
Visualising the design of conditions for urban social sustainability

Visualiser la conception des conditions pour la durabilité sociale urbaine

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Introduction

- 1 Of common concern in urban design theory focusing on the public realm, is the threat posed to existing and future social practices in urban areas by the continuous re-introduction of over-determined built forms and controlled environments (Rieniets et al., 2009; Shaftoe, 2008; Sennett, 2009; Easterling, 2012). This concern has led to the identification of a pressing task, the clarification of specific urban conditions that allow for the public realm to develop and extend. A discourse exists, one that focuses on design and its relationship with urban social sustainability. Contributions to this discourse come from a range of disciplines: architecture, urban design, urban geography, urban sociology and social and environmental psychology (Gehl, 2001; Ellin, 2006; Franck & Stevens, 2007; Sennett, 2009; Leatherbarrow, 2012). The emphasis placed on design, and its role in the creation of conditions for sustainable social practices, however, varies in this discourse across the different disciplines (Christiaanse & Hoeger, 2006; Tonkiss, 2013). Where design is emphasised in this discourse, it could be described as adopting the non-technical perspective of sustainable urban design. In this discourse communication of the design of conditions for urban social sustainability is predominantly text-based. If textual descriptions are supplemented, it is with photographs of social practices in urban environments. This article contends that this discourse holds a lot of potential for architects and urban designers, in assisting the design of urban environments that can enable a thriving public realm. However, the value of this discourse could be lost due to the language of textual description used. This article presents research that explores how concepts in this area could be communicated to design practitioners, thus helping to bridge the gap between theory and practice. Through the act of imaging, this research

seeks to put image to text, to imagine what these conditions look like and where in the built environment they can be found.

- 2 In this article two concepts that adopt the non-technical view of sustainable urban design, are identified. These two concepts are examined to extract designed urban conditions for sustainable social practices. The extracted conditions allow for the establishment of an evaluation criterion. It is suggested in this article that this evaluation criterion can be used to address the design of over-determined built forms when applied to comparative case studies analysis. This application also tests the value of a discourse that adopts the non-technical view of sustainable urban design. Case studies in the form of retail-led urban regeneration schemes, often criticised as models of over-determined built form, were chosen from urban centres in Ireland and The Netherlands. On analysis, the case studies in the Irish urban centre presented conditions of over-specification and over-simplification, revealing a lack of design that factors in urban social sustainability. The case studies in the Dutch urban centre highlighted a 'better practice model'; therefore, revealing the design of conditions facilitating sustainable social practices. The results of the evaluation of each case study were graphically represented and the otherwise invisible socially sustainable designed urban conditions made visible. This article attempts to highlight how visualising concepts derived from urban theory and translating them into evaluation methods can bring rigour to the design process and design evaluation process. Of particular relevance to this research is the acknowledgment that by "expanding the conventions of architectural drawing using literature and contemporary thinking" allows the urban researcher to "better see the range of activities that do or might occur, as well as to assess the qualities of experience and place" (Dutoit, 2008, p. 148). This article also argues that through activities of imaging another dimension can be added to the discourse that adopts the non-technical perspective of sustainable urban design. It is proposed that acts of imaging have the potential to communicate this perspective more effectively to designers and those responsible for design review.

A pressing task

- 3 In the essay, *The Sacrifice of Space*, architect, scholar, and writer, David Leatherbarrow writes:

in a time when individual ownership and expression are so much in evidence, and so corrosive to [...] the public realm [...] For the sake of our cities and the cultures they represent, there is no more pressing task than the clarification of the conditions under which communicative space can be re-imagined. (Leatherbarrow, 2012, p. 39)
- 4 The research presented in this article identifies not only with Leatherbarrow's recognition of the corrosive processes found manifest in the built environment but also with the pressing task he draws attention to: the clarification of conditions. This research initially emerged in response to the proliferation of retail-led urban regeneration projects carried out during Ireland's Celtic-Tiger building boom. The majority of these urban regeneration projects, or 'new town centres,' when analysed are found to be over-determined in form and function and display a visible lack of sustainable urban design. Of particular concern is whether or not the design of these centres can allow for the development and extension of the public realm of the existing urban centre. This concern

leads to the identification of a pressing task. This task is outlined in the following two questions: What evaluation criteria could be used to assess whether or not the design of retail-led urban regeneration schemes create conditions for sustainable social practices? Could these criteria be visualised, graphically represented? The second question emerged when considering the relationship between urban design research and urban design as a practical and applied activity. Questioning if the criteria can be represented visually relates to thinking about “the nature of the knowledge produced to support urban designers in their work” (Biddulph, 2012. p.1).

- 5 In the article, *The Problem with Thinking about or for Urban Design*, Biddulph distinguishes between research about and for urban design. Biddulph relates thinking about urban design “to the body of thinking which attempts to locate urban design activities within social theory” (*ibid.*, p.3) where as thinking for urban design “refers to the body of knowledge, ideas and practices which characterize the applied field” (*ibid.*, p.4). Biddulph contends that:

If research and thinking are to be relevant to the applied nature of urban design, then the methods and outputs must also be allowed to look towards the arts or humanities for guidance, inspiration or possibilities. (Biddulph, 2012. p.4)

- 6 Biddulph points to the medium of drawing and argues, “if drawing is one medium for communicating ideas within urban design then it must also be a medium for thinking” (Biddulph, 2012. p.10). Allison Dutoit similarly acknowledges how the drawing, “whether manual or electronic, remains the prime tool” (Dutoit, 2008, p. 149) for the practice of the design disciplines. Dutoit, in exploring drawing as inquiry, argues that the “drawing attempts to unambiguously connect to the idea, a two-dimensional surrogate for conditions in the three-dimensional world” (Dutoit, 2008, p. 149). Drawing and imaging can be a “means of connecting abstraction to reality – and vice versa” (*ibid.*, p. 148). The research presented in this article responds to the pressing task for urban design as identified by Leatherbarrow and by Biddulph. Visualisations are used to think about how the design of conditions for urban social sustainability when distilled from urban design theory can be clarified, re-imagined and ultimately realised. The response to the pressing task is framed in the address of the two research questions posed.

Design for urban social sustainability

- 7 In addressing the first question, this research began its search for criteria by exploring the discourse in urban design theory that focuses on the public realm. In particular, it focused on the discourse found in urban design theory that responds to the “proliferation of commercial structures that are rolled out to a highly formulaic spatial format across the world’s cities” (Easterling, 2012, p. 58). This research looked to the writings of those who not only acknowledge, “cities are turning into archipelagos; public infrastructures are splintering; and public spaces are being left to wither” (Rieniets et al., 2009) but who also respond by attempting to clarify specific conditions that enable sustainable forms of urban experience. Many within the fields of architecture and urban design explore the relationship between design and conditions. Architect Bernard Tschumi has written, “Architecture is not about the conditions of design, but about the design of conditions” (Tschumi, 1996, p. 233). Similarly, architect and urban designer Kees Christiaanse contends, “urban design is about creating conditions” (Christiaanse, 1990). This research, in exploring design for urban social sustainability, identified a useful theoretical

discourse. This research identifies a discourse that adopts a non-technical perspective of sustainable urban design. Contributions emerge from a range of disciplines. Common to all is a non-technical perspective. In Alex Krieger's essay, *Where and How does Urban Design Happen?* Krieger contends "what binds urban designers is their commitment to improving the livability of cities, [...] and indeed to enhancing urbanity" (Krieger, 2003, p. 129). Krieger acknowledges how, "Urban design is less a technical discipline than a mind-set among those of varying disciplinary foundations seeking, sharing, and advocating insights about forms of community" (Krieger, 2003, p. 129).

- 8 In the discourse that focuses on design for urban social sustainability the non-technical perspective of sustainable urban design is presented and defined by Christiaanse & Hoeger (Christiaanse & Hoeger, 2006). This perspective is emphasised by Christiaanse & Hoeger when advocating for sustainable urban design to be considered more broadly, for it to refer in addition to technological sustainability "to design discipline – design that factors in urban and social sustainability" (Christiaanse & Hoeger, 2006, p. 1). Christiaanse contends that the design of social sustainability and sustainable technologies must be differentiated in sustainable urban design, and argues, "social sustainability is a more complicated concept that cannot be solved with engineering, but must be encouraged by design" (Christiaanse, 2010, p. 34). This differentiation between the "technical and non-technical aspects" (Christiaanse & Hoeger, 2006, p. 1) of sustainable urban design establishes a non-technical view of sustainable urban design. From this perspective the focus is on "factors influencing social behaviour and spatial organization," (*ibid.*, p. 1) which are deemed as "obviously vital in determining the sustainability of urban concentrations" (*ibid.*, p. 1). This perspective shifts the discourse of sustainable urban design from forms to forces, spaces to strategies and constructs to conditions. This perspective concerns itself with "not only the shape or contour of the game piece, but also a repertoire for how it plays" (Easterling, 2012, p. 61). Non-technological sustainable urban design defines "the subtle, almost undefinable – but definite – qualities" (Gehl, 2001, p. 9) that create a relationship between the designed built environment and the public realm. Contributions emerge in response to both corrosive and catalytic urban conditions. This article draws attention to the contributions of three urban researchers from varying disciplinary foundations: Karen A. Franck, Quentin Stevens and Richard Sennett.
- 9 Franck and Stevens, in their joint research, shine a light on physical urban spaces and how people use them (Franck & Stevens, 2007). They highlight the many different conditions observable in urban public space, and, in particular, sustainable socio-spatial conditions. Through studying how established public domains operate, and describing the physical and spatial characteristics which allow for that operation through text and photographs, they identify conditions which nurture "particularity in the urban public realm, sustaining local practices and allowing the identity of place and culture to flourish" (Franck & Stevens, 2007, p. 20-21). Similarly, Sennett in his research examines the relationship between social life and physical design. Sennett is particularly interested in the role design can play in social sustainability as demonstrated by his question: "which designs might abet social relationships that endure, just because they can evolve and mutate?" (Sennett, 2006). Sennett contends that the contriving of sustainable urban social spaces "which allow for the gradual evolution and opening up of rituals of behaviour" (Sennett, 2009) is a design issue. Following in the footsteps of Jane Jacobs (Jacobs, 1961) Sennett highlights and attempts to make visible, through his writings and

photographs, socially sustainable urban design conditions. This research, having explored the contributions of Franck and Stevens, and the contributions of Sennett, identified two useful theoretical concepts from their research—the concept of “looseness” (Franck & Stevens, 2007) and the concept of “openness” (Sennett, 2009). This article presents these two concepts and examines both to extract conditions for urban social sustainability.

Two theoretical concepts

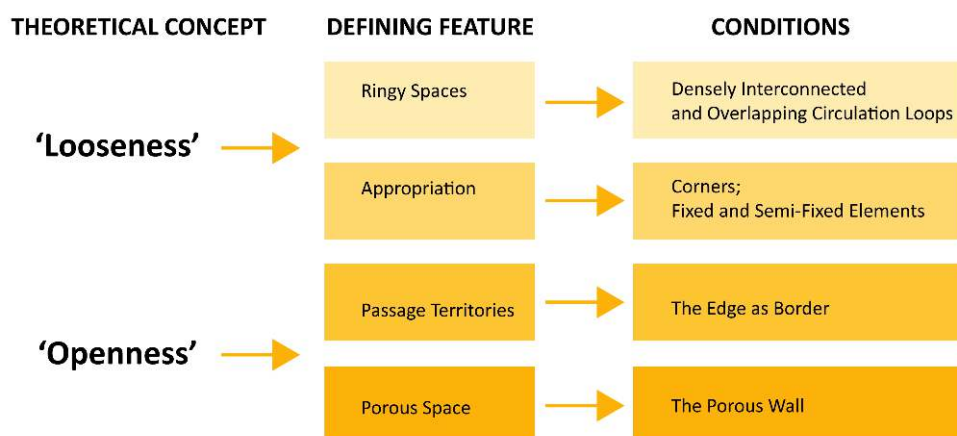
- 10 The concept of ‘looseness’ in urban space is put forward by Franck and Stevens in their research on public space (Franck & Stevens, 2007). They define loose space as space that “allows for the chance encounter, the spontaneous event, the enjoyment of diversity and the discovery of the unexpected” (Franck & Stevens, 2007, p. 4). Looseness in urban space allows for the development and extension of the public realm. In loose space “the urban resident, with creativity and determination” can “appropriate public space to meet their own needs and desires” (*ibid.*, p. 4). Franck and Stevens explore certain social acts and physical conditions that can encourage looseness. In their research they identify “‘ringy’ spaces” and “appropriation” as two defining features of “looseness” in urban environments (Franck & Stevens, 2007). They point to the condition of “different, densely interconnected and overlapping circulation loops” (*ibid.*, p. 6) found in ringy space, and the physical features of corners or fixed and semi-fixed elements, found in public space, that can enable appropriation to occur. Stevens highlights that ringy spaces “provide more opportunities to change direction when moving through the city and allow spaces and people to be encountered in different sequences” (Stevens, 2007, p. 211). This formal condition helps “sustain and enhance the general vitality and robust diversity of social practice” (*ibid.*, p. 211). Urban corners have been recognised by many urban theorists (Whyte, 1943; Solà-Morales, 2003) as places that encourage appropriation and social interaction. As Solà-Morales notes “street corners express the nature of the city as a meeting place” (Solà-Morales, 2003, p. 131). Similarly, fixed and semi-fixed elements found in urban space are often appropriated and can be “made use of in a variety of social acts” (Stevens, 2007, p.178). The physical features of public space, identified by Franck and Stevens, keep it open to possibilities, encouraging social practices to develop and extend.
- 11 The concept of “openness,” as put forward by Sennett, emerges in response to the problems urban societies and environments face today (Sennett, 2009). Sennett writes about the closed and open system, stating that the closed system has paralysed urbanism through its basic principle of over-determined form. Drawing analogies between the natural and the built environment to establish the differences between a closed and an open system, Sennett advocates for “rules which open up the environment to change rather than stabilize it” (Sennett, 2009). The concept of ‘openness’ put forward by Sennett forces designers to consider how public spaces can be opened up, how the divide between inside and outside can be bridged and how visual form can invite engagement and identification (Sennett, 2006). Sennett believes that “openness can be planned” (Sennett, 2009) and that “in the public realm, openness can be defined in terms of built fabric and its context” (*ibid.*). Focusing on edge conditions within the city, Sennett distinguishes between borders and boundaries and explores the design of porosity. Sennett identifies passage territories and porous urban space as two defining features of ‘openness’. He points to the condition of “the edge as border” found in passage territories, and the

condition of “the porous wall” found in porous urban space (Sennett, 2006). Sennett argues that these conditions “create essential physical elements for an open system in cities” (*ibid.*). These conditions “create [...] space at the limits of control, limits which permit the appearance of things, acts, and persons unforeseen, yet focused and sited” (Sennett, 2006). These conditions allow for social practices to emerge.

Designed urban conditions for sustainable social practices

- 12 As acknowledged, the pressing task for the research presented in this article was to find criteria that could be used to assess whether or not the design of retail-led urban regeneration schemes create conditions for sustainable social practices. Having uncovered the two theoretical concepts of ‘looseness’ and ‘openness’ the next step was to use the examination of these two concepts to extract and identify designed urban conditions for sustainable social practices. A summary of the examination is presented in the following image (Illustration 1).

Illustration 1: Summary of findings from the theoretical investigation



Source and copyright: Author

- 13 The examination of the two theoretical concepts of ‘looseness’ and ‘openness’ identified four physical and spatial conditions: densely interconnected and overlapping circulation loops; corners and fixed and semi-fixed elements; the edge as border; and the porous wall. These designed urban conditions suggested an evaluation criterion against which the design of retail-led regeneration schemes could be assessed. The next task, therefore, was to test the value of these findings by applying them to case studies analysis. This application also addressed the second question raised in this research: could these criteria be visualised, graphically represented?

Application of Theory

- 14 In the application of the evaluation criterion derived from theory comparative analysis was carried out. Four case studies from two countries were chosen. Considering this research was initiated in response to the retail-led urban regeneration projects delivered

during the Celtic-Tiger building boom, two projects were chosen from Ireland. Two projects built during the Celtic-Tiger era were chosen from Ireland's largest town, the town of Drogheda. The country from which two more case studies were selected was The Netherlands. The Netherlands was chosen for a number of reasons. As a country it is widely recognised as a leader in urban sustainability (Court, 2009). Unlike Ireland, it is a country with a strong reputation for urban design practice. Both Ireland and The Netherlands in 2008, just after the peak of the Irish property boom, had the highest shopping centre stock per 1000 population out of 25 European countries (Jones Lang LaSalle, 2009). Both countries are located in Northern Europe and share a similar climate. Two awarding winning retail-led urban regeneration projects were chosen from the Dutch cities of Nijmegen and Arnhem. The case studies from The Netherlands represent a comparison field from which to analyse the case studies from Ireland against. All case studies were chosen as a testing ground for the evaluation criterion. All four case studies selected represent mixed-use infill urban development designed to regenerate, intensify and extend the core area of their town or city. All four case studies were designed as new urban quarters yet the approach taken toward their design and realisation, how they are formed varies. The case studies selected are listed in the following table, Table 1. The four case study sites and comparative scale are illustrated in the following drawings, Illustration 2 and Illustration 3.

Table 1: Information on the case studies selected. Source: Author

Case study n°	Name of project	Urban centre	Country	Year opened
1	Mariënborg	Nijmegen	The Netherlands	2000
2	Musiskwartier	Arnhem	The Netherlands	2006
3	Scotch Hall	Drogheda	Ireland	2005
4	Laurence Town Centre	Drogheda	Ireland	2006

Illustration 2: Site area of case studies numbers 1-4 before redevelopment



Source and copyright: Author

Illustration 3: Site area of case studies numbers 1-4 after redevelopment, highlighted in red



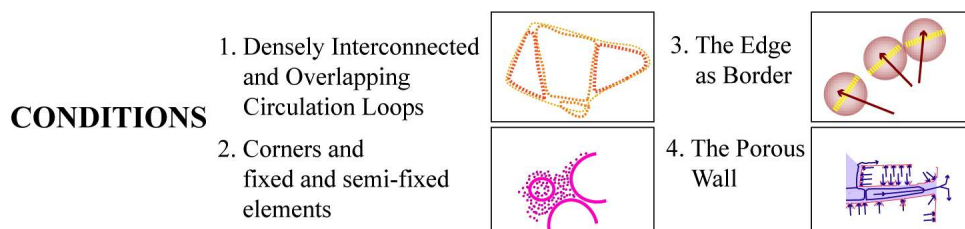
Source and copyright: Author

- 15 The design and performance of all the case studies were assessed to determine if the design provides conditions that allow for sustainable social practices. Each case study was assessed against the evaluation criteria established from the theoretical concepts of 'looseness' and 'openness'. This was done by gathering original empirical material through non-participant observation fieldwork. Fieldwork was carried out in and around the ground plane of each of the four projects. The findings were recorded in field notes, behavioural maps, visual surveys and photography. The plans of each scheme were re-drawn to facilitate comparative analysis and to set up a template for the visualisation of findings.

Visualising the design of conditions for urban social sustainability

- 16 It is at this stage, in addressing how to communicate and visualise the findings from the correlation of the theoretical research with the applied research, that the act of imaging comes into play. In discussing "what kinds of imaging activities should be developed and advanced" (Corner, 1999a, p. 160) by designers, landscape architect James Corner suggests eidetic images. Corner uses the term eidetic "to refer to a mental conception that may be picturable" (*ibid.*, p. 153). Corner states that eidetic images "do not represent the reality of an idea but rather inaugurate its possibility" (*ibid.*, p. 162). The following image, Illustration 4, visualises the design of conditions for urban social sustainability as derived from theory. This visualisation inaugurates the possibility of what these conditions look like.

Illustration 4: Abstract graphic interpretation and visualisation of the design of conditions for urban social sustainability



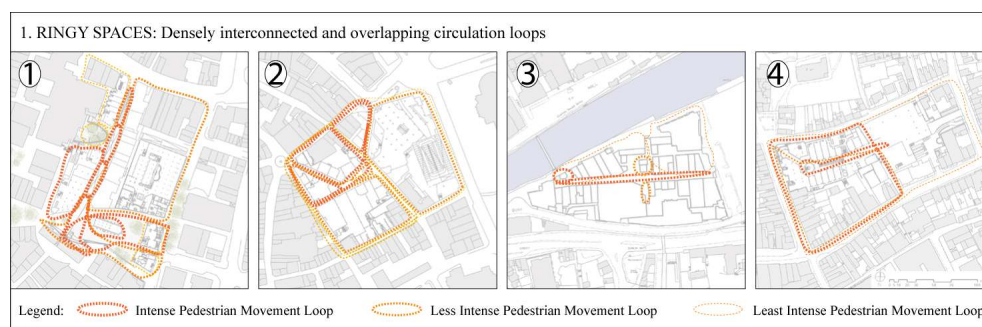
Source and copyright: Author

- 17 Just as the non-technological perspective of sustainable urban design shifts the focus in sustainable urban design from constructs to conditions, in eidetic imaging the emphasis

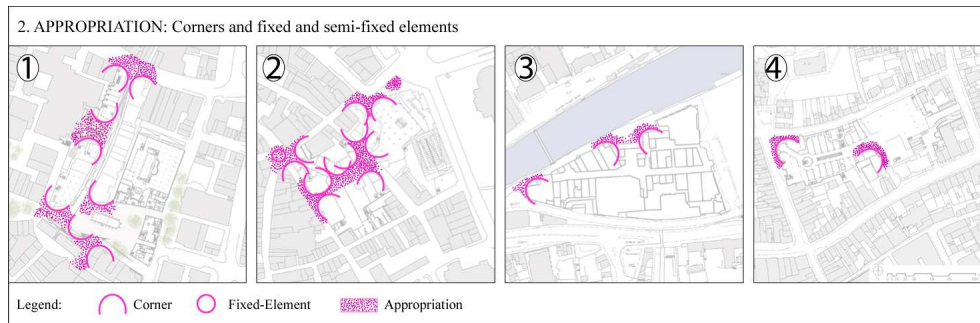
in imaging “shifts from object appearances to processes of formation, dynamics of occupancy, and the poetics of becoming” (Corner, 1999a, p. 159). While Corner promotes the use of eidetic mapping for imagining and projecting new landscapes, this research considers eidetic mapping in the analysis of an existing invisible landscape. This research considers the use of this imaging activity in making visible the experiential aspects in architectural and urban design. The findings from the case studies evaluation are made visible using the graphic language set up in Illustration 4. The findings from the case studies evaluation are visualised in the following images: Illustration 5; Illustration 6; Illustration 7; and Illustration 8. It is suggested in this article that these visualisations could be classified as eidetic mappings. These mappings make visible the extent and presence of each of the conditions derived from the concepts of looseness and openness as found across the four case studies.

- 18 The visualisations in Illustration 5; Illustration 6; Illustration 7; and Illustration 8, highlight the relationship between design and living, by illustrating how the designed condition identified set up a specific use of the public spaces of each case study. For example, in Illustration 5 it can be seen that the design of ringy spaces in case study number 1 set up intense pedestrian movement loops. The lack of ringy spaces designed in case study number 3 meant that less intense pedestrian movement loops were recorded. The design of case study 1, in contrast to case study number 3, makes use of different sized blocks and makes available to the pedestrian many varied routes in and around the new urban quarter. This results in movement patterns which range from large rings to small rings, some more heavily traversed than others. Many opportunities exist for people to circle back and forth, over and back, around the area. This loosens the urban environment in the manner described by Franck and Stevens by allowing “individual spaces and people to be encountered in different sequences, undermining the possibility of strict control over movement” (Franck & Stevens, 2007, p. 4).

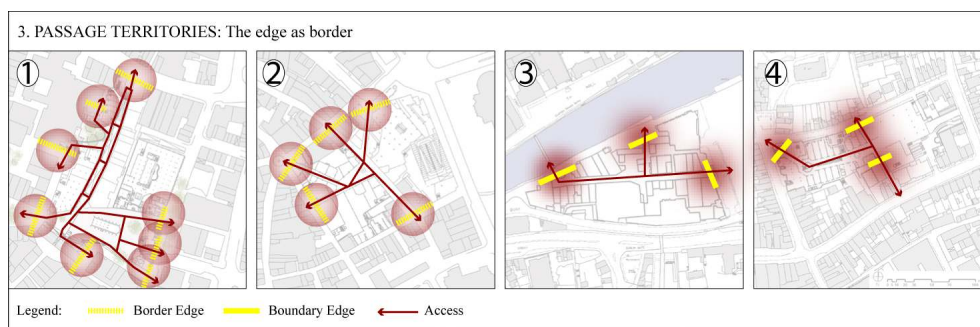
Illustration 5: Visualisation of designed condition n°1, as found across the four case studies



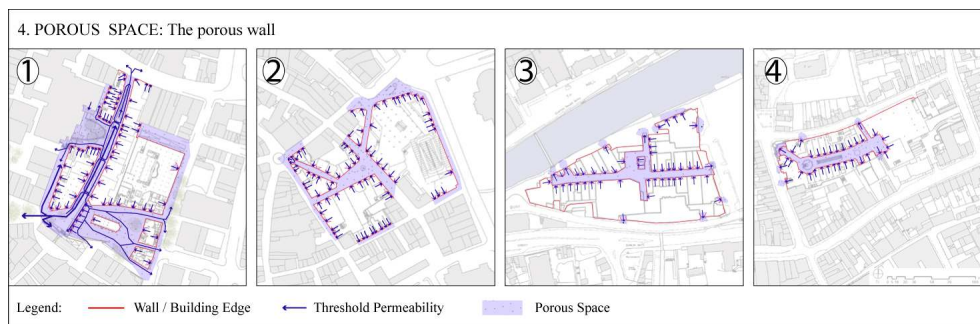
Source and copyright: Author

Illustration 6: Visualisation of designed condition n°2, as found across the four case studies

Source and copyright: Author

Illustration 7: Visualisation of designed condition n°3, as found across the four case studies

Source and copyright: Author

Illustration 8: Visualisation of designed condition n°4, as found across the four case studies

Source and copyright: Author

- 19 Similarly, in Illustration 6 the number of corners and fixed and semi-fixed elements used in the design of case studies numbers 1 and 2 meant that numerous appropriations around or on these physical features were recorded, compared to case studies numbers 3 and 4, where very few appropriations of the public spaces were recorded. In the design of the open space in case study number 1 relief is utilized to create fixed elements. Steps, slopes, bridges, balconies and steep edges have been carefully designed providing opportunities for people to appropriate and play. To prevent people from falling from new raised areas, stone berms, raised and sloped edges have been used instead of vertical balustrades. Rather than serving only as protective barriers these soft edges act as

borders between two areas, allowing people to sit and play on them and appropriate them for their own use.

- 20 The varying edge conditions of all the case studies assessed is made visible in Illustration 7. For example, in case study number 2 the edge as border is recorded in contrast to the edge as boundary in case study number 4. The new urban quarter in case study number 2 is designed with invisible thresholds. Open access to new open-air streets and squares and large blocks cut open to allow people to pass “through different territories of the city” (Sennett, 2006, 3). In contrast, the edges of the new urban quarter in case study number 4 are designed as boundaries rather than permeable borders. Sliding doors, lobbies and steps mark the transition from exterior to interior, from open-air street to enclosed mall. The visible thresholds of this new urban quarter prevent it from seamlessly meshing with the existing public street network. Sennett contends, “the edge-as-border is a more open condition means it is more full of events in time” (Sennett, 2009). Where the edge as boundary was observed “closure through inactivity, by things petering out, not happening” (*ibid.*, 2009) was recorded. By contrast where the edge as border was observed people were found to gather, enter or to dwell at the edge.
- 21 These representations acknowledge that what is projected at design stage and actually experienced when realised are closely related, confirming Corner’s claim that “how one “images” the world literally conditions how reality is both conceptualized and shaped” (Corner, 1999a, p. 153). The design of the case studies from the Dutch centres (case studies 1 and 2) show a much stronger prevalence of the four conditions looked for compared to the Irish models (case studies 3 and 4). Visualising the findings from the correlation of the theoretical research with the applied research positions “the role” of “drawing [...] in the process of [...] exchanging ideas” (Biddulph, 2012. p.11). Visualising the findings clarify a ‘better practice model’ for the design of new urban quarters, therefore, revealing the design of conditions facilitating sustainable social practices.

Conclusion

- 22 In response to a pressing task, this research draws attention to the discourse in urban design theory that explores the relationship between design and conditions. In particular it highlights a discourse that adopts the non-technical perspective of sustainable urban design and considers its value in forefronting design for urban social sustainability. Increasingly in architectural and urban design theory the importance of clarifying conditions that allow for or encourage urban social sustainability is identified and reiterated. Christiaanse highlights that it is not that urban designers or architects believe they can actually design communities or sociability in urban areas, but designers “definitely can design urban structures or physical conditions that stimulate the emergence” (Christiaanse, 2009) of social practices. Henri Lefebvre notes how “the architect is no more a miracle worker than the sociologist. Neither can create social relations” (Lefebvre, 1996 [1968], p. 151) however, as Fran Tonkiss states “it would be wrong-headed to assume that it is possible to make space without producing [...] social [...] outcomes” (Tonkiss, 2013, p. 12). As Biddulph notes, “As a factor shaping social relations the design of urban space has some role to play, whether judged as *possible* or *probabilistic*” (Biddulph, 2012. p.10). The discourse explored in this research is interested in designed conditions, which as Sennett states, “might abet social relationships” (Sennett, 2006). It could be argued that the designed urban conditions for sustainable social practices

extracted from the two concepts examined characterise what Groat and Wang define as “design-polemical theory” (Groat & Wang, 2013, p. 116). Groat and Wang highlight how “there are fewer in-depth inquiries into the strengths and weakness of such theories as they are manifested in built form and / or in lived experience” (Groat & Wang, 2013, p. 119). They contend “this is not only a missed opportunity for aspiring researchers, but too often a weak link in the development of a more holistic and robust research tradition for the design fields” (Groat & Wang, 2013, p. 119-120). This research takes heed of Groat and Wang’s identification of such a research opportunity. This research begins an examination of conditions that “in their ‘urbanity’, are spatial, dimensional and physical” (Solà-Morales, 2008, p. 146). The more clarity there is surrounding what these conditions might be, consist of, and for designers what they look like, is crucial if social sustainability is to be considered in the design process by the applied field.

- 23 In response to a predominantly text-based rendering of the discourse identified, the research presented in this article seeks to explore how this perspective could be communicated through visualisation. This research explores how to make visual designed urban conditions that are promoted for urban social sustainability. It highlights the value of this discourse for designers by attempting to translate the theoretical concepts found into a visual language that could communicate more easily with architects and urban designers. The imaging in this article presents eidetic mappings as tools for the communication of theoretical concepts and the evaluation of architecture and space. These mappings are made to reveal some of “the various hidden forces that underlie the workings of a given place” (Corner, 1999b, p. 214). Visualising the design of conditions for urban social sustainability, as derived from theory, enables concepts to be explored further and encourages experimentation of their representation. As Marcus highlights, it is often noted, “knowledge on how to model [...] *the cognitive level of urban space* [...] the level where the city is experienced by ‘people in the street,’ is underdeveloped” (Marcus, 2011, p. 9). It is hoped that the research presented in this article adds to knowledge on the micro scale of urban space, and provides ideas for how it could be represented. As Krieger notes “urban designers must help others see the desired effects [...] This requires various visualization [...] techniques” (Krieger, 2009, p.116). In representing design that factors in urban social sustainability it is hoped that the invisible conditions designed into urban space are made visible. Visualising and communicating designed urban conditions for sustainable social practices in urban centres may go some way towards improving design during the ideation and review stages, ultimately enabling a thriving public realm in new urban environments. This article illustrates the beginning of a wider exploration into how to make visual the design of conditions for urban social sustainability. This research aims to contribute to research for urban design, research that “embrace methods and practices employed in the arts and humanities just as legitimately as those adopted in the social sciences” (Biddulph, 2012. p.1). This article highlights the role of imaging in narrowing the gaps between urban design theory and practice and in the development of more performative forms of imaging in the revelation of performative urban conditions.

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ABSTRACTS

With increasing attention in urban design theory paid to conditions conducive to sustainable forms of urban experience, there is emerging emphasis on the non-technical perspective of sustainable urban design. This perspective focuses on design for urban social sustainability. Despite increasing exploration in this area, much of the theoretical conditions remain as text-based descriptions that lack graphic representation. This is due, in part, to contributions from disciplines traditionally not associated with visualisation. In considering the suggestive potential of this perspective for designers, this research seeks to ascertain if it can be represented visually. This article illustrates the beginning of a wider exploration into how to make visual the design of conditions for urban social sustainability. Testing how the non-technical perspective of sustainable urban design could be applied and communicated, this article highlights not only the

value of the perspective but also the role of imaging in narrowing the gaps between urban design theory and practice and in the development of performative forms of imaging in the revelation of performative urban conditions.

Avec l'attention croissante portée dans la théorie urbaine aux conditions favorables à l'émergence de formes durables de l'expérience urbaine, apparaît un intérêt nouveau pour les perspectives non-techniques de la conception urbaine durable. Malgré une recherche grandissante dans ce champ, la plupart des propositions théoriques demeurent des descriptions textuelles évitant la représentation graphique. Ceci est dû, en partie, aux contributions de disciplines qui ne sont pas traditionnellement associées avec la visualisation. En considérant le potentiel suggestif de cette perspective pour les concepteurs, la recherche vise à établir s'il est possible de représenter visuellement ces questions. Cet article présente les prémisses d'une exploration plus importante sur la manière de rendre visuelles les conditions de durabilité sociale urbaine. En évaluant comment la composante non-technique de la conception urbaine durable pourrait être mise en œuvre et communiquée, l'article met en évidence non seulement l'intérêt de cette perspective, mais aussi le rôle de la mise en image pour réduire les écarts entre la théorie de la conception urbaine et la pratique, ainsi que pour le développement d'approches performatives de mise en image pour la mise en évidence de conditions urbaines elles-mêmes performatives.

INDEX

Keywords: visualisation, urban design, urban social sustainability, retail, urban regeneration

Mots-clés: visualisation, design urbain, durabilité sociale urbaine, régénération urbaine, commerce de détail