

Understanding and developing locality with a non-representational approach: Cases of waterfront spaces along the river Rhine

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Abstract

In response to the problem of urban uniformity and loss of identity, in the past, locality research focused mainly on the physical environment and their symbolic values. This study takes the initiative by applying the zero theory from human geography to the planning and design fields. It has investigated promenades and parks along the Rhine in 20 towns or cities using spatial analysis and on-site experiences. Four types of waterfront space have been identified from the case studies, and the pattern of their distribution along the Rhine suggests that this is influenced mainly by the varying characteristics of the river and the historical development of the towns. This result permits planning to refer to spatial layout based on a region's character. The research also reveals the dominance of representational thinking in our current design practice and its negative impact. The application of non-representational approaches reveals the importance of sensory experiences and everyday spaces for better on-site engagement, thus forming the basis for a set of design guidelines for achieving locality in river-related open spaces. The paper demonstrates that the non-representational theory could provide the opportunity to enliven the connection between people and places in locality research.

KEYWORDS

design guidelines, locality, non-representational theory, Rhine River, waterfront space

1 | INTRODUCTION

Rapid urbanization, as well as the relentless force of global trends, has a strong influence on modern spatial planning and design, and the outcome appears alien or uniform and independent of the location, thus threatening people's emotional security and sense of belonging (Arefi, 1999; Lynch, 1976). As one attempt to address this problem, the term "locality," which originally refers to a place or a district, has been introduced as the specific character of a place that is relational, hybrid and dynamic (Prominski, 2016). Rivers are an essential part of a city's locality (Wang & Prominski, 2020). Waterfront space, as an

interface of river and city, provides aesthetic, recreational and ecological values for the local citizens (Thiele, von Haaren, & Albert, 2019; Wartmann & Purves, 2018). Identifying, preserving and developing locality in waterfront space has become one of the major challenges in the design of urban landscapes.

Multiple research theories have been developed in the last decades to explore how humans engage with the physical, social and ecological realities of the urban world. However, they focus mainly on the physical representations of a place's meaning by uncovering the symbolic values of certain features of the place (Peng, Strijker, & Wu, 2020), while research on affect and emotion (Burlingame, 2019)

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that especially emerge in ordinary spaces and lived experiences (Vannini & Taggart, 2013) is still limited. This study represents a pioneering attempt to apply the non-representational approach of human geography to the design research field and has investigated the waterfront spaces of 20 cities along the German sections of the Rhine using spatial analysis and on-site experiences. As such, this article offers a new methodology for studying locality that combines representational and non-representational aspects (a) to complement current locality research by incorporating potentially overlooked affective and emotional dimensions of landscape that arise from sensory experience and (b) to offer proposals for strengthening a sense of locality in the planning of waterfront landscapes.

1.1 | Locality research: A short overview

The concept of awakening identity through a sensitive design process was first outlined in the rise of regionalism at the end of 19th century, during which many architects followed a vernacular style and argued that local materials, forms and construction techniques should be preserved. Some architects and planners also suggested a reflective reference to the past, for example, architectural forms should be more than the imitation of historical styles and need to be considered together with the current social needs and habits (Heuss, 1911; Muthesius, 1904; Sitte, 1909). After 1945 regionalism was usually judged negatively for the reason that it was stylised into a national architecture that has little to do with the real needs of the people (Herrle & Schmitz, 2009, p. 13) and has been criticised as being merely “a romantic or cynical manipulation of symbols” (Bowring & Swaffield, 2004). The topic regained momentum in the 1980s in the shape of “critical regionalism,” a concept coined by Tzonis and Lefaivre (1981). It aims to overcome the ills of modern architecture with its uniform, generic character without falling into regressive nostalgia. Critical regionalism was made popular especially by Frampton (1983), for whom emphasis should be on topography, context, climate, light, tectonic form and the tactile. It has significance in dealing with tension between the global and the local by exploring new design languages, the interconnection between landscape and architecture as well as its emphasis on the engagement of the whole body in architectural experience. Norberg-Schulz (1980) brought the phenomenology even further in his understanding of *Genius Loci*, where for him it is important to recognise a place's “vocation.”

The end of the last century witnessed a group of scholars in the fields of geography and psychology interested in how people build attachment to a certain place and the impact place has on people. Since the start of this place-identity research, the composition of locality has been becoming more hybrid. Relph (1976, p. 47) concluded there were three components of the identity of place: physical features or appearance, observable activities and functions and the meanings of symbols. This led to research on different urban elements as well as local settlement forms for locality conservation and reinforcement, drawing on the symbolic meaning and visual image of certain local features (Loupa Ramos, Bianchi, Bernardo, & Van Eetvelde, 2019). Studies have proven that the historical housing

typologies (Manahasa & Manahasa, 2020), landmarks, architectural styles, textures and materials as well as the hidden meanings and rules of arranging the space (Ziyadee, 2017) are crucial for the establishment of locality. Features identified as incompatible with local character are perceived as too ordinary or even unpleasant (Green, 1999).

In summary, locality research nowadays continues to focus on the transformation of information related to local history, memory or the environment into a spatial design. Following this approach, researchers have developed fruitful analytical frameworks and design methods to strengthen locality in water-related open spaces, as found in the suggestion of a “Locality Pattern System,” which develops design guidelines for waterfront areas on the basis of local socio-spatial situations (Prominski & Busche, 2020), as well as in the exploration of abstract typologies for riverscapes that “represent” locality (Schultz, 2020). Taking two harbour transformation projects as examples, Braae and Diedrich (2012) explored how designers can “read” their sites from the structures, materials, processes, practices, memories and atmospheres in order to scrutinize site specificity. However, these studies have their limitations: firstly, the focus remains more on the spatial and ecological characteristics, while socio-cultural aspects of locality such as everyday practices and immediate engagement with the place that cannot be communicated through the act of framing and representing were rarely involved in the discussion; secondly, the validity of representation that is either directly or indirectly borrowed from the context needs to be questioned, since it might only create “an oversimplified picture of a complex cultural situation” (Colquhoun, 1997). It is noteworthy that WBGU (2016) advocates that for creating *Eigenart* (the German word for locality), urban space needs to provide opportunities for people to linger and engage in conversations, and it should also be possible for people to get involved in changing the environment. Schultz (2020) demonstrated the potential of co-creative design processes by bodily engaging with aspects of locality through taking walks. Daily activities are proven to have affective impact (Hayden & Buck, 2012), but they still remain too little analysed.

1.2 | Introducing non-representational theory in locality research

One of the critical arguments against regionalism is “representationalism”: the semiotic reasoning by reading and seeing landscape-as-text as an ultimate representation (Lorimer, 2005; Thrift, 2004). The widely criticised Disneyfication (Watson & Bentley, 2007) that accompanies the development of tourism could be recognised as a typical example of what non-representational theorists defined as its “deadening effect” (Lorimer, 2005; McHugh, 2009). It is also what Tuan (1975:157) delineated as “pictorial and verbal clichés” that only serve for public display and attracting visitors, but lead to frustration and dissatisfaction for local citizens.

Tuan (1975) further stressed the importance of daily experiences and described the uncritical and passive mode in which belonging evolves: it is the experiences of smell, taste and touch that make a place “home.” This echoes the emerging non-representational approach in human geography research, which suggests a shift from understanding locality only by uncovering and interpreting meanings

and values of the built environment (Lorimer, 2005), towards an exploration of our embodied involvement in tactile space (Carolan, 2007; Hayden & Buck, 2012) to enliven everyday life (Williams, 2020).

Developed by a group of British geographers (Nigel Thrift, John-David Dewsbury, Paul Harrison, John Wylie etc.), non-representational theory can be described as a mode of thinking rather than a united theory and has been expanded into social sciences, creative arts as well as planning and design (see Bulkens, Minca, & Muzaini, 2015; Buser, 2014). The theory is strongly based on a phenomenological perspective, which analyses the interaction of people and their environment as a “person-in-environment” complex with the correlation of an individual's cognitive, emotional and behavioural activities (Lalli, 1992). A number of scholars have grappled with the issue of practices such as walking (Ingold, 2017; Thrift, 2008; Wylie, 2005) and gardening (Hayden & Buck, 2012). They contend that the world is experienced and validated through the body, from the individual's multiple senses as smell, noise, tactility, to one's sweat, heart beat and muscles. By stressing our involuntary and precognitive nature in everyday experiences, bodily movements or transient encounters, the theory provides powerful insight into the unfolding of the affective dynamics of urban experience (Marotta & Cummings, 2019), that is, those that are connected with emotions and attitudes, and bring positive intervention to attachment through the control of affect and atmospheres (Buser, 2014; Marotta & Cummings, 2019). The theory also offers a promising response to the debate on the ontological exceptionalism of humans in planning in the Anthropocene (Houston, Hillier, MacCallum, Steele, & Byrne, 2018) by considering humans and non-humans on an equal footing (Dewsbury, 2003, p. 1908; Whatmore, 2006).

In line with the arguments against regionalism and critical regionalism (e.g., see Colquhoun, 1997), non-representational theory criticises the conceptualization of culture as a pre-defined, coherent unity, reduced to “a store house of archetypes, a collection of habits ... an unchanging way between eye and world” (Dewsbury, Harrison, Rose, & Wylie, 2002, p. 438). Buser (2014) addressed the dogmatic thinking of representational place identity in our plans and policies, and suggested thinking of place “without image” through the exploration of affective atmospheres. Locality or belonging, according to Dewsbury (2003, p. 1910), is a barest moment of feeling-in-place, where “world and individual, folded together, call each other into existence.” However, one should not conclude that the representational approach is completely wrong; it simply does not offer a complete understanding (Dewsbury, 2003). Therein lies the potential to think of the “more-than-representational” (Lorimer, 2005, p. 84) by calling attention to the unrecognised and often taken-for-granted everyday existence in order to understand locality.

2 | METHODS

This paper will combine traditional spatial analysis with a non-representational approach. To understand the locality of urban waterfront spaces both in a regional and site scale, this study has investigated a number of Rhine promenades and parks in 20 towns and

cities along the Rhine and recorded them in plans, sketches, photos and diaries. The material was then analysed, reflected on and summarised to (a) investigate the regional characteristics of waterfront space types in different Rhine sections, and (b) develop design guidelines supporting the perception of locality on the site.

2.1 | Case studies: Rhine promenades and Rhine parks in 20 towns

The design of public spaces and river revetments have always been one of the major focuses of urban development for the towns along the Rhine. Cities have to come up with solutions for dealing with floodwater in line with their own local situation; in addition, they are also urged to reconcile the needs of flood protection with the increasing demands for providing high-quality open space for their citizens.

As a response, building or reconstructing promenades and parks along the Rhine has become a trend in Germany over the last 15 years, while some transformations of Rhine promenades are still being discussed or are under construction.

In this study, three criteria were used to select suitable case studies: (a) the cases have been deliberately designed as a park or promenade with good accessibility and appropriate size for public use; (b) the cases should be close to the town centre; (c) the cases clearly serve as the town's only main open space on the waterfront. Based on these criteria, 20 waterfront spaces are selected (Table 1), and their location are shown in Figure 1. The data come from the website of the Federal Statistical Office of Germany (https://www.destatis.de/EN/Home/_node.html), Google Maps and local planning documents published online.

2.2 | Methodology and data

In the past, research concerning locality has applied traditional methods such as spatial analysis, literature research, questionnaires and interviews; recently, new methods including geo-tagged images and online texts have also been used. This means that architects and scholars are more or less outside observers, emotionally detached when discussing the locality of the place in question, and the research focus and results are too often reduced to representations of the locale (Latham, 2003).

Non-representational theory explored new ways of understanding place and doing geographical research, among which is the use of autobiographical reflections to illustrate the process of becoming affected in one's relations to a place's human and more-than-human elements (Dowling, Lloyd, & Suchet-Pearson, 2017). Personal narratives have been proven an effective method of identifying and investigating the interaction between that being researched and the self, of gaining a grasp of the transient moments of affection through a multi-sensory experience, which also gives audiences a sense of how it feels to be part of the field (Adams, Ellis, & Jones, 2017; see Latham, 2003; Wylie, 2005; Vannini & Taggart, 2013). Inspired by these precedents,

TABLE 1 Basic information of the 20 waterfront spaces in the various Rhine sections

	City	Population	Type	Size (by estimation)	Redesign	
Lower	1	Emmerich	30,961	Promenade	Width: 15–20 m length: 580 m	2009
	2	Rees	21,100	Promenade	Width: 10–20 m length: 1 km	–
	3	Krefeld-Uerdingen	18,507	Park	Width: 20 m length: 400 m	2015
	4	Düsseldorf	621,877	Promenade	Width: 15 m in each layer Length: 1.6 km	1995
	5	Wesseling	36,347	Promenade	Width: 18 m Length: 350 m	2010
Middle	6	Remagen	17,116	Promenade	Width: 27 m length: 200 m With 3.5 km footpath along the river	2009
	7	Bad Breisig	9,531	Promenade	Width: 10–20 m length: 300 m With 2 km footpath along the river	–
	8	Andernach	29,922	Park	Width: 50–100 m length: 1.1 km	–
	9	Neuwied	64,765	Promenade	500 m promenade on the flood wall and 20 m-wide open space on the riverside	2014; unfinished
	10	Koblenz	114,052	Promenade	Width: 20–40 m length: 1.5 km	2011
	11	Lahnstein	18,042	Park	Width: 80 m length: 640 m	–
	12	Boppard	15,413	Promenade	Width: 10 m length: 500 m	–
	13	Bingen	25,899	Park	Width: 40–150 m Length: 500 m (west) 1.7 km (east)	2008
Upper	14	Eltville	16,971	Promenade	Width: 10–20 m length: 700 m	2015
	15	Wiesbaden-Biebrich	36,792	Promenade	Width: 10–20 m length: 500 m	2005
	16	Mainz	218,578	Promenade	Rheinpromenade: Width: 45–55 m length: 1.5 km Stresemann-Ufer: Width: 40 m length: 750 m	2000; 2019; Unfinished
	17	Ludwigshafen	172,253	Promenade	Width: 40 m length: 1.1 km	2008
	18	Mannheim	310,658	Park	Around 25 ha Connected with a 149.7 ha Waldpark	–
	19	Speyer	50,561	Park	Around 36 ha	–
	20	Kehl	36,664	Park	Width: 90 m length: 1.4 km	2004

this study adopts personal narratives as a new form of data collection together with field investigation.

Two initial excursions were made in March and August 2019 through the three different sections of the Rhine, followed by a 2-week field investigation of the 20 towns chosen as case studies in December, 2019. An elaborate recording of the environmental features was made for further analysis with photos and sketches. Yet, the most important part of the visits was the “exploratory movement,” in which the decision about the route, the duration of stay and the interaction with the site happened according to spontaneous encounters and feelings. After the field investigation, a reminiscence diary was written for each of the 20 towns, in which both observational information on the site, and the “subjective” engagement, the happenings and emotions were recorded for further analysis.

2.3 | Spatial analysis and developing design guidelines

The analysis unfolds in two sections.

The first section focuses on analysing waterfront space characteristics in a regional level based on the spatial analysis. By inspecting

the waterfront spatial forms, characteristics and design elements collected in the field investigation, a classification strategy is firstly adopted to identify different types of space, then the spatial location of these types will be presented in the map for comparison and discussion.

Aimed at providing practitioners with a knowledge basis for achieving more efficient design processes with higher quality on site level, the second section proceeds to translate field trip findings into design guidelines. This is an evidence-based design research method of developing a set of abstract, transferable strategies, which provide guidance for design action adaptable to a site's specific situation (Prominski, 2017). Firstly, the “moments of connection” when the researcher is positively affected in the place are identified by analysing the reminiscence diary, and environmental elements or arrangements are annotated with the support of photos and notes taken during the field investigation. By repeating this process, the many subjective moments are compared parallel and reflected on according to the overlapping of common themes, so that similar settings (e.g., a preserved city wall; ancient gate delineated in the pavement on its original site) that lead to positive feelings or descriptions (e.g., attractive; harmonious; “I felt as if entering another world”)

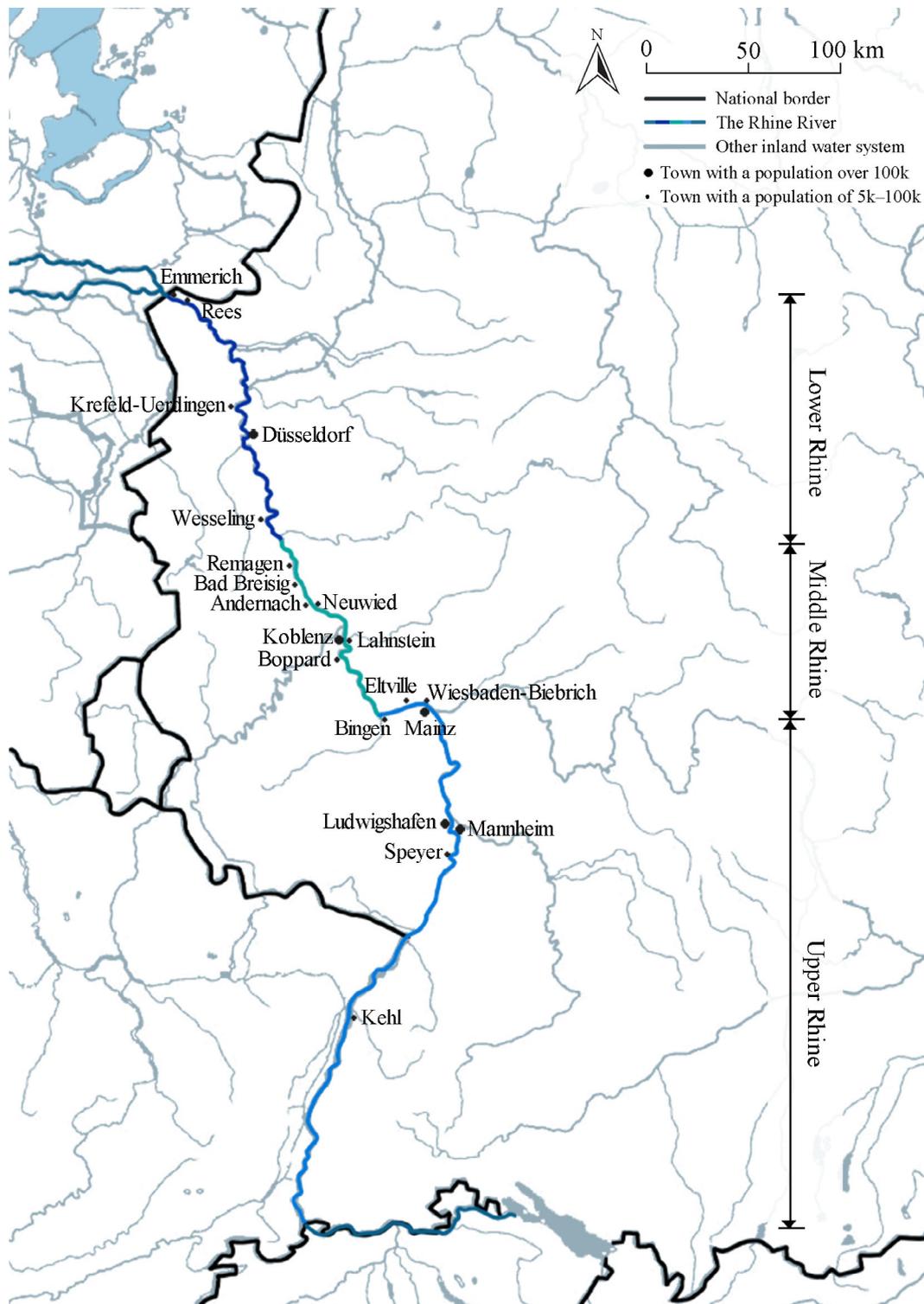


FIGURE 1 Overview map of the 20 selected case-study towns in the various Rhine sections [Color figure can be viewed at wileyonlinelibrary.com]

might be found in different diaries, and will be summarised as a design guideline (e.g., balance between old and new). Even though every single moment is subjective, with the process of analysing 20 diaries, the guidelines themselves are verified and proven objective based on

varying evidence. In Chapter 3.2, extracts from the reminiscence diary are presented in the corresponding guidelines, thus giving a sense of the experiences that support the academic reflections.

The overall analysis procedure of the article is shown in Figure 2.

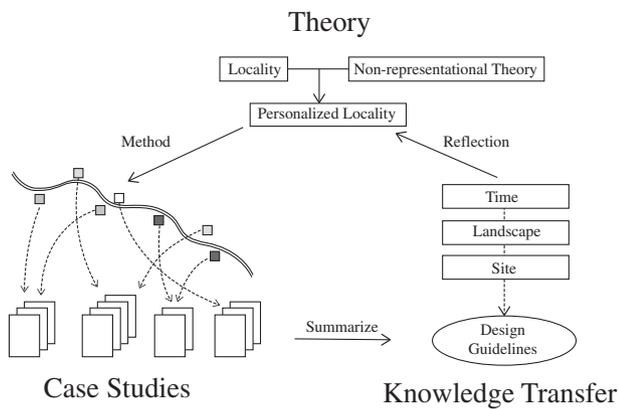


FIGURE 2 Research design

3 | RESULTS

In this section, we will first identify the different types of waterfront space along the Rhine and analyse how they are related by way of geographical and historical factors as one aspect of locality. We will also discuss the negative influence of representational thinking in the current planning practice as shown in some cases. Based on the non-representational field investigations, which focused on on-site encounters and mundane experience, in the second part, we propose a set of design guidelines to strengthen locality by creating better on-site engagement.

3.1 | Overview of typical waterfront spaces along the Rhine

We start with a classical spatial analysis, a fundamental approach in the design research, because we see no need to reject representations, only that they should not be taken as a symbolic register (Williams, 2020). In fact, a radical departure from representations involves the danger of limited applicability (Vannini, 2015), which leads to the criticism that non-representational theory is overtheorised and removed from real life (Williams, 2020). This research shall thus “take representation seriously” (Dewsbury et al., 2002, p. 438).

3.1.1 | Four types of space

Based on the layout of the Rhine waterfront public spaces in the case-study towns, four different types of space have been identified (Figure 3).

Pattern

Space that follows a certain uniform “pattern” appears in two newly designed waterfront areas in Emmerich and Bingen. This space type is characterised by large areas of pavement and the atmosphere is

dominated more by geometric surfaces than by three-dimensional elements such as trees.

Avenue

Several towns are marked by a coherent linear form throughout their whole waterfront space. In most cases of this spatial type, two parallel rows of trees string together the whole area into a well-defined and unified structure, creating a high sense of order.

Route

In this type, the space is composed of a few different sections with various forms and spatial experiences. Spatial structures are still recognizable, yet they neither unify the whole route, nor are they strong enough to serve as a centre for the whole waterfront space.

Park

Compared with the three previous space types, the parks are much wider and contain informal mixtures of trees, lawns and paths. These parks are located in the city centre and serve as its only or most important waterfront space.

3.1.2 | Distribution of the various spatial types along the Rhine

The distribution of different types of space appears to relate to geographical factors (Figure 4). Specifically speaking, avenues are located mainly in large towns; the Upper Rhine is characterised by parks, while, apart from Rees, the route type appears almost only in the Middle Rhine.

Corresponding to the picturesque winding river valley in the Middle Rhine area, four out of five promenades there offer a continuous route with a sequence of diversified spaces. It is worth mentioning that in Eltville and Wiesbaden-Biebrich, located at the very northern end of the Upper Rhine, the route type of space could still be seen as belonging to the Middle Rhine, which geographically begins in Bingen. There are generally less unified waterfront spaces in Upper and Lower Rhine. Regarding the Upper Rhine, the aforementioned is not surprising, since the region is known for flood danger and the re-channelling of the Rhine River. However, the observation draws attention to the fact that despite the many large cities in the Lower Rhine area, there are not many cases of dominating river-related public spaces: the waterfront area is more or less “fragmented,” most probably because of their industrial history.

3.1.3 | Waterfront space design influenced by representational thinking

Of the four different types of space, two kinds (pattern and avenue) have mainly been designed or renovated in the last 20 years. The best examples are the waterfront spaces of Emmerich and Bingen, which were constructed in 2009 and 2008 respectively, both adhering to a

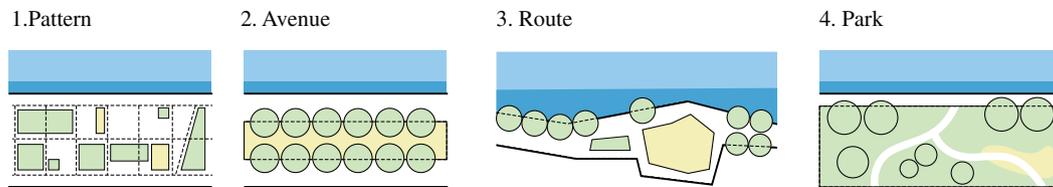


FIGURE 3 Diagram of the four different types of waterfront space [Color figure can be viewed at wileyonlinelibrary.com]

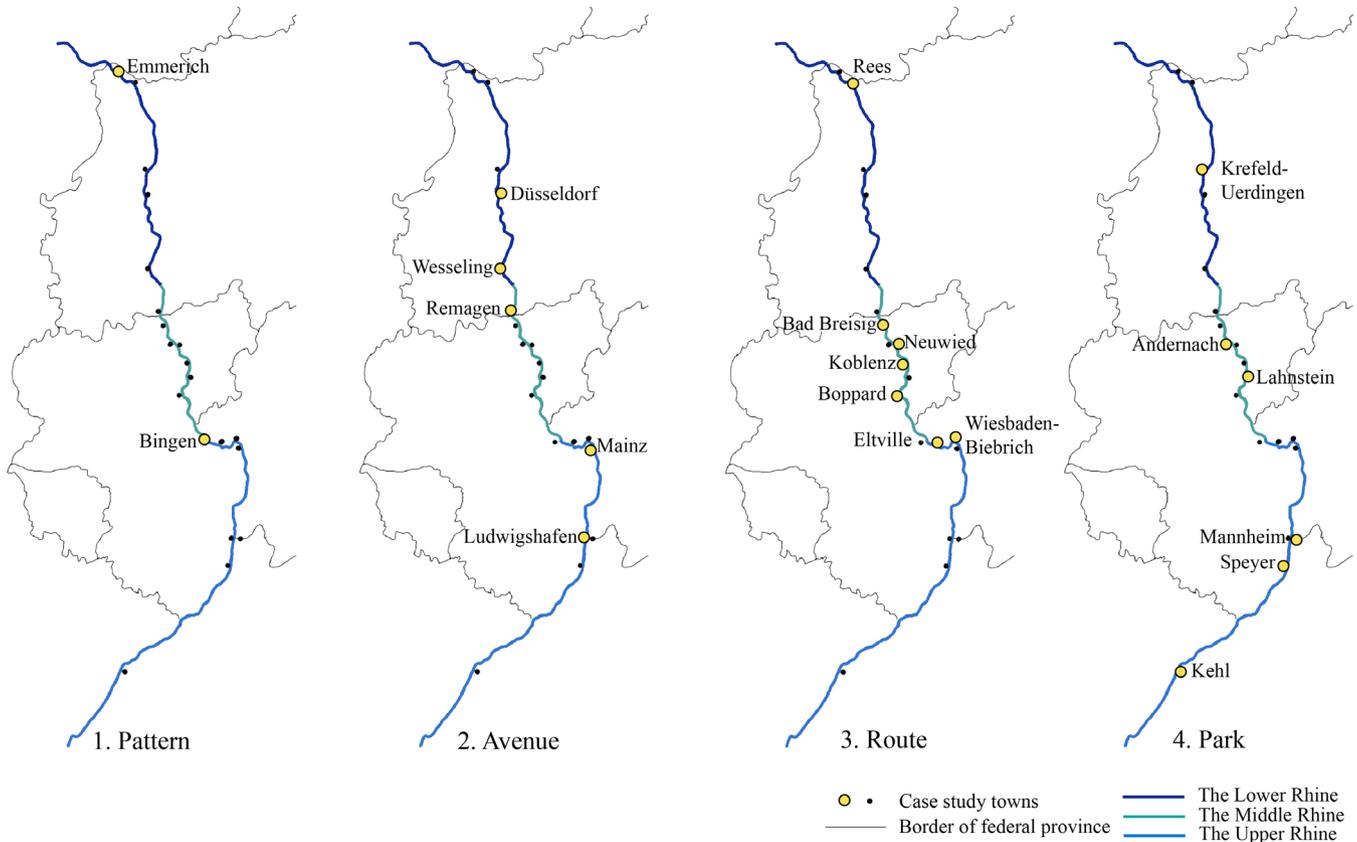


FIGURE 4 Distribution of the four spatial types along the Rhine [Color figure can be viewed at wileyonlinelibrary.com]

strongly two-dimensional pattern. On the map they appear creative and characteristic, while during the visit, they turned out to be homogeneous due to the repetition of the same spatial experience. Regarding the avenue type, Düsseldorf's Rhine Embankment Promenade has emerged as a great success, with support from its vibrant urban surroundings. Some smaller towns such as Wesseling and Remagen soon also followed suit with a similar spatial type. Wesseling has covered its long, wide promenade harshly with nothing more than a concrete slab paving and rows of trees, while the promenade in Remagen also turns out to be empty and deserted.

The types of waterfront space reflect how representational thinking has dominated the modern design practice. We shall express our concern that in contemporary waterfront design, the representations of a Rhine promenade image has become a habitual practice, as can be seen in the repeated planners' statements that the promenade would be "modern," "diversified," with "double parallel tree rows" and have the "character of a pedestrian zone" (Stadt Remagen, 2004; Stadt

Wesseling, 2016). The creation of such an image has sometimes been implemented at the expense of spatial quality and users' experience.

3.2 | Towards a framework of locality design guidelines

The last section revealed a tendency towards representational thinking in some current design practice and its negative impact. With the goal of achieving a sense of locality in the future of river-related open space design, the present section aims at developing design guidelines, which will be presented in three categories: (a) Time, with regard to locality, is a frequent topic usually from the perspective of historical preservation. We follow a wider preoccupation with time that embraces the celebration and enlargement of the present, "while making connections with past and future" (Lynch, 1976, p. 1). (b) Landscape, from a non-representational perspective, is not confined to the ambit of land

surfaces or pictorial scenery; it goes beyond local dependence to a primordial involvement with the world by erasing the boundary between the human and the non-human (Jullien, 2018, p. 108). (c) Site, in contrast to landscape, emphasises the local dependence according to its specific qualities and the inherited attributes of the site and its territory. This is also a typical manageable area for planning and design. For each category, we present two representative guidelines, exemplified by an extract from the diaries.

3.2.1 | Connecting with time

Balance between old and new

“The ancient city wall is perfectly and creatively integrated into the daily life of the city ... Having undergone centuries of destruction and rebuilding, all the imperfections brought by the passing of time and the altering of epochs are perfectly documented and presented to the world ...” (Andernach).

As Lynch (1972, p. 39) pointed out, “longevity and evanescence gain savor in each other’s presence.” A deliberate design that brings together the old with the new not only enhances the character of each, it also lends us the opportunity to connect and relate. As shown in Andernach, the town is not only historical, it also belongs to our time. By embracing the context of the old into new urban life, history is brought back to life. Thus the environment needs to open outward in time to keep it alive, so that there is still a future to be constructed.

Amplify the natural clues of time

“Just then, a golden sunbeam poured down through the dark clouds ... Pegelturm’s stone pillars, which had become mottled with age, also turned solemn in the sunlight ... The whole world seemed to be shimmering, as if immersed in the joy of its first birth.” (Neuwied).

A sunrise or sunset is intoxicating, a walk between the golden trees of autumn is bewitching. The rhythm of the world echoes our own rhythm, which gives us a sense of a presence that remains standing throughout the passage of time. Surfaces and structures that catch and reflect the light as the angle of the sun shifts, seasonal plants, embankments that adjust their function with the changing of the water levels can be used to harmonise with our perception of time.

3.2.2 | Connecting with the landscape

Unexpected encounters

“Dozens of greylag geese, Canada geese, pigeons, mallard ducks gathered together, some were strolling

leisurely, some were standing or sitting, and a group of gulls were perched on the cable. The public space that I thought this city might lack was exactly here, wasn’t it? Just that the users were not humans!” (Neuwied).

An unexpected encounter with other living beings offers not only excitement and curiosity, but also arouses a feeling of fear and respect. “They are first and foremost themselves, despite the many meanings we discover in them.” (Cronon, 1996, p. 55) Compared with plants, animals and birds have a more obvious agency, which acts as a stronger reminder that we always move through an environment engaging in intimate relations with other living beings and that we all dwell together in the world. Their existence can be announced by some chirping in bird-friendly shrubs that provide dense cover for roosting and nesting. Waterfowls can be attracted by slopes that stretch into the river or lawns along the bank where they can go ashore.

Blur the boundary

“I could see the low, distant hills before me, I could see the Rhine meandering calmly and ponderously to the northwest, and perhaps further on I could step into the old fairy tale of the Rhine ...” (Andernach).

In many cities, Rhine promenades flow seamlessly into the natural surroundings or provide soft edges to descend into the river. It is a way in which a place is not “set apart from the surrounding land” nor “cut off;” it “establishes an interior” (Jullien, 2018, p. 94); through opening up and spacing out, a promenade transitions towards the beyond and melts into the landscape. It is not demarcated as a territory, it opens up to the world. “In this way we enter into contemplation, begin to dream about it.” (Jullien, 2018, p. 96).

3.2.3 | Connecting with a site

Legibility

“In this small town with over 2,000 years of history, signs and information about historical monuments can be seen everywhere; even places that no longer exist, such as the Cologne Gate, are outlined in the original site with special paving.” (Andernach).

A place needs to be accessible to its users. Firstly, it should be easy to navigate, and destinations should be signposted and made accessible. Especially helpful are signs and maps along the route for orientation and finding one’s direction; at important nodes, sculptures and other kind of special constructions can be set up. Secondly, specific knowledge about a place and its history should also be made available, thus affecting our cognition, development and satisfaction.

Exposition, climax, denouement

“The closer I got to the old town, the more it began to crowd with visitors, till the Schlossturm and a huge Ferris wheel, where everything came to a smooth halt... It was only here that the lower level of the walkway suddenly took on a presence of its own, and because of its increased width it suddenly became extremely attractive ...” (Düsseldorf).

Spatial transition should be clarified and embellished by creating changes. Dramatic transitions on a reasonable scale at some important nodes (e.g., at the entrance or the central square) succeeded by slow shifts are the most pleasant. Taking Düsseldorf as the best example, in spite of a standardised promenade form, the whole journey has a jolly rhythm brought about by a few historical landmarks that punctuate one's passage, a grand central square, and the lawn from which to enjoy the river view at the end.

4 | DISCUSSION AND CONCLUSIONS

Four types of waterfront space have been identified from the case studies, and the pattern of their distribution along the Rhine suggests that this is influenced mainly by the varying characteristics of the river and the historical development of the towns. This finding offers references for planners to consider these types of space as well as their impact on spatial atmosphere in creating locality in waterfront public space on a regional scale. However, some waterfront spaces in recent years have become a mere superficial copy of some successful examples and do not necessarily correspond to the character of the surrounding environment. This indicates that representational thinking in our current design practice may influence the distribution of space types where design is overruled by a dogmatic image of a “modern” waterfront “walkway.” It echoes the criticism that our plans might fall into habitual practice and be trapped in dogmatic thinking, unable to imagine variation and the unconventional (Bulkens et al., 2015; Buser, 2014). In addition, it proves that even though we are arguing for a non-representational turn, representational aspects still need to be considered seriously (Dewsbury et al., 2002, p. 438), since they influence our perceptions and experiences.

While spatial analysis can serve as a reference in spatial layout for planning the overall and regional sensory quality, it is by no means exhaustive, since the environment affects individuals in the interactive process of perception (Lynch, 1976). Aware of the danger that the term locality could also be misinterpreted thus falls into another “representational trap” and reduced to a set of built elements (Buser, 2014; Dovey, Woodcock, & Wood, 2009), this study takes the initiative by applying the non-representational theory from human geography to the planning and design fields, and by exploring locality as a relationship built in the interaction of places and individuals. This leads to the design guidelines we have developed in the present article, which serve on a site scale. They acknowledge the validity of

some traditional measures, for example, the protection of built heritage, enabling harmony between the old and the new, the construction of landmarks and so forth. More importantly, they reveal the importance of sensory experience and some everyday spaces that show strong affective forces, but have often been ignored in some locality research in the past. This study thus urges a reflective use of phrases such as identity and locality formulated in planning visions and policies, and encourages new and creative methods (e.g., through go-along interviews, emotional maps and so forth, in the process of public participation) to take account of the residents' empirical experiences at a pre-design stage.

Facing the criticism that non-representational work is over-theorised and removed from real life (Williams, 2020), this study offers an opportunity to create a bridge between an interest in embodied engagement and a more empathetic design practice. Notwithstanding the preceding findings, this approach relies merely on the researcher's personal experience and narratives and thus cannot take into account the users' diverse experiences and the various preferences. For developing more comprehensive and integrated guidelines, further research needs a combination of methodologies that can allow the investigation of more participants' behavioural and emotional interaction with a space; the guidelines also require further empirical testing. Despite this, the introduction of non-representational theory into the planning and design field is thus shown to provide an opportunity for bringing together locality research and everyday life, for bringing awareness of the existence of, and our relationship with, the non-humans and for overcoming representational thinking and enlivening the connection between people and places.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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