

Mollerstadt's Future: Urban Design as Part of Trans-Disciplinary Research

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Abstract: S:ne (Systeminnovation nachhaltige Entwicklung) is a transformation/research project funded by the German government. It aims at sustainable development, including the reduction of CO₂. One project's task looks at future-oriented urban development with the example of "Mollerstadt", which is part of Darmstadt's city center. There are several focus areas in this project concerning building, energy, mobility, and consumption. These are not necessarily viewed from an integrative spatial perspective or in relation to urban design. Next to other seminars and projects which I have taught, my colleagues and I (Prof. Henning Baumann, Vertr.-Prof. Ulrike Franke, Prof. Jan Kliebe, Prof. Joachim Raab, Prof. Alexander Reichel, Prof. Astrid Schmeing, Vertr. Prof. Michael Schröder and several lecturers) have worked with 190 third-year students on integrative urban designs addressing s:ne's themes. These designs reveal focus areas (building, energy, mobility, consumption) that have an aesthetic and cultural dimension. In order to enhance public discourse and to participate in the transformative process, these student designs have been presented to a wider public in the Schader-Stiftung.

Key words: transdisciplinary research, CO₂ reduction, sustainable urban development, urban design, teaching results enriching the transformative process

1. The Transfer Project

1.1 S:ne Systeminnovation für Nachhaltige Entwicklung/System Innovation for Sustainable Development

Universities of applied sciences are on the move. As part of the "Bologna Process", the former polytechnics have gained the right to award the same degrees to their students as universities. In terms of research, they have started to think about their research direction and have focused on applied science and transfer. With the transformative research project s:ne "Systeminnovation für Nachhaltige Entwicklung", the Hochschule Darmstadt has become part of the German program "Innovative Hochschule" [1]. This initiative fosters transformational research and innovation

through financial support, especially at smaller universities and universities of applied sciences.

As claimed on s:ne's website, the transfer project aims to establish processes related to sustainable development within the region. In order to accomplish this, system innovation on both social and technical levels must occur. Technical innovation alone does not provide change; it is the stakeholders' actions that are central, as well as the regulatory framework. Thus, the project is not about "science" developing solutions and then making them available to practice; rather, s:ne is looking for ways to bring stakeholders with different experiences, perspectives, and interests together, to formulate new research questions. In conclusion, "creative knowledge" should transcend previous system boundaries [2]. The various project tasks all follow the same methodological steps of problem framing, vision building, and testing solutions by a fixed group of stakeholders. They are all bound to the

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United Nations' SDGS, the Sustainable Development Goals [3].

1.2 Teaching Within the Framework of s:ne

Teaching projects are part of s:ne, as well. The link between the two is expected to make classical teaching and learning more responsive to sustainable development and open it up to input from researchers and stakeholders. Inversely, it is intended that student projects enrich the transfer process. A series of design classes taught at the Hochschule's Architecture Department did just this. They addressed s:ne's task "Future Oriented Urban Development".

The Mollerstadt design studios took place in 2019, with seven professors and six lecturers supervising 190 students. While the faculty invested approximately 1,100 hours of teaching, the students' work was estimated to be as high as 57,000 hours. These projects started quite early in the s:ne process and included content from the different focus areas of "Future Oriented Urban Development". This proved challenging because, at that stage, the researchers were still mapping out relevant stakeholders, trying to win them for the project, and in the best case defining transfer questions with them. The students were able to build on s:ne's research proposal, the work of different initiatives, the content of the "Masterplan Darmstadt 2030+" [4] that was in progress at that point, and on the current redevelopment process.

Quite early in the semester, the Department of Architecture and s:ne held a small symposium. The symposium panel was comprised of activists from different initiatives, Darmstadt's Planning Office Manager, and the Technical Manager of Bauverein (Darmstadt's primary real estate service provider). This way, the students got important input, the researchers were able to build relationships with the stakeholders, and — perhaps most importantly — the stakeholders engaged in discussions with each other, resulting especially in the Planning Office Manager becoming more positive about the initiatives' work.

The courses culminated in a series of three events held at the local Schader-Stiftung, a foundation promoting the cooperation between the social sciences and practice. This foundation is an important platform in s:ne, as it provides a forum for communication and cooperation among researchers, stakeholders, and citizens [5].

2. Visioning Mollerstadt

2.1 Mollerstadt as Focus Space in s:ne

Initially, Mollerstadt — a district next to Darmstadt's pedestrian zone in the city center — was "Future Oriented Urban Development's" focus space. As such, student works concentrated on this district.

Mollerstadt is named after its designer, Georg Moller. The Grand Duke of Darmstadt, Ludwig I, commissioned Moller to design the new district in the beginning of the nineteenth century, which became one of the leading urban designs in Classicism, harmoniously highlighting the interaction between the city and the surrounding landscape. Just a couple of decades later, the green scenery had disappeared, due to the city's growth during the Industrial Revolution. The district's small-scale parcellation survived not only its densification during the late nineteenth century, but also the quarter's complete destruction during the bombings of World War II, as well as its reconstruction in a modern style during the 1950s. This central part of the city once again became a thriving business district with street-level shops and housing above.

At the beginning of the twenty-first century, the district had declined. Housing and social conditions were poor and the buildings needed modernization. The district was overloaded with road traffic, especially stationary traffic. Due to the high degree of sealed surfaces, there were problems with overheating during the summer, as well as with water management. Online commerce started to be a problem for local retail stores, and the first vacancies appeared.

In 2005, the district was designated an official redevelopment area. In 2013, the magistrate decided on

an integrated concept for the district, aimed at reducing CO₂. The concept includes the fostering of energy oriented restoration and the private greening of facades, roofs, and courtyards, as well as measures of sustainable mobility [6]. It addresses public space as well as private property. In terms of alternative mobility, the program sought to realize the following objectives: new bicycle paths, additional and better parking alternatives for bicycles, more options in car and bicycle sharing, and the amendment of parking space regulations. For example, the obligation that owners of private property had to provide a designated number of parking spaces was reduced if they adapted greening measures instead. Funding programs have been established relating to the greening of facades, courtyards and roofs, as well as the energy-oriented refurbishment of buildings. While the latter has had some success so far, the greening of private property has barely taken place.

While the redevelopment proceeds slowly, there has been considerable climate action in and around Darmstadt. The initiative “Fridays for Future” [7] has been active, as have other initiatives such as “Klimaentscheid Darmstadt” [8] and “Radentscheid Darmstadt” [9]. They have been successful in affecting change. The latter two collected a large number of signatures supporting their programs. Even if their referendums were declined by the city government, many of the initiatives’ aims have been integrated into the city’s politics. For example, in 2019, the city parliament agreed on the necessity of a transformation of the existing traffic system, and set up a mobility master plan that became part of an overall “Masterplan Darmstadt 2030+”, released in 2020 [10]. That plan aims at sustainable urban development based on the concepts of the “City of Short Distances” and “sustainable densification + greening”. In 2020, the city decided on the “Sofortprogramm Klimaschutz”, meaning an immediate program for climate protection. Part of the city government’s coalition contract from 2021 includes a requirement that the city will become

climate neutral (as far as the city can influence this) by 2035.

S:ne was established in 2018, during the time of this political process. At that point, it had been obvious that measures taken in Mollerstadt would not be enough for the city to reach climate neutrality by the deadline. So the transfer project adapted and extended the redevelopment’s themes, aiming at (re)connecting relevant stakeholders and bringing about progress in the different fields; namely, mobility, energy-oriented refurbishment of buildings, and energy distribution and consumption.

2.2 Diagrams on Mobility, Densification, Greening, and Consumption

Mollerstadt has many qualities of the sustainable model of the “City of Short Distances”. It is a densely-built urban district, which has a functional mix including housing and good infrastructure for public transport. It lies in Darmstadt’s geometrical center and can be reached by bicycle or even by foot easily from all over town. Still, there is a need for improvement and adaptation.

Two master’s students, Eugen Hildmann and Katja Hofmann, produced a series of diagrams that address the themes of mobility, densification, greening, and functional mix/consumption. They drew input mainly from the “Masterplan Darmstadt 2030+” that is based on the model of the “City of Short Distances”, but also from the initiatives’ work as well as the discourse in s:ne.

The first series of diagrams concern the aspect of mobility. In the future, more space for bicycle parking on single plots will be needed. At the district level, there is a need for bicycle lanes and bicycle parking, both of which compete for space with existing parking lots and traffic lanes. There is also a need for collective parking garages, as well as mobility stations. Actually, the city already plans an additional tram stop at the edge of Mollerstadt, which is not yet fully covered by public transport.

MOBILITÄT

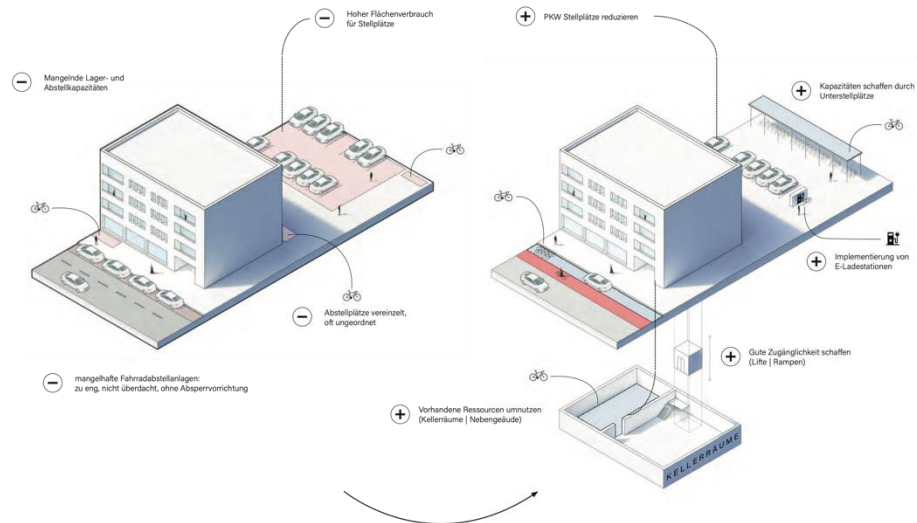
Die Mollerstadt ist trotz guter ÖPNV Anbindung auf den motorisierten Individualverkehr ausgerichtet. Ein großer Teil der Fläche ist dem (ruhenden) Verkehr vorbehalten.

Auf der Gebäudeebene bedeutet dies, dass die Höfe überwiegend versiegelt sind und dort Autos parken. Auch der Straßenraum vor den Gebäuden dient meist dem ruhenden Verkehr. Im Sinne der verkehrsgerechten Stadt, soll der motorisierte Individualverkehr dem Radfahrenden und zu Fußgehenden Raum geben. Die Anzahl der Autostellplätze wird reduziert, Fahrrädern wird Raum eingeräumt.

Auch auf der Quartiersebene wird fast der gesamte Freiraum vom motorisierten Individualverkehr genutzt. Hier soll der ruhende Verkehr in Quartiersgaragen zusammengefasst werden. Freierwerdende Parkplatze in den Straßen können flexibel für abgestellte Räder, Grünraum, oder zum Beispiel für Sitzmöglichkeiten genutzt werden. Radwege sollen in die Straßenprofile integriert werden, Fußwege erhalten oder ausgebaut werden. Mobilitätsstationen mit Carsharing und Leihfahrrädern sowie Elektroaufladestationen sind weitere Elemente, welche in die nachhaltige Stadt der kurzen Wege integriert werden müssen.

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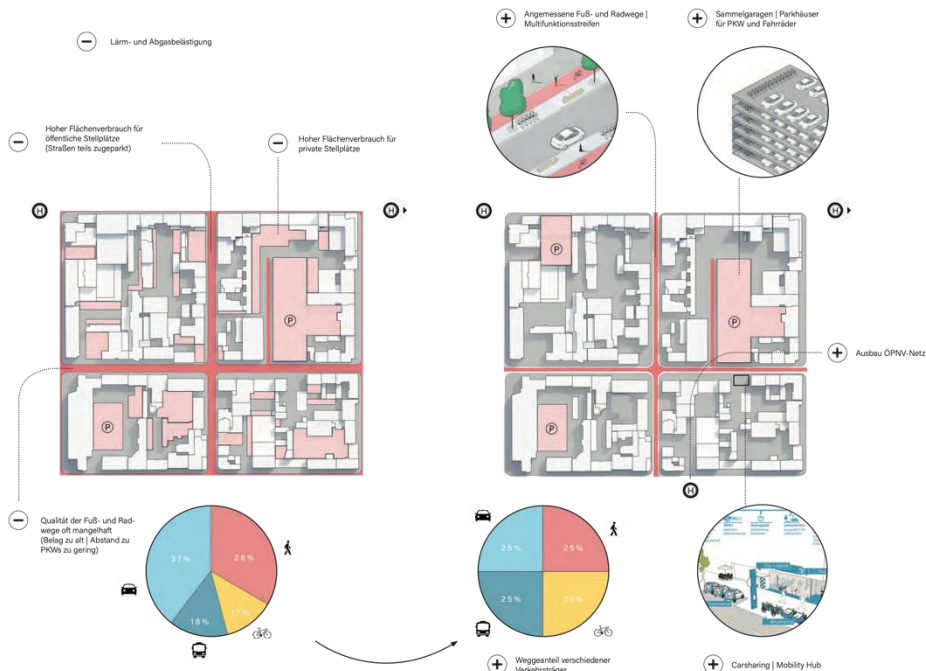


Fig. 1 Current and desired situations mobility.

DOPPELTE INNENENTWICKLUNG UND GRÜNRÄUME

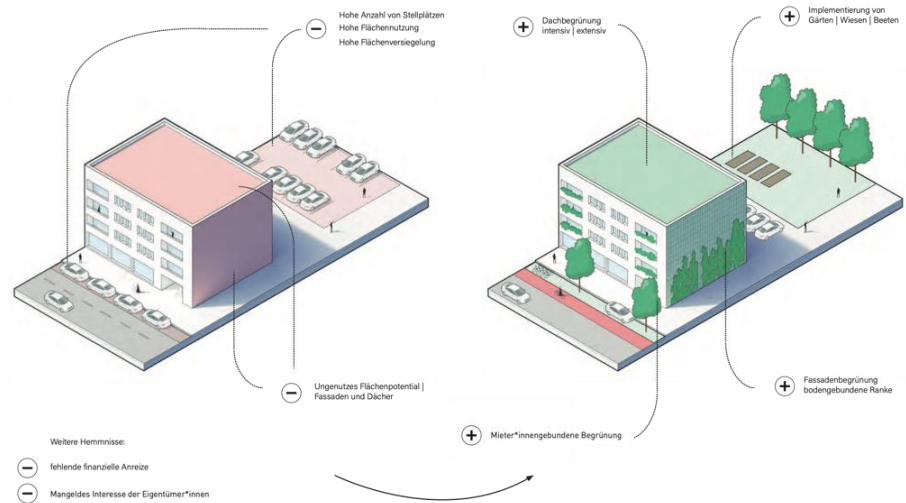
Die Mollerstadt hat aufgrund der dichten Bebauung, der asphaltierten Höfe und Straßen einen ausgesprochen hohen Versiegelungsgrad. Dies trägt massiv dazu bei, dass die Mollerstadt eine sogenannte Hitzeinsel ist. Auch der Wasserhaushalt funktioniert so nicht nachhaltig.

Zusätzliche Begrünung ist ein Lösungsansatz. Dies kann in Form von Dach- und Fassadenbegrünungen passieren. Die Höfe sollen in Teilen entsiegelt und begrünt werden.

Auf der Quartiersebene können neben den begrünten Höfen Pocketparks in Baulücken, Plätze an Straßenecken, aber auch und vor allem die Begrünung der Straßenprofile zu einem besseren Stadtklima beitragen.

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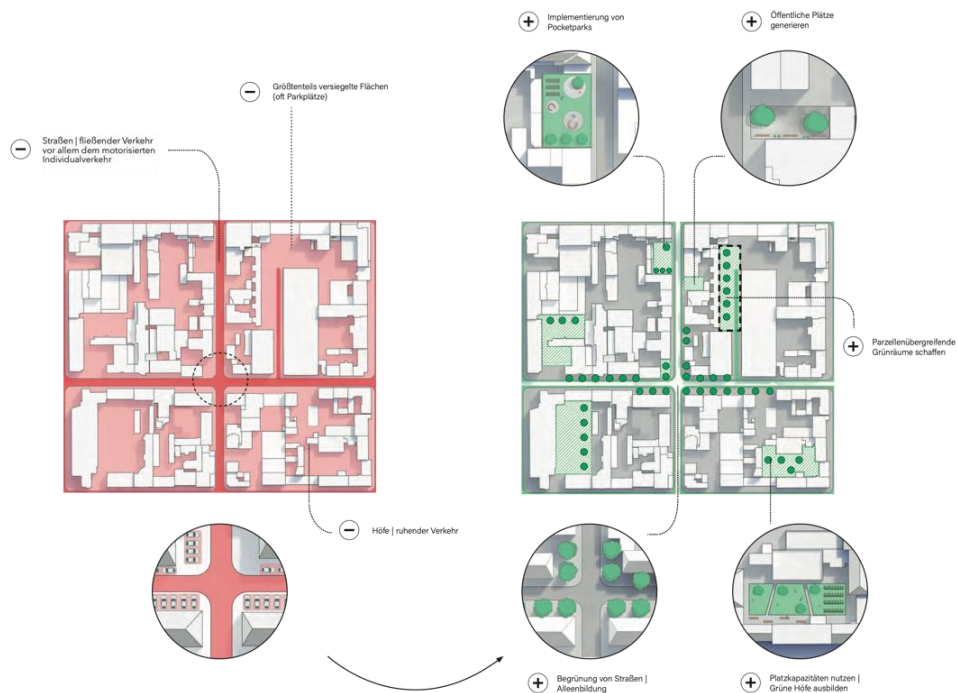
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Eugen Hildmann 17

Fig. 2 Current and desired situations greening.

DOPPELTE INNENENTWICKLUNG UND GRÜNRÄUME

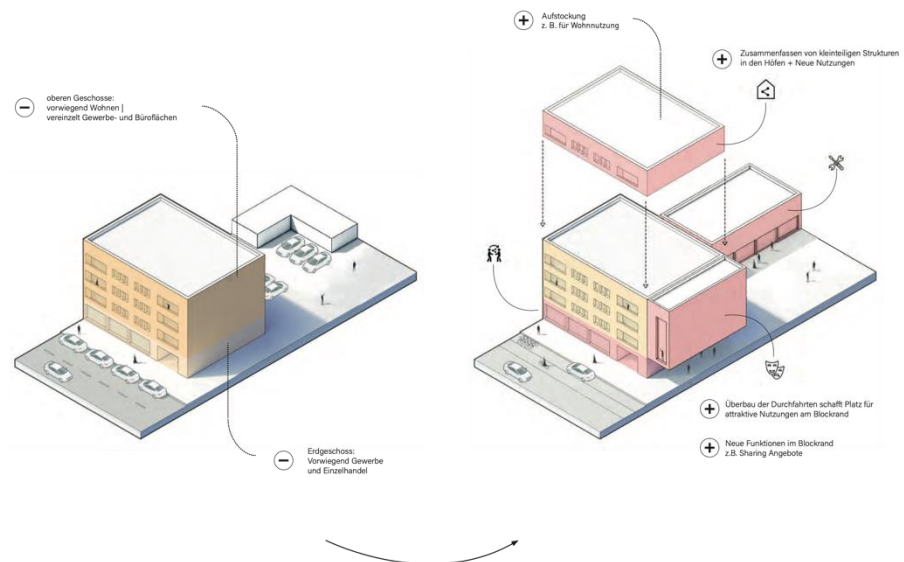
Die steigende Bevölkerungszahl verlangt nach der Verdichtung unserer Städte mit zusätzlichem Wohnraum.

Einen Lösungsansatz bietet die Aufstockung auf bestehenden Gebäuden. Die Bestandsentwicklung anstelle von Abriss und Neubau spart graue Energie und wirkt der weiteren Versiegelung unbebauter Flächen entgegen.

Durch das Zusammenfassen kleinteiliger Strukturen in den Höfen können Nutzungen gebündelt und Flächen optimiert werden. Das schafft Platz für entsiegelten Grünraum mit Aufenthaltsqualität in den Höfen.

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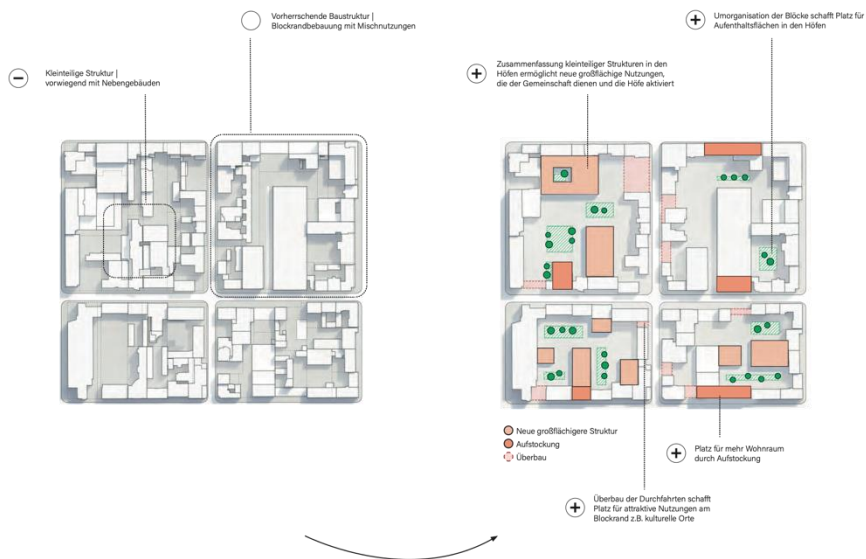


Fig. 3 Current and desired situations densification.

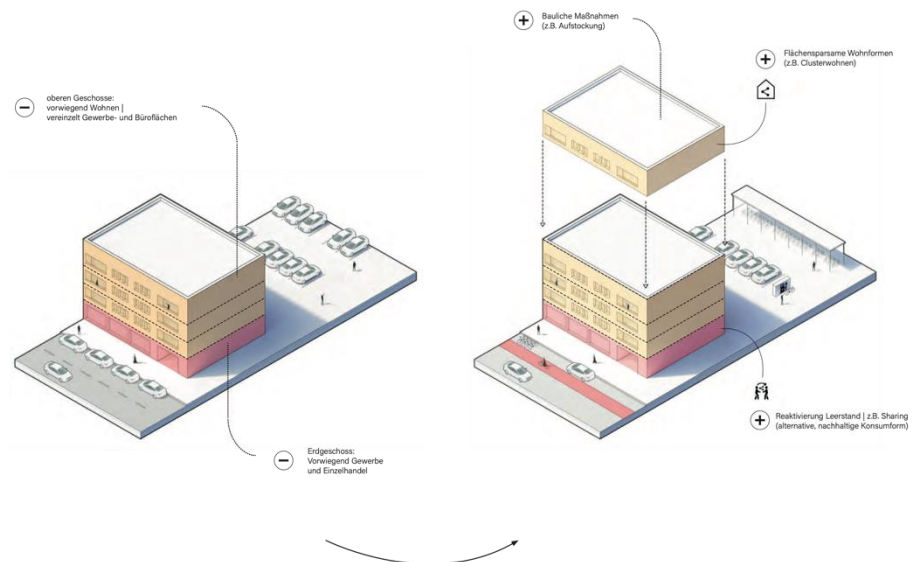
FUNKTIONEN

Die Gebäude der Mollerstadt haben in den Erdgeschossen oft Ladenlokale, was dem Prinzip der funktionsgemischten Stadt entspricht. Diese sind in ihrer Größe für den Einzelhandel geeignet, der aber in einer Krise steckt. Es gibt Leerstände. Die vorhandenen Nutzungen sind zudem meist nicht auf Nachhaltigkeit ausgerichtet. Auf der Gebäudeebene müssen neue, nachhaltige Konsumformen für die Erdgeschosse gefunden werden. Sharingeinrichtungen wie Leih- und Second-Hand-Läden, Repair-Cafés, Waschsalons, können hier einen Beitrag leisten. Auf der Quartiersebene der Mollerstadt bietet der öffentliche Raum wenig Nutzungsmöglichkeiten. Die einseitige Ausrichtung auf den Konsum ist sozial nicht nachhaltig. Der Umbau der Stadtstruktur kann andere Gebäudetypologien integrieren. So ließen sich größere Flächen wie zum Beispiel die eines Fachmarktes in die Struktur unterbringen. Das würde die Vielfalt steigern und Wege sparen. Auch das Thema Wohnen spielt eine Rolle. Dies kann als flächensparsames Wohnen, zum Beispiel in Form des Clusterwohnens ausgebaut werden.

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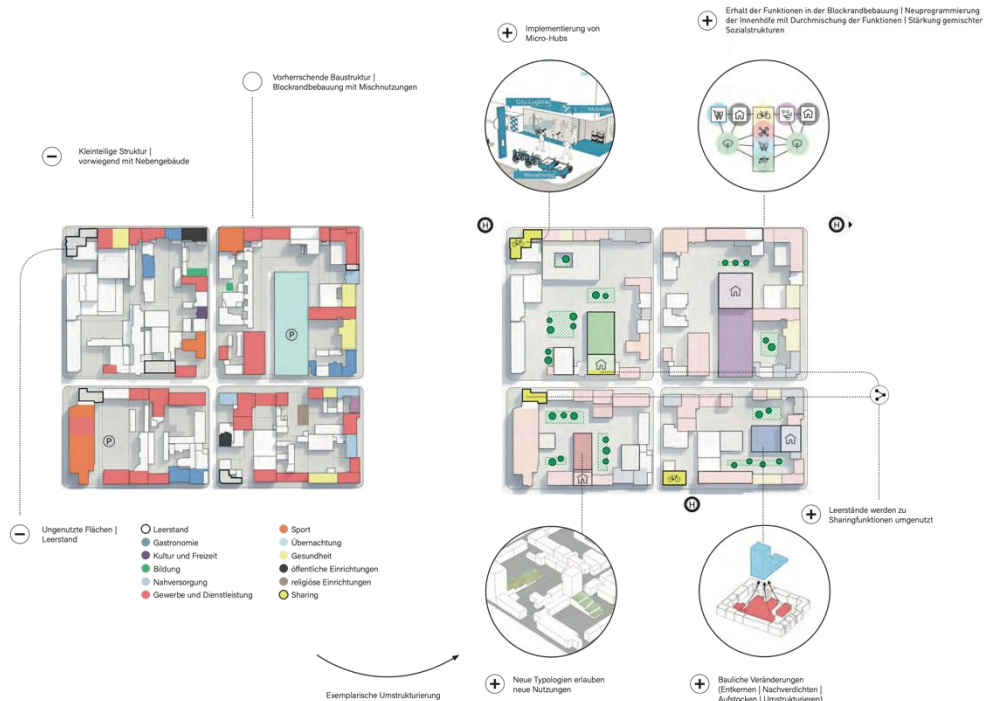


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Eugen Hildmann | Katja Hofmann 21

Fig. 4 Current and desired situations functional mix.

Since the German government plans a 55% reduction of greenhouse emissions by 2030, car traffic is a major focus area. Due to more traffic and cars, emissions increased by 5% between 1995 and 2019 [11]. Also, traffic — especially stationary traffic — takes up a lot of space, which is needed urgently for alternative traffic (such as bicycles), densification, and greening. Furthermore, there is a need for more and better public space.

The following diagrams concern the greening of the city. Currently, nearly all of Mollerstadt is sealed. Next to facades and roofs, it is the courtyards that have the potential to provide permeable surfaces, as well as new green areas, that not only help to improve biodiversity and to store CO₂, but also to cool the environment. Those unsealed, green courtyards could also have an important social function, providing meeting spaces for the inhabitants.

Densification is another important theme. Darmstadt is a growing city with a shortage of both housing and commercial space. Land prices have risen enormously over the last years, as have rents. In order to save valuable space on the outskirts, the aim is to grow within the city's existing outline and to densify. Though this strategy has been applied all over Germany, in Darmstadt it is especially relevant since the city is surrounded by protected forests on three sides. Mollerstadt is already quite dense, but much of the back building development is neither efficient in its structure nor of good substance. Also, streets are broad enough to consider adding an additional floor to existing buildings.

While the existing functional mix is positive in relation to the "City of Short Distances", the crisis of stationary trade endangers this mix. The existing stores in the perimeter block tend to be of the same size — the traditional size of a stationary shop. Bringing in new typologies could help to diversify functions and, thus, to make the city more resilient. Bringing in sustainable sharing functions could be a viable option, as well. While there is still a lot of commerce in Mollerstadt,

there is a lack of neighborhood functions. A secondhand shop, rental shop, or repair shop combined with a cafe could bring a neighborhood-feeling to the district, especially since there are many students living there who neither have the money nor the space to buy everything new for themselves.

These ideas are not as strongly rooted in the city's politics as densification, greening, and sustainable mobility; rather, they are connected to the initiatives and the early discourse within s:ne.

While most of the measures are in line with city politics, they have either not yet been implemented or not yet been implemented sufficiently. This becomes obvious in the case of stationary traffic which still dominates streets and courtyards. The same is true for the greening of facades, roofs, and courtyards. Clearly the city's actions to change regulations and support greening and modernization have not been fully successful. While investors have applied some of these measures when replacing old buildings with new ones, owners of existing buildings have not done so. It seems to be against their own best interests. This is a major problem in the sustainable remodelling of a district like Mollerstadt, in which the property is mainly privately held.

2.3 Actual Students' Designs

While the diagrams show different measurements concerning sustainable development, the students' designs go a step further. They integrate those measurements into creative and aesthetic spatial concepts. The schemes show that intelligent design can integrate heterogeneous requirements into an overall concept.

In addition, the students' designs might help to overcome opposition. Most inhabitants do not want their neighborhood to densify and most car drivers do not want to give up their traditional "rights" of occupying most of the public space. Owners do not see the value of greening facades, roofs, or courts. Design can help to show the positive aspects of new

developments, can reveal potential qualities, and can, therefore, influence peoples' attitudes.

The following are three design examples, each with a different emphasis.

Aaqib Ali Nawaz and Gabriel Schumacher Gutierrez (supervised by Jan Kliebe and Roman Schallon) started out with the question of mobility. They placed a new hub with a big parking garage on the southwestern edge of Darmstadt, establishing a shuttle into the city. Their analysis shows gaps in the public transport network, so they have suggested new bus stops. In addition, they changed road profiles, bringing in new bike lanes, as well as trees. While they designed all these steps on a diagrammatic level, they got more detailed with respect to the scale of building on a specific site, a kind of triangle, enclosed by major roads and a lot of traffic. They densified the urban context by placing massive buildings, including a high-rise, forming a landmark at the traffic intersection, visible from many sides. The buildings were placed in such a way as to form plazas accompanying the new bicycle path at the north of the site. Functionally, they used the ground floor as a mobility hub with some car and bicycle parking, car sharing, bicycle sharing, and a bus stop. They also brought in functions to animate the public spaces, like a cafe and a restaurant. They put office space on the upper floors.

Annika Enders, Nina Scheld, Franziska Grau, and Katharina Haumann (supervised by Astrid Schmeing and Christoph Alker) emphasized the question of the greening of Mollerstadt. They removed the back buildings, replacing the loss of surface area with high rise buildings integrated into the edge of the perimeter blocks. This way, Mollerstadt presents itself simultaneously as "tiny Manhattan", as well as the city's green heart. They took an idealistic approach by neglecting small scale parcelation. Implicitly, their design makes private ownership problematic, potentially preventing a coherent, sustainable remodelling of our existing cities. The students also took a look at the green public spaces framing

Mollerstadt, especially the so-called Schweitzer-Anlage and Landgraf-Phillip-Anlage to the west. Both are public greens not performing to their full potential, either in relation to ecology or with regard to their social functions. The students redesigned the space by integrating sport fields and playgrounds as well as water basins and an additional set of plants for increasing biodiversity. By placing plazas at those points where streets hit the green strips, they connect the park with its urban context.

Theresa Mehler, Vera Schmitt, and Louise Wielback (supervised by Ulrike Franke and Marvin Philipp) worked within the small-scale structure, accepting the existing borders. Tearing down most of the rear buildings, they placed new architectures forming well-defined, semi-public courtyards. Although they retained the existing small-scale structure, they eliminated fences and walls so that the semi-public spaces intersect. This approach would need a very detailed zoning plan.

These new plazas and the surrounding ground floors are thought to inherit collective neighborhood functions, facilitating Mollerstadt's inhabitants' identification with their district. The students also unsealed some courtyards to bring in green areas for ecological and social reasons. They did so mainly in the form of urban gardening, which has been quite common in Darmstadt for years now, and is strongly supported by activists [12].

2.4 Three Evenings in the Schader-Stiftung

There were three thematic evenings held at the local Schader-Stiftung to present the best designs. The first evening emphasized mobility and urban space, the second densification and greening, and the third functional mixtures and the district's identity. Due to the COVID-19 pandemic, the events were held as webinars. While the organization team [13] was present at the foundation, students, invited discussants, and guests attended virtually [14]. The students presented the different urban areas in question via

video. The faculty framed students' statements regarding their designs thematically, so that the guests were able to understand both the urban context and its possible transformation. The invited stakeholders who commented on the students' works, played a major role in the interactions. Each evening, there were three discussants — one representative from administration,

one from science, and one from business [15]. The 40 to 100 guests per evening formed a mixture of interested citizens, people from the city administration and utilities, scientists, and students. The student works as well as the discussants' statements have been documented, and can be downloaded from the foundation's website [16].

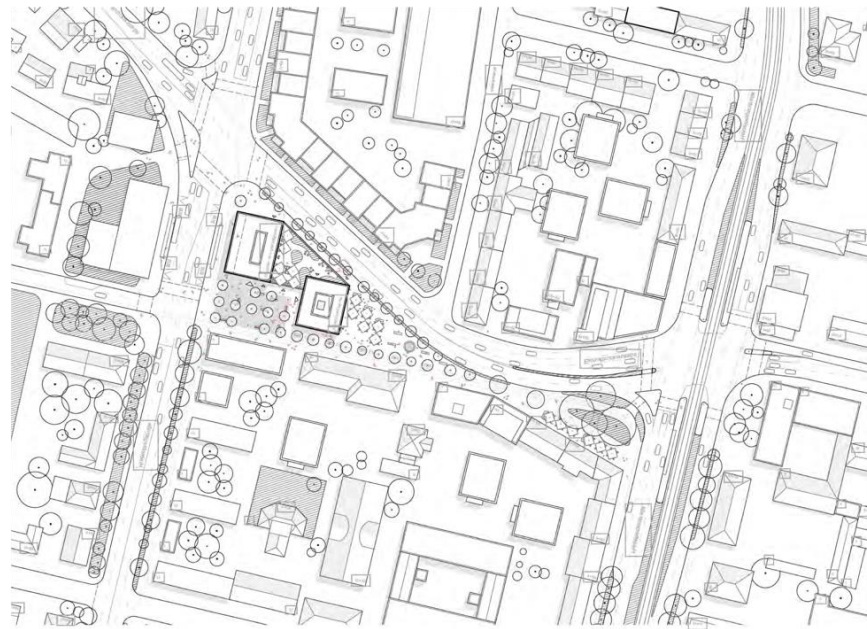


Fig. 5 Aaqib Ali Nawaz and Gabriel Schumacher Gutierrez, extracts of their student design.

DIE MOLLERSTADT
ERSCHLIESSEN

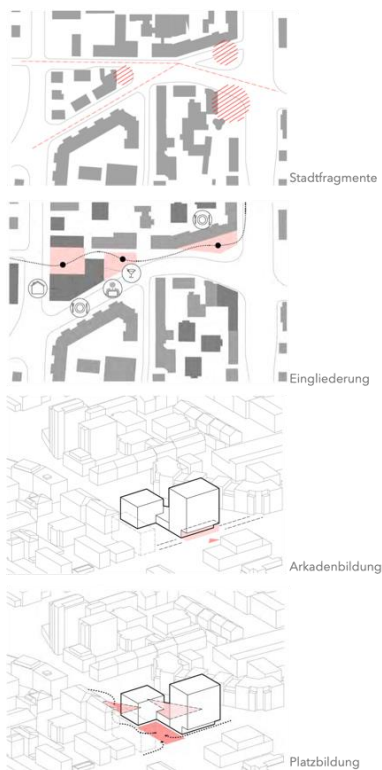
Die verkehrsfunktionalen Konzeptansätze werden in einem Neubauvorschlag räumlich umgesetzt. Wo bisher heterogene Quartiere vom Verkehr umspült sind, würde durch die Durchfahrt der Holzhofallee eine attraktive Fahrrad- und Fußgängerverbindung geschaffen. Die geplanten Baukörper definieren, auch durch ihre Höhe, die neue Eingangssituation in die Innenstadt aus dem Südwesten.

Mit wenigen Eingriffen erreichen die Verfasser eine prägende Ordnung, die zur Aufwertung der angrenzenden Quartiere beiträgt.



Lageplan

Prof. Jan Kliebe | LB Roman Schallon



Aaqib Ali Nawaz | Gabriel Schumacher Gutierrez 41

Fig. 6 Aaqib Ali Nawaz and Gabriel Schumacher Gutierrez, extracts of their student design.

DOPELTE INNENTWICKLUNG

Die Grafiken der Gruppe Enders, Scheld, Grau, Haumann zeigen, wie viel Grünraum theoretisch entstehen würde, wenn die Höfe in voller Größe hierfür zur Verfügung ständen. Plötzlich wirkt die Mollerstadt wie eine grüne Oase.

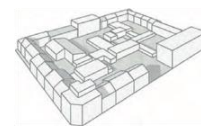
Da man zugleich dicht bauen möchte, hat die Gruppe nicht nur kleinere Aufstockungen erlaubt, sondern einen Hochhausplan für die zentral gelegene Mollerstadt entwickelt. So könnte zugleich verdichtet und begrünt werden, zumal auch noch Dachflächen und Fassaden mitgedacht werden können. Auch der benachbarte Grünzug des „Grünen Ls“ sowie die Albert-Schweitzer-Anlage und die Wilhelminenstraße sind mit dargestellt.

Auf dem benachbarten sogenannten „Marienplatz“ ist der Bau eines Hochhauses beschlossen. Mir scheint die Integration von Hochhäusern zunächst in untergenutzten Gebieten sinnvoll, z. B. auch zwischen Rheinstraße und Mornwegstraße. In dem in 2020 verabschiedeten Masterplan 2030+ ist eine Hochhausbebauung in der Mollerstadt zunächst nicht vorgesehen. Denn in diesem dicht bebauten Gebiet gäbe es das Problem der Verschattung von benachbarten Wohngebäuden, gleichzeitig müsste für grüne Höfe viel Baubestand abgerissen werden; Stichwort Graue Energie.

Dr. Barbara Boczek
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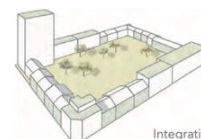
IST_Zustand



Entkernung



Aufstockung der Lückenfüllung



Integration Hochhäuser

Fig. 7 Annika Enders, Nina Scheld, Franziska Grau, Katharina Haumann, extracts of their student design.

DOPPELTE INNENENTWICKLUNG

Im Plan links erkennt man nicht nur die neu gedachte Hochhausilhoute der Mollerstadt, sondern auch die Umgestaltung der Albert-Schweitzer-Anlage. In diese werden Wasserbecken, Sport- und Pflanzenfelder integriert, um den Park nutzbarer und ökologischer zu gestalten.

Rechts im Bild sieht man einen Ausschnitt aus dem Hochbauprojekt der Gruppe Enders, Scheld, das die Bebauung in dem Dreieck zwischen Holzhofallee, Eschollbrückerstraße und Donnersberg überplant. Die Hochhäuser sind dicht gesetzt und schaffen wesentlich mehr Nutzfläche als die jetzige Bebauung. Sie bilden eine Landmark, auf die man aus verschiedenen Richtungen kommend zu fährt.

Ein eingeschossiger Sockel bindet die Hochhäuser zusammen. Das begrünte Dach neigt sich zur Holzhofallee, welche zur begrünten Fahrradstraße umgebaut wurde. Durch den Rückbau der Straße, wird die Bebauung besser an den städtebaulichen Kontext angebunden.



Prof. Astrid Schmeing | LB Christoph Alker



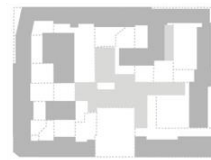
Fig. 8 Annika Enders, Nina Scheld, Franziska Grau, Katharina Haumann, extracts of their student design.

NEUE TYPOLOGIEN WOHNEN UND NACHBARSCHAFT

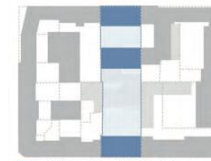
Wie kann eine nachhaltige Umgestaltung in der Mollerstadt initiiert werden, welche Instrumente braucht es dafür?

Die Gruppe Wiebalck, Mehler, Schmitt schlägt ein schrittweises Umgestalten und Nachverdichten anhand eines beispielhaften Blockes zwischen Elisabethen- und Hügelsstraße vor.

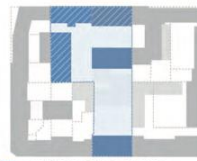
Die Studierenden verdichten bzw. gestalten das Quartier parzellenweise um. Alles startet mit einer sogenannten Initiativbebauung. Mit jedem Schritt werden einzelne Parzellen räumlich verbunden. Am Ende des Szenarios entsteht ein zusammenhängender Raum im Blockinneren, eine sogenannte „Hofwelt“, die übertragen auf die anderen Blöcke die Mollerstadt als vernetzte „Hofwelten“ sieht.



AUSGANGSSITUATION



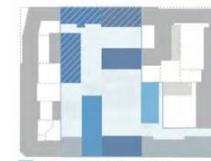
1 INITIATIVBEBAUUNG MITTELACHSE



2 ERWEITERUNG ÖFFENTLICHER HOF



3 FASSUNG QUARTIERPLATZ WEST



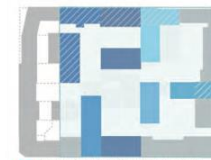
4 FASSUNG QUARTIERPLATZ OST



5 HOFBILDUNG SÜDOST



6 ABSCHLUSS ÖFFENTLICHER HOF



7 ERSCHLIESSUNG GRÜNFLÄCHE NORDOST



8 ERSCHLIESSUNG HÖFE WEST



ABSCHLUSS ALLER BAUABSCHNITTE

Nachbar*innen müssen sich finden, um grundstücksübergreifend etwas machen zu können. Das kann die öffentliche Hand nicht übernehmen.

Jochen Krehbiehl
Leiter Planungsamt, Wissenschaftsstadt Darmstadt

Prof. Ulrike Franke | LB Marvin Philipp

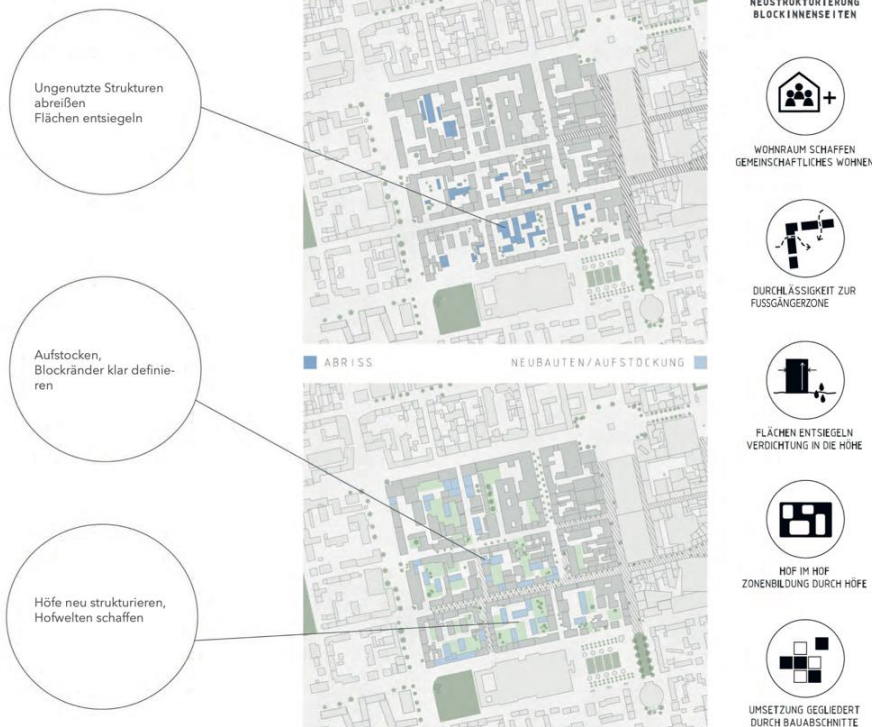


Fig. 9 Theresa Mehler, Vera Schmitt Louise Wiebalck, extracts of their student design.

3. Evaluation

3.1 Relating to the Evenings in the Schader-Stiftung

The discussants enjoyed communicating with the students, and highlighted the importance of their ideas. At the same time, they confronted them with reality. Third-year students are not experienced enough, yet, to oversee and integrate the complexity of the urban scale, the different set of rules and laws that apply, and the social and financial approaches that are at stake, while simultaneously being visionary. The discussants showed them the limits of their proposals and some of them were quite fast in accepting those limits. Questioning the status quo is necessary, however, in order to overcome impediments to sustainable change. That is the whole idea of *s:ne*: to overcome a practice preventing sustainable development and that is why we see a need for system innovation, which, naturally, is not easy to attain.

The discussants also related the students' design concepts to their own work, to the "Masterplan Darmstadt 2030+", and to *s:ne*. That was a desired effect, since the aim was to place the designs' content within a public discussion and scientific discourse. It is important that architecture and urban design are shown to be relevant for our future development as a society, as well as that of our cities.

3.1 Relating to *s:ne*

In relation to *s:ne*, the designs, as well as the evenings in the Schader-Stiftung, are limited in their potential. Methodologically, *s:ne* aims to follow specific steps: the formation of a stable group of stakeholders and a common understanding of problems, the formulation of transfer-questions, and the set-up of an experimental space where changes can take place. The student designs, as well as the evenings in the Schader-Stiftung, do not really fit into this methodological process in a linear way. Nonetheless, those evenings brought the themes relevant in *s:ne* into a broader discussion, connecting stakeholders with

stakeholders, and stakeholders with researchers.

The diagrams and student designs also do not fit smoothly into the different fields of actions in "Future Oriented Urban Development". Over time, those fields developed transfer questions with their stakeholders that no longer focused on Mollerstadt. This was either because the addressed problems could not be limited to that district, like the improvement of alternative mobility, or because essential stakeholders could not be integrated into the process. This was especially true for the heterogeneous group of owners. Actually *s:ne* has faced the same problems the administration did in the redevelopment process. Since they did not reach the owners, measures of greening, as well as modernization, could not be realized to the desired degree.

The different fields of action intersect thematically, and also have spatial dimensions. But the students' works, especially the diagrams, are the only approaches left in which different aspects and consequences from sustainable mobility, buildings' modernization, densification, and consumption are related to the same common ground. Here, the measures aimed for, their interrelations, and the competition for space become visible.

In that sense, a new field of action in *s:ne* will pick up the loose ends, and draw on Mollerstadt as a common focal point. The idea is to set up a writing workshop with relevant stakeholders, resulting in a publication. That way, different views on Mollerstadt and its development, and on qualities, problems, chances, and impediments can be made available for the broader public, preparing for future innovation and transfer.

3.2 Final Thoughts

Next to a general interest in sustainable urban development and transfer, the motivation as an architect to participate in *s:ne* has been to integrate an aesthetic and creative, revealing design's relevance and potential. Design integrates technical, social, and

spatial aspects, and can be seen as a transformative power itself. Within s:ne, design has been on the sidelines thus far, so it might be interesting to set up a follow-up transfer project that focuses on a participative design process, establishing a model of future-oriented, sustainable development.

The approach toward teaching shown above, also reflects the general approach we have in our department's way of teaching, more specifically in the area of urban design. We understand ourselves as a social and intellectual part of the city, as well as the region. With the students taking up relevant questions which are highly-debated topics, and by bringing the students' designs into it, we hope to become part of the urban discourse and the participatory social project of urban development.

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- [16] Architektur und Grünräume: The discussants were Dr. Ing. Susanne Bieker, Fraunhofer-Institut für System- und Innovationsforschung/Fraunhofer-Institute for Research in Systems and Innovation, Karlsruhe, Dr. Barbara Boczek, Planungsdezernentin/Head of Planning, Wissenschaftsstadt Darmstadt, and Martina Fendt, Landschaftsarchitektin/landscape Architect, Darmstadt.
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