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### Building a Meta-Framework to 'Address' Spatial Quality

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# Building a Meta-Framework to ‘Address’ Spatial Quality

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**ABSTRACT** *Spatial quality is a contested notion due mainly to its uneven conceptualization and methodological translation across fields in which space is a key concern. This article presents the building up of an inter- and transdisciplinary methodological meta-framework to analyse, assess and work towards spatial quality. It explains the thematic cross-reading of spatial quality across three fields (social innovation in territorial development, strategic spatial planning, urban design). By use of a relational approach connecting seven dimensions of spatial quality and its making, and building on the symbiotic strengths of the three fields, it formulates a meta-theoretical framework as the central piece of a coherent joined-up methodological guide to address spatial quality.*

## 1. Introduction: What About Spatial Quality?

This article stems from the first stage of a multi-stage research project, SPINDUS, on the reading, assessment and making of spatial quality in space and place, funded by the Flemish Science and Technology Agency (IWT). The overall aim of the SPINDUS project is the development of practical and pedagogical planning and design methodologies to assess, evaluate and implement spatial quality (Segers et al. 2013). SPINDUS works with a multidimensional concept of spatial quality through an interdisciplinary (involving different research fields in a jointly built methodology) and transdisciplinary (involving different types of actors) approach. This concept is hosted in a meta-theoretical framework, an element of a holistic methodological approach, which we will explain later.

We start from the observation that spatial quality is a highly contentious issue in the planning and urban design fields. This is the case for practitioners and researchers alike. Although there is a broad agreement on the importance of spatial quality as an analytical concept and a category for planning, design and policy-making, different user, practice and research communities tend to have very different views on what makes a certain organization of space ‘qualitatively’ rich — by itself or compared to others.

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A quick overview of the major theoretical and operational approaches to the concept of spatial quality in the literature shows that most publications on spatial quality do not define 'spatial quality' nor 'quality' in an explicit way (Miciukiewicz et al. 2010; <http://e-scapes.be/spindus/>). Dimensions and concepts of spatial quality in the literature include ideas about 'good city form' (Lynch ([1981]1984)), 'good design' (Sternberg 2000), 'universal design', 'human scale', 'good architecture', 'urban quality' (Chapman and Larkham 1999; Trip 2007), 'delight' (Wotton 1624) on the urban design side; 'planning performance' (Friedmann 2004), 'effective planning process', 'good planning process' (Conroy and Berke 2004), 'quality planning' (Creedy et al. 2007), 'place quality' (Healey 2004) and 'experiential quality of urban environment' or 'livable city' (Southworth 2003) in planning; 'spatial justice' (Soja 2010), 'fulfillment of human needs' (Moulaert 2009) or 'inclusive design' (Lang 1990) in social innovation in territorial development reading (Van Dyck and Van den Broeck 2013).

The wide variety of dimensions named and analysed by various authors addressing spatial quality (e.g. diversity of structures, quality of materials, human scale, spatial diversity, cultural diversity, social diversity, accessibility, environmental qualities, etc.) points to the importance of the recognition of different and complementary perspectives and methods to deconstruct and construct spatial quality.

The overview also shows that the selection of elements that are relevant to spatial quality depends on the research or action questions, the views and mindsets of actors involved. The reading and assessment of the quality of a space or a place are not based upon value intrinsic to objects (and idealizations of these objects), but upon experiential value of these objects, which is identified by perceiving, thinking, sensitive and socialized subjects whose socio-subjective perceptions are relational. Personal and collective interest in particular features of spatial quality depends on the nature of the experienced objects, as well as on the cultural, class, racial and gendered identities and spatial competences of experiencing subjects.

Some classifications or typologies of features of spatial quality are more comprehensive (e.g. Lynch ([1981]1984)), others less (e.g. Venturi [1966] 1977), but few attempts have been made to confront the diversity of dimensions and approaches in the study of spatial quality. In this article, we bring together contributions from three fields in spatial analysis and planning: urban design; social innovation in territorial development and strategic spatial planning. Combining, in an *interdisciplinary* way, theories and methods from the three fields, the concept of spatial quality will be broadened from a purely 'adding up' of different spatial quality preferences, often estranged from their social context, to a relational approach that mobilizes the integrative potential of the three fields in reading space. To this purpose, we work in four steps that can best be explained by connecting them to the ambitions of the research project SPINDUS, of which this article witnesses. In the SPINDUS project, the *transdisciplinary* exercise of linking spatial qualities to users and their diverse uses and understandings of, as well as expectations from space, is pursued at three levels: the conceptual level, the level of applicable planning and design methodologies, as well as in case studies and the methods applied there. In this article, we are only concerned with the first two levels and the interaction between them — between concepts of and methodologies to deconstruct and construct spatial quality. Case studies and case-study methods are covered in detail in Segers et al. (2013) and Khan et al. (2014). We work in four steps.

*Step 1:* To arrive at the assessment and reproduction of spatial quality from the perspective of the use of space by different types of users, it is important to understand how the three fields conceptualize space and use these conceptualizations in their respective methodologies. ‘What have been the significant contributions of each of these fields to the analysis of spatial quality?’ is the question we seek to answer in this first step.

*Step 2:* These contributions reveal significant emergent synergies in the analysis of spatial qualities across the three fields that have inspired us for a more systematic cross-reading across these fields according to eight core themes reflecting the complexity of uses of space: social space, materiality, ownership of space, types of space, scale, nature and environment, representation of space and ethics. These themes are used in most, if not all of the three fields but receive different meanings and importance, and the relations between them are insufficiently or disparately analysed, impeding a coherent analysis of spatial quality. The cross-reading of these themes leads to opportunities for interdisciplinary conceptualization, an important driver of the meta-theoretical framework which will be expected to host at the same time a shared conceptualization of spatial quality as well as set the methodological beacons for the methods to be used in addressing spatial quality in concrete places and spaces.

*Steps 1 and 2 are covered in Section 2.*

*Step 3:* Step 3, as an illustration of how connections between themes offer analytical value addition, focuses on the cross-reading of two of these themes, namely social space on the one hand and nature and environment on the other. These themes are probably the ones that incorporate the greatest challenges to move spatial quality analysis, assessment and improvement beyond the State of the Art. The cross-reading goes two ways: first for each theme across the three fields, then across both themes but taking on board the knowledge learned by confronting the readings from each field.

*Step 3 is covered in Section 3.*

*Step 4:* The final step (step 4) builds on the synergies between the three fields and recent progress in trans- and interdisciplinary methodology to propose a meta-theoretical framework that addresses the multidimensional nature of spatial quality as well as the methodological innovations needed to address it. The meta-framework should include a broad ontology shared by the three fields on how space is organized and reproduced, and what the roles of the different actors are in the analysis, assessment and making of space. This framework builds on the synergies examined in the previous steps and identifies the contours of a shared ontology, an interdisciplinary reformulation of the epistemological foundations of spatial quality assessment, shared concepts as well as methodological principles to lead case-study methods and research.

Such framework should bring together:

- (1) The commonalities and complementarities we found in terms of the analytical categories in the analysis of space in the strategic planning, urban design and social innovation for territorial development literature (Moulaert et al. 2010; Abdelwahab et al. 2011; Schreurs et al. 2011) and of which we have summarized some in subsequent sections, with . . .
- (2) . . . the epistemological foci that different scientists and practitioners have used in the literature to address spatial quality (Miciukiewicz et al. 2010). These foci will both

help to delimit the contours of a shared ontology of spatial quality (re)production in spaces and places.

*Step 4 is covered in Section 4.*

## 2. Cross-Thematic Reading of Space and Spatial Qualities

Major developments in spatial development analysis, urban design and strategic spatial planning literature over the last couple of decades have set the stage for epistemological repositioning, theoretical reflections, methodological improvements and increasing user involvement in defining and assessing spatial qualities in various phases of spatial design, planning and spatial development processes. Planners imagine how to evoke ‘alternative futures about place qualities, their potentials and possibilities’ (Healey 2010). Urban design develops sets of ‘ideas about how space should be organized, what forms it should take and what functions it should perform’ and is a crucial tool in (re-)shaping urban space (Madanipour 2006). Community developers are increasingly interested in the relation between places and social innovation (Moulaert 2009). Space and place are common terms in strategic spatial planning and urban design, and social innovation in territorial development (Van Dyck and Van den Broeck 2013). When we look into their meaning, however, questions emerge on the diversity of qualities and experiences these terms arouse in these fields and the need to create a dialogical framework to move forward by learning from this diversity.

In each of these fields, advancements are noticeable that impact on the creation of a new context for a dialogue between the three fields, to address space and spatial quality:

- *A social innovation reading of space:* A better understanding of the various dimensions of spatial or territorial innovation, as a consequence of the ‘social’ criticism of the technological bias in the analysis of regional and local innovation systems (Moulaert and Sekia 2003; Moulaert and Mehmood 2008; Moulaert and Nussbaumer 2008; MacCallum et al. 2009; Mehmood and Moulaert 2011; Van Dyck and Van den Broeck 2013).

This criticism especially follows from Moulaert and Nussbaumer’s social innovation reading of spatial and territorial transformation (Moulaert and Nussbaumer, various sources). Referring to social innovation as new strategies, concepts, ideas and organizations that meet social needs of all kinds — from working conditions and education to community development and health — and that strengthen civil society, this perspective highlights the spatial dimensions of social innovation. Benefiting from the wide variety of social, economic, architectural, aesthetic, anthropological, etc., dimensions within the analysis of social innovation in territorial development, it opens new ways to introduce the concept of social innovation into strategic planning and urban design. Starting from the analysis of the potential of local development strategies to combat poverty in deprived urban areas and localities, social innovation was defined as the satisfaction of the basic needs of local communities through innovation in their social relations, including their socio-political empowerment, place-making and local identity-seeking strategies (Moulaert, Delvainquière, and Delladetsima 1997). This definition of social innovation was later broadened to other spatial contexts and wider spatial scales (MacCallum et al. 2009) and the necessary condition for successful social innovation at the local level in

the form of multi-scalar governance, institutional leverage and resource allocation was recognized (Pradel, Garcià, and Eizaguirre 2013). More recent work devotes more attention to the socially innovative potential of physically and ecologically ‘improved’ places and spaces (Van Dyck and Van den Broeck 2013).

- *More participatory and inclusive urban design*: A social grounding of the concept and approach of design and design-based research (research by design; designerly research (Cross 1999; De Jong and Van Der Voordt 2002; Lawson 2004; Moore and Karvonen 2008; Schreurs and Martens 2005; Schreurs 2006; Van den Broeck 2011) is turning design-based research into a powerful interactive tool for collective decision-making for the spatial organization and construction of places.

This major shift in urban design and urbanism has been underway since the 1980s and 1990s. While the earlier modernist conception of space, and even the ‘good design’ debate ‘revolved around issues of how the form of objects could enhance the quality of life’ (Margolin and Buchanan 1995), the emphasis is now reversed. Objects remain important as a symbolic location of experience, but the focus is on the ‘psychological, social and cultural contexts that give meaning and value to products and the discipline of design practice’. This reversal represents a broadening of the scope of design with an increasing focus on synthesis: the ways in which design integrates diverging requirements and interests, but adds in passing also conditions leading to new consequences for use and experiencing, thus offering new possibilities for inclusive design, not to be described *ex ante* and often not in words (De Jong and Van Der Voordt 2002, 22, 25). This way of synthesis making follows abduction — a *situated logic* through which designers and users of space become responsible for what they learn to see (Moore and Karvonen 2008; Servillo and Schreurs 2013). Design thinking relies on an evolving interaction between a context or environment and competing agendas, theory and practice, and different scale levels to endow spatial interventions with an enriched substance in tune with a broader notion of spatial quality (Schreurs 2006; Khan 2010). In this sense, design is no longer the application of abstract knowledge but a ‘principal method used by society to envision how we want to live in the future’ (Moore and Karvonen 2008; Khan 2011). Thus, design-based research has become more ‘society-feasible’ (Lawson 2004) through a greater involvement of different types of users and stakeholders, opening up an opportunity to live design as a social learning process (Schreurs 2007) and as a cultural practice of place-making (Khan 2011).

- *Navigating opportunities in strategic spatial planning*: Over the last decade, strategic planning theory and practice have bypassed the rationalist boundaries of the management science models of strategic planning, by discovering step by step the particular features of ‘environment’ and ‘uncertainty’ in the planning arenas, and by introducing a proper spatial planning ‘fit’ approach to governance and decision-making based on a variety of institutional planning theories and practices (Albrechts, Healey, and Kunzmann 2003; Healey 2006; Moulaert and Mehmood 2009). Thus, strategic spatial planning has become much more a mode of integrating complex agendas — through spatial strategy making — and democratic consultation as well as decision-making, rather than a structure for matching functional boxes with spatial availabilities. It has, in other words, developed closer affinities with institutional planning by recognizing

the social dynamics behind fields of functional tension (Healey 1999; Alexander 2005). These social dynamics can best be addressed in a relational framework with space being understood as a social, cultural, economic and ecological construction. In the relational space of contemporary strategic spatial planning, hierarchies are seen as less important than the spatial reach of ‘networks and meshworks’ (Van den Broeck et al. 2013).

Significant advances in the three spatial fields pinpoint important dimensions of how spatial quality should be addressed in the future. Recognition of the social character of space as in spatial development analysis, the necessity to integrate use values in design processes through participatory and inclusive urban design and the navigation of constraints on, and opportunities to improve spatial quality as recognized in recent developments in strategic spatial planning show the way. But before making stronger choices on the nature of the meta-framework for the analysis, assessment and making of spatial quality, in the sequel of this section we explain how an analysis of the literature in the three fields was made and organized by themes partly shared, partly complementarily volunteered by each field. Next, in Section 3, we illustrate for two themes (social space; nature and environment) how synergies between these themes lay the grounds of shared concepts and epistemological starting points for a comprehensive meta-theoretical framework (Section 4).

A dialogue between the advancements in the three fields should enable us to work towards an integration of approaches to spatial quality in spatial planning, social innovation in spatial development and urban design research. Such a dialogue should reveal the diversity of interpretations of space, spatial quality, spatial transformation in the three fields as well as their user and stakeholder affinities. It holds the potential of mutual enrichment of the concepts used, theorized and applied in each field. It also volunteers the building blocks for a shared epistemology including a meta-framework and methodological tools to analyse and further spatial quality within and across places. Such shared epistemology is necessary to benefit from the diversities applied in the approaches used within each field. The modalities and value of this dialogue have been adequately reflected upon in the several articles of this special issue whose focus ranges from a transactional perspective on space (Bridge 2013), seeing space as receptor, instrument or stage (Heynen 2013) to transgressing epistemic boundaries to addressing the conception and transformation of space (Madanipour 2013) and the analysis of the transformative capacity of spatial planning through its exploration of new opportunities available within the various spatially embedded networks and their actants (Van den Broeck et al. 2013).

To move on to the shared methodology and the meta-theoretical framework structuring, it was agreed among the researchers in SPINDUS that eight sufficiently abstract themes should be in the literature survey: *social space, materiality, ownership of space, types of space, scale, nature and environment, representation of space and ethics*. These themes have been examined as to their epistemological roots, their theorization, the empirical and action-oriented context in which they have been treated and the methodological potential they hold (Moulaert et al. 2010).

Some of the themes have very different meanings according to the field in which they are used. Complementarities and antagonisms arise, but the necessary building blocks for a holistic meta-framework are never far away.

### 3. Cross-Thematic Reading: A Focus on Social Space and Nature Cum Environment

As an illustration of how we have materialized the literature analysis according to the eight themes, we briefly explain how each of the three fields addresses *social space* and deals with *nature and environment*. This does not mean that the other themes would not be equally important. But nature and social space are critical issues in contemporary urban design and strategic planning. Bringing nature into urban design requires more than ‘greening urban space’, it requires an ecological approach preoccupied by urban metabolisms and how design should contribute to the ecological but also the social sustainability of places (Hester 2006). It also means opportunities to improve the quality of spaces and places. The social then, we have seen in the previous section, is on the rise in all three fields: social space as a new focus in spatial development analysis, as a driver of inclusive design and as a dynamic relational framework with space being understood as a social, cultural, economic and ecological construction in strategic spatial planning. From progress in the three fields, we learn that the social as a dimension of space has indeed moved past participation rituals to enter the heart of planning and design combined (Mehmood and Moulaert 2014).

#### 3.1 *Social Space in the Three Fields*

In the field of *social innovation in territorial development*, social space is about the different modes of appropriation of space by human beings. Appropriation happens through the materialization of different types of relations between humans and between humans and nature.

In this field social innovation-in-space combines three (partly overlapping) meanings (Moulaert and Ailenei 2005): (1) *Innovation in territorial social capital*, through bridging networks, reproducing cultural assets, upgrading personal and collective social capital by participation in territorial communities (Forrest and Kearns 2001; Moulaert and Nussbaumer 2005); (2) *Innovation in social space*. This is the most Lefebvrian of the meanings. It addresses social space from the perspective of the dialectics between perceived, conceived and lived space; or in terms of relations between humans and ‘their’ space: spatial practice, representation of space, representational space; (3) *Socially innovative actions to transform space and improve spatial quality*. This involves a broad agenda for spatial policy, planning and design and a multifaceted relational calibration of cultural dynamics. This approach supports a ‘diversity’ reading of spatial development dynamics, interventions in space, use of space in social change, etc.

In *urban design*, the concept of social space implies inclusive and accessible public space constituted by networks of streets, plazas, squares, parks and other open spaces that support human interaction, social integration and cohesion (Banerjee 2001; Madani-pour 2006, 2010; de Solà-Morales 2008; Khan 2013). A coherent network of such spaces is conceptualized as a ‘socio-morphological’ system that produces ‘urbanity’ and the ‘city’ as an ‘artefact’ — the user’s common historical heritage (Rossi 1966). Also conceptualized as ‘collective space’ (de Solà-Morales 2008; Hajer and Reijndorp 2001), their presence is crucial for social movements that struggle to deepen the roots of democracy and new, more egalitarian forms of sociality (Thomson 2002). Such spaces impart social and symbolic values, by contributing to psychological well-being, or more broadly by



furthering the possibility for ‘democratic ideals, good citizenship, a sense of freedom, civic pride and responsibilities’ (Banerjee 2001; Madanipour 2006). Understanding social space in urban design, therefore, implies understanding the concept of ‘public space and public life’ relationship and the ways in which both the public and private realms are implicated in producing value, image and meaning.

Theorizing ‘public space and public life’ relationship in the design discourse is increasingly inspired by Lefebvre’s notion of the ‘social production of space’ (Montgomery 1998; McCann 1999; Khan 2013). Lefebvrian analysts argue that the discourses of spatiality are confined to a conceptual triad of spatial practices, representations of space and spaces of representation. The ‘spatial practices’ of perceived space represent the practical or physical basis of the perception of the outside world. The ‘conceived space’ then is referred to as the ‘representations of space’ of the architects, researchers, cartographers or designers where according to Lefebvre (1974) the practices of social and political power take place. And finally the ‘lived space’ as the space of imagination capable of refiguring the balance of popular ‘perceived space’ and official ‘conceived space’. This triad allows understanding the way value and meaning are produced in public space (Lefebvre 1974). In the design discourse, Amos Rapoport has developed a similar line of thinking through his large body of work on ‘environment — behaviour’ systems, where he argues that ‘socio-cultural schemata are the primary determinants of form and in turn affect the images and schemata that mediate between environment and people’ (Rapoport 1982, 28).

Closely related to, and a further iteration of the social production of space is the concept of ‘place-making’ with a focus on ‘every day life’ and ‘lived experiences’ (Crawford 1995; Banerjee 2001). In this conception, the role of design is seen as a ‘necessary societal function’, ‘means to serve public good’, and in producing ‘responsive, democratic and meaningful’ public spaces (Carr et al. 1992; Crawford 1999). The place-making conception brings two aspects together: the view of ‘spatial form’ as a ‘stage set’ that can be changed, with that of the ‘focus on the concept of public life’ (Banerjee 2001). Seeing place-making as an interaction between [urban] design and public life — a crucial link for broadening the concept of spatial quality — has a specific conceptual history in the theory of urbanism. As argued by Montgomery (1998), theories of spatial form and physical determinism (Cullen 1971) and those stressing the psychology of place (Lynch 1960; Alexander 1979) have been progressively synthesized by focusing on the ‘street life and activity’ (Jacobs 1961) and ‘life between buildings’ (Gehl 1987), which led Buchanan (1988, 33) to comment that: ‘Urban design is essentially about place-making, where places are not just a specific space, but all the activities and *events* which made it possible’.

Theorizing public space through the lens of ‘place-making’ also offers a productive dialogue across disciplines (Low 2000). It brings ‘space’ central to socio-spatial analysis as a ‘layered concept’ that is ‘always specific, unique and in the *making*’ (Massey 2005). Moreover, it confronts Lefebvre’s notion of space with the importance of ‘materialities’ that take part in producing connectivity and *meaning* through ‘embodied sensorial experiences’ in urban public space (Lehtovuori 2010; Degen and Rose 2012). Space, place and use, thus, are increasingly seen as an interwoven socio-spatial process the dialectics of which ‘influence each other, *co-producing* space in a dialectical movement where the experiencing human being is in a central position’ (Lehtovuori 2010). These theoretical developments show the futility of isolating the spatial from the social and design from politics in conceptualizing social (public) space (Khan 2013). They also promise the broadening of the concept of spatial quality by analysing the socio-spatial dialectics of

‘place-making’ and ‘social capital formation’ through categories such as, ‘accessibility and inclusiveness’ (Madanipour 2010), ‘experiential quality’ (Sternberg 2000), ‘atmospheres’ (Lehtovuori 2010), ‘sensorial experiences and image’ (Degen and Rose 2012; Khan 2013) and ‘publicness and co-production’ (Graham and Aurigi 1997; Loeckx and Shannon 2004; Khan 2013).

In *strategic spatial planning* finally social space is almost a pleonasm. ‘All human space is understood as fundamentally social [...] Space is a *socially produced phenomenon*, where artefacts, practices, and mental categories all play a role. Social space is both material and imagined. Space should not be understood as the neutral backdrop of social actions and relations, but rather as indelibly mixed in these relations both produced by them and defining them’ (Lehtovuori 2010, 54–55). As in many other spatial fields, we saw, also in strategic spatial planning many conceptions of social space refer to Lefebvre, thus defining it as dynamic and processual, not-yet-existing or ‘becoming’, performative/active, and always conceptualized specifically and socially produced. Such space is not a passive container, cannot be put on a single plane of representation and is constantly reproduced by humans. Of all three fields, strategic spatial planning relies the most on relational geography to address the social nature of space. It is quite explicit about the time–space connection in the relational dynamics. The time path of a planning process reveals ‘the inherent spatiality in all relations, whether social, ecological or biospherical, and which understands place as a social construct generated as meanings are given in particular social contexts to particular sites, areas, nodes of intersection’ (Healey 2004, 47).

Probably mainly thanks to Lefebvre’s inspirational power and the spreading of the relational metaphor, the *perceptions* of social space in the three fields have come quite close to each other. The definition of social space in strategic spatial planning is almost the same as its second definition in the social innovation and territorial development approach. Promising contributions from the use of the social space concept in territorial development to design-based research concern legibility and meaning within territories as well as the various dimensions of social capital within spatialized social relations (Moulaert and Cabaret 2006). However, this approach, although potentially powerful, is mortgaged by the confusion within the social capital literature itself which puts too much stress on social capital as an *instrument* of community building instead of considering it as the very nature of community life and development in all its diversity. The dialectics of the three meanings of social space in the social innovation in territorial development approach offer an ideal ground for dialogue with design research, as the three meanings play a part in it and, at the same time offer an entry to spatialized social relations as a broader setting to interpret and transform spatial quality (improved use of space from a socially innovative point of view as an important way of looking at spatial quality). The synthesis of these dialectics also lays the grounds for the study of collaborative and communicative planning practices which have found a second life in the new generation of bottom-up, exploratory and asset-based strategic planning approaches (Kunnen, MacCallum, and Young 2013). Probably, the most important evolution in the use of the social space concept in design and planning is that it has contributed to the abandoning of the elitist reading of change agency and privileges, employing bottom-up participation, collaborative planning and research by design as emancipatory vehicles. It thus comes very close to Friedmann’s (1992) analysis of community empowerment. And it opens up participation to other groups using space, as it opens the door to different forms of expressivity beyond speaking up at official forums organized by planning authorities who often only seek *ex post*

approval of their magnificent plans. This opening up of planning processes to the diversity of users and to a broader range of expressive media (formal speech, artistic expressions, activist statements, improper use of unadapted places, ...) may lead to astounding new insights on people's needs. This is, for example, what Van Dyck and Vervloesem (2013) learned from their anthropological study of living practices of inhabitants of Camping Floreal, which revealed the failure of actual urban social housing policy, not only because there is shortage of housing units, but also because the units provided (should) match strict design and housing policy regulations, with no account whatsoever given to the variable needs of the 'absent inhabitants'.

### 3.2 Nature and Environment in the Three Fields

In the *Social Innovation and Territorial Development* literature, *social innovation* as an analytical concept holds the potential to engage deeply in the exploration and creative reconfiguration of socio-environmental relations and their consequences for spatial planning and urbanism. So far, the social innovation approach, however, deals surprisingly little with nature and environment, with the exception of the role of ecology in urban neighbourhood development or the role of social innovation in nature protection governance. Recent contributions (e.g. Parra 2010) examine socially innovative changes in governance relations of the environment (sustainability and forestry, sustainability and agriculture), yet much work still needs to be done on linking social innovation to sustainability and protection of the environment and the inclusion of non-human actants in the social innovation approach. Recognizing the deep relations between culture and society within the socio-ecological metabolism of regions, cities, built environment, Parra and Moulaert (2010) stress the importance of cultural-ecological identities in building workable governance for socio-ecological systems. Mehmood and Parra (2013) explore the natural and desired connections between social innovation and sustainable development. They show, for example, how methods of needs revealing and satisfaction promoted by social innovation approaches can foster biodiversity and restore the balance between technological, ecological and human dimensions of need satisfaction, for example, by promoting new life styles. To this purpose, they examine the role of governance systems in the (re)production of consumption norms, life styles, etc. Parra (2013) argues that the social is not — as often depicted — the weakest pillar of the sustainability triad but its fundamental engine. She argues that the social nature of sustainable development can be reinforced with the aid of social innovation theory, highlighting the two approaches' shared concern with governance, as well as their complementary role in encouraging an innovative logic of interactivity seeking a transformation in social relations oriented to define and satisfy human needs, on the one hand, and a more sustainable nature-society relationship, on the other. Socially innovative relations, inclusive participation in governance and the production of alternative knowledge for decision-making are signalled as essential meeting points between these two approaches and essential for building resilient governance systems for spatialized socio-ecological systems. The role of governance in building sustainable environments has been widely recognized in two domains, which received wide attention in the recent past: the governance of protected areas and the building of community networks around urban gardens and food systems. It is expected that these two areas of ecological citizenship concern will empower the role of social innovation strategies and

processes in preserving and improving natural spatial qualities in places and spaces (Parra 2010; Chang and Meusburger 2011).

Two main theoretical streams can be distinguished in *design thinking about nature and environment*: Bio-regionalism based nature–culture dialectics and the idea of architecture as second nature. Owing to the Gedessian legacy, which is also claimed by the spatial planning field, the logic of bio-regionalism implies that architectural configurations and urbanization should follow nature’s order (Ingersoll 2006). This stream has been canonized in design discourse since Mcharg’s (1992) *Design with Nature* that makes the case for human cooperation and biological partnership in design and argues that relationship between the built environment and nature can be used to their full potential without being detrimental or destructive to each other. This stream remains at the forefront of contemporary design discourse, such as in *urban design with nature* (Farr 2008). On the other hand, the idea of architecture as second nature — an intellectual current that is traced back to the Renaissance — denotes the assigning of an autonomous discursive formation to the organization of built space (Choay 1997). This idea in design implies emulating natural systems rather than conserving or integrating them. In such a conception, architecture and the city become constituent elements of a socially constructed ‘second nature’ distinct from the world as found, or as Louis Kahn expressed ‘architecture is what nature cannot make’. This line of thinking crystallized into what the design theorist Banham ([1971] 1999) called the ‘architecture of four ecologies’.

Mitigating this historical paradox — architecture vs. ecology — of a sort of anti-ecological position in design thinking are symbolic representation of nature, bio-mimicry and recourse to theories of nature as analogues in design methods (Ingersoll 1996, 2006). Transcending this paradox is the concept of ‘learning ecology’ (Lynch ([1981]1984)) in research by design that views nature and built environment as part of one ecological whole, which brings back the idea of nature–settlement dialectic to the very core of research by design. This conception also champions the integrative potential of research by design — a notion progressively advanced in design circles for dealing with the integrative endeavours of the sustainability paradigm (Khan, Allacker, and Vandevyvere 2013). From this perspective in design, curtailing accelerated entropy is both an ethical (rights of nature) and technological (e.g. inefficient design) matter (Ingersoll 1996). Between them — moral interpretation and concerns for material well-being — and their interaction is where most critical positions on sustainable design and ecological architecture emerge (Ingersoll 2006). These proliferating positions can be differentiated along what Guy and Farmer (2001) call the six eco-logics: eco-technic, eco-centric, eco-aesthetic, eco-cultural, eco-medical and eco-social. These logics characterize the philosophic approaches of designerly ways of seeing and integrating nature, environment and culture in which the strength of any given design is not of a single dominating logic or world view but a synthesis: a consideration of all issues and possible solutions, creating a subtle blend of several of them according to the specific needs of place, which would then produce a better degree of sustainability. This position comes quite close to that of ‘Design for Ecological Democracy’ defended and pedagogically built up by Hester (2006). He develops new principles for urban design starting from the powerful forces of ecology and democracy. Although written from an American perspective, stressing the driving force of freedom to build ecological communities and cities, the approach shows quite some affinity with the social innovation and social sustainability approaches in the spatial development literature which

rely on the building of bottom-up governance systems to create ecologically sustainable communities.

For contemporary *strategic spatial planning*, issues relating to environmental goods and bads are one of key challenges which, amongst others, are to solve problems arising from conflictive economic, social and environmental sustainability agendas. Unity in perceiving nature, built environment and city of humans seems to be the way in which nature is analysed in this field. Current relational understandings of the environment turn not only against distinctions between green spaces and built environment, but also against the distinction between nature and the city (Graham and Marvin 2001). On the one hand, urban metabolisms increasingly produce and reproduce nature both locally and at very distant locations. On the other, nature impacts heavily on cities that — in the face of natural, man-made or man-influenced environmental disasters — are increasingly shaped by environment protection discourses and urban resilience programmes. In line with this, the actor-relational-approach in spatial planning drawing upon Latour's actor-network theory (ANT) (Latour 2005) recognizes negotiating subjectivities of non-human and non-living actors. 'ANT assumes that in principle, symmetry exists between objects and subjects, nature and sociology, the human and the non-human [...] Because ANT also starts off with actors and relations (or networks) — not only between each other but also between the human and non-human actors, for example, the specific characteristics and entities of the locality — in order to reassemble them in such a way as to become more innovative, enforceable and associative' (Boelens 2010, 36). Although nature and environment do not speak for themselves at roundtables where planning practices are being negotiated they convey meanings that are expressed by their human spokespeople (Boelens 2010), as well as take the role of leading actants before, during and after serious disturbances of environmental equilibria and natural disaster episodes.

From these three readings of the relationships between space, the pursuit of spatial quality and nature/environment, a first conclusion can be drawn: the growing recognition of the role of human actors not only in the building of the environment, but also in its destruction. Under the influence of the sustainable development and social innovation debates, the roles of collective action and governance in restoring and preserving nature and its equilibrium with the built environment have been confirmed. Methods of participation in design for and concrete modes of democratic governance of the nature–culture nexus in its different forms (transition neighbourhoods, protected areas, rural communities, ...) have significantly evolved over the last decade. Strategic spatial planning by stressing the ANT perspective has given an impetus to the fuller recognition of the socio-ecological metabolisms in landscape and socio-ecological systems planning. Yet it will take more time to account for the role of non-human actants that are part of those systems. Ecological planning is still too much planning of the life of those actants, while not recognizing that they often have a more significant impact on the course of the environments than all planners together. This could well be in Ndubisi (2002)'s logic the start of a reordering of the epistemological positions to address spatial quality at the intersection between society and nature. Hester's (2006) position comes close to this when he identifies ecological democracy as the ontological position which design should adopt to work towards new forms of habitation, community and city building.

Bringing together these three readings of two themes shows that one field can be analytically stronger in reading a particular theme or one of its specific dimensions; but

especially that reading a theme in one field while at the same time allowing the light from the other fields shine on the same theme enriches that reading. It shows the necessary synergies between . . . the unnaturality of separating the built and unbuilt . . . the ecological from the social . . . the lower scales from the higher . . . But while calling loud for a relational approach, neither the genesis of, nor the synergies between the approaches to nature and social space in the three fields give the full picture needed to read, assess and improve spatial quality in spaces. Other dimensions of spatial quality and its making are needed. The questions about how the relational approach should be built, which elements should be connected and from which ontological perspective cannot be answered without use of an integrative framework which we have designated as the meta analytical or meta theoretical framework — or in short a ‘meta-framework’ for addressing spatial quality.

#### 4. A Meta-Analytical Framework for the Reading of Space

A meta-theoretical framework goes beyond the concepts and theories available to answer the individual research questions and situates them together within a broader epistemology which in our case is about ‘How do we build knowledge to analyse, assess and improve spatial quality?’ Such knowledge-building involves asking the right questions, connecting them to relevant explanations and examining whether these explanations are valid. In this way, the term *meta-analytical* framework is more appropriate as it does not only refer to the theories and how they are related to each other but also to the methods for analysing, assessing and improving spatial quality. We therefore prefer to speak in terms of meta-analytical framework or meta-framework *tout court*.

To give unity to the reading of the reproduction of space, its users and its qualities while respecting diversities and complementarities between them, a *shared ontology* — involving an ethical positioning — is needed as well as an agreement on the dimensions of complexity to analyse that part of reality that is examined (Moulaert 1987; and compare with Jessop et al. (2013, 124–125) on the epistemology of social innovation research). ‘Sharing’ and ‘agreeing’ refer to the different theoretical traditions and research approaches that are involved and have both an interdisciplinary and a transdisciplinary meaning (Moulaert and Cassinari 2014). *Interdisciplinarity* — working towards a shared analytical framework for joint research on the same theme between scholars coming from different disciplines and fields — and *transdisciplinarity* — cooperation between scientific analysts and professional practitioners for improving spatial quality, for example — have recently been integrated into an interdisciplinary approach in which researchers and practitioners collaborate in a research and action process from day 1 (Miciukiewicz et al. 2012; Moulaert and Cassinari 2014).

In an ideal professional world, the collective building of an ontology — a view of the world and its transformation — should be part of the design, planning or community development experience. Stakeholders, analysts and practitioners should interact through workshops, focus groups, shared analyses and decide on how a qualitatively rich space or place should look like. But in reality there is often no time or appropriate conditions (resources, sufficiently diversified expertise, quality time with users, . . .) available to develop such a ‘quality space ontology’. Therefore, the meta-frame should include some basic features and interrogations on how spatial qualities are reproduced thus helping

to identify essential elements of spatial quality analysis, assessment and improvement. We count four such features as essential:

*First*, the meta-frame should draw attention to the concepts and dimensions of space that various disciplines — and especially the three fields that are in our focus — call upon in their respective spatial analyses. The literature surveys which have been done by SPINDUS and to which Sections 2 and 3 of this article refer, have provided information from the three fields on eight themes: social space, materiality, ownership of space, types of space, scale, nature and environment, representation of space (WPI reference for SPINDUS — <http://www.spindus.org/?ref=workpackages#WP1>). The synergies between these themes show how knowledge on the different types of spatiality (spaces) and spatial qualities have emerged and synergies have grown. We have illustrated this for social space cum nature and environment and learned among others that spatial qualities are embedded in the spatialities of socio-ecological metabolisms and that ANT dynamics of these systems also reflect the socio-political settings in which planners, designers and researchers (should) cooperate to improve spatial quality. Yet synergizing themes do not suffice to provide a comprehensive ontological structure.

To achieve this, we need to rely on more systemic or neo-structural (meta)-theories in ecology, sociology, geography, systems theory, etc. This is the *second* feature of the meta-frame: it should provide us with a structure of the spatialized socio-ecological system in which different dynamics of space-making and use of space are reflected and different types of space find their place. To this purpose, we can rely on the multi-scalar socio-structural analysis of spatial development like that provided by Moulaert and Jessop (2012), a systems analysis of the ecology of capitalism (e.g. Biel 2012) or a comprehensive view of the urban socio-ecological systems highlighting, for example, the spatial impact of the urban food system.

*Thirdly*, the meta-frame should relate users of space to the ways they deal with space. To address user–uses relations, we follow Rapoport (1970) in his ‘study of spatial quality’ and propose to give meaning to the spatial quality concept by connecting it to (the quality of) the use of space, the impact of human practice on and in space. Following the relational geography’ approach in spatial development analysis and planning, we adopt a relational perspective that builds significantly on a spatially and socio-ecologically embedded elaboration of the A (Actor and Actant) network theory concepts. The neo-structuralist framework recognizing the societal dynamics of structures and institutions as specified under feature 2 can lead to such embedment. This relational perspective refers to both the relations between the actors involved in planning, community development or design projects, experiences, etc., as well as the relations between the different actants of spatial quality itself. This double relational perspective should lead to a double modesty in the sense of critical realism: professionals should abdicate from their throne (‘they are only one type of actor in the making of space’), and humans should be aware that nature will decide on the future of the earth without consulting them.

*Fourthly*, the meta-frame should volunteer the stepping stones for improving methods to identify the uses of spaces, the satisfaction they give to their users, the impact they have on other uses and spaces, now and in the future, and the way these impacts (satisfactions/harms/empowering capacities) can be assessed and improved. In other words, it should provide methodological guidelines for analysing, assessing and improving the quality of space and define the methodological contours for spatial quality case-studies, design and planning workshops, community building processes, etc. The translation of the

relational perspective as reflected in the meta-frame into collaborative design, participatory planning and community coproduction methods is at the core of the agenda here, as is reflected in the many case studies that have been undertaken in SPINDUS (Segers et al. 2013).

The application of these four features and the cross-disciplinary reading of the themes in the three fields have led us to the following seven-dimensional meta-framework to analyse, assess and improve spatial quality in places and spaces:

1. As we learned from several of the surveyed theories in the three fields, space is relational, its uses are relational and therefore reflections on space qualities as well.
2. A relational approach within social space necessarily involves an ethical dimension. Relations between humans, individually and collectively, and between human and non-human actants refer to shared but also contested ethics in the form of values and codes of communication and cooperation. The ethics that are guiding the theoretical and methodological advancements in this spatial-relational approach may be referred to as ‘spatial justice’. The concept emphasizes the spatiality of justice and injustice (Soja 2010) and implies that the relations between space and societies play an essential role in understanding social injustices and to reflect on interventions that aim to reduce them.
3. The relational approach takes on board modernist insights on the role of power structures and relations as significant drivers of the use of space (Moulaert and Cabaret 2006). It therefore also focuses on countervailing and alternative social forces that feed new insights and opportunities in the use of space while connecting them to the historical and geographical contexts in which they were developed (Hillier 2008).
4. The uses of space are to be read according to the different types of (interaction with) space identified in the literature survey (Miciukiewicz et al. 2010). They refer to the social, cultural, physical, biological, . . . [dimensions of] spaces that are interconnected and that — depending on the focus of the analysis of spatial quality — could be analysed as ‘actants’ within nature–society interactions. Different types of agency and activity within their interrelatedness should be acknowledged.
5. Reading spatial qualities according to the different actants and types of interaction with space also takes into account different modes of experience of space (sensorimotor, tactile, visual, conceptual) and aims to understand how users feel about space and place.
6. The relational approach includes a multi-scalar perspective, as developed in the relational geography, multi-level governance and scalar politics literature. It is based on a multilayered and dynamic view on scale that sees places and sites within their particular relational networks and also implies the idea that spaces and places play different roles in variegating networks across time and space.
7. Sustainable development (3E model: economy, environment and equity) — with all its analytical and socio-political shortcomings — is a significant starting point for the ontology/ontogenesis of spatial quality making. However, it is translated too often in a static way as a change — often hardly coherent — agenda, not as a proactive process of spatial transformation as in the socio-ecological systems (Parra and Moulaert 2010) or political ecology literature (Swyngedouw and Heynen 2003). How does development within and across particular spaces take place from the perspective of sustainability? What are the inherent conflicts between the pursuit of social



sustainability on the one hand and the political economic forces controlling the real estate markets?

8. The assessment and improvement of spatial quality is a matter of collective learning, negotiation and action. This involves a transdisciplinary stance, an ethical judgement about social change and the need for development of interactive methods to support assessment and improvement of spatial quality. The social innovation perspective has the potential to materialize these, because it does not only 'socialize' space and its uses (unveils their social character) but also shows the way to make social relations more participative (Moulaert et al. 2013).

Especially the seventh dimension stresses the importance of a *relational methodology* in determining spatial quality. As we saw, contemporary literature looking at space, spatial quality, place quality, sustainable development and construction, etc., for example, brings on board a multitude of features of sustainability and spatial quality and shows the existence of a wide diversity of methods. The challenge is to create unity or at least dialogue between this diversity and this is where the meta-framework with its *transdisciplinary* methodological potential can help. Transdisciplinarity requires the identification of the roles of different actors in spatial quality reading, assessment and improvement initiatives. A transdisciplinary exercise of spatial quality assessment and transformation requires to go beyond the description of the role of actors (stakeholders, policy-makers, activists, ...) and brings them on board as actors in the problematization of spatial quality. It abandons the elitist reading of change agency and privileges, employing bottom-up participation, collaborative planning and research by design as emancipation vehicles to include all concerned agents. A user-oriented approach to spatial quality is thus also about the improvement of relations between 'agents in space', including social innovation in governance (e.g. the construction of consultation and participation groups involving these agents).

In addition, the analysis of the role of different 'spatial quality makers' within the meta-framework has a reflexive dimension and should allow to evaluate the role of the different actors and the relations between them from an ethical and professional competence point of view. We could therefore say that in an ontologically coherent approach to spatial quality the meta framework can be used for *three complementary purposes*: (i) identifying the 'makers' (actors, actants) of spatial qualities in their different roles, within their networks as they are socio-spatially and socio-ecologically embedded and figuring out how they interactively (re)produce space and its qualities; (ii) identifying the spatial features that are relevant to the actors and actants using different notions of space, sustainability, etc., and how these features are qualitatively changed; (iii) making a reflexive analysis of the role of the researchers, planners, designers, community developers, etc., involved in the spatial quality exercises: whose cause are they pursuing? Which ontology and theoretical perspectives have they adopted? How great is their openness to work interactively with users of space and to use a combination of methods from different disciplines?

## 5. Conclusion: 'Addressing' Spatial Quality

The challenge of addressing spatial quality is to qualify the relations between space(s) and its (their) users or their spatial praxis. Working with a meta-framework according to the seven dimensions explained above limits the risk of losing the interdependencies

between different dimensions of space, its uses and users or overlooking important actors/actants and features of spatial quality and the nature of the relationships between them. Used by itself, detached from empirical spatial reality, the meta-frame holds the risk of ending up with too abstract representation of interdependencies while overlooking the ‘dependencies’ on the socio-spatial and socio-ecological contexts in which space making takes place. Yet in a case-study analysis in SPINDUS, this risk is contained, as the participatory analysis, design, planning and development methods always start from a particular case and its context, its planning and design challenges, etc.

The meta-framework shows the potential of an integrated approach for spatial quality analysis, by making the connections between the different dimensions more relational and by stressing the agency-driven transformative character of spatial quality building in places, neighbourhoods, landscapes, public spaces, etc. In this way, it follows up on the desire of designers, planners or community developers to work in a more integrative and interactive way on the improvement of spatial quality. Yet each space has its own quality challenges, and the actors making a space act within that space according to their mindsets and their institutional embeddedness. Participatory design and planning approaches stress the specificity and the context of the spatial realities they ‘work with’. Yet this specificity will best be valorized if addressed in a dialogue between an integrative approach to spatial quality as supported by the meta-framework and the particular and often indirect way in which spatial quality is often idiosyncratically narrated and deconstructed by specific authors and actors in specific places.

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