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Julienne Hanson's article 'Urban transformations' forms a point of departure for discussing the role of spatial morphology, urban history and design in space syntax research. In this article Hanson draws from a rich analysis of housing designs in a small Inner London area, Somers Town, to identify the ways in which configurational patterns and design ideologies have evolved over a period of about one hundred years. This paper discusses the significance of her approach with regard to analysis and design. It argues that the emphasis on non-discursive configuration distances space syntax analysis from the evolution of morphological patterns over time and the ways in which they are raised to the level of discursive knowledge by architects and urban designers. The paper is structured in two parts: the first part argues that by positioning configurational analysis within historical sequence, Hanson's approach can help reconceptualise morphology as process-oriented configuration. The second part suggests that interdisciplinary translation between space syntax and architecture is possible if configuration is placed in the broader context of how design ideas are formed and how they are structured through history.

Keywords:

*Spatial morphology,
urban history, process,
design, ideology,
configuration*

1. Introduction

Julienne Hanson's article 'Urban transformations: A history of design ideas' explores the morphological changes that have occurred in the design of housing in a small Inner London neighbourhood, Somers Town, over a period of about one hundred years. The housing schemes it examines in detail reveal lines of development that capture a shift from street morphology in the 1770s and 1880s to a landscape of housing estates in the twentieth century. While the old morphologies were 'large-scale, integrated, outward-facing, constituted and direct', the estates that replaced them are all 'small-scale, separate, inward-facing, unconstituted and hierarchical' (Hanson, 2000, p.112). These changes affected the interface between public and private life, and the potential that space affords for mixed social co-presence in terms of class, age and gender. In this response to Hanson's article, the purpose is to draw attention not to the spatial design of these estate forms, which is quantified in detail in her study, as well as in many publications that have accumulated

over the years through research using space syntax (Hillier, 1988; Hillier et al., 1989; Shu, 2000; Reis et al., 2003; Hanson and Zako, 2007; Zako and Hanson, 2009; Marcus, 2007; van Nes and Rueb, 2009; Awtuch, 2009; Legeby, 2009) but rather to focus on other aspects of her work which have generally tended to receive less attention in research produced in the space syntax school. These have to do with Hanson's combined use of urban history, spatial morphology and design ideology, so as to retrieve 'a structured history of ideas' in terms of the evolution of cities and the design of housing.

In 'Urban transformations' Hanson returns to the fundamental proposition put forward in *The Social Logic of Space* (Hillier and Hanson, 1984) that the shift from streets to estate morphologies within the modern industrial society captures 'a power inequality between competing social solidarities' (Hanson, 2000, p. 117). This inequality is explored through three kinds of description. The first kind is morphological, accounting for the traditional layout

of streets and the estates that replaced them. The second type is historical, tracing the evolution of housing forms, the spatial and transpatial solidarities among members of four class fractions within society ('conformers', 'aspirers', 'achievers' and 'transformers'), and the ways in which they experienced the old and new urban layouts. The estate solution was inflicted on low-income populations, who previously had appropriated the street as a key 'lifespace', and could not make the new morphology work, as it made them more isolated. The third kind of description traces design and social ideologies that underline the successive phases of housing. What happened in these phases is closely associated with certain design paradigms, all of which have 'obscure(d) the relationship between society and its spatial manifestations' (*ibid.*).

In the late 1990s, when Hanson's article was published, several estates in Somers Town were already adapting their layouts, taking into account a change in design climate, and returning to outward-facing morphologies by re-addressing the street. However, her study of the rebuilding of Hulme Manchester - an inner-city neighbourhood that was demolished and rebuilt in the 1990s - reveals that in spite of the 'traditional' terraced housing used in the new design, some of the new urban blocks retain the complexity that characterised the estates of the recent past, with non-residential uses facing outwards and housing facing inwards around a central gated courtyard. Design changes therefore do not necessarily mean that thinking is liberated from previous stages of urban development. This is consistently shown to be the case in housing estates, as the concepts that influenced their design in the UK did not come from nowhere. The ideas were many years in the making. 'Most architects prefer not to think about how their design ideas have come into being, but in the case of social housing there would seem to be a duty to do so, for it is quite possible that our thinking has been polluted along the way

by attitudes and values that discriminate against people on the grounds of social class, gender and ethnic identity' (*ibid.*, p.119). Hence, it is essential to understand 'the role that ideology has had in the evolving debate about space and society, and in perpetuating social inequalities whilst appearing to resolve them' (*ibid.*).

The study of built forms In 'Urban transformations' is a longitudinal analysis of space, society and design ideas. It intertwines the morphology of housing with the development of housing schemes over time, and the evolution of conceptual influences from prevalent design models. The interface between different kinds of description is characteristic of Hanson's approach to morphological research, be it in architecture, domestic space or urbanism. However, 'Urban transformations' explores issues of social significance that are at the heart of the continuous challenges facing urban societies. Contemporary pressures for environmental responsiveness and sustainability have led to design models supporting either nostalgic forms of the past around a community core ('new urbanism'), or new landscape-urban interventions based on dispersed networks of continuity and neighbourhood adaptation ('landscape urbanism'). Whether historicist or progressive, design ideologies present challenges that can be best understood through interdisciplinary translation between architecture and space syntax, so as to avoid repeating mistakes of the past through insensitive interventions. Addressing spatial configurations as process-oriented morphologies and ideas-based models, 'Urban transformations' presents an opportunity to discuss the interface of spatial description with history, design models and the ways in which they develop over time.

2. Synchronic and diachronic descriptions: a combined study of history and morphology

Starting with spatial morphology, Hanson's article offers an order of descriptions, which are space

and time-based. The most characteristic example is the transformations of the urban fabric of Boundary Street to that of Arnold Circus in the late nineteenth century, the subsequent estates in Somers Town in the second half of the twentieth century, and the emerging shift to dwelling entrances that began re-addressing the street in the late 1990s. This comparative understanding enabled by successive stages of morphological analysis uncovers the disaggregation of the urban realm, and the re-emergence of the relationship between streets and dwellings at the turn of the century. With particular reference to Somers Town, Hanson identifies the historical grain of the local street grid to have survived the configurational changes brought about by modern estate developments. Even though the street layout has become regularised, ironed out, and more integrated over time, 'the residue of historical layering is perpetuated in the modern map' (*ibid.*, p.105). In contrast to this, the interface maps reveal the shift from the old dense pattern of building doorways constituting the streets to a sparse pattern of just a handful of entrances. The identification of both the historical residue and the disappearance of constitutedness (the number of doorways) of the street over time shows that analysis is in the presence of two schemes of explanation: morphological *pattern* and *trace*, intertwining invariant characteristics of continuity with variable patterns of change.

A second illustration of the prominence of historical time in Hanson's description is in bringing these morphological patterns of space into contact with the discursive function of language. 'In today's politicised language we might speak of giving local residents choice and control over their own lives, maintaining people's independence and dignity or of providing a less discriminatory, more architecturally enabling environment. That language was not available twenty years ago, but it was clear even then that the practical consequence of the shift from

streets to estates was to remove the control over the interface between private and public life from local residents and to assign that function through design, to the space itself' (*ibid.*, p.116). Hanson observes that nomenclatures that have become prevalent in planners' vocabularies such as 'inclusion', 'integration' and 'segregation' did not always exist and it was space syntax that first drew attention to the importance of these properties. Finding a terminology to describe past or contemporary institutions and concepts, such as 'tyranny', 'feudalism', 'state' (Ricoeur, 1965), and even 'space' itself (Forty, 2000), presents a challenge for historians, as they need to situate themselves within the historicity of language, the temporal frame in which ideas and forms are defined which changes through time. 'Historical time sets here its own dissimulating work, its disparity against the assimilative quality of the understanding' (Forty, 2000, p.27). Thomas Marcus and Deborah Cameron observe that language is a form of spatial practice presupposing certain values and social relations (2002). 'Language is not simply a neutral vehicle for conveying factual information' (*ibid.*, p.3). Setting spatial configuration within the historicity of language, 'Urban transformations' acknowledges the role of historical sequence in spatial description.

Ricoeur points out that the relativity of historical sequence requires historians to separate themselves from their customary environment and language, projecting into the *époque* they are studying as the present time of reference, 'the centre of temporal perspectives' (Ricoeur, 1965, p.28). 'Such a present has a future made up of the expectations, the ignorance, the forecasts and fears of men of that time and not of the things which we know happened. That present has also a past, which is the memory of past men and not of what we know of their past' (*ibid.*). In a manner which is similar to historical research, 'Urban transformations' projects itself into other 'presents' to bring the remote past closer,

and establish a relative historical time. Instead of simply assembling properties of spatial configuration, it composes and reconstructs a retrospective sequence of spatial morphology. Hanson adopts the viewpoint of *absolute time* of configurational description which is closed in itself, while also becoming immersed in the flow of *episodic time* and historical transition. These viewpoints capture morphological properties in each period with those *as they were previously*, and those that had not yet been realised but *were then coming*. This approach uses a dual frame of reference: the first frame describes configurational characteristics in a synchronic way. The second one concerns the way in which these characteristics develop successively, capturing *what has been eliminated, what was different, and what was in the process of emerging*.

In his article 'Temporality in Hillier and Hanson's Theory of Spatial Description', Sam Griffiths observes that temporality is present in the theory of spatial configuration through the notion of 'description retrieval', by which individuals and societies access spatial patterns using their own submerged experience (2011). Addressing the evolution of urban morphologies has been a theme that has preoccupied a number of space syntax studies. Examples are studies by Griffiths (2005; 2008; 2009; 2010; 2011), de Holanda (2000), Medeiros et al. (2003), Medeiros and de Holanda, (2005; 2007), Medeiros, de Holanda and Barros (2009); Shpuza (2009); Pinho and Oliveira (2009), Read (2000), Karimi (2000) and Azimzadeh and colleagues (2001; 2003; 2005; 2007), Trigueiro and Medeiros (2007); Perdikogianni (2003), Vaughan and Penn (2006), Vaughan et al. (2005), Zhu (2004). Yet, as a system of analysis, space syntax privileges synchronic descriptions and might limit those studies of research that use historical descriptions. In contrast to this, historians delineate themselves relatively to the object of their study. Instead of flattening history through a study focused solely on synchronic configuration, 'Urban

transformations' concurrently identifies chains of morphological invariants, and places them within a relative time reconstructing historical sequence. It thus offers an opportunity to reconceptualise the notion of configuration. Configuration refers to a set of 'interdependent relations in which each is determined by its relations to all the others' (Hillier, 1996, p. 23). It allows us to retrieve 'deep structures' or morphological invariants underlying spatial and social patterns (*ibid.*, p.27). By placing morphological invariants within historical context and a relative notion of time, we can redefine configuration so as to combine the simultaneity of spatial and social formations with their temporal unfolding. This notion of configuration conceives of the city as being historically and spatially continuous. It involves both structure and process, capable of being read as space-governed rules and spatio-temporal eliminations and accumulations, with each intervention taking its place in the sequence.

The wider implications of this approach can be considered against the limits of describing morphological properties outside historical time. Synchronic descriptions of configuration cannot help us discern how cumulative morphological changes reinforce existing patterns of social order or question them leading to transformations. From a theoretical perspective the notion of description retrieval specifies that the mind reads structure and re-embeds it in subsequent spatial and temporal realities (Hillier and Hanson, 1984). The potential for individuals and societies to overturn cultural patterns and norms leading to social changes is contained therein. However, without understanding of configuration as the spatial and social laws that are cumulative and historically active, the capacity to think and act differently is difficult to sustain. Descriptions that are synchronically retrieved cannot be understood comparatively in order to access what stays invariant, what has changed and what transformations are possible in order to address social problems

or to transform realities and institutions. Positioning configurational analysis relatively to historical time bridges between the factuality of spatial and social forms of the past, and the innovative possibilities for the future. For researchers and designers it helps to identify when innovations occur in time, and what kinds of limitations imposed by historical context and sequence must be addressed in order to achieve better places to live in and successful urban environments.

3. History, morphology and design – process-oriented ideas and idea-‘types’

From the point of view of design, which actively engages conceptual languages and critical reflection, the possibility of conceiving of configuration as subject to evolutionary changes is crucial. The ways in which design ideas and their spatial manifestations evolve is the second theme Hanson explores in ‘Urban transformations’. Exploring both urban patterns and design concepts, she tracks the changes in the underlying structures that join them and help express or mask the ideologies they represent. The cumulative transformations in the UK are associated with three powerful sets of design ideas. The first idea refers to a social class analysis of capitalist space importing to the design of housing many of the spatial features of the new reforming institutions in the late nineteenth century, such as schools, hospitals, asylums and prisons. These institutions were charged with resolving the perceived negative impact of people who were seen to be socially aberrant, deviant, sick or insane. The first generation of estates is rooted in these ideas and more particularly, the design of the prison cell (Hanson, 2000, p.118). The second idea is linked to the ‘neighbourhood unit planning’ philosophy in the United States with its emphasis on domesticating the street and demarcating an inwardly focused neighbourhood cell from the greater urban fabric. The third and more recent design model lies in the

science of ‘ethology’ that re-emerged under the umbrella of ‘proxemics’, the study of human spacing. This study generated ideas of ‘territoriality’, the ‘ethnic enclave’, ‘community and ‘privacy’, the ‘mosaic of sub-cultures’ and ‘defensible space’ (Hanson, 2000).

Hanson’s discussion of the design moves that were inherent in each of the three phases of the urban transformations in Somers Town follows the history of several attempts to address the social problem of housing and re-invent urban life. In Hillier and Hanson’s theory of configuration design ideas are mainly explained in the context of the configurational properties of housing estates in the post-war period and their social consequences. In *Space is the Machine*, Hillier discusses the spatial idea of ‘enclosure’ or ‘enclosed space’ in association with the ‘social idea that enclosed spaces had to be identified with well-defined, and preferably small groups of people, and exclude others’ (1996, p.334). Thus, manifested in the forms of the housing estates, enclosure acted as a mode of representation of these groups as small local communities. This idea became so pervasive that it is characterised as genotypical, ‘constantly being transmitted through the solution typologies which embodied it’ (*ibid.*).

Space syntax unveils by way of analysis how such ideologies had catastrophic consequences for the public realm and everyday life. These consequences and the need to define an analytic theory of spatial configuration - as opposed to the normative ideas used by designers - have characterised the syntactic theory since its early stages of development. The main concern has been to avoid reducing spatial practice (the way in which people encounter space in daily life) to conceptual ideas. As a result, space syntax has consistently steered away from design as conceptual language and strategy. This distance has found theoretical expression through the notion of spatial configuration. Configuration captures spatial relationships of interdependence

that are non-discursive. It refers to patterns we read and understand intuitively by experiencing space over time. As in language where we do not think of words but use the ways in which words come together - grammatically and syntactically - to form meaning, configuration is employed unconsciously as the mental apparatus we think with rather than what we think of (Hillier, 1996). In contrast to this, design raises configuration to the level of conscious knowledge, turning them from ideas we 'think with' to ideas we 'think of' (*ibid.*).

In spite of the link between non-discursive and discursive formations as the particular charge of design, the theoretical emphasis on the former, and the main tendency in the analytical inquiries using space syntax, is to keep architectural discourse and configuration at a distance. A number of attempts to bridge the gap between syntactic and design ideas have taken place by space syntax researchers, such as work by Hillier, Hanson, Peponis, Bafna, and their colleagues, including work by this author, and a recent Issue of the Journal of Space Syntax (JOSS) (Hillier, 1996, 2011; Peponis et al. 1997; Bafna, 2012; Psarra, 2009; JOSS, Vol. 2 (2), Autumn/Winter Issue 2011). Yet in the main, currents of syntactic research, morphology, architectural theory and ideas are seldom discussed together. Thus, space syntax arguably has at its core an inherent contradiction. Although designers can intuitively or consciously grasp non-discursive patterns and turn them to discursive ideas, their engagement with the latter is often translated as an inadequacy to grasp the complexities of the former. To most architects, the suggestion that architecture's complexities evades their grasp would seem absurd as architecture involves multiple overlapping networks of relationships ranging from the functional to the aesthetic. In addition, the failures of housing design were part of larger social, economical, technological and intellectual shifts that characterised society in the twentieth century, and cannot be solely attributed

to the inadequacies of architects to grasp spatial configuration. On the contrary, if, for the sake of argument we see space syntax from an architect's perspective, the isolation of configuration from other factors would seem to evade complexity in architecture more than anything else.

As a result, a disciplinary distance exists between space syntax that is founded in architecture, and architecture itself, which by definition is concerned with the social lives of people. However, if architecture has social significance at all, we cannot afford its theoretical and analytical separation from the non-discursive mechanisms of configuration. To this effect, it is essential to draw potentials for future work that can address this separation. Taking Hanson's notion of 'a structured history of design ideas', in this section I will discuss how this structured history is interpreted by Hanson and made visible. Then, I will return to the three principal components in Hanson's article - morphology, history and design ideas - to discuss the benefits for interdisciplinary translation between space syntax and architecture.

Hanson's definition of 'a structured history of ideas' includes both the configurational properties exposed by the syntactic analysis, and the theoretical concepts that helped to characterise and organise urban and social realities. The analysis of non-discursive patterns of configuration gives access to the spatial organisation of the housing schemes, and the ways in which it relates to the social lives of people that live in them. The discursive ideas that informed the development of these schemes, on the other hand, enable us to understand the schemes of knowledge which exerted influence on how the relationship of space to society was approached in design. These schemes include a variety of concepts and forms, drawn for example from the nineteenth century ideas about social reform to the neighbourhood unit of Perry, Stein and Radburn; the traditional streets to the free-standing blocks of Modernist architects; from Jeremy Bentham's

Panopticon prison to the science of 'ethology' of Henri Hediger; and the socio-biology of Edward T. Hall. Once this range of theories and their different spatial realisations are laid out, the *variability* of design knowledge becomes visible, together with their combinations, permutations, the values that underlie them, their configurational properties and their reconstruction into a historical sequence to capture their cumulative effects.

This variability of concepts and spatial formations over time enables us to understand that configurational knowledge and representational structures shift, mutate, disappear or become reinvented. They also change appearance and have a metaphoric function that is not definitive but ambivalent and allusive. The range of discursive ideas and their spatial manifestations help systematic analysis to discern that the genotypical idea in housing design was based on a paradigmatic assumption: that the identification of a specific social group with certain spatial characteristics can discipline (theories of social reform), sustain community (theories of neighbourhood unit) or facilitate a congenial transition from a communal to a wider social space (theories of territoriality). So although these ideas found application in different physical environments and social contexts - each time under a different purpose - they all shared a common principle: that there is an effect of a spatial arrangement on the behaviour of a social group, and by implication an impact of space on society. Without a structured analysis of the variability of theories and forms, spatial configuration alone cannot retrieve invariant genotypical ideas across historical periods and spatial manifestations, and expose their logic.

Setting the variability of discursive and non-discursive thought into a historical context and studying their temporal evolution also helps to acknowledge that design ideas are the outcomes of rationalisation of theories, social customs and

institutions, which have evolved slowly, and varied from place to place, and from one time to another (Colquhoun, 1989). Each period adheres to its own notions of the relationship between space and society through values that were immanent in particular social and institutional forms. The institutions of social reform had dominant moral concepts as their concern; the removal of the 'pathology' of the street in the nineteenth century was their particular way of improving the environmental conditions of cities in the industrial revolution: to 'cleanse', educate and rectify society. The neighbourhood unit (Perry, 1929) had the purpose of designing functional, self-contained communities to address the rise of vehicular traffic and provide a safe place for social groups. The housing estates in the post-war period were intended to provide uncrowded housing environments and basic facilities to a large number of working-class people. The cumulative history of design concepts and the way in which social issues are addressed in different contexts structures design thinking and produces bundles of discursive ideas. If each time there is the need to address problems, design formulates them only in configurational terms outside the relativity of time, it fails to understand that social problems and spatial realities have a structured history that is conceptualised in architectural terms, and is in a constant state of transformation. Designers need concepts and tools in order to rethink not only spatial and social realities as configurations, but also as ideas-based realities with their own history and evolution.

The ability to conceive of problems in architectural terms, as well as outside architecture as a discipline is another dimension that needs to be taken into consideration. 'Urban transformations' reminds us that designers develop and borrow concepts from sources which are not all located in the physical world, such as the science of 'ethology'. Such conceptual borrowing, particularly when adopted from other disciplines, presents another concern

for the theory of spatial configuration. For Hillier, the object of architectural theory is 'the non-discursive, that is, the configurational content of space and form in buildings and built environments...as the necessary corollary of architectural autonomy' (p.40). However, we should draw a distinction between *disciplinary autonomy* and *configurational autonomy*. Disciplines are not stable. Since their emergence in the eighteenth and nineteenth centuries they are continuously transforming. The discipline of architecture is inextricably linked with the idea of 'design' ('disegno') that caused theory and theoretical texts to become more important than the experiential and construction practices of buildings (Marcus and Cameron, 2002). Supported by theoretical treatises and texts, architecture established its disciplinary autonomy in isolation from spatial practice. At the same time, inherent in the evolution of architecture as a discipline is a bond with other disciplines, such as the disciplines of mathematics, philosophy, linguistics, biology and the social sciences. Architects in the Renaissance period sought architectural autonomy in the internal relationships between spaces and forms (composition) influenced by certain intellectual traditions in geometry and mathematics. As the empirical sciences of direct observation developed in the seventeenth and eighteenth centuries, this bond was loosened and replaced with the relativity of perceptual experience, and later with the rationalisation of institutions and social customs. Contemporary design paradigms look into the sciences of emergence, complexity and computing (parametric models for design, 'landscape urbanism', 'ecological urbanism') to redefine architecture away from its associations with the classical notion of composition towards an evolutionary view of buildings and urban spaces as being based on emergent structures. In this way, external influences and the Renaissance view of architectural autonomy still prevail, in the sense of seeing architects as reflective practitioners who

distance themselves from day-to-day spatial and social life so as to critically address architecture, in relation to other disciplines and society.

The theory of configuration offers an opportunity for a return to the non-discursive mechanisms of spatial experience and social life from which architecture broke away in the Renaissance period. Yet reflecting on these conditions does not mean that architecture does not need any contact with other disciplines. Architects look at many sources of ideas for knowledge and inspiration, associations, memories, publications and books, works of art and science, including buildings and cities themselves. If architecture has the capacity for not merely representing or expressing, but also innovating, it should look at other disciplines and sources of information so as to continuously reinvent and be critical of its own. If, on other hand, disciplinary autonomy means configurational autonomy alone, we lose understanding of how architecture relates to other areas of knowledge that are evolving; how it can question its own history, inspirations, representational mechanisms and borrowings, so as to continue developing its own intelligence and potential for innovation.

It is the variability of spatial manifestations, their sources of inspiration and temporal unfolding, that clarifies the persistence and the risks involved in the genotypical ideas in housing design discussed by Hanson, the ways in which architecture is conceived historically and mediated through spatial practice. If the idea is typified in the absolute frame of configuration outside mental projections and historical sequence, it runs the risk of being assigned to a single typology, a single design strategy, a single moment in history, and to spatial reality as the single locus of operation. In essence, the same research strategy, which identifies the difficulties associated with interpreting a variable (community) with a constant (inwardly looking spaces), runs a similar risk of typifying the variability, historicity, dispar-

ity, and cumulative nature of configurational and design knowledge, into synchronically described configuration as representative of design and its complexities overall.

4. Conclusion – the right to innovation and critical reflection

Hanson explains that 'architects and planners and, indeed academics and researchers do not work in a vacuum. We are all products of our time, and we are guided in our design thinking by ways of seeing and describing the processes which arise out of a more social climate' (Hanson, 2000, p.117). Far from de-historicising the public realm to subject it to a mere morphological analysis of space and form, 'Urban transformations' studies configurations as process-based morphologies; that is, spatial, social and historical systems and the changes they go through over time. Far from dissociating its analysis from the power structures underlying urban society, it links with the intellectual foundations of space syntax, showing that it is a theory and a tool that captures inequalities of social solidarity in space. Instead of assuming that the public realm is part of self-organising processes of how cities and the ways in which people live in them evolve, 'Urban transformations' shows that it is a particular example of the larger processes characterising cities as both self-organised entities and design-led systems. Far from emptying space from the agency of design, 'Urban transformations' regards cities and their physical properties as *condensers* of both social activity and models of thinking. If space syntax treats space as embodying or generating patterns of social relations that in plan are invisible, we should extend this study to the invisible structures of knowledge and thought – such as ideas of social reform, community, and enclave - so that their contribution to perpetuating social inequalities can also become 'visible'.

Architecture operates not only in the realm of configurational properties, but also in a world of theoretical and social ideas linking configuration with systems of thought through analogical and metaphorical intensification. Knowing how architecture is thought of through these ideas, their history and mode of operation, offers additional levels of understanding to the design of housing schemes from the nineteenth century to the present. But while a link exists between these theories, morphological properties and their evolution, no route exists to derive one from the other without knowledge of history and temporal sequence. The variability of theories and spatial forms suggests that architects can give different shape to ideas, or justify the same morphological choices by different conceptual skeletons. It is, in fact, the uncertain link between ideas and buildings that makes architecture an instrument of theoretical speculation. However, this also poses potential problems, because theories can refer to an illusory reality (Hillier, 1996), or the illusion that the 'spoken word' coincides with social practice (Lefebvre, 1991). It is precisely the illusory potential of architectural ideas that reinforces rather than removes the need to understand them. To explain the relation between architecture as a conceived entity and as a lived reality, we need knowledge of the non-discursive patterns of space, the discursive patterns of thought used in design, and the ways in which they both evolve over time (Psarra, 2010). If these are not properly understood we cannot identify how in the flow of time from one social problem to the next, architecture and space syntax research can achieve an external viewpoint as well as one that is specific to context, so as to rethink ideas and advance innovation.

Alan Colquhoun observes that architecture has constantly oscillated between the idealism of a-priori ideas that found expression in classical architecture and its many revivals, and in a historical determinism in which events were influenced by the

developmental aspects of history, as in Modernism (1989). Alternative strategies emerged in the 1950s and 1960s, conceiving of the city as networks of interconnectivity and a typology of cellular flexible structures, regular or irregular grid-like configurations specified through a genealogy of buildings and organically developed cities as 'mat-forms' (Smithson, 1974). Contemporary design models developed in the United States once more split between nostalgic representations of community, as in 'new urbanism', or forward looking models that see cities as ecological networks and 'field conditions' (Allen, 1997). The latter are influenced by mat-urbanism, the science of emergence and complexity, and the need to engender environmental responses in design ('ecological urbanism', 'landscape urbanism'). Instead of seeing buildings as free objects in the landscape, or as clusters of objects with a labyrinthine morphology, 'ecological urbanism' emphasises non-figural strategies based on the aggregation of small, self-similar parts to create local difference while maintaining overall coherence. The emphasis is on a critique of the

object building and its symbolic manifestation, arguing instead for bottom-up, micro-scale arrangements governed by the dynamics of process. The representational capacity of architecture is thus questioned once more: splitting design into hierarchical mental projections, and self-organisation that mindlessly authors its own processes and forms.

If we de-historicise architecture and exclude its conceptual strategies because the representational or utopian tendencies of architecture have led to catastrophic consequences, we might fall into a similar misunderstanding to that of the modern movement which broke away from the representational forms of the past, or postmodernism that criticised the utopian impetus of modernism, or the ecological utopias of 'landscape urbanism' based on self-organisation. Alternatively, we can leave architecture to happen on its own, an instrument to everyday economic practices and development that can perpetuate patterns of inequality in space. None of these views of architecture allow space for innovation and critical reflection.

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