C: *REALEXPERIMENTE*—ON THE SEARCH FOR NEW POSSIBILITIES

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Why is it worthwhile to implement *Realexperimente* as transdisciplinary teaching formats? What expertise is needed for this? Should the teaching format of *Realexperimente* be made permanent? Which *Realexperimente* were implemented and how did they differ from each other? This zine describes the experiences and findings from three Realexperimente on the topic of sustainable mobility culture, planned and implemented at the Institute of Urban Planning and Design, Chair of Urban Planning and Design at the University of Stuttgart.

0. *REALEXPERIMENTE* AS TRANSDISCIPLINARY TEACHING FORMATS—INSIGHTS

→ Through transdisciplinary *Realexperimente*, the university leaves its "ivory tower" and becomes an urban school and thus a tangible learning and socialisation space for all urban designers.

→ People from different disciplines who have little or no interaction with each other in everyday life find their way to each other in *Realexperimente* - be it by way of the location, topic, expertise, or interest.

→ *Realexperimente* allow students to develop and explore their interests and potentials independently and to realise them in everyday life.

→ Experiential knowledge is transported into the everyday life of the city; the city-dwellers can directly participate in and benefit from it.

→ *Realexperimente* promote public debate between academia, politics, city administration, and civil society. They allow trainees and decision-makers from different fields to come together to learn with and from one another.

→ *Realexperimente* develop visions of the future. *Provisorische Architektur* (provisional architecture) in public spaces mediates between vision and reality. *Provisorische Architektur* offers the possibility of openly shaping planning processes until the sought-after qualities of the architecture and urban spaces in development can be discerned from the way they are used.

→ Urbanism can be experienced through pieces of *Provisorische Architektur* on a one-to-one scale.

→ Public space is the connecting element of urban society; it links the places where we live and work. It forms the entrance and threshold to open spaces and sites for experimentation.

→ The implementation of *Realexperimente* requires not only academic, practical, and planning expertise, but also a focus on interdisciplinary communication.

→ Through *Realexperimente*, questions of personal and social responsibility are raised, brought to peoples' conscious awareness, and discussed anew.

1. THE SEARCH FOR NEW POSSIBILITIES

The disciplines of urban design and spatial planning are confronted with new and increasingly pressing challenges in light of the fundamental contradiction of our time—the quest for eternal growth in the face of increasing resource scarcity, a pursuit increasingly at odds with our desire for social justice.[1] The hope of resolving this paradox pushes us to seek new possibilities and tools for sustainable, socio-ecological planning and construction. The format of the *Realexperimente* implemented as part of the research project "Future City Lab - Reallabor für nachhaltige Mobilitätskultur" (Real-world Laboratory for Sustainable Mobility Culture) creates new spaces for this search within the university teaching of architecture and urban planning.

1.1 LIFELONG LEARNING THROUGH TRANSDISCIPLINARY EXCHANGE

Realexperimente as a teaching format make possible transdisciplinary exchange and joint solutions to complex challenges. The cooperation between university, city administration, and civil society and the accompanying mutual learning in an experimental environment transcend narrowly prescribed curricula and harken back to the Humboldtian ideal of pure research and lifelong learning.[2] Realisations of *Realexperimente* in public spaces make complex topics accessible to all, enable public discourse, and feed their insights back into the everyday life of the city. Such solutions require intensive cooperation between those involved in the university teaching of architecture and urban planning, politics, city administration, and the public. In a mutual exchange, they learn about each other's crafts and disciplines—from idea to implementation—and the hurdles involved. In *Realexperimente*, people who otherwise have little or no interaction with each other in everyday life are brought together by location, topic, expertise, or interest.

1 see: Bregman, Rutger (2020): Humankind: A Hopeful History, London: Bloomsbury.
2 see: Humboldt, Wilhelm von: Robert Haerdter. (2012) Ideen zu einem Versuch, die Grenzen der Wirksamkeit des Staats zu bestimmen. Stuttgart: Reclam.

1.2 GENERATING KNOWLEDGE VIA EXPERIENCES

Realexperimente offer students a unique opportunity to directly apply and test the theoretical knowledge gained from their studies. The experiential knowledge that they then gain in this way is as diverse as the city itself. It can, upon reflection, accompany and benefit them throughout their lives.[3] Dominic Plag: "Compared to many other seminars at the university, the *Reallabor* primarily helped me on a personal level. This is certainly due to the practical work rather than the usual theoretical discussion, which requires far more interpersonal skills. This is something that will be very important for me later on, but unfortunately is too often neglected at university. The other thing that fascinated me most about this semester was that I didn't feel at the mercy of the pressure to succeed or compete as I usually do. Rather, I worked with many people towards a common goal. This is probably the reason why I was willing to put so much time into this project and still had a lot of fun doing it."

Realexperimente are a challenge for teaching staff and decision-makers, as their open process requires a high degree of flexibility from all involved. Their potential lies not in the efficiency of the format, but in its openness, which makes innovation possible.

The *Provisorische Architektur* used in *Realexperimente* allow designs to be tested in real spaces.[4] They provide the freedom to keep planning processes in flux until the qualities demanded of the architecture and planning interventions can be determined via their actual use.[5] The cycle of analysing, designing, implementing, building, programming, playing, moderating, discussing, reviewing, analysing, and designing stimulates a reflexive process. As in the research-through-design method: analysis—projection—synthesis creates a system capable of learning that produces a practical relevance and a reflexive reconnection to the task at hand.[6] The insights gained from

   3 Kuhn, Rainer et. al. (2018): Gemeinsam Experimentieren. In: Reallabor für nachhaltige Mobilitätskultur, Universität Stuttgart (eds.), Stuttgart in Bewegung: Berichte von unterwegs. Berlin: Jovis, p. 58.
   4 see Zine A
   5 Becker, Benjamin (2013): Provisorium. In: Kniess, Bernd (ed.), Universität der Nachbarschaften 2010–2013. Hamburg: HafenCity Universität Hamburg, p.95.
   6 Hebert, Saskia (2019): Perforierte Wirklichkeit und mögliche Zukünfte. Ein Gespräch. In: Finkenberger, Isabel Maria;

Provisorische Architektur contribute to the further development of the specific site and to approaches and tools usable in similar projects. They are scalable and can be applied to higher levels of planning and urban design.

1.3 SUSTAINABLE MEDIATION VIA ACTIVATION

University infrastructure and the integration of practical partners ensure and support the implementation of the *Realexperimente*. Students and civil society actors can actively participate in the *Realexperimente* in a safe framework, helping to shape them and to share in the knowledge gained together. The practice partners can get to know possible cooperation partners in an academic setting, test new methods, and gain public recognition for them.[7] The overarching scientific goal of the *Realexperimente* is to initiate social change while exploring how knowledge is translated into action.[8] The goal of the *Realexperimente* as a teaching format in architecture and urban planning is to enable students to gain knowledge via own experiences and to generate public discourse on the spatial qualities of cities and how they can be designed for sustainability and solidarity.

In this zine, we present our own experiences from the practical implementation of three *Realexperimente* in the teaching of architecture and urban design, make recommendations for action, and would like to advocate for the continuation and establishment of the format. In chapter 2, we present the resources, competences, and capacities required to conduct *Realexperimente*. In Chapter 3, we address the question of the future of this format and the next steps we consider useful to it. Chapter 4 presents the specific findings and experiences of the three *Realexperimente* conducted.

Baumeister, Eva-Maria; Koch, Christian (eds.), Komplement und Verstärker: Zum Verhältnis von Stadtplanung, Künstlerischen Praktiken und Kulturinstitutionen. Berlin: Jovis, p. 108.
   7 Puttrowait, Eric et al. (2018). Der Weg zum Realexperiment – Schlüsselakteure identifizieren, Kooperationsstrukturen aufbauen, Projektideen auswählen. In: Defila, Rico; Di Giulio, Antonietta (eds.), Trans-disziplinär und transformativ forschen: eine Methodensammlung. Wiesbaden: Springer VS, p. 201.
   8 see: Gross, Matthias; Hoffmann-Riem, Holger; Krohn, Wolfgang (2005): Realexperimente: ökologische Gestaltungsprozesse in der Wissensgesellschaft. (Science studies.) Bielefeld: Transcript.

2. TRANSDISCIPLINARY COLLABORATION

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Realexperimente take place within complex social, ecological, and technical design processes. Implementing them within a teaching format in architecture and urban design therefore requires a high degree of flexibility from all participants throughout the entire process and, at the same time, a very stable institutional framework responsible for them.

Different skills are required in the individual phases of the project. This makes obvious a point discussed in planning theory circles for years: "The current challenges of urban design and planning require new competencies on the part of planners. It is no longer just about designing and presenting what has been designed, but about the ability to work in a team, the culture of discussion and cooperation."[9] Consequently, in addition to the hard skills that are always necessary, soft skills such as communication and the ability to work in a team are becoming increasingly important. This is seen in other disciplines, including in the technical and industrial sectors: "In all occupational fields, skills such as allowing oneself to be surprised, reacting affectively, adopting other points of view or even rethinking hierarchy are important strategies to enable innovations and insights."[10]

In the following, the expertise required from the point of view of the teaching staff is listed in phases and enriched with experiences and findings gleaned from *Realexperimente* conducted over the five years of the *Reallabor* RNM at the Institute of Urban Planning and Design (SI).

9 Temel, Robert; Hrncir, Christoph (2015): Grundlagen für kooperative Planungsverfahren. Wien: Magistrat der Stadt Wien, Magistratsabteilung 21 - Stadtteilplanung und Flächennutzung, p. 10.

10 Baldini, Nadja; Sterzinger, Ivan; Andereggen, Martin (2018): I fuck with Turrell. Ne travaillez jamais. Baden: Kodoji Press, p.25.

2.1 INTERDISCIPLINARY TEAM

The implementation of *Realexperimente* as an architecture and urbanism teaching format requires an interdisciplinary **teaching team** from the spatial design disciplines (e.g. landscape and open space architecture, building construction, architectural sociology, urban planning, crafts, interior design, product design and communication design). As the dialectic itself becomes the experiment the team must be open to getting involved in new situations, to the provisional and the unfinished. Willingness to learn, to motivate and discuss, enjoyment in communicating facts, experience in designing and shaping processes, social and physical spaces, the ability to quickly become familiar with unfamiliar topics, and a comprehensive sense of responsibility are all essential.[11] To **actually implement *Realexperimente***, the teaching team needs manual skills to translate the students' designs on a 1:1 scale. Quick decision-making and basic knowledge of liability issues provide security, while actively maintaining good relations with workshops, building permit agencies, local politics and civil society networks are very important. For the **social scientific** evaluation of the experiments, it is advisable to already have the relevant experts in the coordination or teaching team.[12] Knowledge stabilisation and transfer to practice partners, policymakers, and the city administration is ensured by involving the labour sciences.[13]

2.2 TRANSDISCIPLINARY IDEA GENERATION PROCESS

Workshops and input talks were integrated into the different phases of the project to include practitioners, civil society, politicians, and the city administration.[14] All these actors, plus students and the public, were equally invited to share in the process. Bringing in experts from other circles, and keeping an eye for diversity, helps to achieve a more holistic view, while an appreciative atmosphere sustains the commitment of voluntary

11 Karow-Kluge, Daniela (2008): Gewagte Räume: Experimente als Teil von Planung zwischen Wissenschaft, Gesellschaft und Kunst. Aachen: Hochschulschrift, p. 276 f.

12 see Zine D

13 see Zine E

14 Puttrowait, Eric et al. (2018). Der Weg zum Realexperiment — Schlüsselakteure identifizieren, Kooperationsstrukturen aufbauen, Projektideen auswählen. In: Defila, Rico; Di Giulio, Antonietta (eds.), Trans- disziplinär und transformativ forschen: eine Methodensammlung. Wiesbaden: Springer VS, p. 200.

participants.[15] The formats employed in the course of the *Reallabor* are presented in Zine A, Provisional Architecture and Practical Urbanism.

2.3 COLLABORATIVE DRAFTING, APPRECIATIVE DESIGN, AND PROVISIONAL IMPLEMENTATION

When multiple people share in responsibility for a *Realexperiment* idea, it becomes more likely that it will be successfully implemented. This **co-authorship** generates incentive, creativity, and identification with the project while improving the quality and depth of the *Realexperimente*—more diversity in the team means a more comprehensive assessment of the design throughout the process.

Arzum Coban: "When you are in the workshop and one thing after another goes wrong, or at least goes differently than planned, you quickly forget the euphoria you felt at the beginning. I learned that you should leave yourself enough time between planning and building. That material is delivered too late and that you often notice things afterwards that need to be changed - I will take this into account more closely in future projects."

Spatial design shapes people, and people shape and design spaces. Good design can create new possibilities, while making other things impossible.[16] High-quality design, for example, protects against vandalism and communicates appreciation for local residents. Simple and changeable constructions invite third parties to get involved in shaping the space for themselves. This is a way to encourage or inhibit action from others, depending on the intentions behind the experiment.

The employees of the University of Stuttgart's woodworking workshops were comprehensively included in the project from early on, allowing for the consideration of alternatives and more discussion throughout. The students were thus challenged to be responsible with budget planning, fostering their ability to assess costs and take economic and technical considerations into account.

Nicole Epple: "The project is especially close to your heart when you help build it and see how much blood, sweat and tears actually go into it. When I dropped out for health reasons, I was

15 see: Alcántara, Sophia et. al. (2018): Zukünfte partizipativ entwickeln. In: Reallabor für nachhaltige Mobilitätskultur (ed.), Stuttgart in Bewegung: Berichte von unterwegs. Berlin: Jovis.
16 see Zine C, chapter 3.1.

most concerned about the *Stadtregal* and how they were progressing, even though I missed some classes and was absent from my job."

The format helped students learn about the complex requirements involved in designing public spaces, including taking into account the various public bodies, their deadlines and processing times. This makes clear the importance of trusting, personal communication between the *Realexperiment* coordinators and city administration—done right, it can even expand the realm of possibilities in terms of possible interventions in public space. However, the public planning bodies are struggling to keep up with the growing number of actors and initiatives.[17] This necessitates even more careful communication with the city administration. The experiences of the *Reallabor* in realising a parklet are instructive in this regard.[18]

The engagement of civil society actors in public spaces is a bridge between academia and the everyday life of the city. It is essential in making *Realexperimente* multi-dimensional processes of cooperative transformation.

Nicole Epple: "I am deeply grateful for Conny's loving manner (editor's note: Conny Krieger, civil society actor), as without her mediation, such a cooperation would not have been possible. This taught me how important it is to work together with organisations. Otherwise, the groups we approached wouldn't have known about the project or wouldn't have been comfortable using the *Stadtregal*. In general, we quickly realised how important it is to be there on location. You always have to be present for the people—discussions usually follow automatically."

17 Willinger, Stephan (2019): Planen in der offenen Stadt. Überlegungen zur Selbstorganisation und Emergenz in der Stadtentwicklung. In: Finkenberger, Isabel Maria; Baumeister, Eva-Maria; Koch, Christian (eds.), Komplement und Verstärker: Zum Verhältnis von Stadtplanung, Künstlerischen Praktiken und Kulturinstitutionen. Berlin: Jovis, p. 233.
18 see: Verweis zu Parkletbericht [in German] (http://www. parklet-stuttgart.de/parklet-bericht/)

2.4 SHARED RESPONSIBILITY

Implementing a *Realexperiment* requires both quick decision-making and strict adherence to legal standards. As open construct sites with an increased risk of accidents, all involved must balance creative freedom and openness with respect for these rules, regulations, and safety standards. The boundaries created by liability, insurance, permits, academic standards, data protection, and Covid-19 measures are often blurred and must be worked out via the engagement and creativity of the responsible actors. Therefore, the teaching staff and all responsible parties must be aware of their legal responsibilities—and aware of the mental and emotional burdens they can entail. By discussing these responsibilities openly with the students and civil society actors, trust among all involved is increased, including between different levels of the hierarchy. Making urban citizens more aware not only of their rights, but also their duties, contributes to a stronger urban fabric and encourages residents to participate more actively in shaping their city.

The *Realexperimente* can transition from provisional to lasting interventions in public space, especially through the inclusion of civil society actors who may come to strongly identify with the project—this should be discussed from the start.[19] The open nature of the process generates a certain level of public debate, scrutiny, and the need to justify the often-complex projects and interventions. External moderation is therefore strongly recommended.

Sandra Schlegel: "I still think that it would have been possible, if the project had lasted longer, for the main organisers to slowly withdraw from the action and slowly hand over responsibility to the users. But that would have had to happen as a kind of process."

19 Karow-Kluge, Daniela (2008): Gewagte Räume: Experimente als Teil von Planung zwischen Wissenschaft, Gesellschaft und Kunst. Aachen: Hochschulschrift, p. 248.

3. THE VALUE OF THINKING AND DESIGNING FOR THE FUTURE

Realexperimente provide an active role in shaping and designing that stands in contrast to the all too common feeling of being subject to and simply reacting to developments and processes already in motion. Transformative, transdisciplinary academic approaches develop solutions and strategies together with actors to address the great transformation we are facing, rather than simply observing them. The *Realexperimente* aren't about simply discussing a possible future, but actively designing and realising it.

How could our *Reallabor*, then, sustainably reshape our shared spaces and urban lives with a view to mobility culture? This open question served as the starting point not only for our open discourse, but also for the tangible interventions in the public space that resulted from the process—working together, something new was created and debated. By thinking and designing for the future, classic methods of the planning disciplines, it was possible to create an experiential urban space that also served as a discursive space in which engaged actors could actively debate the way we live. Although *Realexperimente* might not be able to solve the paradox described in the introduction to this zine, but they can provide us the tools and courage to actively discuss and reshape our shared spaces and ways of life.

3.1 TRANSFORMATIVE APPROACHES IN RESEARCH AND TEACHING

Narrowly focussed, isolated research questions and subjects are often incompatible with the societal and spatial complexity of the city as a research area, not to mention the processes of transformation at work within it. To do the complexity of the city as a system justice, it is necessary to employ complex and transdisciplinary approaches that use the method of drafting designs as a prospective and reflexive undertaking. Drafts must always work with the interplay of objects, actors, and higher-level dynamics to develop a vision of the future for a concrete situation, thus exploring solutions and leading to something new. With the involvement of a diversity of actors, transdisciplinary collaboration becomes an everyday practice, "the design [process] transcends theory and practice and opens up not only a new reality, but also new insights."[20]

20 Aicher, Otl (1991): die welt als entwurf. Berlin: Ernst & Sohn, p. 195.

The *Reallabor* and *Realexperiment* formats help the planning disciplines to overcome their classical, academic approaches.[21] The planning disciplines need to proudly tout their ability to engage in research by design and actively apply it in academic formats. Also relevant is their competence in collaborating with other actors outside of the safe confines of the university setting. The *Realexperiment* fostered an awareness of their own abilities and their role in the process, and of the necessity for collaboration, as well.

3.2 *REALEXPERIMENTE* IN THE DISCOURSE ON THE CITY

Cities manifest the best and worst aspects of the societies of the people who inhabit them. Whether their residents actively join in shaping them as engaged citizens, or passively consume them as market actors, decides their quality of life and identities. An open discourse and culture of discourse on cities and society are necessary to ensure they are attractive, inclusive, and open places. The *Reallabor* and *Realexperiment* formats allow this discourse to carry on and be productive, as the *Realexperimente* we conducted have demonstrated.

It's not particularly easy to think and talk about alternatives to our current reality; it is much easier to actually live them after having new experiences and gaining new, experiential knowledge. Although the *Realexperimente* are limited in time and space, they help to generate new images and experiences of how public, urban space can look and be used. They do so in playful, immediate ways, generating interactions between the intervention and the individual, and between the people who use them. These experiences give urban citizens the ability and inspiration to take part in the discussion about their city, to become active citizens.

3.3 TRANSFORMATION PATHWAYS TO A NEW REALITY

The *Reallabor* and *Realexperiment* formats demonstrate how collaboration between various urban actors can unfold and the potentials it generates. But they also make clear the commitment required of all actors, and necessity for them to

21 see: Weidinger, Jürgen (2013): Entwurfsbasiert Forschen. Berlin: Universitätsverlag der TU Berlin: Schneidewind, Uwe; Singer-Brodowski, Mandy (2014): Transformative Wissenschaft: Klimawandel im deutschen Wissenschafts- und Hochschulsystem. Marburg: Metropolis Verlag, Marburg; Ammon, Sabine; Froschauer, Eva Maria; (eds.) (2013): Wissenschaft Entwerfen: vom forschenden Entwerfen zur Entwurfsforschung der Architektur, München/Paderborn: Wilhelm Fink Verlag.

accept and appreciate each other's competencies and roles within the process. The *Realexperimente*, through temporary, require a great deal of time, energy, commitment, and responsibility. They are only sustainable if the insights gained are actively used after the experiments are completed, and only if the processes are embedded in a broader strategy. They will only achieve their full impact if they lead to political, economic, and legal structures also being transformed.

The *Reallabor* would have to be firmly anchored in the structures of the university and city administration for it to continue its transdisciplinary and transformative research. From the experience of the *Reallabor* and the *Realexperimente*, we recommend setting up a platform for discussing and negotiating our shared lives in urban spaces. Run by the university and city administration, an *Institute for Transformation* could carry out this role. The prototype of the *Reallabor* can be developed into a kind of urban school that generates and communicates new models between university and city administration, between vision and reality. As part of this platform, through its research and teaching, the university is actively involved in urban society and its transformation processes. Political, economic and legal institutions can then take on and sustainably institutionalise it.

4. *REALEXPERIMENTE* IN PRACTICE

Students, in exchange with civil society actors, designed more than 20 concepts for *Realexperimente* as part of the teaching format *Provisorische Architektur*. A jury consisting of representatives from the city administration, academia, arts and culture (Susanne Scherz, Head of the Transport Authority of the City of Stuttgart; Prof. Dr. Martina Baum, Institute of Urban Planning and Design, University of Stuttgart; Paula Kohlmann, Dramaturg at the Rampe Theatre; Dr. Torben Giese, Director of the StadtPalais - Museum für Stuttgart; and Andreas Hofer, Director of the IBA 2027 Stadt- Region Stuttgart) selected three *Realexperimente* for one-to-one implementation in the urban space

Stadtregal (City Shelf)
An intervention addressing social justice in public space. (Design: Ali Hajinaghiyoun, Felix Haußmann, and Martin Schusser)

Stuttgarter Luftbahn (Stuttgart Aerial Tramway)
A narrative of past visions of the vision. (Design: Christian Kohler)

How do you roll?
A performative mobility demonstration for a diverse culture of mobility. (Design: Anna Dörrig, Cristina Estanislao Molina, Feydrea Vialista, Paul Stockhausen)

The three *Realexperimente* all address sustainable mobility culture, but they approach it in very different ways. The *StadtRegal* under the Paulinenbrücke became a coral reef, from whose six-week experimentation phase a large network emerged. The discussion triggered by the *StadtRegal* even impacted a budget resolution of the Stuttgart city council. The performative mobility demonstration "How do you roll?" popped in Stuttgart's city centre for only a few hours, but in a very short time it produced images and thus visions of a car-free city. The *Stuttgarter Luftbahn* communicated a narrative through image montages, information panels, and an elaborately constructed clock tower that encouraged people to question past and future visions of mobility. Sociologists Doris Lindner and Kathrin Alle from the ZIRIUS Centre for Interdisciplinary Risk and Innovation Studies at the University of Stuttgart accompanied and evaluated all three projects to determine their actual impacts on public space.

The detailed results are available in Zine D. A detailed assessment of the results can be found on the ZIRIUS website at www.zirius.uni-stuttgart.de.

4.1 STADTREGAL—AN INTERVENTION IN THE PUBLIC SPACE

The *Stadtregal* was a six-week intervention that probed the question of social justice in the public space. It consisted of a kitchen and simple sleeping space outfitted with a food-sharing distribution system, cargo bike hire station, and first aid kit. Designed by the students Ali Hajinaghiyoun, Felix Haußmann, and Martin Schusser, it was constructed and overseen with the support of Michael Schneider and Andreas Kulla, heads of the wood workshop of the University of Stuttgart, and eight further students. The design team sought to call attention to social justice, something we encounter every day, but which is often left out of our discussions—and to address the question of how to use parking spaces that will become empty as mobility shifts away from the automobile. The four main uses of the intervention—cooking, sleeping, cargo bike hire, and food-sharing—were aimed at different actors from divergent milieus with the goal of encouraging them to interact with one another. The design and materials had to be affordable, yet of a quality

that could attract a range of users while communicating a feeling of security and openness and fitting into its surroundings.

The project was embedded within the initiative Stadtlücken e.V., which then took on the liability and legal responsibility for the project at Österreichischer Platz, while students, civil society partners, and teaching staff took on the implementation, oversight, and moderation. Advance contact with the food-sharing network Commons Kitchen, with the social welfare organisations Release and Caritas, and an existing cargo bike hire network facilitated uptake by the target user groups. The kitchen and sleeping space were in such demand that an ad hoc reservation system emerged among the regular users.

"The medicine cabinet is stocked by the Release association, which cares for drug addicts. It took a while for word to get around that a cargo bike could be borrowed here. The Foodsharing initiative kept the *Fairteiler* (food-sharing system) full of food. Anyone could join in, you just had to register. Every Tuesday evening, the Commons Kitchen cooked for everyone. But they are not the only ones who utilised this opportunity. This is where people meet and social mixing take place," says Felix and points to the corner between the kitchen and the fridge.

Overall, the project attracted a wide range of users. This was not without tensions, as the kitchen and food-sharing system tended to attract those already interested in sustainability, while the sleeping space exposed the precarious conditions facing many people in our current system. The *Stadtregal* thus succeeded in bringing together very different people, leading to many discussions and an increased awareness of discrimination and exclusion of people from marginalised groups. The engagement of the students and civil society actors attracted the attention of the Stuttgart City Council, leading it to include funding provisions in the 2020/2021 budget for a neighbourhood meeting point under the Paulinenbrücke at Österreichischer Platz. The project shows what architecture and spatial design can achieve and how ideas developed in a transdisciplinary teaching format can influence the city and society.

4.2 *STUTTGARTER LUFTBAHN*—A NARRATIVE OF PAST VISIONS OF THE FUTURE

The *Stuttgarter Luftbahn* (Aerial Tramway) uses storytelling and visualisations of a fictional past view of a utopian future to activate our powers of imagination. Christian Kohler's design, consisting of text, object, and visualisations, encourages users to question our own mobility culture and consider how it might have been, and still could be. How did the future look from the view of the past? The "reconstruction" of portions of a fictional

station provides the starting point for conversations on a sustainable culture of mobility by telling the tale of the inventor of the fictional 19th-century Stuttgart aerial tramway, with a design reminiscent of scenes straight out of Jules Verne novels.

The project team, with help from the wood workshop of the University of Stuttgart, the engineering firm KnippersHelbig, the team from Zimmerei Fleck, and the students Carla Feine, Justus Günthermann, Ginster Bauer, and Felix Fernkorn constructed a four-metre tall clocktower within eight weeks, which remained standing in front of the StadtPalais as part of the fictional station from September 2019 to March 2020. An exhibition at the Theater Rampe presented the fictional history prior to the grand opening of the tower. In addition, the theatre's public pop culture series Montage reported on and discussed this apparently "forgotten chapter of the state capital's public transport system". A talk at the StadtPalais about past and present visions of future mobility with representatives from the university, city administration, and politicians accompanied the tower's official opening. The participants included Museum Director Dr Torben Giese, Prof. Dr. Martina Baum, Director of the of the Institute of Urban Planning and Design at the University of Stuttgart, Susanne Scherz, Head of the Traffic Authority of the City of Stuttgart, Andreas Hofer, Director of the IBA2027 Stadtregion Stuttgart, Cristina Estanislao, student of architecture, and Michael Schneider, Head of the woodworking workshop at the University of Stuttgart, as well as the team of the *Reallabor*.[22]

Although playfully handling "history" is a good way to cause people to think and re-think topics, initiating a narrative requires a series of actions and performances to kick off a sustained conversation. The site must be chosen carefully—it is important to surprise people, which unfortunately was not easy to do with the tower located in front of a museum. The project also exposed people's gullibility, and hopefully caused them to more carefully assess facts and information they are exposed to in the future. The *Stuttgarter Luftbahn* was not as directly noticeable in the city's everyday life as the *StadtRegal* or Parklets for Stuttgart projects, which were implemented in the first funding phase of the *Reallabor*.[23] Instead, it appealed to a different target audience on a historically intellectual level, even leading

22 https://www.stadtpalais-stuttgart.de/
veranstaltungen/stuttgarter-luftbahn-
diskussionsrunde (Accessed: January 2021)
23 see: Stuttgart in Bewegung (2018):
Berichte von unterwegs. Berlin: Jovis. und
Parkletbericht (http://www.parklet-
stuttgart.de/parklet-bericht/)

to calls for a Wikipedia entry on the fictional tramway. A connection with civil society failed to emerge in the context of this *Realexperiment*, however, meaning it lacked a real connection to the life of the city. The project developed little to no momentum.

4.3 HOW DO YOU ROLL? A PERFORMATIVE MOBILITY DEMONSTRATION

The project "How do you roll? A performative mobility demonstration for a diverse culture of mobility" took place as a one-day event on 29 September 2019, with a busy thoroughfare closed to automobile traffic for two hours to allow roller skaters to temporarily take over. With the question "How do you roll?", students Anna Dörrig, Cristina Estanislao Molina, Feydrea Vialista, and Paul Stockhausen invited the public to think about future mobility in our cities: How do you roll through the city? Do you travel by train, bicycle, or alone in a car? How much fun is mobility? How will we move in the future? Does the prospect of a new mobility belong to the past?

The students sought to use fun to raise awareness of the alternative uses for the city's streets and roadways. Stuttgart's traffic ordinances make it difficult for people to make much use of roller skates and inline skates in the city—something the students wanted to turn on its head. Repurposing a street to do so, however, meant facing a range of legal and logistical challenges. It quickly became clear to the students that registering a demonstration, a protest, was the best way to make their idea reality. That the authorities approved their demonstration on a main arterial road was a pleasant surprise and big win for the students. They then had to turn to generating interest and enthusiasm for the event among the city's skaters, something they accomplished through an information campaign waged with the help of communication design students from the Stuttgart State Academy of Art and Design.

On the day of the demonstration, the team used Inflatable silver cubes and strings of letters as lane boundaries and coloured tape, chalk spray, megaphones, and speakers to frame the demonstration. Drama students from the State University of Music and the Performing Arts Stuttgart read texts about mobility culture and called upon passers-by to join in repurposing the road. Sociologists Doris Lindner and Katrin Alle created a survey, which participants in the demonstration took part in. The results of the survey can be found in Zine D of this series. At the end of the demonstration, the students and participants quickly broke down the equipment and physical aspects of the intervention.

Temporarily repurposing the road and bridge over Österreichischer Platz for other forms of traffic immediately made clear just how much space is devoted to cars. Using fun and enjoyment as tools, the project developed its own dynamic, drawing in all manner of volunteers and participants. The efforts of the students made the unthinkable reality, thus producing new images that broadened people's mental horizons. The process provided the students with experience in dealing with city bureaucracy, a vital addition to their university education, and the freedom and responsibility to pursue their ideas. Repeating the action, or similar ones, could more sustainably advance the transformation of the city's culture of mobility.

With about 150 participants, the mobility demonstration was a great success. In the days following the action, there were comments on social media from interested people who expressed the wish for a continuation of the format. Photos of the action were widely clicked and shared online. An article in the "Stuttgarter Zeitung" reported on the action: "There is another way: On Sunday, the Paulinenbrücke, otherwise an important road connection, was an Eldorado for roller skaters, in-line skaters, and pedestrians. A few students made it [all] possible."[24]

24 Häussermann, Petra (29 September 2019): Vorfahrt für Rollschuhfahrer in der Stadt, Stuttgarter Zeitung. https://www. stuttgarter-zeitung.de/inhalt.paulinen bruecke-vorfahrt-fuer-rollschuhfahrer. 7d258eed-86c0–4a5d-85ea-fb152384c334.html

5. GLOSSARY

Realexperiment (real-world experiment):
The overarching scientific aim of *Realexperimente* is to initiate societal change while exploring how knowledge can be translated into action.[25] The aim of *Realexperimente* as a teaching format in architecture and urban planning is, on the one hand, to enable students to produce implicit knowledge, knowledge gained from their own experience. On the other hand, *Realexperimente* generate public discourse beyond the university on the spatial qualities of the city and how they can be shaped sustainably and in a spirit of solidarity.

Reallabor (real-world laboratory):
"A *Reallabor* is a research format in which research is conducted transdisciplinarily while simultaneously pursuing a transformative aspiration."[26]

Transformation:
The process of change from a current state to a goal state in the near future. A transformation represents a fundamental and permanent change.

Cooperation:
"Cooperation is a form of participation with a high degree of codetermination and responsibility. Cooperation requires that the more powerful cooperation partners are willing to share their power.
This is only possible if politics and city administration recognise that proposals and initiatives from civil society make an important contribution to the implementation of urban development projects. If civil society and politics/administration enter into such a partnership, this can also be called a civil-public partnership."[27]

25 Gross, Matthias; Hoffmann-Riem, Holger; Krohn, Wolfgang (2005): Realexperimente: ökologische Gestaltungsprozesse in der Wissensgesellschaft. (Science studies). Bielefeld: Transcript.
26 Defila, Rico; Di Giulio, Antonietta (eds.) (2018): Transdisziplinär und transformativ forschen: eine Methodensammlung. (Research). Wiesbaden: Springer VS, p. 9.
27 Die Initiativen des Vernetzungstreffens Rathausblock (www.rathausblock.org) (ed.) (2019): Glossar Rathausblock. Ein Modellprojekt, selbstverwaltet und kommunal. Berlin, p. 71.

Users:
Users are people who use the *Realexperimente* or take part in them in some way. They can be passers-by, local residents, or people who work nearby and participate in the *Realexperiment* through at least one action.

Heuristics:
Heuristics refers to an analytical procedure in which probable statements are made or practicable solutions are designed with limited knowledge and little time.

Interdisciplinarity or transdisciplinarity:
This means entering into dialogue with different disciplines. Interdisciplinarity is understood as a kind of cooperation or interaction between different disciplines, while transdisciplinarity emphasises the overarching critique of and reflection upon scientific work.[28]

Responsibility:
Responsibility generally means assuming the obligation to take responsibility for the possible consequences of an action and, if necessary, to be accountable for it. Since responsibility is invisible, it is difficult for students and civil society actors to understand. Therefore, it is necessary to discuss questions of responsibility openly and transparently. The more responsibility is consciously assumed by individual actors, the more trust is placed in them from a higher hierarchical level, and the more likely it is that supposed limits can be transcended at the shared discretion of all.

***Möglichkeitsräume* (spaces of possibility):**
"Spaces of possibility refer to physical, social, and mental spaces in which possible sustainable developments for the future have already been laid out via imaginative, creative-experimental, and design processes."[29]

28 Baer, Susanne (8 December 2016): Wissenschaft / Inter- und Transdisziplinarität. Accessed: 3 June 2020 https://www. rewi.hu-berlin.de/de/lf/ls/bae/wissen/
29 Kagan, Sacha; Kirchber, Volker; Weisenfeld, Ursula (2019): Stadt als Möglichkeitsraum: Experimentierfelder einer urbanen Nachhaltigkeit. (Urban studies). Bielefeld: Transcript.

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