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STADTRAUMGESTALTUNGEN

On Perceiving and Reading Urban Spaces

Timo Steinmann

The following text explores the origins and development of the class *Grundlagen des Entwerfens – Stadtraumgestaltungen, Kartierung städtischer Räume*,¹ which has been taught over the past ten years in the Department of Spatial Design under the direction of Professor Uwe Schröder at RWTH Aachen University, as well as the findings it offered for the department's understanding of spatial research and design. During this period, the seminar was an integral part of the basic requirements for the bachelor's program, so that all students who started their studies during this period familiarized themselves with its contents and came to grips with the phenomenological observation of architectural space. As the name suggests, the format was always intended as a complementary exercise to architectural design, providing not only insights into the piece of city under consideration but also basic insights into the rules of space formation that underlie a city. While the first design exercises in the architecture program started from the dimensions of one's own body, this class considered space on the scale of the city.² In addition to inputs from Professor Schröder, the teaching format was conceived and developed by the department's academic staff and assistants, including the author.

Both the methodical and didactic approach, and the tools used in the seminar have evolved over time. From the very beginning, the students' task was to grapple with urban architectural space: to measure it, to examine its qualities, and to map it. The engagement with urban spaces was based on the view that all architectural spaces are interior spaces,³ that they possess interior spatial qualities, regardless of whether they are enclosed on all sides, covered, or uncovered. Their interior spatiality arises because they are defined by clear boundaries, and as such their proportions can be read and experienced. By contrast, landscape spaces are exterior spaces. On the basis of this phenomenological definition of architectural space, the students were to analyze a small section of the city of Aachen and record it in plan drawings. Here, the act of drawing itself constituted an essential component of spatial analysis, in addition to actually walking through the assigned urban space. The semantics of drawing and modeling as a language were expanded and sharpened over the years.

Likewise, students had to build spatial models that represented urban space as a plastic volume. The approach to model building, the degree of abstraction, and the focus of the content to be represented were also repeatedly changed over the years and tested in experimental trials – with clear failures and successes.

Modest Beginnings

When the seminar was conducted with students for the first time in 2010, a four-part lecture series was still scheduled at the beginning of the exercise, which was intended to provide the students with the theoretical basis for working on the task. After that, the students had to analyze the area assigned to them in groups of 10–15 people and capture it in drawings. Ground plans (horizontal sections) had to be made as planar drawings at a scale of 1:500, with a focus on publicly accessible space, as a classic counterpart to private space.⁴ To this end, non-accessible space – whether a solid wall, courtyard, room, or otherwise – was shown in black hatching, while public space remained white. Giovanni Battista Nolli's large map of Rome served as inspiration here,⁵ since unlike figure-ground diagrams it does not distinguish between built and unbuilt space, but between accessible and inaccessible, public and private space. His approach to mapping space was also part of the lecture. In addition, passive boundaries (curbs, parcel boundaries, planted areas) were depicted with black lines. Using the same scale of the ground plan, the students had to create vertical sections in which the street profile and the vertical extent of public space could be read. Furthermore, mass models were built at a scale of 1:1000, in which publicly accessible space was represented as a solid volume made of red MDF. Here, accessible street, square, and courtyard spaces were represented, as well as spaces within buildings, such as stores, gateways, churches, and other public spaces. The heights of the room volumes were based on their actual heights, while the heights of uncovered spaces were based on the height of the surrounding eaves. The base plates for the models mapped the site's topographical slope, and the red spatial mass had to be adjusted to the terrain (Figure 4.1).

FIGURE 4.1 Spatial mass model of the city center of Aachen, original scale 1:1000, red MDF and cardboard, built by students of the class *Grundlagen des Entwerfens – Stadtraumgestaltungen, Kartierung städtischer Räume* in 2015.

FIGURE 4.2 Spatial mass model of the Aachen cathedral and surroundings, original scale 1:1000, red MDF and cardboard, built by students of the class *Grundlagen des Entwerfens – Stadtraumgestaltungen, Kartierung städtischer Räume* in 2015.

In the next two years, other districts in the city of Aachen were studied and processed into drawings and models. Furthermore, students then had to photographically document the significant urban spaces in each area. In the second year, these photographs were then collaged with the street sections to create perspectival sections that were true to scale at the intersection of street section and photograph. The construction of the models was refined in the sense that spatial masses were no longer used to represent all of the public or publicly accessible space in an area, but only those spaces that appeared to be architecturally bound and thus possessed the interior spatial qualities distinctive of architectural space. In the fourth year, the spaces in the drawings were represented in red, like the model (Figure 4.2).

The Changes after Pardié

In the middle of seminar's lifecycle, a decisive step was taken that effected a radical change in the format of teaching and methodology. The reason for this was the publication *Pardié* and the considerations on spatial mapping presented therein.⁶ The publication shows the department's submission to the competition *Planetary Urbanism – The Transformative Power of Cities* from 2015, which was held in connection with the UN-Habitat III Conference 2016 and sponsored by the journal *Arch+*.

This was accompanied by the development of a mapping tool known as the *red-blue plan*, which developed out of the insights gained from the “Fundamentals of Design” classes as

well as the simultaneous spatial research done in the Department of Spatial Design. The red-blue plan provided the method of cartographic representation that students used for spatial mapping within the framework of the seminar from then on. In this process, the semantics of the mapping tool became more precisely articulated. First, phenomenological distinctions about the qualities of space were made, much like before. But now, interior space, which was defined earlier as architecturally bound space, is represented in red; exterior space, meaning unbound landscape-like space, is represented in blue.⁷ Thus, in contrast to the figure-ground method, the red-blue plan does not represent the structure of cities or construction developments in a morphological sense; rather, it makes statements about the appearance and composition of spaces. Another new feature was that as the scale of the plan grew larger, more levels of observation were added to its legend. Thus in *Pardié*, distinctions were made for the first time between the scales of “country and city,” “city,” “city and house,” “house and room,” and “wall and opening.”⁸ Here, finer differentiations appear successively. First, red and blue are differentiated into dark and light. Dark red represents spaces enclosed on all sides by active boundaries, while light red represents only partially enclosed, bounded spaces. Light and dark blue indicate urban and landscape-related exterior spaces, that is, outdoor spaces that are subordinate to the landscape or urban space. At the same time, boundaries are distinguished by their line color. Active boundaries are drawn in white, and passive boundaries in black.

The final differentiation maps what the spaces are dedicated to, which was already a mapping subject in the seminar. A distinction is made between “inclusive,” publicly accessible spaces that are part of the urban community and “exclusive” private spaces. Inclusive dedication is emphasized with black-line hatching and, exclusive, with white-line hatching.⁹ This expansion of the legend allowed students to produce three plan drawings at different scales in subsequent years (Figure 4.3).

Thus, each group of students drew a plan on the scale level of the city, which showed the urban situation of the entire quarter under consideration, and also a plan at the scale level of city and house, which showed the connections between streets and squares and spaces within buildings or blocks. Likewise, they pointed out the public or nonpublic dedication according to the legend. Finally, students had to draw a plan of the house. Here, the focus was on the spatial consideration of threshold spaces, such as house entrances, church portals, gateways, and the like – spaces that mediate between different spaces, dedications, and qualities. To this end, students selected a suitable situation located in their assigned area (Figure 4.4).

At the same time as the red-blue plan was implemented as a mapping tool, the course sequence and format were also changed. The lecture was replaced by city walks, which were conducted by the research assistants together with students. Groups of 20 students, a student assistant, and a research assistant wandered through and explored the city areas on several dates. The inspiration here came from the analytical walks that Lucius Burckhardt had been conducting with students at the Gesamthochschule Kassel, now the University of Kassel, since 1976.

Unlike the *strollology* developed by Lucius Burckhardt,¹⁰ however, the aim of the city walks through Aachen was not to track down specific landscape or urban images, or to specify them, but to examine urban space according to the criteria mentioned above.

FIGURE 4.3 Red-blue plan of the Aachen cathedral and surroundings, original scale 1:666, drawn by students of the class *Grundlagen des Entwerfens – Stadtraumgestaltungen, Kartierung städtischer Räume* in 2019.

FIGURE 4.4 Spatial mass model of a house entrance, original scale 1:10, plaster, built by students of the class *Grundlagen des Entwerfens – Stadtraumgestaltungen, Kartierung städtischer Räume* in 2019.

Why Is the City Beautiful?

The stroll itself was more a methodical means to an end than an actual goal. Although the cinematographic images¹¹ that become fixed in the stroller's memory as a synthesis of various image sequences were an important component here as well, it was not a matter of generating impressions about the city and landscape. Thus, the focus was not primarily on the aesthetics of space or the environment,¹² as in strollology, but on the qualities inherent to architectural space. The student strollers were not meant to emulate the metropolitan stereotype of the *flâneur* who Walter Benjamin described as an urban drifter who observes his environment but perceives it with a certain indifference and wanders aimlessly.¹³ Rather, their role was more along the lines of the *flâneur* as detective,¹⁴ who enters urban spaces with a watchful eye and screens them. As with Burckhardt, the point was learning how to see,¹⁵ to sharpen the students' awareness of how they observe architecturally formed spaces so that they can understand the structure of the city in the first place. In addition to the plan drawings and models, the walk provided the opportunity to view different spatial phenomena in the city not in isolation, but as a coherent organizational system, as described by Christopher Alexander.¹⁶

In the context of the course in Aachen, the walks were not so much long wanderings but a mixture of excursion and fieldwork, open air lectures, and group discussions. Longer stops were planned at significant urban spatial situations. On the one hand, these served to convey theoretical content, to point out spatial phenomena and spatial typologies, and, on the other hand, they were also necessary for students to become aware of spatial proportions and their effects. At these stations, the students also tried to approach everyday, seemingly banal urban situations from a space-theoretical or phenomenological point of view. Here, it became clear how important it is to agree on a common vocabulary for architectural space, on a compatible concept of space. The basis here was the concept of space explained in the beginning: that space appears as architectural space when its proportions are readable as such, when it is defined by clear boundaries. The space must be closed in some sense.¹⁷ But the space of an urban square, for example, does not just clearly end at the active boundaries that the surrounding buildings give it, which make its existence possible in the first place.¹⁸ The square cannot exist in isolation. It connects both to the infrastructural network of urban spaces via branching streets as well as other inclusive spaces on the ground-floor zones of surrounding buildings such as stores. Likewise, the connection of spaces and the spatial experience of observers walking through them is influenced by invaginations and eversions of boundaries. Especially where boundaries dissolve, where walls have openings, the space begins to communicate with the spaces on the other side of the boundary. These openings – whether doors, windows, passageways, or the like – become filters. As thresholds, they reveal themselves as spaces of transition via the depth they create within the wall itself.¹⁹ This dialectical principle of the wall as a space-forming, active boundary, which is at the same time a filter that enables communication between spaces, is due to the fact that boundaries in an architectural sense always form further spaces and connect them at the same time. This is what Hermann Sörgel calls the Janus face of the architectural wall,²⁰ a two-sided space-forming concavity. According to his understanding of space, the distinction between spaces open to the sky and completely enclosed spaces is not decisive. Both the space of the open square and the living space of a home are architectural spaces defined by walls, which connect and communicate with each other at their boundaries in the form of these walls. In this sense, the connection is not the interconnectivity of independent systems, but rather

FIGURE 4.5 *Katschhof*, central square in the historic center of Aachen, 2021, photo by Philipp Pelzer.

the city forms an interconnected continuum of spaces that encompasses both the interiors and exteriors of buildings. Therefore, it is not possible to speak of urban space in a singular sense but only of plural urban spaces; as Alberti says, the city is like a house and vice versa.²¹ The city forms a coherent structure of interior spaces in the architectural sense (Figure 4.5).

During the walks, the students were to develop this understanding of connected spaces, which have different dedications, qualities, and proportions. Smaller perception exercises were done for this purpose. The students positioned themselves in the middle of the market square in Aachen or the Katschhof, then described and differentiated the space they were in and their perception of it. The same was done in the Domhof and some block courtyards, and likewise, in small alleys, such as the Spitzgässchen at Aachen's Münsterplatz. For the most part, all participants quickly grew aware of the different spatial effects, and in conversation they soon developed the insight that the proportion of the space, its expansion in all directions, had to be decisive for its character and its interior or exterior spatial quality. During walks through the Elisengarten in Aachen – a space that has an urban character but also seems to be an exterior space – the students were able to see that its architectural proportions were based on human measurements and that there was no interior spatial effect where the boundaries of the spaces were too unclear or too far apart.

The goal of these exercises in the *Stadtraumgestaltungen* class – the drawings, the models, and the walks – was to increase the students' awareness of architectural space as aspiring architects. They were to learn from what was already there in order to draw conclusions and pointers for their own design activity. By becoming aware of spatial phenomena and analyzing their interrelationships using the city of Aachen as an example, they were to develop an understanding of the connectivity of the city's spaces as part of their training in the core task

FIGURE 4.6 Nameless alleyway at the fish market in Aachen, 2021, photo by Philipp Pelzer.

of creating spaces.²² They were shown how their own design decisions would be dependent on surrounding spatial situations and circumstances, so that they would be able to fit their spatial designs into the organizational spatial fabric of the city, both as a way of improving it and thinking one step ahead (Figure 4.6).

Based on my own experience of teaching *Stadtraumgestaltungen* for three years and annual walks with students, I can say that the majority of students became noticeably more sensitive to urban space situations as a result of working through the exercises and the excursions into the city. Although walking around and dealing with seemingly familiar spaces seemed banal to many young students at first, most of them quickly became aware that there were more complex interrelationships and design decisions underlying all of them, which can only be reliably made with a sufficient understanding of architectural space. In this respect, a certain watchfulness sets in so that the city is not only seen and read with fresh and alert eyes, but the movement through space also happens more consciously. Consequently, the decisions made in the context of a design become better justified and more (self-)aware.

Notes

- 1 English: Fundamentals of Design – Urban Space Design, Mapping Urban Spaces.
- 2 From the annual assignment booklets for the class *Stadttraumgestaltungen*:

Corresponding to the first-semester exercises in the class Introduction to Design, [...] which start from the measurement of the body, the world, and the experience of the scale of things [...], the assignments in Urban Spatial Designs should lead to the analytical consideration of the collective, social spatial formations in the housing of the city. In doing so, the discovery, indexing, and representation of the city's architectural spatiality should also lead to feedback with the introductory lecture on the foundations of spatial design [...]. Urban Spatial Designs include the survey, mapping, and description of a part of the city (urban field), for example, a street or a square.

- 3 Schröder, U. 2016. Die Wand. Grenze der Architektur – Architektur der Grenze. In: *Der Architekt* 4/16.
- 4 Schroer, M. 2006. *Räume, Orte, Grenzen. Auf dem Weg zu einer Soziologie des Raums*. Frankfurt am Main: Suhrkamp Verlag, p. 232.
- 5 Nolli, G. B. 1748. *Nuova Pianta di Roma*
- 6 Schröder, U. 2015. *Pardié, Konzept für eine Stadt nach dem Zeitregime der Moderne/Concept for a City after the Time Regime of Modernity*. Cologne: Verlag der Buchhandlung Walter König.
- 7 Ibid., p. 8.
- 8 Ibid., p. 13.
- 9 Ibid., p. 14.
- 10 Burckhardt originally referred to it as *Promenadologie* or *Spaziergangswissenschaft* in German.
- 11 Burckhardt, L. 2006. *Warum ist Landschaft schön? Die Spaziergangswissenschaft*. Berlin: Martin Schmitz Verlag, p. 329f.
- 12 Ibid., p. 320.
- 13 Benjamin, W. 1982. Das Passagen-Werk. In: *Walter Benjamin Gesammelte Schriften* vol.1 and vol. 2. Ed. Rolf Tiedemann. Frankfurt am Main: Suhrkamp Verlag, p. 525.
- 14 Paetzold, H. 2012. Phänomenologie der Kultur des Flanierens. *Kunstforum Bd. 218 Der urbane Blick*.
- 15 Burckhardt, L. 2006 *Warum ist Landschaft schön? Die Spaziergangswissenschaft*. Berlin: Martin Schmitz Verlag, p. 301.
- 16 Alexander, C., S. Ishikawa, and M. Silverstein. 1977. *A Pattern Language: Towns, Buildings, Construction*. New York, Oxford: Oxford University Press, p. xiii.
- 17 Sitte, C. 2018. *Der Städtebau nach seinen künstlerischen Grundsätzen*. Reprint Basel: Birkhäuser Verlag GmbH, p. 39 [Original 1909. Vienna: Verlag von Graser & Kie].
- 18 Heidegger, M. Bauen Wohnen Denken. In: *Mensch und Raum, Darmstädter Gespräch* 1951, Ed. Bartning, O. Darmstadt 1952. Neue Darmstädter Verlagsanstalt GmbH, p. 78 f.
- 19 Bollnow, O. F. 1963. *Mensch und Raum*. Stuttgart: W. Kohlhammer GmbH, p. 158.
- 20 Sörgel, H. 1998. *Theorie der Baukunst, I. Architektur-Ästhetik*. Reprint Berlin: Gebr. Mann Verlag, p. 215 [Original 1921, Munich: Piloty & Löhle].
- 21 Alberti, L. B. 1452. *De re aedificatoria*.
- 22 Schröder, U. 2016. Die Wand. Grenze der Architektur – Architektur der Grenze. In: *Der Architekt* 4/16.1.

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