021:284).

1   Space for collaboration and networking

The university arose from a shared desire to expand the horizons of knowledge in the Middle Ages. Around 1200, masters and scholars came together in self-governing communities of teachers and students, the *universitas magistrorum* et *scholarium*, initially in Bologna and Paris (cf. Linde, 1969:25; Rückbrod, 1977:9f.; Rüegg, 1993:51). Founded in "economically flourishing cities – the hubs of trade and transport" (Friese & Wagner, 1993:11), universities initially lacked their own buildings and sites due to missing fundings (cf. Weber, 2002:21) but also to ensure their independence from secular and ecclesiastical authorities (cf. Linde, 1969:25; Rückbrod, 1977:4, 33; Rüegg, 1993:51). Without their own structures, however, it was essential for the university community to consolidate the university construct, which was still fragile, through a spatial constitution that was specifically action-oriented and anchored in symbolic places. So we find that even in the initial steps toward spatial organization of the new knowledge community, various sites were selected for different purposes – for example, private homes for classes, ecclesiastic or public buildings and squares for official ceremonies (cf. Linde, 1969:25; Rückbrod, 1977:34f.) – to situate the idea of the university and to benefit from the symbolism of these places.

As the community of teachers and scholars blossomed along with their links to urban society, the university learning space took shape as a collaborative space, both internally and externally. Internally, it offered a kind of protective space for the knowledge community. "In the 12th century, this [ivory tower] represented the container that held the salvation of the world, not to withdraw it from the world, but so it could mature until it was ready to impact the world" (Rüegg, 2010:33). Externally, the Western universities created a free space for knowledge and science and "profited from the forms of urban autonomy and freedom" (Schäfers, 2010:44). It is not for nothing that the universities shared their names with their cities; similarly, the wealth and economic prosperity of a city were significantly influenced by the development of a university (cf. Linde, 1969:25; Rückbrod, 1977:37). The appropriation of private and public spaces gave rise to a sense of identification between the city and its citizens with the teachers and scholars, which promoted the cohesion and the growing significance of the universitates.

It is not only this historical perspective that demonstrates how the idea of institutions of higher education can transcend the concept of the university campus, which arose much later. Even before the Covid-19 pandemic, case studies from innovative universities demonstrated that institutions of higher education do not necessarily require their own physical infrastructure. The city can become a campus by linking curricula with local projects and organizations, and by arranging for students to live and learn together in various locations during their studies (cf. Institute of Design at Stanford, 2019:186ff.; Ninnemann, 2018:168ff.; Ninnemann & Jahnke, 2018). This implies a new understanding of university learning space as a transverse learning architecture with a network of inter-organizational opportunities for learning spaces that are independent of time and place. This can be seen as a strategic action area in the digitalization of teaching and learning (cf. Ninnemann, 2022a). With the conscious selection and combination of different places and the integration of physical and virtual worlds, "new spaces open up for teaching and learning processes, as well as opportunities for collaboration between society and the academy, by activating public, semi-public and private spaces" (Ninnemann, 2021:289).

2   Space for interaction and autonomy

The linkage of learning and living was a defining feature of European learning culture in the Middle Ages and the modern era and, with the emergence of the Kollegien, a structurally defining feature as well. In the medieval university towns, Kollegien were erected as acts of social welfare by wealthy citizens to house poor students. Initially, benefactors purchased and furnished individual town houses or rows of houses and transferred ownership to the new universities, which starting around 1250 gave them significant property holdings (cf. Linde, 1969:27). As student numbers grew, along with their need for space, universities sought to purchase neighboring buildings so they could manage closely connected ensembles. In the second half of the 14th century, universities began constructing purpose-built structures modeled on the monastery: closed off from the outside with an open inner courtyard. When the world-famous Collegio di Spagna opened in Bologna in 1364, drawing from more than 150 years of experience, it succeeded in meeting all its user needs with its own functional spatial arrangement (Rückbrod, 1977:61, 133).

At this time, sites of student accommodation increasingly offered their own classes, and before long instruction took place solely within the Kollegien, while the faculties now "essentially only [arranged] the exams and the awarding of academic degrees" (Rüegg, 1993:199). In accordance with requirements, buildings constructed in this period offer an assortment of spatial forms, including a "chapel, meeting and lecture halls, refectory, library with archive, administrative offices, student rooms, president's apartment and utility rooms" (Linde, 1969:28). This period also saw new buildings erected at the universities, mostly lecture and assembly halls, such as the Palazzo dell'Archiginnasio in Bologna around 1563 (Rückbrod, 1977:133; Linde, 1969:30). However, these were only supplementary buildings and did not embody an architectural style that was specific to universities. It was only in the late 16th century that complete university building complexes such as Kollegien emerged; "consequently, the integration of the institution of the Kollegium into the university occurred through the adaptation of the university's building style" (Rückbrod, 1977:133f.). The connection between living and learning so typical of the Kollegien was adopted by the universities. Kollegium and university were now synonyms, interchangeable terms that both meant the same thing. One differentiation prevailed, however: the term 'university' came to refer to the educational institution and Kollegium to the building" (Rückbrod, 1977:136).

The integration of information and communication technologies has once again led to an activation of living space as learning space that we can observe today (cf. Ninnemann, 2018:182, 2021:287, 2022b:12), something that teachers and students got to experience to a great degree during the Covid-19 pandemic – the largest working-from-home experiment in history. Current research findings on the use of places in academic programs that are independent of time and place show that students arrange their own appropriate spaces unburdened by institutional conditions and influences. The self-determined selection and adoption of learning spaces transpires along routes that result from individual day-to-day activities, and according to routines arising from preferred learning behaviors (cf. Ninnemann 2021, 2022a). This implies an additional strategic action area for institutions of higher education in terms of the digitalization of teaching and learning. With the possibility of learning anywhere, at any time, and the demand for lifelong learning (cf. Stifterverband für die Deutsche Wissenschaft, 2019), we would do well to examine user requirements and thus the existing teaching and learning spaces on offer, and facilitate an independent selection of specific places that are suited to the teaching and learning processes of lecturers and students. "Integrating digitalization into studies and teaching requires an expanded action radius and a wider circle of participants to result in innovative, sustainable concepts of infrastructure investment focal points in tertiary education" (Ninnemann, 2021:296).

3   Space for communication and diversity

Before Johannes Gutenberg's invention of the printing press in 1450, collected knowledge could only be disseminated by read-ing aloud and listening, as producing and copying books was an expensive and time-consuming undertaking. The lecture and the lecture hall, with the artifact of the lectern, had been integrated into teaching practices in the Kollegien in the 14th century. While the lecture hall is now a distinctive characteristic of tertiary educational institutions, even then the lecture was just one piece in the puzzle of teaching methods as practiced in their totality. The instructional material was conveyed to students in the scholastic triad of lecture, disputation and repetition, which all complemented each other (Linde, 1969:16; Rüegg, 1993:214). Texts were read aloud in lectures and elucidated to convey information. In seminars, exercises went into further depth on the knowledge gained in lectures, in which the disputation – a discussion of opposing theses conducted according to the scholas-tic method – was a significant part. In review sessions, the lecture material was repeated and arguments practiced, generally in the Kollegien under the direction of a master or more advanced student (cf. Linde, 1969:27; Rückbrod, 1977:18f.; Rüegg, 1993:214). "This form of collective intellectual training was probably the most original contribution of the medieval university to the European education system" (Rüegg, 1993:214).

The increasing spread and accessibility of libraries meant the purpose of the lecture or presentation was eventually lost. With the development of Humboldt's humanistic ideal of education in the early 19th century, the lecture, and with it the increasingly prominent position of the master, came in for criticism. "They [the professors] should not smother the students with their superior knowledge and skills, but rather exemplify and promote scientific personal development by means of disciplined inquiry" (Rüegg, 2010:33). After all, the *universitas magistrorum* et *scholarium* originally identified itself as a "group of like-minded individuals with no thought of self-promotion" (Rückbrod, 1977:4).

With the shift from teaching to learning around the end of the 20th century, we have experienced a "change in the role of the teacher, moving from a focus on instruction toward a focus on arranging learning environments and/or situations, and provid- ing guidance" (Wildt, 2004:169). In this context, we have seen the development of new spatial configurations that support togeth-erness and thus the communicative action of teachers and learners in hybrid and analog settings (cf. Ninnemann 2018:32ff., 2022b). As a consequence of the Covid-19 pandemic, the technical media in classrooms is still nonetheless overwhelmingly focused on supporting lecture-style, teacher-centric instruction. These current developments mean that the learning space organization (cf. Ninnemann 2018, 2022c) is gaining significance as an additional strategic action area in the digitalization of teaching and learning that reflects the full diversity of pedagogical methods in greater diversity and differentiation of learning environments. "This increases the pressure for multi-purpose concepts in building infrastructure which, as a result, requires a more complex organization of spatial needs for an expanded repertoire of uses" (Ninnemann, 2002b:14).

Processes of architectural development throughout history demonstrate that previously flexible sphere of action increasingly consolidated into institutional structures as the importance of universities grows. By acquiring and configuring university sites and buildings and adopting building styles, the institution inscribes the power relations of its social structures and the social position of the institution in the built environment (cf. Löw, 2001:163f.; Delitz, 2009:15). The adaptation of monastic, palace and administrative buildings bound science and society tightly together through the symbolism of these sites (cf. Friese & Wagner, 1993:95). Against this backdrop, we can only answer questions about the future of the university as a learning space if we are willing to discuss, negotiate and test changed and changing expectations, ideas, values and roles, as well as the tasks, functions and requirements of hybrid action spaces for collaboration, interaction and communication. Ultimately, universities will manifest and communicate their identity through corresponding symbolic places at the levels of region, city, campus, building and space.

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4_KOLLEGIENHAUS

The aim was that the intended "elevated character" that would distinguish the building from a school should "by no means consist in outdated monumental means, but rather a certain intellectual liberty and corresponding spatial expanse."

16

17

DOROTHEE HUBER

Center stage:
the Kollegienhaus on Petersplatz

The Kollegienhaus on Petersplatz makes a rather modest impression compared to other private and public buildings that line the square – no outstanding position, no tower, no prominent portal.

18

16   Refreshment room at the north-west corner of the garden and stairs, 1941.
17   Main staircase with corridor in east wing, 1st floor, 1941.
18   Entrance hall with main staircase, 1941.
19   Entry facing the Spalengraben, 1941.
20   Garden, view to the north toward the entrance hall, 1941.
21   Auditorium, view to the east toward the garden, 1941.

19

20

21

In contrast to Zurich, for instance, where Karl Moser designed the university alongside ETH as part of the elevated "city crown", Basel's main lecture building closes the southern side of the square with its flat-roofed, two-story main structure characterized by the measured intervals between its openings.[1]

After a first attempt was abandoned in 1915, the city issued a tender to Swiss architects for the Kollegienhaus in 1931. The jury (which included architects Paul Bonatz and Otto Rudolf Salvisberg) recommended eight projects for further consideration. Besides the demolition of the old armory[2], a major topic of discussion was how to envision the architectural character of the future Kollegienhaus. The aim was that the intended "elevated character" that would distinguish the building from a school should "by no means consist in outdated monumental means, but rather in a certain intellectual liberty and corresponding spatial expanse that can be achieved with simple architectural forms". The jury further wanted the architects to "create a structure that is not purely functional, but rather one that expresses the significance of the university as a leading educational institution without presenting a disruptive contradiction to the surroundings, where they are of historical value".[3] In the second (narrower) contest, first prize was awarded to Roland Rohn, who then went ahead with construction of the Kollegienhaus between 1937 and 1939, after some adjustments.[4] After studying architecture at ETH, Rohn (1905-1971) worked with Otto Rudolf Salvisberg in Berlin and Zurich, and opened his own practice in Zurich in 1932. Rohn began his career with the construction of two school buildings in Zurich, the "Buhnrain" (1933/1934) and the "Manegg" (1934/1935). He maintained a certain distance from the principles of the *Neues Bauen* movement and sought to develop his idea of modernity through simplification of traditional motifs. After the sudden death of Salvisberg in 1940, he continued his mentor's construction work in Basel for the chemical company Hoffmann La Roche.

Compared with projects that proponents of *Neues Bauen* (including Hermann Baur and Werner M. Moser) submitted to the 1931/1932 contest, the architecture of the Kollegienhaus might be described as lacking in courage, perhaps also in strength. The travertine cladding of the facades, the eaves overhanging the rafters ("à la Schmidthenner"),[5] the portico in front of the main entrance and the warm-toned furnishings in the interior are traditional motifs of an architecture designed to make a distinguished impression. "Republican austerity goes hand in hand with a tendency toward luxury that is not meant to read as luxurious."[6] The layout, on the other hand, is entirely functional and economical. The main section on Petersplatz and the adjoining wing on Petersgraben enclose the garden along with the auditorium, as the third wing in the west, and the Vesalianum (1882/1883). The entrance hall serves as a "hinge" linking the city square with the garden, opening on to wide corridors housing office and work spaces on the ground floor. Meanwhile the broad, sweeping staircase offers access to the upper floor, with four small and eight large lecture halls and the seminar rooms on the second floor of the Petersgraben wing. The Kollegienhaus also offers spaces suitable for public lectures, with the readily accessible auditorium in the west in the south-east corner the lecture hall, which also has its own access. The northerly orientation of the large lecture halls, initially perceived as unfavorable, is particularly advantageous. The high windows set above a high balustrade look out on the crowns of the linden trees on Petersplatz. At break times, students can enjoy the view onto the garden to the south from the long bench that runs under the deep inset windows in the broad corridor. In reference to his selection of materials – the "fir ceiling, the natural wooden doors and benches, the clinker floors with natural stone edging" – Rohn himself emphasized the "livable character" that the long walkway in particular was meant to exude.[7] The formal spaces of the university's boards, the Senate, Faculty Council and the club-like faculty room above the entrance hall still offer a sense of the pride and immutable authority of the old university.

The Kollegienhaus has largely retained its original configuration to this day. The spaces underwent comprehensive technical renovations (under the direction of Peter Fierz) in 2001-2003. The opening of wall segments in the ground floor, the partial replacement of the furniture and the introduction of light colors were intended to revitalize the atmosphere of interior spaces, which were seen as outdated. Notwithstanding these rather atmospherically motivated changes, the functional design of the lecture halls and seminar rooms – in conjunction with the spacious halls and corridors – retains its suitability for daily use. There is increased appreciation for the features of the garden courtyard. The garden became an increasingly important architectural theme as an extension of the living and work spaces in the 1930s, further demonstrated by the popular horticultural exhibits of the time.[8]

22 Main entrance with Petersgraben to the left and Petersplatz to the right, 1941.

1 Dorothee Huber, Das Kollegienhaus der Universität Basel, Bern 1989, 2003 (2nd revised edition), ed. Gesellschaft für Schweizerische Kunstgeschichte in Zusammenarbeit mit der Universität Basel (Reihe Schweizerische Kunstführer). - Idem, "Die Baugeschichte des Kollegienhauses von 1939" in: 50 Jahre Kollegienhaus der Universität Basel, Basel 1991 (Basler Universitätsreden 85th volume), pp. 20-26. - Caroline Zumsteg, Architektur zwischen Tradition und Moderne: öffentliche Architektur im Basel der Zwischenkriegszeit, untersucht am Kunstmuseum und Kollegienhaus, Basel 1993 (licensed work of the University of Basel). - Georg Kreis, Orte des Wissens, Die Entwicklung der Universität Basel entlang ihrer Bauten, Basel 2010 (Beiträge zur Basler Geschichte), on the Kollegienhaus pp. 91-100.

2 Uta Feldges, "Die schöne Stadt Basel war unser Ziel", Zur Geschichte des Basler Heimatschutzes 1905-2005, ed. Heimatschutz Basel, Basel 2005. pp. 6-67.

3 "Wettbewerb für den Neubau des Kollegienhauses der Universität Basel, Aus dem Bericht des Preisgerichtes" in: Schweizerische Bauzeitung 100 (1932), pp. 78-81, 91-95.

4 Giovanni Menghini, "Roland Rohn" in: Architektenlexikon der Schweiz, 19. und 20. Jahrhundert, ed. Isabelle Rucki und Dorothee Huber, Basel 1998. - Alois Diethelm, Roland Rohn 1905-1971, Zürich 2003 (Reihe Dokumente zur modernen Schweizer Architektur, gta ETH Zürich). - Thomas Freivogel, "Rohn, Roland" in: Historisches Lexikon der Schweiz (HLS), version from 2 December 2011. Online: https://hls-dhs-dss.ch/de/articles/027404/2011-12-02/ (retrieved 13 December 2021).

5 Among the harshest critics of the jury's decision was Georg Schmidt, cf. -dt-, "Die Ergebnisse des zweiten Universitätswettbewerbs" in: National-Zeitung Nr. 295, 29 June 1933; Paul Schmidthenner, an architect and the conservative head of the Stuttgart School, was regarded by members of the avant-garde *Neues Bauen* movement as a traitor to the ideals of modernism. – The construction of the art museum and the Kollegienhaus were particular concerns for Fritz Hauser, a Social Democrat and head of the Education Department from 1919 to 1941. The visual arts and higher education were to be made accessible to broad sections of the population, cf. Charles Stirnimann, Baumeister des Roten Basel, Fritz Hauser (1884-1941) in seiner Zeit, Basel 2021 (Beiträge zur Basler Geschichte), on the Kollegienhaus pp. 242-247.

6 Stanislaus von Moos, "Die Entschärfung der modernen Architektur, das Kollegienhaus der Universität Basel im Kontext seiner Zeit" in: 50 Jahre Kollegienhaus der Universität Basel, Basel 1991 (Basler Universitätsreden 85th volume), pp. 27-54 (quote p. 27).

7 Roland Rohn, "Das neue Kollegienhaus" in: Alfred Labhardt, Geschichte der Kollegiengebäude der Universität Basel 1460–1936, Basel 1939, p. 5 (Festschrift der Universität Basel zur Einweihung des neuen Kollegienhauses am 10. Juni 1939), pp. 93-97 (citation p. 95).

8 Adolf Engler and E. Sutter created the garden of the Kollegienhaus, cf. the list of companies involved in the construction in: Alfred Labhardt, as mentioned in footnote 7, pp. 100-102.

Spaces for new forms of teaching & learning: modernization of lecture halls and seminar rooms in the Kollegienhaus

Between 2020 and 2021 all the historic classrooms and lecture halls in the prestigious Kollegienhaus were equipped with new audio-visual technology (A/V) and corresponding furnishings. Additionally, model spaces were set up for new forms of teaching and learning.

Two lecture halls that were designed for classic lecture-style teaching were remodeled as a pilot project for "mixed practice". These spaces are now equally suited to lectures and group work. Requirements were gathered from teaching staff and students in workshops, which offered an opportunity for discussing innovations in teaching. The wall at the front of the hall still features two blackboards and two projection screens, but there are now also height-adjustable whiteboards on the side walls, which allow for presentation of the results of group work. The previously steep rows of seating were consolidated into two or three levels, with alternating rows of narrow and wide desks integrated to ease transition between lecture-style presentations and small group work. Students can sit together in small groups at wide tables on each level. Using aisles to break up the continuous rows of desks of the old configuration allows instructors access to the separate groups for individual guidance. This additional usage of the space for group work required extra electrical sockets at all the seats and also considerably increased the acoustic requirements of the spaces.
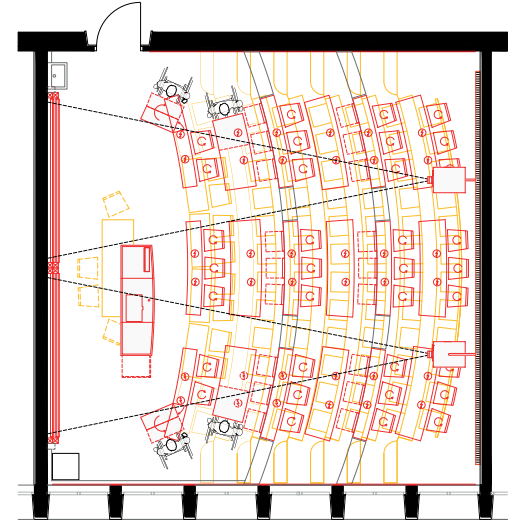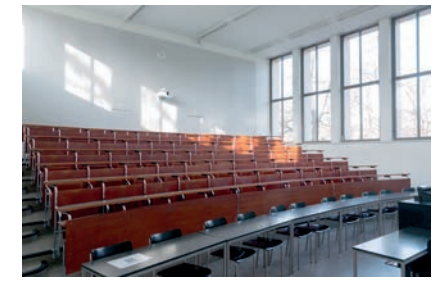
The challenge was to retain the historic feel of the spaces, adapt the existing furniture to the new forms of learning, ensure disabled accessibility and meet current standards for lighting and acoustics. Consequently the historic furnishings from 1939 were reconfigured with new elements added. All the seating was also equipped with electrical access. Acoustic slats in the style of a ribbed slab were fixed to the ceiling, with new lighting integrated. Additionally, the back wall was entirely clad in acoustic panels. These panels are imprinted with photographs of the inaugural ceremony in 1939, a reference to the original construction.

The architects worked with lecturers to develop a new form of lectern which resembled original models in both form and materials; these were fitted in all the lecture halls in the Kollegienhaus. The new lecterns are height-adjustable, with tables flexible enough to use as desks or standing desks, and for podium discussions. Integrated media equipment includes servers and A/V technology as well as a smart podium and visualizer.

25   Rotational shift from lecture-style learning to group work.

24   Left: lecture hall with lecture situation.

23   Previous double page: lecture hall with small group work.

The 12 seminar rooms in the side wing "(see next double page)" were also completely remodeled. The A/V technology and lighting were replaced, ceilings fitted with acoustic panels and, following research into the original color, the walls repainted. The new tables, with their steel piping and veneered tabletops, reference the period of the original construction of the Kollegienhaus, but are now easy to roll and to fold up to enable different forms of teaching. In each room, the walls are now fitted with chalkboards, projectors and whiteboards for presentations. A height-adjustable lectern was also developed for the seminar rooms, combining A/V technology and a visualizer in a very compact space. In the interests of innovative forms of teaching and learning, the goal here was to configure more than one wall as the "front" to facilitate change of teaching settings. The walls are fitted with various media elements, while easily movable furniture with flexible usage also encourages users to switch between input, group work and individual work, deploying different materials in different configurations to facilitate usage of the learning space. These spaces also feature visualizations of possible teaching settings to illustrate the layout options and promote flexible adaptation of the space to individual requirements.
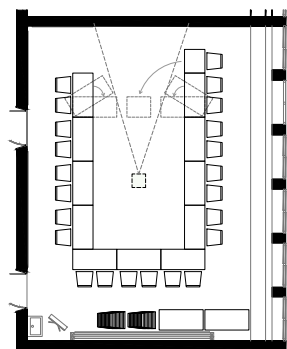

26   Lecture hall before the remodel.

Lecture hall
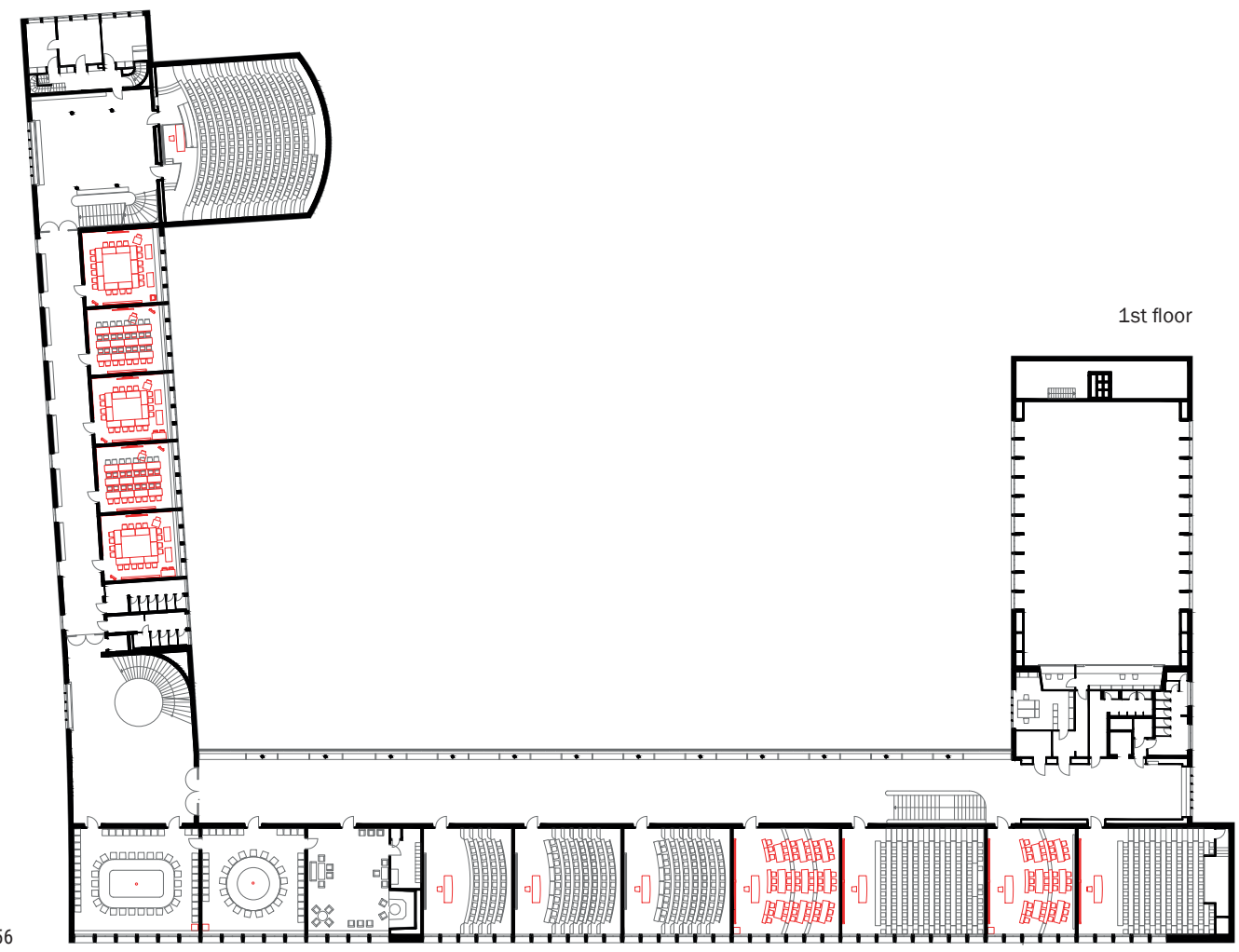
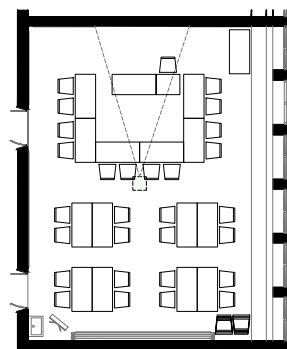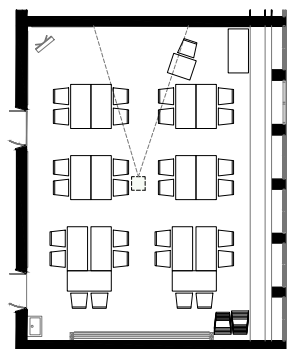27   Layout for "mixed practice" after the remodel.

1st floor
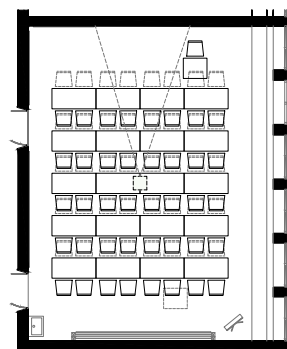
Layout 1
Frontal to the blackboard
Max. 40 seats

Layout 2
U-shape to the projection screen
Max. 22 (24) seats

Layout 3
U-shape with groups
Max. 28 seats

Layout 4
Groups
Max. 28 seats

28 Layout 1.
29 Layout 2.

30 Layout 3.
31 Layout 4.

DAY AND NIGHT: THE VERSO AS A LEISURE AND EVENT SPACE

Sabina Brandt and Gerrit Sell

"Verso" is the new cultural locale of the University of Basel Student Union (skuba), located on the lower level of the Kollegienhaus (main building), which was built by Roland Rohn on Basel's Petersplatz in 1939, now protected by a preservation order. The location was previously used by students (under the name "skuBar") for a weekly evening event. The original structure of the space had changed over the years in many ways; the rooms were once dark and unattractive for diverse use. The task at hand was to renovate the space, open it back up to daylight and create a place that could host a range of daytime and evening student events for up to 200 people. The plans were drawn up in consultation with students. Challenges included the tight budget and short timespan available for the renovation.

32   Previous double page:
central multi-purpose space with stage.

33–34
Student nightlife in the Verso.

36   Use as a lounge with sofas,
bench and tables.

The rooms located in the lower level of the Kollegienhaus border on Petersgraben on the ground side. In the rear section, a sunken inner courtyard and two large light shafts provide a connection with the outside. To bring light to the event space on three sides, the stage, the backstage zone and the adjoining rooms were moved to the Petersgraben side. These spaces, together with the toilets and the two entrances plus a new cloakroom, now form the back wall of the enlarged main space. This main space is divided into light and dark zones. During the day, the bright outward-facing lounge with its upholstered furniture is a welcoming place for students to relax, read or work, while the dark inner area fades into the background. The floor-to-ceiling lights on the columns reference the window embrasures in their forms, and augment the incoming daylight. In the evenings, they can be dimmed to create a club atmosphere. Beams of light create a "black box" which captures the attention. Disco lighting with lasers and a fog machine are available for parties. The central "black box" in matte black, together with its technical equipment, is connected via cable runs and can be controlled from the tech rooms in the backstage area, allowing flexible response to changing demands. The most extensive part of the project in terms of effort, and thus cost, was the installation of the ventilation. The goal was that the space should allow flexible usage for up to 200 people while reducing noise disturbance to neighboring areas to a minimum.

The entire outer layer of the space, with the lounge and bar, is painted in a shade of gold. The color brings the old and new plasterwork on the walls and ceilings into harmony and reflects the light. The bar enclosure features another reflective element – a thin mesh curtain which is semi-transparent when closed, but which can be rolled up when the bar is open. The original, refurbished, wood floors were retained throughout. In the adjoining staircases, the gold on the walls and ceilings echoes the color scheme of the event space.

Armchairs in different colors and robust, multi-purpose side tables dominate the outer zones, while stainless steel cubes add reflections of light and color. A piece of built-in furniture along the facade can be used as either a bench or a bar counter. The bar cladding, composed of phenol-resin slabs, picks up on the material of the bench and the side tables. The front of the bar, which was designed in collaboration with students, features engraved, back-lit quotes from well-known personalities with a special connection to the University of Basel.

35   detachment of the bar enables flexible use.
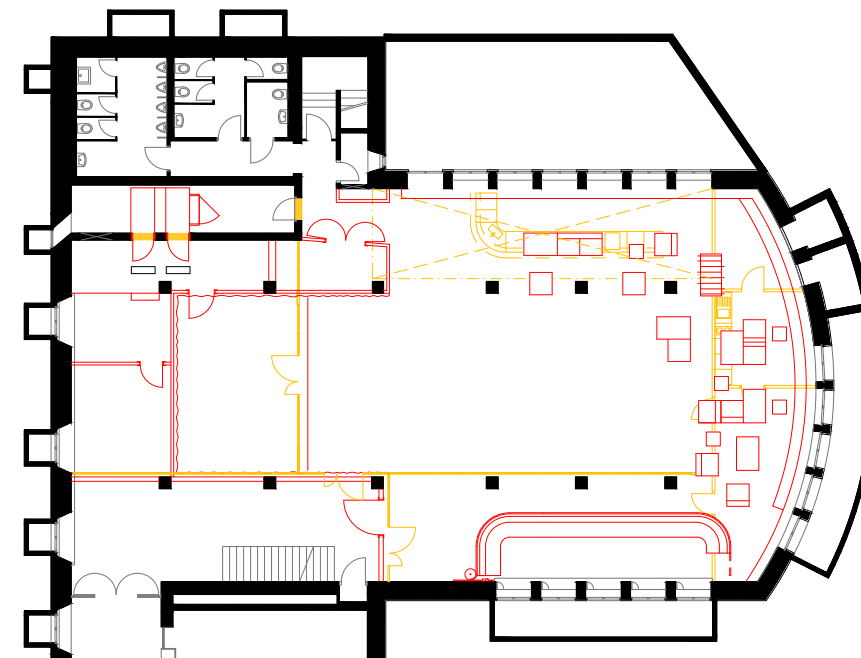
Layout 1st basement level

5_UNIVERSITY LIBRARY

Few places have reinvented themselves in recent years to the extent that libraries have, and continue to do.

Dorothee Huber

JUST 7 MINUTES: UNIVERSITY LIBRARY

The construction of the University Library on the north-western edge of the university precinct between 1894 and 1897, together with the Bernoullianum, which opened in 1874, marked a strong start to the ensemble of university structures surrounding Petersplatz.[1] The two cupolas – above the observatory in the Institute of Astronomy and above the reading room in the University Library – proclaim the public character of the two buildings. The lecture hall for public talks in the Bernoullianum and the University Library's various spaces are also aimed at a broad non-university public. This public character is also reinforced by the Botanical Garden, which was moved in 1897 to the site of the former Spalengottesacker cemetery, and which offers a view of greenery from the workspaces in the central area of the University Library's reading room.

There was grumbling among the architectural fraternity when Emanuel La Roche (1863-1922)[2] received a direct commission for the project in 1893, following an inconclusive architectural contest. But the two wings housing the stacks and administrative offices, set on the sharp corner of Schönbeinstrasse and Bernoullistrasse and connected by a round entrance hall, proved to be a suitable arrangement, even for the rebuilding of the library in 1962-1968. La Roche's favored neo-baroque style with a southern German influence seemed appropriate to the dignity of the institution; Jacob Burckhardt is said to have praised the choice of style as well.[3] Following the 1912-1913 expansion of the stacks wing from three to five block units on Bernoullistrasse in the same style, the library's rapidly growing collections were already outgrowing the stacks in the 1930s; at the time about 224 users per day were visiting the library. But, much like the Kollegienhaus, further expansion took about three decades. The first architectural contest in 1935 was unable to progress due to economic uncertainties in the lead up to the war. The university's leadership used the anniversary of the university in 1960 to promote the cause, asking architect Otto H. Senn (1902–1993) to serve as a consultant.[4] At this point, the library had about 300 daily visitors and annual additions of about 30,000 items.[5]

Evidently the site of the expansion was never subject to serious dispute. Nor was there any significant opposition to the planned demolition of the main structure, the reading room that stretched into the Botanical Garden, and the administrative wing on Schönbeinstrasse.

In place of the former rotunda, Senn placed a polygonal main structure that stands out from both the existing stack wing and the new four-story administrative wing with a recessed joint. This bold confrontation with the original neo-baroque building was a complete success in pragmatic terms; keeping the ground floors on the same level guaranteed smooth flow in the interior. The slightly elevated, recessed ground floor, the three main levels and the attic space with the cafeteria are largely encased in glass. The finely drawn lines in the metal frames of the flush inset windows are testament to the architect's origins in the Neues Bauen school. The ambitious design principles are apparent in the cladding of the travertine panels – sometimes in vertical layers, sometimes horizontal – and the modest fronts of the floor slabs, in contrast to the high balustrades in front of the attic space. The facade's three zones – base level, main level and roof level – reference the classical three-part facade structure of palazzo architecture.

The precise geometrical measurements of the floor plan also convey the architect's intentions. Advancing from the 60° angle of the two wings, Senn added a series of three hexagonal spaces on the bisecting line in the main level, with connections to the two orthogonally oriented wings that are not entirely smooth. The path by which visitors progress from the entrance to the stairwell and on to the reading room also conforms to the architect's primary design focus. The ascent through the exposed hexagonal "sculpture" of the stairwell, through the hexagonal foyer leading to the catalog rooms and the lending room before arrival beneath the blossom-like curve of the dome above the reading room, can be described as a ceremonial axis. Despite the density of the adjoining rooms, nuanced lighting design ensures there is no sense of spatial confinement. Overhead, a skylight strip serves as a compartment designating the central space and allows the daylight to stream in. The best view of this well-planned lighting design is from the staircase looking out over the courtyard, which originally had roof-level plantings in an idiosyncratic arrangement.

For an architect steeped in the school of functional rationalism, designing a state-of-the-art library must have been a dream job. When a user ordered a book it only took seven minutes to deliver it. A pneumatic delivery system and a network of conveyor belts at various inclines ensured the quick and seamless conveyance of books from the lowest stacks to the circulation desk. Few users would have been aware that the reading room was resting on a four-story foundation of storage rooms. This storage area extended right under the entire new building but a sunken garden ensured even the lowest levels benefited from daylight from the east. And above the reading room is the expansive concrete shell of the dome, rising up from the supports of the storage wing and only resting on it at certain points. As engineer Heinz Hossdorf recalled, it took a "somewhat unusual structural system" and a few "construction tricks" to achieve this airy, floating impression.[6]

Otto Senn exercised great care in designing furnishings for the reading room. He wanted to greet readers with a space that was peaceful but light, cheerful yet solemn. Bare aluminum frames for the large windows, light elm for the railings and furniture, a mid-tone gray for the carpets – the harmony of the tonal and textural qualities ensures a persistently elevated yet subdued sense of concentration in the library's public spaces.
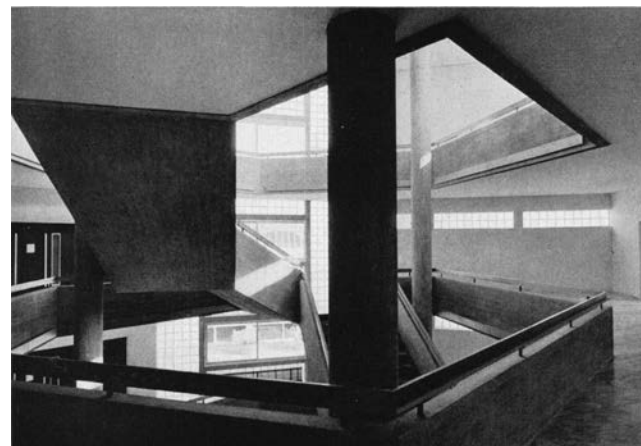
37   Main entrance, c. 1925.

38   Open stacks wing, c. 1925.
39   Reading room entrance, c. 1925.
40   Reading room, c. 1925.

1   Daniel Reicke, "Die Basler Universitätsbibliothek von 1893–1896 als Bauwerk" in: Basler Zeitschrift für Geschichte und Altertumskunde 81 (1981), pp. 119-173.

2   Idem., "Emanuel La Roche" in: Architektenlexikon der Schweiz, 19. und 20. Jahrhundert, ed. Isabelle Rucki und Dorothee Huber, Basel 1998. - Romana Anselmetti, "La Roche, Emanuel" in: Historisches Lexikon der Schweiz (HLS), version from 23 November 2007. Online: https://hls-dhs-dss.ch/de/articles/019894/2007-11-23/
(retrieved 13 December 2021).

3   cf. Otto H. Senn, "Basler Universitätsbibliothek" in: Werk 55 (1968), pp. 713-721, p. 714.

4   Architekturmuseum in Basel (ed.), Otto Senn, Raum als Form, with contributions by Patrik Birrer, Alexandra Gerny, Rolf Gutmann, Ulrike Jehle-Schulte Strathaus, Ueli Kräuchi, Alfred Roth, Otto Senn, Simone Thalmann, Christof Martin Werner, Bettina Zeugin, Basel 1990. - Ulrike Jehle-Schulte Strathaus, "Otto Heinrich Senn" in: Architektenlexikon der Schweiz, 19. und 20. Jahrhundert, eds. Isabelle Rucki und Dorothee Huber, Basel 1998. - Martina Desax, "Senn, Otto H." in: Historisches Lexikon der Schweiz (HLS), version from 29 November 2010. Online: https://hls-dhs-dss.ch/de/articles/027423/2010-11-29/
(retrieved 13 December 2021).

5   Otto H. Senn, "Basler Universitätsbibliothek" in: Werk 55 (1968), pp. 713-721. - Idem., "Die Bibliothek der Universität Basel" in: Schweizerische Bauzeitung 87 (1969), pp. 247-272; with a contribution by Ing. Heinz Hossdorf, "Die Betonschale (Kuppel) über dem Lesesaal", ibid. p. 259.

6   Heinz Hossdorf, as mentioned in footnote 5, p. 259.

41   Main reading room, 1968.
42   Journal reading room, 1968.
43   Staircase with surrounding galleries, 1968.

44   Main entrance, 1968.

ALICE KELLER

THE UNIVERSITY LIBRARY'S MAIN READING ROOM AS A LEARNING SPACE: A JOURNEY THROUGH TIME

How do students and other readers work in libraries?
A peek into the photo collections of the University and the University Library provides insights into changes in work methods and habits over the years.

45   The main reading room in the original building, c. 1963.

Introduction

Our journey through time begins not with the historical origins of the University Library, but rather with the first use of the original building on the site of the current library complex in 1898. All that remains of that original building complex, which looked more like a neo-Baroque palace than a library, is the open stack wing on Bernoullistrasse. The rest of today's University Library – including the main facade, the reading rooms and the administrative wing – were designed by architect Otto Senn, who conceived an entirely new design vocabulary in the 1960s. He transformed the stucco embellishments of the reading room to create a hexagonal concrete shell structure. What unites both reading rooms is that they form the heart of the library and are in dialog with the neighboring Botanical Garden. In the following series of images, photographs of the reading room from various epochs are analyzed. The main focus here is on the readers with their various documents, writing implements, work methods and other aids. How do/did students and other library users read, work and learn?

The main reading room is the primary focus of this study. While the University Library always had other reading rooms – or learning spaces, as we often call them today – it is only the main reading room for which it possible to compile a series of images over such a long period of time.

Working in the main reading room of the original building in 1963

The "Handbuch der Bibliothekslehre" (Handbook of Library Theory, Graesel, 1902, p. 110) describes the main reading room in the original building as follows: "On the ground floor of the administrative building, in the main section, is the reading room. This room, furnished with ceiling and side lamps, contains 32 seats. Each seat has desk space 1.25 m wide by 0.8 m deep. To the left of the entrance is the raised seat of the supervisor; to the right, a door leads to the cloakroom, which was intentionally made accessible only from the reading room, not from the main vestibule. Along the walls there is space for the reading room library, with reference works from all disciplines (about 2,800 volumes). The aisles of the reading room are covered with linoleum. [...] The light green reading room is also adorned with stucco ornamentation."

Unfortunately, early photos of the reading room show only an empty room and tell us little about how it was used. A series of photos taken shortly before it was demolished – thus in 1963 or shortly before – depict usage of the old reading room, which was reminiscent of a "garden salon".

In the first photo (fig. 45), it is 11:30 am and the reading room seems well occupied even though nearly every second chair is empty. We learn from a contemporary report, however, that the original 32 seats no longer sufficed; desks, chairs and shelves had to be slotted in.

The readers represent a broad mix, with women in smart dresses and pearl earrings seated next to men in suits. At all the workspaces, readers are bent over their handwritten notes in concentration. There are stacks of books and open notebooks nearby. The woman in the foreground is writing with a fountain pen and has her leather handbag on the desk. Busts of scholars from history keep watch and inspire the readers. To complement the ceiling and wall lighting, every seating place is equipped with stylish table lamps. At the back, to the right of the entrance doors, is the raised seat of the supervisor noted earlier. The barred gate to the Botanical Garden is reflected in the entrance doors.

Inauguration of the reading room in the new building, 1965-1968

The original building had long been bursting at the seams, but it wasn't until the 1960s that a new building could be constructed. The University Library's main reading room as it exists today was opened in September 1965, although the official inauguration of the new building did not take place until October 1968. This new building, designed by Basel architect Otto Heinrich Senn (1902-1993), ushered the library and its readers into an entirely new era. The new main reading room, an imposing concrete shell structure, speaks in an entirely different design vocabulary than the earlier neo-Baroque design. The generous glass frontage facing the Botanical Garden, in particular, must have been liberating for readers.

Working in the main reading room in 1968

The first photo from the new building (fig. 46) must have been taken in about 1968, and it shows the main reading room relatively soon after it opened. The comparison with earlier conditions in the original building is striking: finally the readers were able to breathe freely. The large, open desk spaces are also clearly appreciated. They no longer require reading lamps; the huge windows and ceiling lights provide enough illumination for work.

Although most readers have only a few books and papers on their desks, one sturdy woman in a white blouse has just ordered 20 thick volumes; will she find what she's looking for? There are leather briefcases – or, in the case of women, handbags – on the desks, but there is still plenty of space. Men are wearing suits and ties. No one has yet dared to remove their jacket. Only the woman in the white blouse is in the process of removing her jacket; she has a major task at hand, after all.

... in 1993

Twenty-five years later we encounter an entirely new generation of students. Here is a photo of an unknown student reading (fig. 47). He has managed to get one of the popular window spots. The thick Roche lexicon suggests medicine or pharmacy, but he is also working with other books, notebooks, textbooks and a writing pad. He has a daily newspaper to hand in case he needs distraction. Suits and ties have disappeared entirely; students can now dress as they like, and they are highly casual. The leather briefcase is replaced by a backpack. There are still no digital tools, but highlighters are within reach.

... in 2001

This series of photos from 2001 is by Claude Giger. This time, the reading room is very busy (fig. 48). Readers are working in the traditional mode with books, lecture notes, study cards, handwritten notes and binders. But some changes and innovations since the 1990s are apparent. Drinking is now permitted, or at least tolerated. The broadsheet newspaper has been replaced by the tabloid "20 Minuten".

Here, too, at least some of the students are studying medicine. One young woman is working primarily with a large number of different highlighters and post-it notes. As far as digital devices go, we can see a calculator and at least one mobile phone.

46   The main reading room in the new building shortly after it opened, c. 1968. The furniture is still the same as it was then; the chairs in particular boast timeless design.

47   Student studying in the main reading room, 1993.

48   In the gallery of the main reading room, 2001.

… in 2009

The next photo (fig. 49) is from November 2009. It shows a reading room at near capacity. In contrast to today, a first glance reveals numerous jackets and bags, and an absence of laptop computers.

This absence is deceptive, however. On closer examination, it becomes clear that students are working at screens in almost all the peripheral workspaces, under the windows and along the gallery wall. So there is already demand, but only these spots along the walls are equipped with sockets or improvised power strips. Electrical sockets and Wi-Fi have become basic requirements for digital work today. Here, however, desks are still covered in printed documents – books, lecture notes, binders, writing pads.

… in 2017

We witness a dramatic rise in the use of laptop computers among students (fig. 50). All the learning spaces are now equipped with permanent sockets and Wi-Fi connections, so readers can work on screen and online seamlessly and without time limits. Very few readers are still getting by without a computer. But students on the computers are still using paper and pens. Students are engaged in hybrid learning, switching back and forth between digital and print media. The use of the highlighter – once of great importance – has declined dramatically.

The digital aids include smartphones and the odd calculator. Mutual trust, or the omnipresence of devices, is so great that students can leave their computers and smartphones on their desks when they go out.

Entry monitoring has been in place for several years; it is now called Visitor Services and greets arriving readers with a friendly "hello" and a reminder of the ban on coats and bags. Transparent plastic bags are provided for carrying personal items into the reading room. On this hot summer day, students are in shorts and t-shirts.

… in 2022

Today there's a new image, with the paperless reading room slowly winning out. Nearly all the readers are working with computers, many with no printed documents or notepads at all. Only one reader in the photo (fig. 51) seems to not have a computer. It is interesting to observe that students are increasingly working with iPads (rather than laptops), with some of them using a stylus as a digital pen. Some have multiple computers or screens. And, of course, smartphones are lying on many of the desks. Nearly all the students are taking advantage of the electrical sockets, while internet access come via Wi-Fi, invisibly and without cables.

If you look closely, you can see that many readers are wearing headphones, either small wireless earbuds or over-ear headphones. We don't know whether the students are listening to music, watching teaching videos, or blocking out disruptive background noise. In any case, a visit to the reading room is becoming an increasingly multimedia experience.

Besides the digital aids, the photo also shows changes to other objects. Instead of free plastic bags for personal items, clear shopping baskets are now provided; drinks are predominantly in reusable bottles. Single-use items are out.

Conclusion

The photo series here shows both significant changes and considerable consistency in the use of the reading room. Architecturally, the main reading room represented the heart of both the original and the new library buildings. Both architects, Emanuel La Roche and Otto Senn, oriented the space in relationship to the Botanical Garden behind it.

Although the work methods, documents and appearance of the readers have altered radically over time, the pattern or need for individual, undisturbed work has remained unchanged. Working discipline and concentration remain high throughout. In the lead-up to exams, when all the desk spaces are filled, the quiet diligence of the students is surprising and impressive.

The most noticeable change is, of course, the increasing digitalization of work. And it seems that the pandemic has triggered yet another leap in digitalization among students. Study documents and even lectures are likely to become increasingly electronic in the future, and, as this author sees it, it's unlikely that the pendulum will swing back.

49   The main reading room, 2009.

50   The main reading room, 2017.

51   Digital work in the main reading room today.

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OUT AND ABOUT IN THE LEARNING LANDSCAPE OF THE UNIVERSITY LIBRARY

Sabina Brandt and Gerrit Sell

A CONVERSATION WITH KRISTIN HOSCHKE, ALICE KELLER AND FELIX WINTER

Alice Keller has been Director of the Basel University Library since 2019; the project for the redesign of learning environments began in 2006 under Vice-Director Felix Winter. Kristin Hoschke headed the "University Library Learning Landscape" project, which was implemented with architect Gerrit Sell.

The University Library is constantly evolving to meet the needs of its users. What sparked the design for a new "learning landscape" that also serves explicitly as a "laboratory"?

Felix Winter: The desire to renovate the public areas of the University Library (University of Basel Main Library) was already there in 2006. That eventually grew into a complete renovation project (earthquake resistance, energy efficiency measures, etc.). And when you're paying out that much money, you really need to think big enough: investing existing spaces with new functions, creating additional entrances and exits, and so on. And then the idea arose of setting up temporary spaces in a "transitional phase", once it was clear that it would take at least another 10 years before the renovation was complete.

Kristin Hoschke: The reason for the creation of the learning landscape was the urgent need for more learning space. The students were often standing in line out on the street at eight o'clock in the morning to find a study spot at the University Library. It was obvious that we needed a dramatic increase in study spaces – particularly during exam times, but not just then. At the same time, it also had to do with the University Library as a face of the university; the entrance and reception area in particular was in urgent need of improvement. There were actually plans to implement this as part of the overall renovation. However, since that will require removing all the special stock (the "cultural heritage") and erecting a new library building, we don't yet know for certain when the renovation can take place. As such, we decided not to wait any longer for these measures to be implemented, and instead launched an interim project. This approach has enabled us to renovate sections (without endangering the special stock or interfering with the internal structure) and to start a learning space laboratory in which we can try out different learning situations with an eye

toward the upcoming renovation so we can evaluate them and decide whether or not to incorporate them. I think this is the sort of opportunity you get so rarely, and it's great for an overall renovation project.

Few places have reinvented themselves in recent years to the extent that libraries have, and continue to do.

Alice Keller: The form of studying here at the University Library has changed a lot. Nearly all students bring their own laptops now; they look for a space where they can join others while also studying alone. That provides a certain structure that students find helpful. Today you hardly see printed books on the students' desks any more, like you did earlier, but there is still a need for the library as an institution and a space. What is the implication for libraries with large print collections if students evidently no longer study from printed documents? This is an important question.

But libraries continue to reinvent themselves. With the rise of digital information in the early 1990s, many were worried that people would abandon libraries, and there were fears of large-scale closures. Many libraries even rebranded as things like "information centers" because they were seeking new roles. Today, we see full reading rooms and learning spaces with attractive services. No one is asking if we need libraries any more. On the contrary, we are witnessing a renaissance; we can see that in the construction of numerous new academic and public libraries.

How did the concept of the learning landscape develop?

Kristin Hoschke: That was a university development process. The initial impetus came from the ITSI project (see p. 22) and the "Learning Spaces" working group that emerged from it, in which the University Library played a part. That led to pilot projects for all different types of learning spaces throughout the university. For the learning spaces in the University Library, we decided to hold a workshop with students as a means of initiating discussion and deliberation. We "borrowed" furniture from existing learning spaces at the university and took it to the University Library for the project. We cleared out a large existing learning space on the third floor to create a design area that included the stairwell. We invited students to think about the forms of study they would like to experience at the University Library, how they like to work, and what additional activities they wanted to carry out in this site.

52   Previous double page:
quiet zone in the periodicals room.

So it wasn't about furniture, it was a question of what we wanted to facilitate. The interesting thing was that initially, many students didn't want to engage in this process because, as described earlier, the supply of learning spaces was very limited and they didn't want to reduce it even further with special learning spaces. They just needed good places to study: a large enough desk, chair, reading lamp, electrical outlet. The conversation only took off once we assured them that enough learning spots would be available. We talked a lot about individual and group study, and now we are seeing the "in-between": individual study at a shared round table. And we also encouraged them to extend their ideas further. They formulated addition requirements; for example, the option of eating or drinking while they study or caring for children on the side, and the availability of quiet zones.

We are always looking for implicit user needs. Sometimes you find them by observing how users "misuse" spaces.

Kristin Hoschke: A laboratory gives you a huge opportunity as well as the freedom to offer something never even recognized as a requirement before. So we and/or the architects brainstormed new ideas – with the knowledge and freedom that not everything has to work. That is actually one major strength of this project.

What surprised you?

Alice Keller: I am particularly interested in the noise level in the new learning space where the InfoCenter used to be. Now it is filled with round tables that are meant to invite students to engage in shared work and discussions. But now I'm surprised by how quiet it is there. And in the entrance hall, where there is now group seating, it is astonishingly quiet. It used to always be the librarians who had to shoosh people, but now the users "shush" each other. We would actually like to allow more noise in certain zones.

Felix Winter: We seriously thought about dividing zones into "completely quiet", "two-person conversations", "group discussions", etc. We even devised a system of signage with different volume levels. And now in the new learning center we find that users are disturbed even if we're just walking through with a book cart or the door opens and closes, even though this space is equipped with discussion tables. That really surprised us – we expected zones with lively conversations and interaction.

Alice Keller: Students are looking for community and camaraderie with others. Many of them go to the library because they're studying with fellow students; however, it's not "together-together", but everyone for themselves.

Felix Winter: Needs also change throughout the semester cycle. That's something that emerged very clearly from the workshops. So we tried to make spaces multi-purpose wherever possible. That's why there are areas where students sit together and concentrate intensively on studying without talking, even though those spaces would be suitable for group conversations. But we are increasingly seeing visitors seeking out this table set-up so they can converse with each other. And it may well be that this need will increase when the studying phase is over, driven by other learning situations that originate in classroom teaching.

Kristin Hoschke: The University Library said they didn't want to put signs up initially, but instead to wait and see how user needs arose from the way the spaces are used; that is, without labeling the three subgroups: loud, whisper, quiet. As well as recognizing user needs, it also says something about the ambiance we have created with our selection of furniture, wall color, etc. But this is yet to be evaluated, because we have the sense that in many instances it's the (largely) quiet majority who set the rules in a space, or the person who uses the space first. That means if you want to indicate that a space allows talking, you probably will have to put up signage.

One reason that students in the University Library tend to prefer quiet could be that there are more options for reserving group rooms now. For a long time they didn't exist at all, but now the university offers them.

Alice Keller: Right now, we're in the exam prep period. It's not about group projects any more, it's about individually passing the exams. You probably have to look at it over the course of the entire year, when the students get to be more creative.

One more thing: we should not forget that the library has other users and target groups as well. Some of them have very different or specific needs. Here we still see very high lending rates. For example, we don't have any space for people to watch films or videos. We have audio recordings and films that are only permitted for use within the library. We cannot just offer space to students; there are other needs to consider, particularly in terms of workplaces. And in fact as a library we really ought to say that usage that requires using our stock on-site has to have space as well – as a priority, in fact.

What is your current personal favorite location in the University Library?

Kristin Hoschke: For a long time I have felt it would be great if people could study or work at windows in the historic open stacks section. The long, high spaces with their creaky floors and old bookshelves have a wonderful atmosphere where I always want to spend more time. Now there are reading spots at some of the windows between the bookshelves, with a reading lamp and chair – my favorite spot.

For a second favorite place, we have to make our way to the third floor in the main part of the library. Cocoons were designed for installation in the "parlatorium". They consist of armchairs with high surrounds on three sides and a fold-down desk, and they make very nice places to study and retreat, sheltered and comfortable. From there, you have a great view of the Bernoullianum and toward Kleinbasel. You're all alone and yet right in the middle of the studying, reading and working life of the University Library. The option of retreating without having to work in a separate room makes this learning location a very special place for me.

Felix Winter: My favorite view of the University Library is from the cafeteria toward the Botanical Garden and the Petersplatz campus. I like to go there with guests, not just because of the verdigris reading room dome, which blends into the green of the Botanical Garden, but also because when you stand in the main building with the new learning spaces behind, you have a panoramic view of the structure of the building complex and services. I would point to the windows of the old open stacks wing with the comfortable reading chairs and the workspaces in the reading room looking out on the Botanical Garden; these are the spaces that I, as a user of the University Library, would most enjoy switching between.

Alice Keller: As Director of the University Library my work is varied, but also demanding and sometimes stressful. You need a break now and then. The route to the cafeteria takes you through the renovated staircase in the main entrance. The students are all fixed on their screens, but my gaze wanders off into the distance. It may well have been one of architect Otto Senn's favorite places, as well, because he describes the top of the stairwell as a place "where your gaze opens out toward the city and the hills of the Jura".

If you're not afraid of getting lost you can descend into the open stacks of the library and find absolute quiet in the redesigned periodicals reading room. From the inside you're well camouflaged behind thousands of book spines; from the outside, you're tightly surrounded by the leafy forest of the Botanical Garden.

A LABORATORY FOR LEARNING

Sabina Brandt and Gerrit Sell

THE LEARNING LANDSCAPE OF THE UNIVERSITY LIBRARY

AS A UNIVERSITY AND CANTONAL LIBRARY, BASEL'S UNIVERSITY LIBRARY IS NOT ONLY A MEMORY INSTITUTION AND A STORE OF KNOWLEDGE, IT ALSO SERVES AS A CENTRAL LOCATION FOR LEARNING AND GATHERING.

The building was constructed by Otto H. Senn in 1962-1968 and numbers among his most significant structures. Of the original 1896 building only the stacks wing was retained and integrated into the new building.

The main focus of the interventions was on meeting the increased demand for space, but also determining the learning needs of the future. The 437 new workspaces are consciously designed as a "laboratory", with variants corresponding to the diverse needs of the students, which were identified in a user workshop. Now there is a colorful mix of different workspaces available for individuals and groups at oblong and round tables, in lounges, or in separate booths and hidden niches.

These interventions within the existing building were designed to be as non-invasive as possible, and extended to all areas of the University Library. The biggest architectural change was the conversion of two side stairwells into additional emergency escape routes to back up the route via the architecturally important main staircase. Now there are sofa islands and workspaces available there. This makes the previously unused staircase into a striking and popular space. And moving the cloakrooms into the former bomb shelter in the lower floor turned the entrance area into an airy lounge and meeting zone with standing tables.

55   Sofa islands and study stations in the entrance hall.
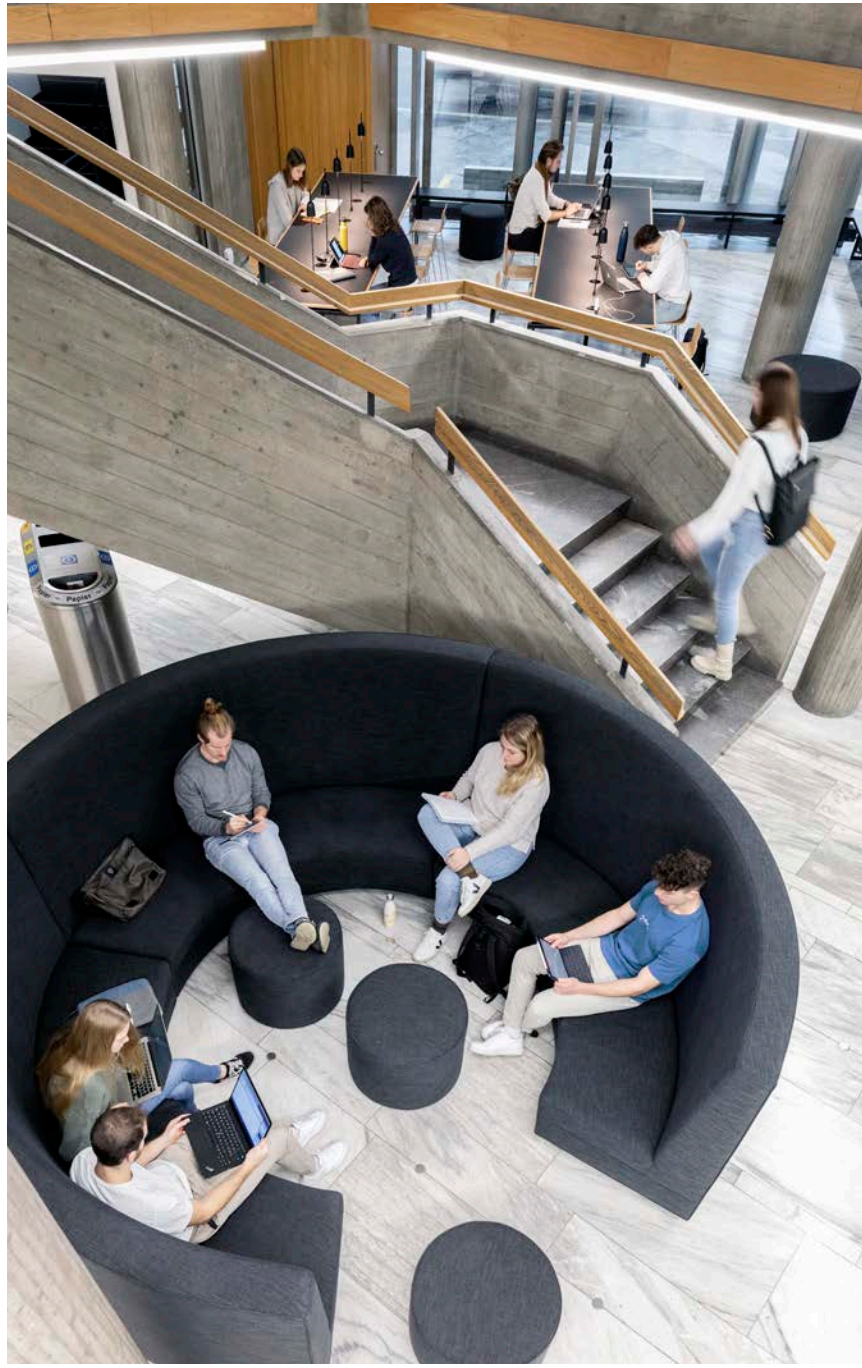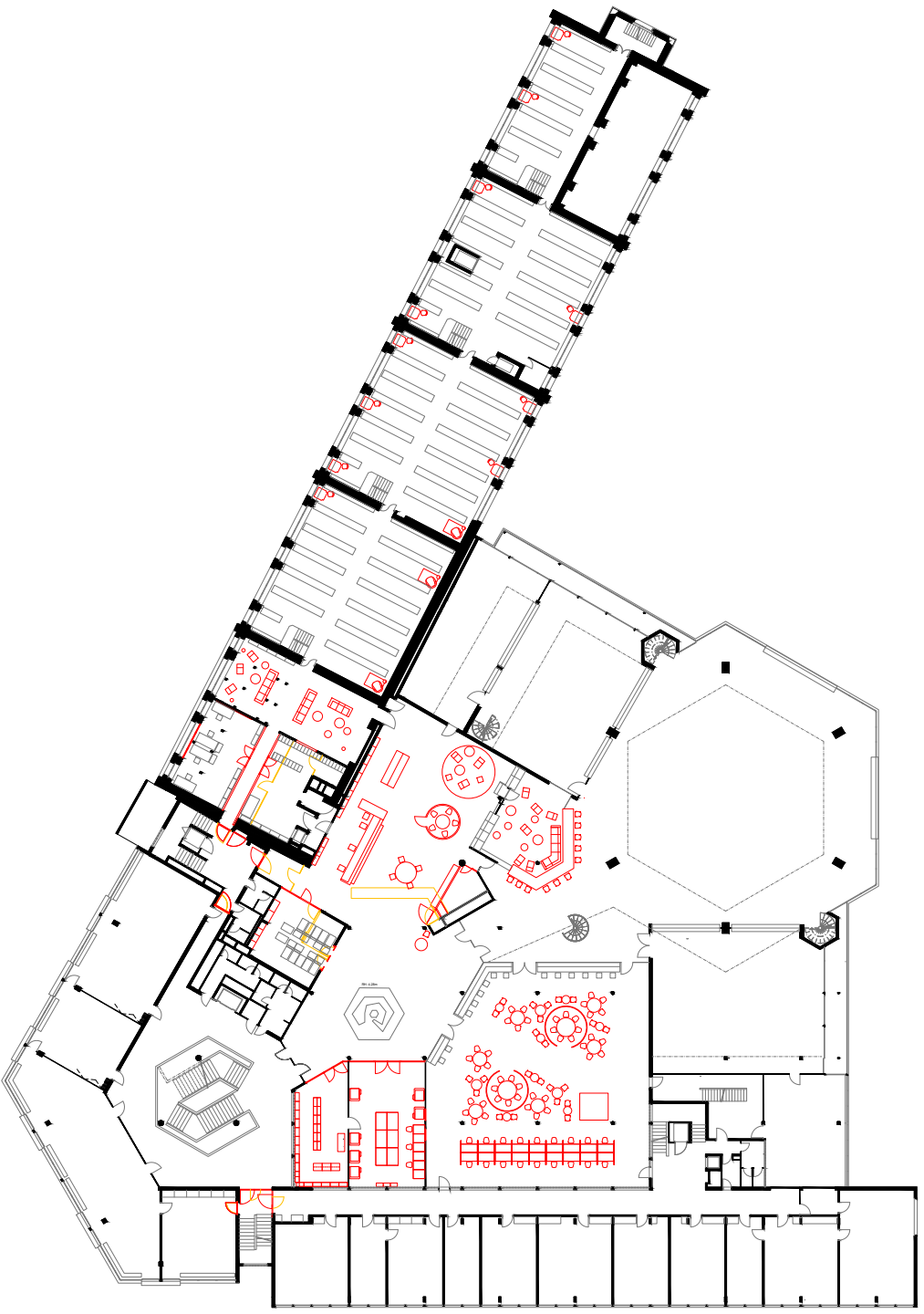
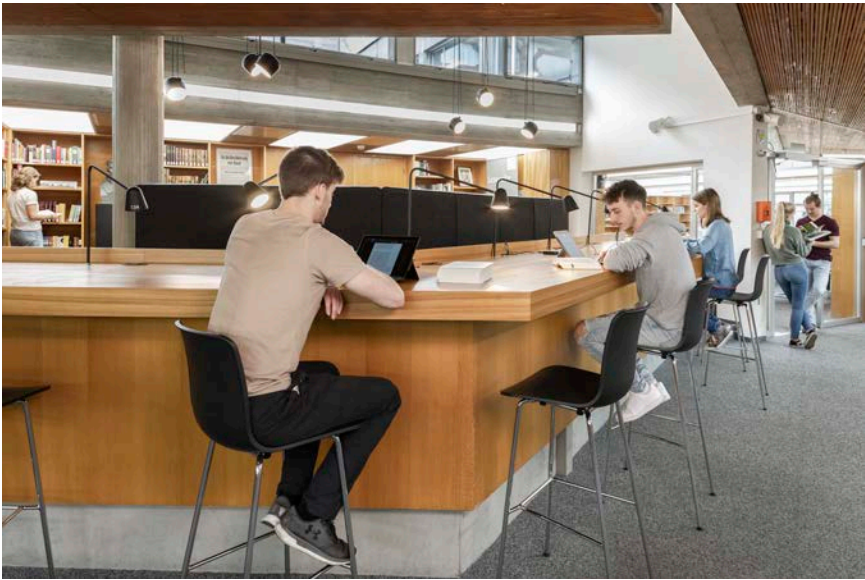56   Study benches in the main staircase.
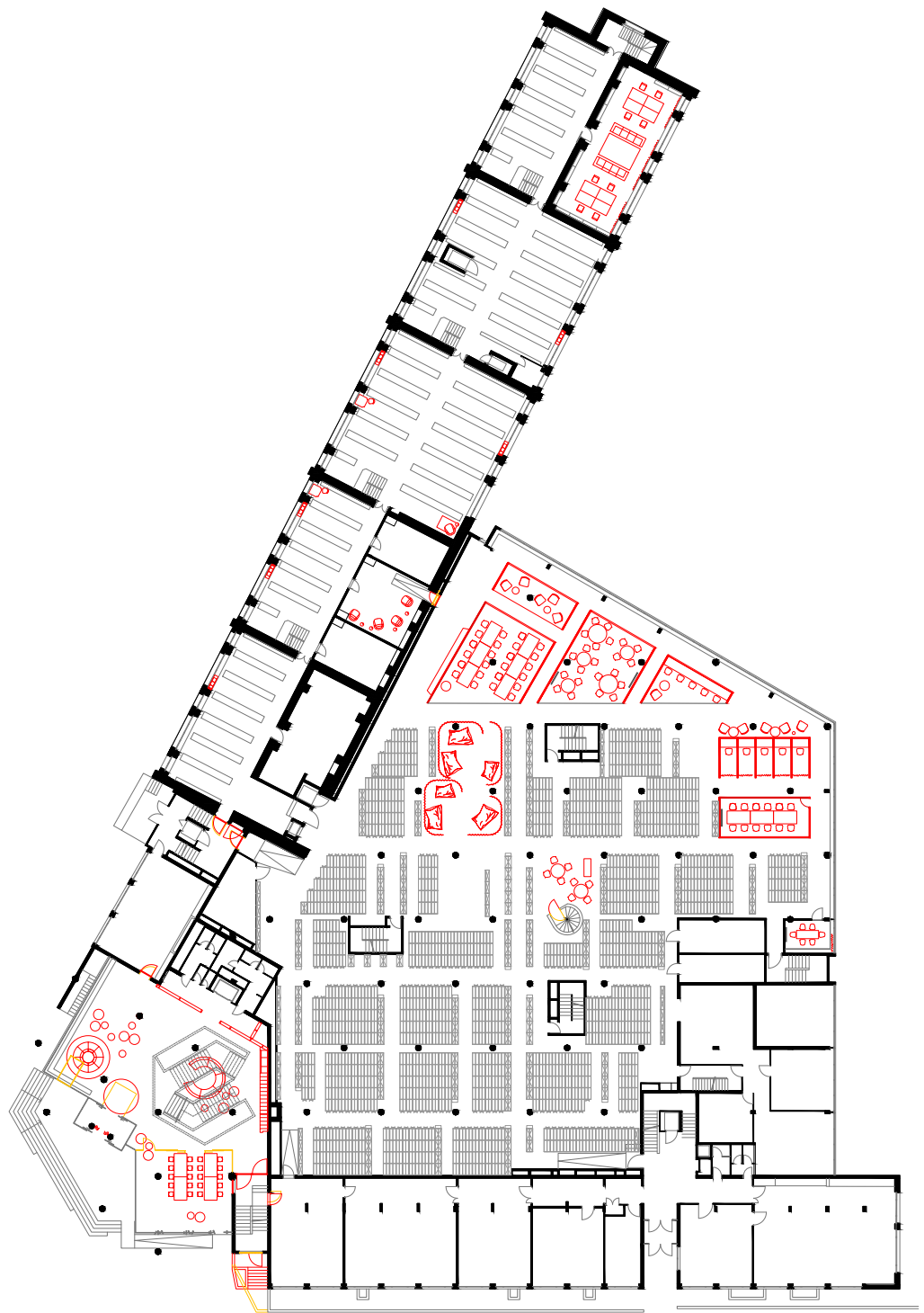
Ground floor

1st floor

57   "Cubicals" in the Learning Center.
58   Study bar in the reading room.
59   Right: meeting box.

60   Group box in the periodicals room.
61   Right: individual workstations at tables and in boxes (rear), periodicals room.

To double the supply of workspaces, we also activated the unused "in-between" spaces of the building. These small steps also enrich the library's available supply of workplaces and seating; on the windowsills and in niches in the open stacks, for example.

Unused sections in the area of the periodical stacks also allowed for the addition of new workspaces. For climate reasons, these are located in boxes, which look out on the Botanical Garden via large glass panes.

In the course of the renovation, the library was equipped with an RFID self-checkout and return system, which allowed the former lending area to be converted into new information and learning spaces.

62 Sofa niches in the newspaper reading room.
63 Family room with nursing corner.
64 "Cocoons" as a place of retreat.

65–66 Seating islands and table niches in the historic open stacks.

As the building is listed, all measures were undertaken in consultation with preservation authorities. In the original structure, the interventions involving writing surfaces of solid oak, wing chairs, woven rugs and metal lamps are oriented toward the late 20th century. In the more modern Senn building, meanwhile, the cubic forms, the 1960s-style elm veneer, the wooden slats in the ceiling and the linen materials have been reinterpreted and reused. Fortunately, we could still refurbish and redeploy much of the original furniture discovered in the attic.

By observing and carefully evaluating the use of the diverse new spaces, we hope to gain insights into the design of future learning spaces.

67 Learning space with conference table.
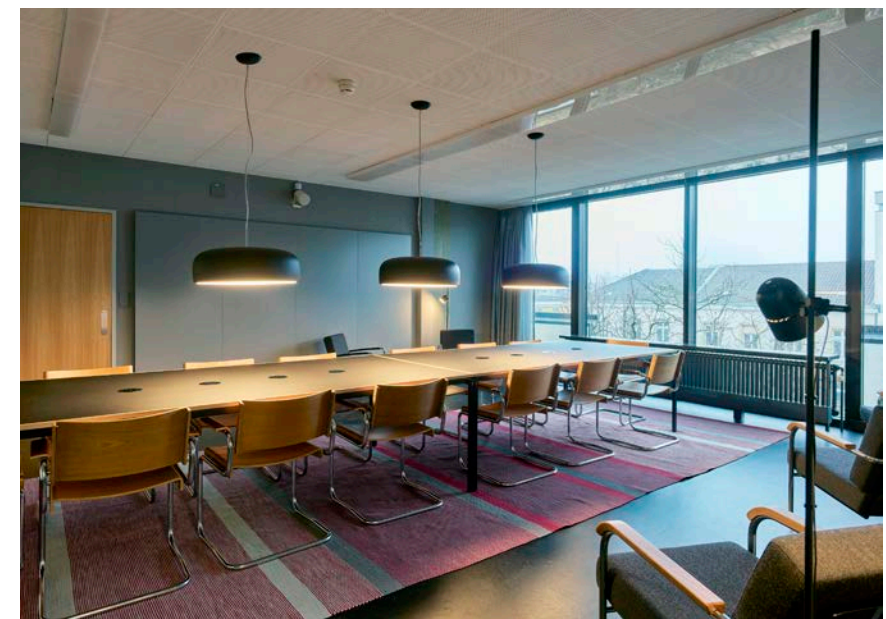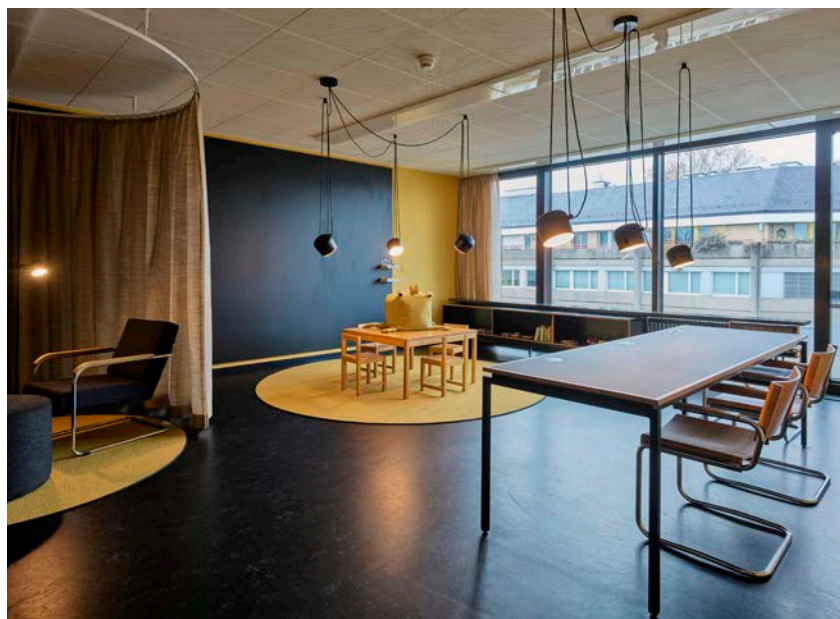
6_OUTLOOK

There is a complex, almost mysterious connection between studying at the university, on the one hand, and the spaces where it takes place, on the other hand.

THOMAS GROB

LISTENING, DEBATING AND LEARNING COME TOGETHER. IN LIEU OF AN AFTERWORD

68   Vincenzo Foppa, The Young Cicero Reading, 1464.

There is a complex, almost mysterious connection between studying at a university, on the one hand, and the spaces where it takes place, on the other. It is no coincidence that our memories of our own studies, our identification with an *alma mater*, are always linked to particular spaces. Even after decades of functional thinking in architecture, classrooms and learning spaces still affect us in all sorts of ways: they facilitate certain activities, but they are also distinguished by symbolism and atmosphere. They are inextricably linked with teaching and learning, but also with other, often astonishingly stable traditions and rituals such as the conventions, graduations and ceremonies that have distinguished the European university since its inception. If, as Katja Ninnemann suggests in this volume, it is worth investing in high-quality fit-out of university spaces, that is connected with their appeal, but also with symbolic dimensions, such as the respect for the university that this embodies. Attitudes toward the university have always formed part of its influence as a teaching institution, as well as its continuing viability (which is astonishing in historic terms) across numerous changes and even crises.

The lecture halls and classrooms as such, which university histories generally ignore in favor of building architecture – there are probably also fewer references to draw on – reflect the history of academic concepts in a very different way, both in their persistence and in their evolution.

Around 1464, about the time that the University of Basel was founded, the Italian painter Vincenzo Foppa created his fresco of the young Cicero reading. The architectural and artistic context (and thus the intended meaning) is unknown, as the Milanese fresco is now in the Wallace Collection in London, isolated from its context. But the boy in the painting has a very obvious symbolic function as a role model. The Cicero who emerged later on as a highly respected rhetorician and statesman has been portrayed since antiquity as an exceptional and well-read pupil. But this depiction is more about an educational ideal than a specific historical figure; none of the books in front of him – one already open, the others stacked in a dedicated niche – have no recognizable titles, instead they signify reading and education in a general sense. The space (which is not a school) and the furnishings surrounding Cicero are part of his activity and its symbolism. The window, opening on to nature, is probably more than just a Renaissance convention; it suggests that this learning is not closed off from the outside world. But even here, long before the *lumières* of the Enlightenment, the light comes from study and reading rather than from the natural world beyond.

The boy is deeply immersed in his reading, and it is worth noting his body language: his complete relaxation and his tranquil face, which could almost be from a religious painting. Study is contemplation, which that era understood as preparation for an "active" civic life, such as Cicero depicts. However, study is also leisure. When you consider the history of later educational concepts, and in particular the classroom, which were designed in the 18th and 19th centuries with a strong focus on discipline and de-individualization, you witness here an opposing ideal of education that is, in fact, still present to this day.

The relationship between educational culture and learning spaces in different eras is elusive, yet revealing. Buildings have longevity, but that also applies to a significant degree to studying as an idea and a practice, despite all the changes to the participants and circumstances. In a time such as ours, which is so focused on change, it is easy to forget how much continuity there is in educational concepts from a cultural history perspective. It is only very recently that we have been able to do something which would have been unthinkable just a short time ago – we can teach independent of location, and yet we still do so in units of 90 or 45 minutes, which derived from the monastic division of the days into three-hour increments and was set by the universities in their very early years.

The differentiation of university spaces is as old at the institution itself. Leaving aside symbolic and representative spaces and the modern laboratories, the medieval differentiation between two types of teaching dominates: the lecture (*lectio, lectura*) on the one hand, and the seminar for the purpose of the *disputatio* on the other hand; *repetitio* did not require a dedicated space. To this day, lecture halls and seminar rooms shape the image of university teaching buildings, along with spaces for reception, discussion and interaction. In historical terms, separate premises for libraries and their reading rooms, for quiet study and access to study resources (see the article by Alice Keller on the University Library's reading room), only developed slowly; they were often among the most representative spaces of educational institutions, perhaps most visibly in colleges in the Anglo-Saxon world.

The standardized concept of the "modern" lecture hall that became established in the late 19th and 20th centuries – probably as a legacy of the anatomical theater of a type familiar also to Basel since 1589 – serves to accommodate as many students as possible for the purpose of listening and taking notes. This concept diverges considerably from the freedom of movement and physical relaxation of Foppa's ideal boy, Cicero. It persists today, for example in the University of Basel's new, state-of-the-art Biozentrum – fixed rows of benches or chairs, line of sight in one direction only despite swivel seating, space for individual note-taking and/or a laptop, but hardly any room for the students to move or change position. In the front, originally the location for the *Lehrstuhl* or lectern, there may now be a large table, the kind of thing that the anatomists and then the natural scientists needed, and always a wall board or a projection screen, plus a sink on the wall if not built into the table.

Passive listening, guided discussion, quiet individual study – this triad has dominated teaching and learning spaces for epochs. As a place for quiet individual work, the library was separate from this triad, and the rest fell under the category of residential and leisure space and were thus largely private matters, even if they were sometimes spatially connected to and regulated by the university. This triadic model essentially survived all the functional changes, including technical modernizations such as the evolution of the "mass university" in the later 20th century.

69   "Cocoon" in the Basel University Library.

Digitalization is now calling these basics into question. This shift was not sudden, nor did it start with the pandemic, and it is certainly not limited to just the opportunities offered by technological forms of teaching. The changes affect the communicative, mental and perhaps even cognitive realities of the new generations – and thus every form of learning. There is still much in all this that we don't know, but it is certain that this development is not only disruptive, particularly in terms of space requirements, but above all cumulative, if one may call it that. This development is an enormous challenge because it brings so much that is new without rendering the old obsolete, at least in the medium term. Libraries are experiencing something similar; there, too, the new requirements are not simply replacing the old. When it comes to space, this pandemic period, which has so dramatically advanced technological approaches, has also demonstrated the need for multiple modes of spatial proximity with astounding clarity.

At the same time, space is a scarce resource, which is especially true of the University of Basel. Ever since it was founded, it has had one Kollegienhaus and various other facilities, mostly scattered throughout the city. Here, too, the needs we see today are cumulative: we want more flexible lecture halls that don't just allow individual listening and note-taking, but then we lose capacity; at the same time, we need space for large groups. The library still has to accommodate large holdings, and staff space requirements haven't reduced either; we need a classic "reading room" and quiet zones for the numerous students preparing for exams and writing papers, space for groups in proximity to resources and advice services, space for combinations of joint and individual study, access to technology and desk space for books and laptops. Much like Foppa's Cicero, we are thinking much more than we used to about opportunities for more relaxed methods of knowledge acquisition and discussion.

There are many indicators that students are seeking proximity to others, even when they're not actually working together. People are looking for variety in seating, in their work set-ups – variation between a counter, a chair at a desk, and an armchair in the corner or shared lounge island. Even if it's impossible for an institution to meet all needs, to bring every spatial experience of from home to the university, we must respond to changing requirements if we want to offer stimulating learning conditions. The "activation of living space as learning space" (to quote Katja Ninnemann) is one thing; the obverse tendency, which has to be meaningfully channeled, is just as important a consideration for us.

The University of Basel's new learning spaces, which all had to be built into existing contexts, are an experiment. They are meant to be as serious as they are playful; the various spatial models were carefully developed with groups of students and implemented with great effort and attention to detail. Now we will observe how staff and students make use of the changed lecture halls and the new work constellations. This experiment, which many people worked on intensively, considers new needs, seeks to capture the changes in young people's conception of space, and makes use of the characteristics and advantages of the existing buildings and their history. This experiment supports changes in teaching and a dramatic increase in the need for multi-purpose learning space, but also the old (or eternally new) ideal of university education. This ideal has always depended on the idea that ultimately one must educate oneself, that education must link the individual with the communicative and the collaborative. But these endeavors apply not only to the Ciceros of the future, but to all members of the university community in respect of their future role in society.

ACKNOWLEDGMENTS

BIOGRAPHIES

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has been a member of academic staff in the Educational Technologies department of the Vice President's Office for Education at the University of Basel since 2011. Her work focuses on the development of teaching and learning environments in the context of digital transformation. She studied theater, media studies, choreography and performing arts in Cologne, Berlin and London, and taught at the Zurich University of the Arts.

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Schröer Sell Architekten

The architectural practice Schröer Sell Architekten was founded in Basel in 2008. Ulrike Schröer and Gerrit Sell and their team create individual solutions for new buildings, extensions and renovations. Their focus is on construction within existing buildings, in particular in the area of monument restoration and heritage preservation. In addition to numerous private buildings, they have also realized various projects in recent years for new learning spaces on the University of Basel campus. Gerrit Sell is a member of the Basel-Landschaft Commission for the Protection of Monuments and Heritage Preservation. Professor Ulrike Schröer teaches at Bern University of Applied Sciences and is a member of the board of Baselbieter Heimatschutz.
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studied ethnology, human geography and history at the University of Basel and then completed training as an academic librarian. He is Vice-Director of the Basel University Library and head of Central Services. Since the mid-1990s, he has been responsible for the professionalization and reorganization of the University of Basel's libraries, and has supported building and renovation projects here and in the University Library, where he was responsible for the renovation and remodeling of public areas.

IMAGE CREDITS

Cover: Andi Cortellini

Fig. 1:   University of Basel

Fig. 2:   Basel-Stadt archives, IMAGE Visch. C 30

Fig. 3:   Basel-Stadt archives, PLA 63, 1-9-1

Figs. 4a–l: Mark Niedermann, Schröer Sell Architekten

Fig. 5:   Norwegian University of Science and Technology, Trondheim

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Fig. 8a–d: University of Basel, photos: Andi Cortellini

Fig. 9:   Sarasin, Teff: Teff Sarasin Bauten + Design, Basel (1994), p. 37

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Fig. 17:   Basel-Stadt archives, NEG B 1405

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Fig. 19:   Basel-Stadt archives, BSL 1045c 2-36pos (Hoffmann Photo Archives)

Figs. 20–22: Das Werk: Architektur und Kunst 28, volume 5 (1941), pp. 122, 125, 129

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Fig. 45:   Basel University Library

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Fig. 48:   University of Basel, Claude Giger

Fig. 49:   Martin Töngi

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Fig. 67:   Mark Niedermann

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Plans: Schröer Sell Architekten

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LEARNING SPACES LABORATORY

Does the traditional university campus fit the way we study today?
What should the campus of tomorrow look like? Teaching and learning are in
a state of upheaval due to educational reforms, social developments and
digital transformation. To provide spaces that meet the needs posed by these
changes, the physical campus has to evolve as well. The University of Basel
has identified new requirements in a participatory process over several years
with faculty, students and staff, and – in collaboration with Schröer Sell
Architekten – developed and implemented a series of projects intended to
pave the way to the "campus of tomorrow".

Numerous articles and interviews describe the current changes to the campus
in the context of developments in teaching and learning. They also examine
the (architectural) history of the campus and its place in the urban landscape.
Together with project photos and descriptions, they map ideal trajectories
for future development, setting out information and experience that may well
benefit other university spaces as well.

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