Figure 27: Richard-Strauss-Straße tunnel approach; residential additions by Léon Wohlhage Wernick to a 1950s housing estate, completed in 2009, Munich 2017

III. Domain-Specific Narratives of Change

"The world around us, so much of our own creation, shifts continually and often bewilders us. We reach out to that world to preserve or to change it and so to make visible our desire. The arguments of planning all come down to the management of change."
Lynch, Kevin (1972) What Time is this Place?, Cambridge, MA, p.1

"By looking at the architectural form as an instance of a continuous process of change, we become interested in the mechanisms of transformation. That we can learn from change is not new. In all observations, scientific and otherwise, change and movement reveal the structure of what is observed. In our case, change is brought about by people designing, making, and inhabiting the environment. We have to deal with human constructs, and hence the complexities we observe are of our own making."
Habraken, John N. (1987a) The Control of Complexity, in: Places Journal, vol. 4, no. 2, p.15

1. Dialectics, Evolution and Autopoiesis in Meta-Narratives of Change

1.1 Framing Architectural and Urban Theory through Meta-Narratives of Change

Among the narratives of change in architectural and urban theory are some that engage with the nature of change itself rather than with practical concepts and material consequences. They are located on a meta-level of conceptualisation and may thus be defined as architectural and urban meta-narratives of change. They seem to mirror the grand principles, or ontologies, of change that have emerged in philosophy, natural history or the social sciences. The most influential principles of change, if we leave aside the realms of mythology, are, perhaps, dialectics, evolution and autopoiesis. We use them to conceptualise processes of transformation and adaptation, or to explain how variations and differences occur; but we also use them to better understand ourselves and the changing world(s) we live in. All architectural and urban narratives of change in this chapter are framed by one of the three principles of change – or by a combination of them. In the following sections, I discuss selected works of Henri Lefebvre, Christopher Alexander and Patrick Schumacher as examples of architectural and urban theory that approach change from the meta-level of conceptualisation.

The overall goal of my enquiry into narratives of change is not to provide a comprehensive or stabilising systematics of change and of its multifaceted expressions. In line with my epistemological and methodological considerations, I seek to assemble a strand of concepts and ideas that I may then intersect with conflict. As in the previous enquiry, the selection of narratives is guided by the combined strategies of anchoring and theoretical sampling.

1.2 Dialectic Movements and the Urban as Contingent Process

In my discussion of the modernist approach towards conflict, I have discussed Karel Teige's vision of architectural and social progress as an application of the classic dialectical sequence thesis–antithesis–synthesis, whereby the synthesis represents a higher level of development (Teige 2002 [1932]). In this section, I discuss Henri Lefebvre's critique of dialectical analysis and his influential triadic model, taking his more complex form of dialectics as an example of a meta-level narrative of change. Lefebvre used dialectics as a conceptual framing for different research questions. He brought it to full analytical expression in the concept of the production of space and the urban revolution. Henri Lefebvre's triadic dialectical model is prerequisite to an understanding of his ideas about space and the urban condition. It is recognised as a unique contribution towards dialectical analysis (Schmid 2010, p.314). For Lefebvre, dialectics is the driving force behind the becoming of things, as well as an epistemological principle of understanding and getting to know these things. The theory of the production of space, which according to Christian Schmid could be understood as the outline of a social theory, emphasises temporal-spatial dimensions (ibid.). The urban, as conceptualised by Lefebvre, is the ever-changing product of dialectical movements, and therefore populated by conflicts, contradictions and residuals. In the first chapter of "Elements of Rhythmanalysis: An Introduction to an Understanding of Rhythms", titled "A Critique of the Thing" (Lefebvre 2013 [1992], pp.15ff), Lefebvre develops a

Figure 28: Residues as source of creative practices, heterogeneity, dysfunctions, instability, versus managed change. Speicherstraße, Munich 2017

reconstruction of the dialectic tradition, which, according to Lefebvre, shifted from critical "dialogue" over classical dialectics to more open forms of dialectical analysis (ibid., pp.20f). Lefebvre suggests that the method of "dialogue", or "dual analysis", allows the representation of a pair of opposites, whereby each side is given a separate voice (ibid.). Lefebvre relates the method to the traditions of the religious, metaphysical, or ideological, criticising the limited range of an analysis that attributes universal value to a single opposition (ibid., p.21). He argues that such a form of dual analysis is reductive and isolates relational aspects from their contexts (ibid., p.21). Lefebvre suggests that the second stage in the development of dialectics evolved around the Hegelian model of thesis – antithesis – synthesis. Acknowledging the model's capacity to engage with complex problems (ibid.), Lefebvre criticises its inability to open up new perspectives for the future, because the initial condition of conflict is brought to a conclusion (Schmid 2010, p.92). In the model, the discursive and dialectic operation terminates with the synthesis and paralyses further action. Uncertainty gives way to a condition of stability. Synthesis in this model is understood to represent a higher truth, or, as Christian Schmid suggests, in more contemporary terms a 'solution' (ibid.). According to Schmid, Lefebvre positions his dialectic approach closer to Marx's model of dialectic change (ibid.). This model is based on the sequence of affirmation–negation–negation of negation ("aufheben"), in which the negation of negation initiates the following sequence by representing a new affirmation. Again, this model is not satisfactory for Lefebvre, as Schmid observes, for it implies a sequential linearity and gaps that are impossible to bridge. Moreover, it is seen as falling short of adequately representing the contingent nature of human interactions, their deviations as well as the simultaneity of contradictory movements (ibid., pp.111f).

To overcome these shortcomings, Lefebvre introduces a triadic dialectical model, in which he seeks to maintain the dialectic conflict rather than dissolving it (Lefebvre 2013 [1992], p.21). The dialectical relations defined by three terms are assumed to raise new contradictory relations, without ever completely resolving the conflicts. Accord-

ing to Schmid, the double meaning of the German term "aufheben" is important to Lefebvre in the re-conceptualisation of Marx's 'negation of negation'. The term embodies the connotation of overcoming on the one hand, and of retaining, or preserving, on the other hand. If understood in this double sense, the dialectical contradiction is both, overcome and retained in the dialectical process (Schmid 2010, p.312)[1]. Based on this idea, the triadic dialectical model seeks to establish a conceptual and analytical process in which new contradictions and residues are perpetually generated and the transformative quality of the operation is maintained. Lefebvre suggests that

> "Dialectical analysis observes or constitutes relations between three terms, which change according to circumstance; going from conflict to alliance and back again. […] The analysis does not isolate an object, or a subject, or a relation. It seeks to grasp a moving but determinate complexity (determination without determinism)." (Lefebvre 2013 [1992], p.21)

In Lefebvre's model there is no fixed 'thesis' to begin with, which would suggest a beginning and therefore also an implicit ending, a terminal synthesis. In Lefebvre's model one term may affirm the other while negating the third, only to negate the second upon combining with the negation of the third. The resulting multitude of movements is conceived to include the unexpected, the contradictory, and to allow different constellations to simultaneously inform analysis. Lefebvre is careful to keep the model separate from other established modes of thought (Lefebvre 2013 [1992], p.22). However, Schmid notes that, despite Lefebvre's continuous efforts to elaborate his particular dialectic approach, critics find it difficult to adopt the underlying logic without either resorting to a functionalist (Marxist) or idealist (Hegelian) tendency in their interpretations (Schmid 2010, pp.307ff).

Lefebvre applies his concept of triadic dialectics to different fields, assuming it to be a universal principle (Schmid 2010, p.313). His triadic model of spatial dimensions is only one triadic figure among others; in rhythmanalysis Lefebvre works with the triad of 'melody–harmony–rhythm' (Lefebvre 2013 [1992], p.22); elsewhere he uses the three concepts of 'form–structure–function' (Lefebvre 1991 [1974], p.147). Among these figures, the spatial dimensions of the perceived–conceived–lived are at the base of his conceptual framing of the production of space. Schmid underlines that the model is not to be read as an object that unites three subcategories in synthesis, producing a totality of reified space, in the sense of an absolute entity that has a presence on its own (Schmid 2010, p.311). Rather, according to Lefebvre, the production of space is always the product of practice, of human interactions and their productivity (Lefebvre 1991 [1974], p.68, p.84; Schmid 2010, p.85). Schmid further asserts that the figurative core area in Lefebvre's triadic model of the production of space remains empty (ibid., p.245). Whatever the configuration, it leaves a residue between the three terms, as something that cannot be fully revealed and made accessible. The void evokes the idea of an openness, a contingent possibility that ultimately escapes dialectic approximations. It cannot be exhausted and it will not disappear. Hence, the contradictions brought forward through analysis and critical discourse are meant to retain their movement and cre-

1 Own translation. Christian Schmid uses the two words "überwinden", respectively "bewahren" (Schmid 2010, p.312).

ative momentum. In this sense, the model may be conceived as the problematising opposite of the solutions and closures aspired to in modernist planning and institutionalised processes of change. Christian Schmid asserts that the triadic principle of change and production reveals the problematic of reductionism and systematisations of human life, because they fail to recognise that which cannot be captured by categories (ibid., p.108), as well as the temporal aspects of the urban and the production of space (ibid., p.316). In raising the question whether "contradictions [can] be articulated in propositions or in formulas without contradiction?" (Lefebvre 2013 [1992], p.22), Lefebvre expresses his doubts as to the conceptual and epistemological range of discourses that operate according to the principles of "truth" and "coherence" (ibid.).

Christian Schmid suggests Lefebvre's idea of residues informed his dialectical thinking, in the sense that residues escape categorisation and abstraction and act as sources of spontaneity, creative instability, and becoming ("poiesis") (Schmid 2010, p.108). Lefebvre conceives of residues as potential resources for creative practices that operate on the basis of heterogeneity, non-convergence of different worlds, discrepancies, dysfunctions, and conflicts (ibid., p.109). He juxtaposes non-reducible residues and the mechanisms that seek to control or negate them, for example religion, the machine, bureaucracy, or the state (ibid., p.108). If , according to Lefebvre, it is impossible to completely describe the richness and complexity of life on the basis of theoretical models and operations, then there is always a non-reducible, vital and residual element that escapes abstraction, stabilisation, and in this sense the control through the mind and institutions (ibid.). Schmid suggests that the assembling of residues could be conceived as an act of revolt against the suppression of life's transformative powers (ibid.) This means that concepts of conflict and change which seek to eliminate contradictions through categorisation, demarcation and conflict resolution are – from the perspective of dialectical thought – neglectful of the very nature of the urban condition.

1.3 Evolution through Unfolding, Deep Invariants and Repetitive Process

The work of Christopher Alexander conceptualises and engages with evolutionary and generative problems of change in different ways. In "The Timeless Way of Building" (Alexander 1979) Alexander elaborates a full theory of complexity, spatial quality and the generating of form. Although "The Timeless Way of Building" was published two years after the more widely known "The Pattern Language", Alexander initially conceived it as the first volume in a series of publications[2], in which "The Pattern Language" is volume two. "The Timeless Way of Building" defines the conceptual foundations for the pattern language, while "The Pattern Language" describes the more detailed aspects of implementation. My focus in the following discussion is on the key notions and concepts of Alexander's early evolutionary model and those aspects that make the model a meta-level narrative of change.

As the title of the publication suggests, Alexander is interested in the inner structures and workings of processes that produce quality in the built environment, beyond the level of short-lived trends. He explores the idea of an unfolding building process that enables practitioners as well as lay-persons to engage with and participate in alternative

2 Center for Environmental Structure Series. The series amounts to five titles as of 2015.

ways of building. For Alexander the problem of building, and therefore the problem of the built environment, starts with the problem of representation. He criticises standard terminology as too unspecific to adequately represent spatial properties, asserting that houses, streets, windows or doors "[…] are merely names, and the underlying things which they refer to keep on changing […]" (Alexander 1979, p.85). He further suggests they would not convey the culturally induced differences in use and interpretation related to them (ibid., p.73). In tackling this problem, Alexander proposes that relations between spatial constituents can be used in representations and analysis rather than object-centred conceptualisations. For this purpose, he provides the following general definition of relations: "[…] Within a context of type X, the parts A, B, . . . are related by the relationship r" (ibid., p.90). A set of relationships in space is named "pattern", whereby the pattern contains further patterns of relationships (ibid.). Patterns of spaces are understood to be mutually related to patterns of events, where neither is seen as the 'cause' of the other (ibid., p.92). The patterns are organised in a series of thematic sets of patterns (ibid., p.384), which establish what Alexander famously refers to as "pattern language" (ibid., pp.167ff). According to Alexander, a pattern language "[…] defines the limited number of arrangements of spaces that make sense in any given culture […] and it actually gives us the power to generate these coherent arrangements of space." (ibid., p.186) The number of possible variations, however, is unlimited (ibid., p.187). Each building task is understood to have its own language, for example "[…] the town as an entirety […] and each small building task within the town […]" (ibid., p.358). According to Alexander, it is the shared pattern language that enables relative permanency to coexist with change in the built environment (ibid., p.357). Pertaining to the stable core of pattern relations, Alexander speaks of "background of the variation" (ibid., p.94) or "deep invariants" (ibid., p.98). Hence, a pattern language could be conceived as a basic principle of change, which combines continuity with variation. Alexander uses the metaphor of organism to describe the relationship of slow-changing "invariants" and the levels on which change is fast and most apparent.

> "An organism, which seems at first sight like a static thing, is in fact a constant flux of processes. […] The organism which exists today is made of different materials from the organism of yesterday. It preserves those broad invariants, which define its character, within the flux. Yet even these are changing slowly, over time. […] A town or building also is a constant flux of processes. […] As in an organism there is a process going on which shapes new buildings constantly, destroys the old, replaces and rebuilds and modifies the fabric. But again, just as in an organism, there is also something which remains the same – there is an invariant continuity behind the flux, a character, a "thing", a "structure", which remains the same." (ibid., pp.356f)

As patterns are understood to be independent from each other, they can be changed or improved individually, one at a time (ibid., p.345). For the same reason, patterns can be shared and integrated into different pattern languages around the world (ibid.). Alexander asserts that "it is this one simple fact, which guarantees that the evolution of pattern languages will be cumulative." (ibid.) The act of building with the pattern language is seen as a piecemeal step-by-step process, which allows the "unfolding" (ibid., p.372) of patterns in a sequence. Accordingly, large and complex structures like towns are seen as the aggregate product of multiple, incremental and small-scale

Figure 29: Street scene 'Im Tal'. Relations between groups of people, seating arrangements, sidewalk, shops, trees, and street could be described by means of the pattern language, Christopher Street Day, Munich 2018

interventions (ibid., p.191, p.496, p.508). With the speed of modern construction in mind, Alexander states that past changes in the built environment occurred slowly and in small increments, where the changes followed the rule of "one pattern at a time" (ibid., pp.385f).

Alexander's meta-level narrative of change seeks to provide the framework for operational knowledge and productive processes, such as building, repairing, or designing.[3] Alexander asserts in "Notes on the Synthesis of Form" that designing is to exert control (Alexander 1964, p.19). Accordingly, the pattern theory is closely related to the question of who controls what and how control is used and institutionalised (Alexander 1979, p.238). Alexander presents the pattern language as an egalitarian instrument of building, which can be applied to all situations and learned through practice. It is conceived as alternative to the modernist system of change.

However, Alexander observes that the shared pattern language, forming a body of accumulated knowledge, has undergone substantial ruptures in the past. That, more-

3 If the pattern language is used as a method of repair, Alexander believes it could improve existing situations or on-going projects, or it could close the gaps that had been left over by modernist planning (Alexander 1979, pp.484f). The ultimate goal of repair, according to Alexander, is to achieve a state of true "wholeness", a condition that sees "wholeness" on every single level of pattern relations (ibid., p.485). Alexander conceives of repair as a process that is adaptable, for the point at which repair commences is always different, depending on the found situation. Moreover, ongoing repair constantly changes the situation or object in which it operates. Alexander states that "In the commonplace use of the word repair, we assume that when we repair something, we are essentially trying to get it back to its original state. This kind of repair is patching, conservative, static. But in this new use of the word repair, we assume, instead, that every entity is changing constantly: and that at every moment we use the defect of the present state as the starting point for the definition of the new state." (ibid., p.485) Accordingly, Alexander concludes that "when we repair something in this new sense, we assume that we are going to transform it […] the idea of repair is creative, dynamic, open." (ibid., p.485)

over, it has vanished from building practice in the modern world and is now lost in its original form. According to Alexander, the moment of "breakdown of language" (ibid., p.225) coincided with industrialisation (ibid., p.231), the division of labour (ibid., p.232), and anonymous mass production (ibid., p.235). Alexander claims that, as a consequence, buildings began to be "less human than they used to be" (ibid., p.237), lacking life and quality (ibid.) by including an increasing number of patterns that are "more dead" than "alive" (ibid., p.126). He suggests that in the ensuing mix of dead and alive, some patterns are "relatively stable, and self-sustaining" while others are "relatively unstable and self-destroying." (ibid., p.127) The "dead" pattern is held to be incapable of "[…] containing its own forces, and keeping them in balance." (ibid.) Resorting to the metaphor of organism, Alexander asserts that, as a consequence, "[…] these forces leak out, beyond the confines of the pattern where they occur, and start to infect the other patterns." (ibid.) "Dead" patterns are seen as preventing the system from further developing its own qualities and from improving. In this sense they are seen to be a negative vector of change and adverse effects on the overall system. They are associated with destruction and the production of obsolescence, bringing the evolutionary process of the pattern language to an absolute halt. "The delicate configuration which is self-creating, and in balance with its forces, is for some reason interrupted—prevented from occurring, placed in a position in which its configuration can no longer recreate itself." (ibid., p.130) Alexander suggests that modern societies seek to compensate for the lost sense of order and natural process of change by means of "*artificial forms of order based on control*" (emphasis in original, ibid.), established through urban design, mass production, system-building and centralised planning control (ibid., p.238). He refers to these instruments as "[…] totalitarian efforts, […] [which] cannot create a whole environment, because they are not sufficiently responsive to the real needs, forces, demands, problems, of the people involved." (ibid.) Based on these observations, Alexander asserts that "*adaptation of buildings to people becomes impossible*." (emphasis in original, ibid., p.239) For Alexander, the severity of the problem requires "[…] *a shattering revision of our attitude to architecture and planning*" (emphasis in original, ibid., p.240), by means of re-introducing a shared pattern language, which would then gradually change society from below and from within.

Alexander's narrative has sparked controversy since its first publication. For instance, Rowe and Koetter criticised the physical outcomes of the process as falling short of expectations, speculating that the "inhibiting characteristics of commitment" demanded by the method are a possible cause (Rowe and Koetter 1978, p.96). On the one hand, Alexander seemed to have bracketed out a large part of the contemporary discourses and urban reality when he published the book in the late 1970s, leaving this task to texts like "A City is Not a Tree" (Alexander 1965). The narrative conveys a preoccupation with towns, the campus, and the village rather than city, and a vision of a suburban arcadia. Perhaps because of the claimed "breakdown of language", the narrative is reluctant to provide examples of new buildings that are "alive" (ibid., p.225, p.126). On the other hand, the narrative pioneered process-based strategies, whereby the combination of unfolding and the structuring systematics of language provided ample connections for digitalised applications that were to follow. The theory developed over decades, and continues to be a reference and field of enquiry for a community of researchers and practitioners. "The Timeless Way of Building" explicitly distances itself from the modernist frameworks that had been dominant and effective

when the theory was first published, thus affirming its status as an alternative meta-level narrative of change.

1.4 Architecture as Self-Referential Autopoietic System

While dialectic and evolutionary meta-level framings of change are part of traditions that date back to the 19th century and before, autopoiesis is a concept that did not take shape until the second half of the 20th century. In my brief discussion of autopoiesis as meta-level framing of change, I relate to the work of sociologist Niklas Luhmann and to Patrik Schumacher's architectural adaptation of the theory. Autopoiesis may be understood as a process of self-production and reproduction in systems, based on the capacity of systems to maintain and observe their function without relying on major external interference. It is a generative principle and therefore a principle of change. Autopoiesis was first described and conceptualised by Humberto Maturana and Francesco Varela in the 1980s as a phenomenon in living organisms (Luhmann 1995 [1984], p.34). Niklas Luhmann applies this "supertheory" (ibid., p.5) to a systems theory approach to society, proposing that social systems are established through the self-referential communication of differences and the corresponding "system/environment distinction" (ibid., p.37). Social systems constantly strive to reproduce themselves and maintain their function (ibid., p.11). They increase their internal complexity over time, which Luhmann refers to as the "temporalization of complexity" (ibid., p.47). This process is not concerned with "[…] returning to a stable state of rest after the absorption of disturbances, but with securing the constant renewal of system elements—or, more briefly, not with static but with dynamic stability." (ibid., p.49) Self-observation in social systems ensures that communications are reproduced as elements that are compatible with the system, so that subsequent communications can connect to them (ibid., p.37). Autopoietic communications are based on codes of differentiation A/not-A, as well as on "double contingency" (ibid., p.38): systems, or elements within systems, that communicate with each other anticipate the other's possible responses (ibid.)[4]. This also means that "no part of the system can control others without itself being subject to control [and] that any control must be exercised in anticipation of counter-control." (ibid., p.36) With regards to the internal structure of autopoietic systems, Luhmann emphasises that "all structural change, whether adaptation to the environment or not, is self-change" (ibid., p.350). Changes in social systems are, according to Luhmann, always based on communication (ibid.). For each system, the environment is 'everything but itself'. In this sense the environment is different for each system. It offers the opportunity of having contact to many other systems (ibid., p.182). Autopoietic systems are open to their environment and at the same time self-referentially closed (ibid., p.37, p.350). The environment is more complex than the system, resulting in an "asymmetrical" relationship between them (ibid.).

Conflict and contradiction assume operational roles in the autopoietic system. Conflict ensures the continuation of communication between two systems in cases where contradictions occur, based on a communicated 'no'; "[…] and for a while the conflict takes over autopoiesis […]" (ibid., p.389). The "negative version of contingency"

4 Here, Luhmann draws a cautious link between the resulting "mutualistic" situation and dialectics (ibid., p.38), but he is skeptical about an operative, dialectical self-description of society (ibid., p.431).

that is active in this situation "[…] leaves what positively happens completely open […]" (ibid.). According to Luhmann, "conflicts are social systems, indeed, social systems formed out of occasions that are given in other systems but that do not assume the status of subsystems and instead exist parasitically." (ibid.) In this sense, conflict has the capacity to connect different systems with each other.

Luhmann suggests that in the differentiated modern society, and among the many social systems in operation, special "societal function systems" (ibid., p.426) fulfil core tasks in the reproduction of society, like the economy, politics, religion, education, law and art. While he conceives of architecture as subsystem of art, Patrik Schumacher suggests that architecture constitutes a societal function system in its own right (Schumacher 2010, p.146). Schumacher published "The Autopoiesis of Architecture" as a two volume, 1200 page long proposition for "A New Framework for Architecture" (2010) and "A New Agenda for Architecture" (2012), with the purpose of articulating a unifying theoretical framework for architecture's epistemological self-description (Schumacher 2010, pp.xi-xii), as well as "[…] contributing to the ongoing vitality of the autopoiesis of architecture, and thus to the further innovation of the built environment." (ibid., p.55) Schumacher claims architecture features all elements that are characteristic of a societal function system, like its own sets of codes, mechanisms of self-regulation and reproduction, differentiation and communication (ibid., pp.19ff). He suggests that architecture, if defined as societal function system, is demarcated by its "ultra stable" boundary which is inscribed to the very structure of society (ibid., p.26). In the epilogue section of volume 2, Schumacher declares the ultimate goal of his theory to be the termination of the observed state of crisis and intensified controversy in architecture that followed the rejection of the modernist doctrine during the 1970s (Schumacher 2012, p.712). Asserting that Parametricism has now assumed the leading role in architectural development, Schumacher calls for a return to a state of normality, in which cumulative research and practice be conducted "under the banner of Parametricism" (Schumacher 2012, p.712). Being aware of the unresolved questions related to the outline of a general theory, Schumacher suggests that his version of the autopoiesis of architecture should be understood as bold conjecture, which is to be further debated, tested and elaborated (Schumacher 2010, p.54).

With regard to the relationship of the architectural and the political, Schumacher distinguishes the architectural societal function as "the ordering of social communication via the provision of *spatial frames*" (emphasis in original, ibid., p.448) from politics as "the ordering of social communications via the provision of *collectively binding decisions*" (emphasis in original, ibid.). On the one hand, Schumacher confirms that designs/buildings can "potentially, but not necessarily" be political (ibid., p.456). He acknowledges that some architectural projects may become a "[…] political issue to which further political communications connect" (ibid.). Architecture "[…] can certainly *serve* political agendas formulated and empowered within the political system […]" (emphasis in original, ibid., p.457), or be entangled with "urban micro-politics" (single quotes in original, ibid., p.474). On the other hand, he asserts that architecture, if it is understood as autonomous societal function system, can only respond to "resolved and thus depoliticised politics" (ibid., p.459). Schumacher identifies public competitions as a possible situation where a political, or micro-political agenda may be legitimately articulated from within architecture (ibid., pp.477). As a rule, however, he suggests that the purposeful admission of "political debate within architecture over-

burdens the discipline" (ibid., p.448) and "leads to communicative dysfunction within the architectural discourse." (ibid., p.459)

In view of the double contingency in the necessary communication between systems, as well as the intersystem relation of "interpenetration" (Luhmann 1995 [1984], pp.213ff), different, non-architectural perspectives are noticeably absent in Schumacher's outline. He argues with reference to conceptual clarity, that the terms 'political' and 'architecture' should be used in strict separation, the term 'political' be reserved for the communications of the political social function system, and 'architectural' for the communications of the architectural social function system. He then transfers this distinction at the systems-theoretical level without mediation to the field of architectural theory and practice, suggesting that political questions be left with the clients or politicians (Schumacher 2012, p.476). Addressing this problematic assertion of autonomy and the foregrounding of closure in his review of Volume 1, Marjan Colletti highlights the "fluid and migratory" aspects of architecture (Colletti 2011). He suggests that binary codes always imply a third condition – the error, the else, or the other – which includes instances of misinterpretation, subversion or superimposition by other systems (ibid.). Likewise, Ignacio Farias suggests with reference to Luhmann that "conflicts and disputes are, in fact, instances in which communication shows its potential to link completely disparate entities." (Farias 2013, p.8)[5] The adaptation of the theory of autopoiesis shows the difficulty and the limits of developing, and practically applying, meta-narratives to architecture and urbanism. While meta-level framings enable us to connect phenomena to complex theory, they also remind us, through their co-presence and specific weaknesses, that other perspectives are possible, and, perhaps, needed.

2. Narratives of Change as Critical Response to Modernism

2.1 Bye-Bye Utopia, or Utopia as Agent of Change?

As I have argued in the first strand of analysis, the dominant narratives of modernism favour fast, linear – and therefore predictable – change over complex and unpredictable process, which presupposes some kind of operational support by mechanisms of simplification, externalisation and exclusion. In the following sections, I look at a series of narratives of change that emerged during the 1960s and the following decade as criticisms of modernism. Being assembled around a shared attitude towards modernism rather than a shared set of methods (Rowe and Koetter 1978, p.36), they question the modernist urge for radical change in the face of an increasing impoverishment of the urban environment; they criticise modernism's selective interpretation, or exclusion, of history; they assert that time and change are closely tied to concepts of space, and challenge the authoritative and static masterplan through ideas of the urban as process. As part of this shift, we observe a swift move away from the utopia of the ideal modern city towards the heterogeneous city in search of possible alternatives.

5 This critique is not directly related to Schumacher's proposed autopoiesis of architecture. Farias theorises about Luhmann's concepts of virtual attractor and mechanisms of differentiation, suggesting that communicative links may be established on the basis of reference to previously rejected communications (ibid.).

"Bye-Bye Utopia", an installation and a series of lectures and debates curated by raumlaborberlin in the Kunsthaus Bregenz exhibition hall in 2010, featured an arena-like structure made of apartment doors reclaimed from obsolete dwelling blocks in Halle-Neustadt, a new town built during the German Democratic Republic (GDR) era (Bader et al., 2010). The structure performed in multiple ways, accommodating changing patterns of use and appropriation. During public events, the arena became a space of critical and creative debate, a space of encounter. Spatially, the arena dissected the ground floor area of Peter Zumthor's exhibition hall, as if defining two different worlds. The sole connections between the two spaces were provided by a vertical emergency slide suspended from the top of the structure, or by leaving the hall through the main entrance and re-entering the building from the rear. Both connections, internal as well as external, produced forms of movement that are unusual for an exhibition. The slide evoked an experience of playfulness, but also one of uncertainty, discomfort and speed. The detour around the building passed through urban public space, as a metaphoric journey through the polis, the space of politics. Most visibly, the metaphoric political dimension was present in the arena made of doors. The reclaimed materials testified to buildings and structures that represented a bygone socialist utopia. The doors, initially identical according to the logics of prefabrication and, perhaps, of a homogenising socialist doctrine, had changed over time through everyday use. Thus the arena marked the intersection of institutionalised and abstract forms of power with the individualism and nonconformity of the everyday. Conceived as an open forum, the arena hosted workshops and debates concerned with the future, while quite literally building on the relics and experiences of the past. Hence, "Bye-Bye Utopia" seems to have embodied a 'movement-away-from' with an open and contestable 'towards' – a combination which I have theorised in Chapter I. It suggested that utopias, even if they have become obsolete, are of relevance for the present. Moreover, it represented the collective work of coping with and managing the transition between the past and an uncertain future. Writing about the projects of raumlaborberlin, Nishat Awan, Tatjana Scheider and Jeremy Till suggest that, by means of highlighting problems rather than solving them, they "[…] try to open up a space of communication and negotiation in which relations can be made and conflicts played out, and they acknowledge that for them architecture is foremost a social phenomenon." (Awan, Schneider and Till 2011, p.191).

Karl Popper's criticism of the utopian model, written two years prior to the establishment of the GDR in 1949, reads like an abstract forecast of the course of events that led to the state's self-dissolution in 1990, and in this sense to the conditions which formed the working basis for raumlaborberlin's collective project in Halle-Neustadt. For Popper, the process of change in the world of a single utopian idea, be it scientific, political, or social, is the opposite of discursive openness and collective creativity. According to Popper's theorisation in "Utopia and Violence" (Popper 1947, pp.477–488), the utopian process tends to be based on enforced continuity and "the use of violent methods for the suppression of competing aims […]" (ibid., pp.483):

Figure 30: Rhombi House by OnOff – Sam Carvalho, Marius Busch, Suzanne Labourie, Berk Asal, Anika Neubauer, Nick Green. Shabbyshabby Apartments, organised by raumlaborberlin and Münchner Kammerspiele, Munich 2015

> "For unavoidably, the period of Utopian construction is liable to be one of social change. In such a time ideas are liable to change also. Thus what may have appeared to many as desirable when the Utopian blueprint was decided upon may appear less desirable at a later date. If this is so, the whole approach is in danger of breaking down. For if we change our ultimate political aims while attempting to move towards them we may soon discover that we are moving in circles." (ibid., pp.483f)

Hence, the long-term success or failure of an utopian idea is, in Popper's view, not so much determined by its initial promise, but rather by its capacity to compete against and suppress other ideas. Karl Popper's criticism of the utopian method asserts that the process towards realisation may lead to "[…] propaganda, the suppression of criticism, and the annihilation of all opposition." (Popper 1947, p.484) For Popper, who advocates an open society based on individual choices on the grounds that knowledge is provisional and that its production requires critical reflection and the presence of alternatives, the displacing mechanisms of the utopian model are a threat to rational thought, as well as to the open society. For, in order to pursue the ultimate goal, "the utopian engineer must in this way become omniscient as well as omnipotent." (ibid.)

In "Collage City", Colin Rowe and Fred Koetter trace the long-standing tradition of utopian thinking in architecture and urbanism (Rowe and Koetter 1978, pp. 9ff). Taking up Popper's criticisms, Rowe and Koetter discuss the dilemma to which theory and design practice in architecture and urbanism have to respond when they work with the utopian model (ibid., pp.121ff). Based on their analysis of architectural history, Rowe and Koetter assert that the model has proved its usefulness in architectural and urban design thinking, in the formulation of new ideas and alternatives, and in this sense as agents of change; however, they do not deny that projects based on prescriptions may lead to problems like modern architecture's "lamentable lack of tolerance" (ibid., p.132). In order to rescue the operative potentiality of utopia for architectural and urban work

in the light of Popper's criticism, they reject the blueprint and advocate a "utopia as metaphor *and* Collage City as prescription" (emphasis in original, ibid., p.181). This construct is understood to neither surrender to "scientific 'certainties' or the simple vagaries of the *ad hoc*" (emphasis in original, ibid.). It seeks to reconcile design vision with urban coexistence and incremental change. In this sense, Rowe and Koetter's late 1970s text mirrors the postmodern dismantling of utopia as single big idea and the simultaneous emergence of alternative architectural and urban practices. And indeed, as "Bye Bye Utopia" seems to suggest, the utopian model still abides with us today – as urban heritage and collective memory, as object of criticism, as the mini-utopias in incremental processes, and as a reference for those who are working towards and within constellations of change.

2.2 Typomorphology – Built Form as Process

Claiming the joint study of type and urban form constitutes an exclusive 'domain–specific' narrative of change would be to misrepresent its joint origins in urban geography and architecture, as well as mask the fact that it thrives in many multi-disciplinary research settings today. However, it has informed architecture and urban design in profound ways, both in research as well as in design education, and there are numerous domain–specific adaptations of its methods and concepts. In this section I seek to identify some of them in the theoretical sampling process, albeit without contextualising beyond the focal area.

Anne Vernez Moudon, in her discussion of different strands of typomorphological studies, points out that the question whether modernism has to be seen as rupture or as continuity in the history of cities had not been answered unequivocally (Moudon 2004, p.23). Some theorists in this field hoped that modernism was but a temporary aberration in the way cities are produced and that the initial historical process would be restored (ibid.). Some saw in modernism a discontinuity that was to prevail and as such would eventually establish a new continuity, while others were able to connect modernism with the changing history of the urban past (ibid., p.38). Consequently, the hopes and expectations associated with the study of urban morphology varied greatly and, as a result, the way outcomes in research were generated and used. In her comparative overview of the research field, Anne Vernez Moudon speaks of different traditions, where research clusters in Italy, the United Kingdom and France have developed distinct profiles. The Italian tradition is closely connected to the work of Saverio Muratori, who exerted a strong influence on Aldo Rossi (ibid., p.19), among others, and later to the work of Gianfranco Caniggia, who continued to make the study of urban process operational for architectural and urban design (ibid., p.19). The tradition in the United Kingdom is understood to have developed from the pioneering work of cultural geographer Michael Conzen, who established a framework for the study of built landscapes based on "town-plan analysis" (ibid., p.27). In this analysis, street pattern, plots and buildings are represented in complementary drawings and observed in their development over time (ibid., p.28). Conzen's systematic approach, which included the study of Berlin and a series of smaller towns in North England, led to the formulation of concepts like the "fringe belt" (ibid., p.28) or the "burgage cycle" (ibid., p.29) (as mentioned earlier in the chapter on domain-specific narratives of conflict), or the "morphological frame" (Whitehand 2001, p.107). The concept of morphological frame

> "[…] relates to the fact that the way in which forms are created on the ground […] acts as a long-term constraint on subsequent change. Plot boundaries and especially streets exert a powerful long-term influence. […] Thus town plans are powerful influences on future forms, with residual features being passed down through successive generations of society, often over very lengthy periods." (Whitehand 2001, p.107)

Informed by his work, the Urban Morphology Research Group (UMRG) based at the University of Birmingham has conducted research into urban morphology since the 1980s (ibid., pp.28ff). The French tradition draws from a long academic interest in type and typology. The experience of radical urban transformation resulting from the construction of new towns at a large scale united critics and researchers of different disciplines to study both the urban tradition as well as the phenomenon of the modernist city in order to develop practical knowledge that could be applied to the urban crisis. Henri Lefebvre is understood to have accompanied and supported this process, in particular with his writings on urban appropriation and practices of the everyday (ibid., p.33). Moudon suggests that "Lefebvre's teachings fostered interdisciplinary work and a rapprochement with the social sciences, and encouraged the search for a socially responsive and responsible architecture." (ibid., pp.33f) As the French research cluster operated within a multi-disciplinary research environment, social and economic issues could be addressed in a different way, as was the case in the more formal or structural approaches of the other traditions (ibid.). The 'Laboratoire de recherche: Histoire architecturale et urbaine – Sociétés' (LADRHAUS) is the centre of the cluster today (ibid., p.34). Moudon comments on a comparative morphological study by the cluster, making explicit its relevance for both, design issues and social process:

> "The particular cases studied show that good models used to design the city oscillate back and forth between the need to control and provide order in city design and the need to create environments that respond to the needs and actions of their immediate inhabitants. This puts in question the value of a global composition of the city (an underlying concern and general direction in the evolution of urban design theory), proposing instead an emerging definition of city from through the incremental acts of many people." (Moudon 2004, p.40)

Moudon suggests that typomorphology's definition of type as entity of building volume and the plot of land on which the buildings are located distinguishes it from other research approaches that work with the concept of type (ibid., p.18). Unlike Durand, who developed a systematics of placeless building types, typomorphology is interested in the joint study of building structure and open space. The land and the way it is parcelled and organised is conceived as the link between the scale of the building and the scale of the city. The type is morphogenetic and not static. It is understood to be "[…] defined by time – the time of its conception, production, use, and mutation." (ibid., p.18) These terms establish a direct connection between time and human action. It is the time during which humans act on and with the forms they have created or inherited. The concept of typological process or "tipologia processuale" (ibid., p.20), which is central to the morphogenetic research interest, is then not an evolution of pure form, but rather the continuously changing relationship between humans and form. Moudon stresses Caniggia's role in theorising this kind of change, because unlike oth-

ers in the Italian research perspective he "clearly states that the physical city is not an object but a process: cities are built incrementally with many small elements being juxtaposed." (Moudon 2004, p.20) Moudon asserts that in so doing, Caniggia "[…] portrays an extremely dynamic picture between human action and built world, whose production is the result of a dialectic, or an active relationship, between human action and 'environmental reaction'." (ibid., p.21) This interaction is either based on "spontaneous conscience" or on "critical conscience" (ibid.). The first kind is an "immediate understanding of what is necessary to make a building" (ibid.) in the way of vernacular or common houses. The second kind of interaction is based on a self–conscious process that may result in specialised structures or monuments (ibid., p.21). A similar distinction is proposed by Christopher Alexander in "Notes on the Synthesis of Form" (Alexander 1964 pp.58ff), which I discuss in the next section.

Finally, typomorphological research highlights the connectedness of built form across different scales. The relations across scales establish links within the abstractions used to represent the built environment. Also, there are the relations between built form and processes of collective human action – of city building, and making, as embodied in the practices humans employ to structure and control the world. The focus on long term urban transformation and its relatedness to human action has made typomorphology and similar research approaches a source of inspiration for researchers who are interested in the joint study of built form and collective processes. Anne Vernez Moudon has conducted her own extensive study of urban change in the Alamo square neighbourhood in San Francisco (Moudon 1986). Other descriptive and interpretative works on transformation, like Stewart Brand's "How Buildings Learn: What Happens After They're Built" (Brand 1994), or John Habraken's "The Structure of the Ordinary" (Habraken 2000), have strong connections to this field.

2.3 Alexander – Conflict and Change in the Synthesis of Form

In "Notes on the Synthesis of Form" (Alexander 1964) Alexander laid the conceptual foundation for the series of research enquires and publications that were to follow, such as the "Pattern Language" (Alexander, Ishakawa and Silverstein 1977), "The Timeless Way of Building" (Alexander 1979), or the more recent four-volume work on 'The Nature of Order', in which he develops a universal understanding of emergent structures, including cities, and how they relate to the human self. Alexander's work allows a multitude of different connections to be made. With respect to setting a focus, I concentrate on Alexander's notions of the design process, conflict and change as conceptualised in "Notes on the Synthesis of Form", starting with his proposition about how design, form and context relate to each other:

> "The form is a part of the world over which we have control, and which we decide to shape while leaving the rest of the world as it is. The context is that part of the world which puts demands on this form; anything in the world that makes demands of the form is context. Fitness is a relation of mutual acceptability between these two. In a problem of design we want to satisfy the mutual demands which the two make on one another. We want to put the context and the form into effortless contact or frictionless coexistence." (Alexander 1964, p.19)

Figure 31: Ridley Road Market in Dalston, London Borough of Hackney. The local area has changed considerably over the last few decades, although the street layout and many building plots have retained their boundaries. The market has been in operation for more than 100 years. East London 2014

In this construct, the level of "frictionless coexistence" between form and context becomes the measure of "fitness", whereby conflict, as a concept, assumes a double function. It acts as analytical indicator, which shows where problems are located in form-context relations; and conflict brings analytical capacity and guidance to the design process. If "good fit" is defined as the absence of "misfits" (ibid., p.27), if the design "solution" to a problem is understood to be the elimination of conflict, then the elimination and avoidance of conflict defines the route the design process needs to pursue. As the context as well as the criteria of "good fit" are likely to change over time (ibid., p.37), the process is never complete, because imperfections in the relation of form and context will produce changing residues of conflict.

Alexander identifies two processes through which form is typically generated. The "unselfconscious process" is characterised by repetition and by passing on successful forms from generation to generation (ibid., pp.46ff). The rules by which forms are generated are not made explicit when taught and become evident only indirectly when mistakes are corrected. There is no specialised builder or designer. The person who uses the form is the one who builds and maintains the form. In the unselfconscious process, the builder assumes the role of an agent rather than of the inventor of form (ibid., p.53). Changes to form, technique or building material are made only if misfits accumulate up to a certain threshold. Adjustments are typically limited to the affected subsystem and never to the complexity of the entire form. Beyond such adjustments, change is avoided, in particular if the form is part of a tradition and attached to myth and ritual (ibid., p.46). Hence the form in the unselfconscious process resists change and the rules for producing this form are "rigidly maintained" (ibid.). The speed of change is in equilibrium with the demands imposed on the form by the changing context. The process is slow enough for both agents and form to adapt (ibid., p.51). However, Alexander suggests that the principles of gradual adjustment, or

adaptation over time, are by themselves not sufficient to explain the enduring fitness of good form in certain building traditions (ibid., p.37). According to Alexander, systems that produce and maintain well-fitting forms tend to combine dampened feedback on the global level, manifest in the rigidity provided by tradition and convention, with immediate feedback on the local level (ibid., p.51). Yet, while acknowledging the unselfconscious process operates reliably within its own bounds, Alexander believes it to be unsuitable for the kinds of problems we are facing today (ibid., p.73). Alexander argues that the second kind of process, conceived as the "selfconscious process", emerged along the formation of architecture as a discipline (ibid., pp.55ff). Knowledge of how to design and how to build became formalised as generalised principles, readily available for institutionalised education as well as for academic and professional criticism. Whereas in the unselfconscious process the individual who builds the form is merely an "agent" unburdened by having to invent the form, the selfconscious process demands unique solutions to a long list of problems from the individual (ibid., p.58f). However, the complexity involved in this process tends to exceed the capacity of the average designer (ibid.). To overcome this difficulty, design practice resorts to various strategies of problem-restructuring, simplification and categorisations (ibid., pp.61ff). According to Alexander, such categorisations tend to reflect the way we identify a problem by means of language, for example as "safety" or "production cost", rather than corresponding to the true structural logics of the design problem (ibid., p.69). Alexander suggests this mismatch of problem and problem description is counterproductive in the search for well-adapted solutions, thus contributing to the accumulation of unresolved problems in the built environment (ibid.).

Alexander concludes that neither the unselfconscious nor the selfconscious process would provide adequate design frameworks for approaching contemporary design problems. The weaknesses and strengths in the two processes, in particular in their distinct modes of problem description and decision-making, define the starting point of the alternative process brought forward by Alexander. This process is composed of the problem analysis "program" (ibid., p.84), and the development of corresponding "constructive diagrams", which provide a unitary description of the problems (ibid., p.90). The program is a tree of requirements based on the inner structure of the design problem. Drawing from set theory, Alexander conceives of the program as a hierarchy of subsets, ranging from the most complex level, the overall design task, to the simpler levels of individual sub-problems. Each constructive diagram seeks to describe a state in which context and form fit each other. When each sub-problem on each level is represented by a constructive diagram, the overall design problem is represented coherently and as an entity. Alexander refers to this step of synthesis as "realization of the program" (ibid., p.84) Upon realisation through integrating sets of diagrams, conflict is likely to occur between some of them. The conflict originates in the objectives provided by different fit/misfit variables. Alexander suggests the sequencing of conflicts is an essential factor in the process. The earlier a conflict occurs, the more flexibility is available to develop a solution.

> "At the beginning of the process […] implications are therefore not yet frozen in any explicit diagrammatic form; they are still flexible enough to be successfully integrated with one another in spite of conflicts. The further along in the process we are, the more our thoughts about these implications have been forced by their complexity to become

concrete, whether diagrammatically or conceptually, and the more their rigidity resists further modification." (ibid., p.123)

Based on this brief enquiry into Alexander's Notes on the Synthesis of Form, we can say that both conflict and change are at the core of his conceptual framework. In the unconscious process, the accumulation of conflict triggers the cycle of adaptation until a new equilibrium is achieved. In the selfconscious process, conflict is associated with criticism, design education and innovation. It is Alexander's intention to overcome the deficits of reductionist practices by means of a fundamental revision of the selfconscious process. Having said that, Alexander's attitude towards conflict is characterised by ambiguity. He does not conceptualise conflict as major driver of change, or more specifically, of the design process. For Alexander, there is an imperative to resolve conflict and to move away from it towards conditions of integrity, equilibrium and, to use the term cited earlier, of "frictionless coexistence" (Alexander 1964, p.19).

2.4 Rossi – Urban Permanence and Change

Aldo Rossi's "The Architecture of the City" (1982 [1966]), first published in Italian in 1966 as "L'architettura della città", engages among other aspects with conditions of asymmetric change in the (historical) development of cities. Since the book was published, it has been criticised for its inconsistency and lack of structure, yet it developed into a fundamental theoretical text in architectural and urban theory during the second half of the 20th century (Jencks 2011, p.44). Charles Jencks asserts Rossi's texts and projects have "[…] fought the battle for the contextual city, a continuation of Team X's ideas but at a more radical level […]" (ibid.). The work grew within an increasingly politicised context, as Rossi's involvement with the conceptual and scientific preparations for the Milan Triennale 1968 seems to suggest (Nicolin 2008, p.91).

Paolo Carpi et al. (2014) review the original text for the Arch+ magazine from the perspective of the present. They suggest that Rossi, at the time of writing "L'architettura della città", was self-consciously immersed in the modernist tradition of urbanised and industrialised Northern Italy and not yet orientated towards the more subjectivist and autobiographical perspective which he assumed at a later stage when he advocated the idea of the autonomous project (Carpi et al., p.16). They emphasise, however, that together with other critical modernists Rossi rejected the idea brought forward by "naïve functionalism" that the city could be sufficiently classified, and therefore reproduced by aggregating single functional elements (ibid.; Nicolin 2008, p.91; Rossi 1982 [1966], pp.46f). Consequently, in "L'architettura della città" Rossi starts his theorising and analysis with the city, suggesting that urban complexity always precedes architectural intervention. Urban complexity is seen as "a priori" to architecture; its origins cannot be determined with certainty and the sole acceptable perspective on the city is from "within" (Carpi et al., pp. 20f). However, Carpi et al. suggest that Rossi's simultaneous insistence on "type" as the principle that generates the city from simple to complex established a fundamental contradiction (ibid., p.23).

Carpi et al.'s observations could be extended. The city in "L'architettura della città" is, on the one hand, seen as being produced through the work of human actors, as "a human creation par excellence" (ibid., p.57); on the other hand, the city is seen as producing itself as a "totality" (Rossi 1982 [1966], p.32) in the sense of a reified collective

subject, as a "[…] mode of being [that] implies a will to exist in a specific way and to continue in that way." (ibid., p.162) Rossi assigns to the city the status of object (of creation) and subject (as acting entity with an ontological presence): "urban architecture – which, as we have repeated many times, is a human creation – is willed as such [and …] every city possesses a personal soul […]" (ibid.). For Rossi, symbolic meaning can be inscribed in objects in such a way as to be a property of the object itself. Objects that have been constructed "[…] testify to values; they constitute memory and permanence." (ibid., p.34) In this way, Rossi seeks to resolve the problem of modernist bifurcation, the distinction between object and subject, of architecture and society. Rossi asserts that "the city is as irrational as any work of art, and its mystery is perhaps above all to be found in the secret and ceaseless will of its collective manifestations." (ibid., p.163) Hence, the conceptual framing of the city based on contradictions and ambiguity establishes limits to analysis, while at the same time opening up the analytical field. Addressing the legacy of the work, Carpi et al. suggest Rem Koolhaas' "Delirious New York" has taken some of the ideas in the book further (Carpi et al., 2014, p.18).

Change, including asymmetric change, is one of the fundamental principles in Rossi's concept of the city. He observes that "destruction and demolition, expropriation and rapid changes in use as a result of speculation and obsolescence, are the most recognisable signs of urban dynamics." (Rossi 1982 [1966], p.22) Within this constantly changing environment there is "[…] the persistence of a city's basic layout and plans […]" (ibid., p.59) and there are "forms of permanence in urban monuments [that …] offer themselves as primary elements, fixed points in the urban dynamic." (ibid.) According to Rossi, "[…] dwellings cover the major portion of the urban surface and rarely have a character of permanence […]" (ibid., p.61). "Dwelling areas", on the other hand, are seen as more permanent elements in the city, in which the single residential building changes, but not the residential use (ibid., p.61, p.69, p.97). Hence, in terms of dynamic processes, Rossi distinguishes between the single dwelling that is subjected to constant change, dwelling areas of greater permanence, and primary elements around which things assemble. Primary elements "[…] participate in the evolution of the city over time in a permanent way […]" (ibid., p.86). They function as "nuclei of aggregation" (ibid.) and as "catalysts" (ibid., p.87). Primary elements "[…] have the power to retard or accelerate the urban process" (ibid., p.63). They embody "*that which characterises* a city" (emphasis in original, ibid., p.99), but "[…] they also characterise the processes of spatial transformation in an area larger than the city." (ibid., p.87) According to Rossi, if primary elements survive for longer periods of time, as a sign of both "quality and destiny" (ibid., p.101) they may be defined as "monuments" (ibid.). He suggests that "to give permanence" may be understood as a past that we are still experiencing in the present (ibid., p.59).

Rossi distinguishes between two categories of permanences:

1. **"Vital" permanences** that act as "propelling" elements in the evolution of the city (emphasis added, ibid., p.59), for example, the reprogrammed Palazzo della Ragione in Padua
2. **"Pathological" permanences** that have ceased to make active contributions to the life of the city (ibid., p.22). These permanences stand "virtually isolated" (ibid., p.59) and "nothing can be added" (emphasis added, ibid., pp.59f).

According to Rossi, both categories of permanence, the "vital" and the "pathological", are "essential" (ibid.) to the city, for "[…] in both cases the urban artifacts[6] are a part of the city that cannot be suppressed because they constitute it." (ibid., p.60) In terms of the constitution of monuments, Rossi is

> "[…] inclined to believe that persistence in an urban artifact often causes it to become identified as a monument, and that a monument persists in the city both symbolically and physically. A monument's persistence or permanence is a result of its capacity to constitute the city, its history and art, its being and memory."(ibid.)

This view suggests that there are external and internal factors that make a monument, and that persistence may suffice for an urban artifact to become a monument, without the necessity of having a specific significance at the time of construction. An urban artifact may acquire its status as monument over time. Rossi suggests that the "context" (ibid., p.60) of a permanence may provide information as to its condition, whether it is vital or whether it "[…] stands outside of technological and social evolution" (ibid.), as "isolated and aberrant" (ibid.). With regard to residential areas in the city, Rossi asserts that "[…] its preservation is counter to the real dynamic or the city; so called contextual preservation is related to the city in time like the embalmed corpse of a saint to the image of his historical personality." (ibid.) At first sight, this statement seems surprising given Rossi's interest in the history of urban dwellings. However, Rossi is looking at very long timelines. His enquiries about the city embrace the full span of its production, from the very beginning, which could be so remote in the past that it cannot be determined with certainty, up to the very present. The three cities to which he refers throughout his text are Athens, Rome and Paris. They all date back to Roman or Pre-Roman times. They feature permanences, as monuments, that date from this early period, while literally all residential buildings that we see in these cities today are comparably new. They have been preceded by generations of earlier buildings that vanished at some stage in the past.

This raises the question as to how fast a residential area needs to change without assuming the pathological state as conceptualised. Although Rossi does not provide a definite answer to this question, he becomes more specific upon introducing the notion of 'obsolescence': "For our purposes, we will define this phenomenon as characterised by a group of buildings – which may be in the neighbourhood of a certain street or may constitute an entire district – that has outlived the dynamics of land use in the surrounding areas." (ibid., p.96) For Rossi, then, the question whether an area is obsolete and in this sense pathological has to be determined from within its specific context and through comparative analysis. As noted above, he conceives of obsolete and pathological residential areas as being aberrant urban conditions in the city: "Such areas of the city do not follow life; often they remain islands for a long time with respect to the general development, bearing witness to different periods in the city and at the same

6 "The Italian 'fatto urbano' comes from the French 'faite urbaine'. Neither the Italian nor the English translation 'urban artifact' […] adequately renders the full meaning of the original, which implies not just a physical thing in the city, but all of its history, geography, structure, and connection with the general life of the city. This meaning is the one intended throughout this book. – Ed" (Editor's note in the 1982 publication, Rossi 1982 [1966], p.22)

time configurating large areas of 'reserve'." (ibid., p.96) As if to support the general ambiguity found in "L'architettura della città", Rossi's descriptions of this aspect are both critical and at the same time point to some kind of specific quality. On the one hand, he gives reason to believe that in the name of an urban vitality it would be better to avoid pathological conditions, through reprogramming, adaptation and modification (ibid., pp.59f). On the other hand, if conditions of obsolescence and pathological permanent elements have gained a foothold in a specific area of the city, Rossi sees in them a certain potentiality as 'reserve'. But again, he leaves unclear whether to him this could be a reserve for future urban development, or if it could be the urban equivalent of a 'nature reserve' – a place of retreat and conservation.

2.5 Lynch – The Environmental Image of Time

After having published his work on the visual and mental image of the city (Lynch 1960), Kevin Lynch turned to problems of change and time and in this way extended his study of human interaction with the built environment and time-bound processes. In "What time is this Place", Lynch speaks of a "personal image of time" (Lynch 1972, p.1) that needs to be understood and integrated to the processes through which we organise transformations. The notion allows him to locate the past and the future in the shifting "now", as "the heart of our sense of time" (ibid., p.65) and as the framing in which we continuously re-produce our images of the future and the past (ibid.). Kevin Lynch asserts that "The spatial environment can strengthen and humanize this present image of time, and I contend that this function is one of its vital but most widely neglected roles." (ibid.) More than other architectural theorists, Lynch is interested in what people actually do and how they interact with existing situations. How do people adapt to new environments? How do they cope with and respond to change? How could people who are affected by change, voluntarily or involuntarily, actively contribute to the situation and thus exert control over the process?

Lynch emphasises the need to address the users' perception of change, their awareness of shifting conditions, their means of knowledge to organise and control change, the values they attribute to change (ibid., p.207). His analysis moves from external to internal, from large to small, beginning with a series of case studies on moments of substantial change in the histories of London, Stoke-on-Trent, Cuidad Guayana in Venezuela, and Havana. This is followed by discussion of the ambivalent relationship of place, personal memories, and identity construction; the problems of conservation; and the means to communicate the past and the future in the present. An ever present subtext in his analysis is the lack of any single way to look at time-related phenomena, and that there is no single image of time, the past, the present, and the future. Different concepts of time, such as the abstract time of the sciences, objective social time, and individual rhythms and times, may oscillate between synchronised states or those in conflict with each other (ibid., pp.65ff). Lynch criticises the modernist view that defines change as "[…] a troublesome but ephemeral gap between the old and the new […]" (ibid., p.207) without acknowledging the potentiality and effects of the actual process. He claims that the modernist 'form follows function' doctrine is inadequate for the design of space, because space relates to human activity and therefore to process and time (ibid., p.72). Theorising about different kinds of change, Lynch suggests that

Figure 32: Eastern Curve Garden, community project in Dalston since 2009, muf, J&L Gibbons, EXYZT, and others, East London 2018

> "A change in the environment may be growth or a decay, a simple redistribution, an alteration in intensity, an alteration in form. It may be a disturbance followed by restoration, an adaptation to new forces, a willed change, an uncontrolled one." (Lynch 1972, p.190)

Lynch asserts that while "managed" change is generally meant to establish a more desirable condition, or mitigate adverse effects (ibid.), there would be also costs. Along with economic and technological costs, Lynch points to social costs and possible negative psychological effects, such as disorientation, fear, regret, rage, desolation (Lynch 1972, p.190). In Lynch's view, people struggle most with changes that are imposed from the outside, too fast to be accommodated, perceived as being unjust, or not matching expectations (ibid., p.205). Lynch asserts that in order to avoid these difficulties, appropriate processes of change

> "[…] should be legible and fairly rapid, concentrated in time and space to make a noticeable difference, yet made up of moderate increments that can be deferred without disrupting the entire process. First actions must be successful, however limited. Actions should build in intensity with time, the familiar 'bandwagon' technique. Active groups must derive clear benefit from the change. Even better, the benefit should be widely diffused, and many small groups be involved in initiating the action. We should increase the information about the present and the future, raise realisable expectations, and educate to new needs." (Lynch 1972, pp.205f)

Here, Lynch addresses what I will discuss in more detail at a later stage – the connectedness of change to individual and collective learning. For Lynch, thinking about the future requires the production and sharing of information. Accordingly, selecting and distributing communications is seen as a political act, which demands citizens share in the politics of communicating change (ibid., p.100). To facilitate this aim, Lynch pro-

poses to "[…] demystify (and sometimes debunk) sophisticated forecasting techniques and to make them available to local groups for the preparation of alternative predictions." (ibid., p.101) Furthermore, Lynch emphasises the need for transparency, in particular in situations of conflict. "Where conflicting interests are involved, the change may still be acceptable if disagreements are openly aired and adjudicated before the change occurs and there is no obvious injustice […]." (Lynch 1972, p.205) Neither of these claims have lost their appeal and urgency, for rising digital capacities continue to provide an ever growing and powerful pool of tools to specialists and their expert predictions. Addressing the political nature of managing change, Lynch provides a list of counterstrategies and deliberate misrepresentations that may be used by actors to disrupt, slow down, or prevent change from happening. (Lynch 1972, pp.206) Lynch emphasises that the way we perceive, represent and theorise change determines the way we deal with and manage change (Lynch 1972, p.207). From his long list of management options, I have extracted two positions – the fully controllable process and the recurrent work of maintenance – that to me seem to be highly relevant for the later case study:

> 1. "[…] change as **completely controllable process**, a **problem to be solved**, whose terminus is more important than its becoming. The variables with which he deals are few, the total course foreseen, and the **objectives fixed**. The process itself **can be scheduled in detail** or neglected as trivial." (emphasis added, ibid., p.207)

> 2. "The alternate decision model of maintaining the status quo demands powerful control (or weak forces of change), as well as a high valuation on the received state. The objective is clear, but predictions must be accurate and consensus strong. **Maintenance is a useful model for the retention of stable function** against the action of well-known, equally stable (usually natural) forces that tend to degrade it. Otherwise, the conditions appropriate to maintenance are found only in some special cases: historic districts […] where high costs of control are justifiable. […] Under the guise of recurrent renewal, however, maintenance may be **a way of adjusting to new forces, without a conscious admission of the fact.**" (emphasis added, ibid., pp.211f)

With a few exceptions, architectural building projects are conceived and realised in the first mode – the scheduled and closed process. The realisation of the Parkstadt Bogenhausen housing estate during the 1950s, which I discuss in the case study, falls in this category. The ordering system of financing, scheduling, distribution of risks, building regulations, planning legislation and expectations of all those involved are geared towards a predictable, highly controlled process and a pre-defined 'product'. In this mode of change, the realisation stage is disconnected from the phase of actual use and is in this sense closed once the financial and other similar issues are settled. In complex and large building projects, like the construction of a housing estate, unforeseen problems are likely to occur. Lynch observes that "in a more sophisticated plan, any uncontrollable disruptions will be forecast and a set of contingency plans prepared that will all converge again to the same desired end." (ibid., p.207) Lynch concludes with a series of speculative propositions for alternative framings of time/environment constructs, the goal being the operability of the theory and the enrichment of our images of time. The skills needed for producing such alternatives would, in line with Lynch's pragmatist approach, "develop in the doing" (ibid., p.226). The propositions brought forward

Figure 33: Culture of congestion in the East End, 24hour Beigel shop at Brick Lane, Tower Hamlets, London 2017

include, among others, a prototype habitat, simulation techniques and spatial action research (ibid., pp. 228f). Stressing the difference between these modes of change and the utopian model, Lynch asserts that "[…] they would begin with the real present and show how any new features would grow out of that existing situation" (ibid., p. 229), rather than being guided by some distant image of the future – not dissimilar, perhaps, to the approach proposed by Karl Popper. In his final remark, Lynch argues for the joint consideration of space and time. "It is evident that we should think of an environmental image that is both spatial and temporal, a time-place, just as we must design settings in which the distribution of qualities in both time and space are considered." (ibid., p. 242)

2.6 Koolhaas – Culture of Congestion

Manhattan has attracted and continues to provoke researchers and theorists of different backgrounds to analyse and speculate about the urban condition. Christopher Alexander used Manhattan as an example to show how a pattern language creates a coherent urban environment based on the repetitive, uniform use of patterns (Alexander 1979, p. 194). In the picture supporting his argument, tower blocks and a roof-top car-park are shown from an elevated perspective, whereby the more specific characteristics of the city remain mysteriously immersed in winter smog (ibid.[7]). Kevin Lynch mapped and analysed the visual form of New Jersey with Manhattan's skyline marking the eastern edge (Lynch 1960, p. 27). "Delirious New York" is Rem Koolhaas's speculative and selective reconstruction of Manhattan's biography (Koolhaas 1994a [1978]). More than any other reference I have identified in the theoretical sampling process, it is conceived in Catherine Riessman's sense as a narrative "[…] to remember, argue, justify, persuade, engage, entertain […]" (Riessman 2008, p. 8), but also "[…] to mobilize others, and to foster a sense of belonging." (ibid.)

7 Photographed by Werner Bischof

Based on his observation of different obsessions with novelty, the effects of the capitalist economy, and the physical constraints of the Manhattan peninsula, in "Delirious New York" Koolhaas develops the concepts of "Manhattanism" (ibid., p.10, pp.110ff) and the "Culture of Congestion" (ibid., p.10, p.125) to describe the unique Manhattan condition. Conflict, continuity and change are ever present subtexts of Koohlhaas's narrative. In the introduction, Koolhaas asserts that "*Manhattan's architecture is a paradigm for the exploitation of congestion*." (emphasis in original, ibid., p.10) Manhattanism is defined as "unformulated theory […] whose program — to exist in a world totally fabricated by man, i.e., to live *inside* fantasy — was so ambitious that to be realized, it could never be openly stated." (emphasis in original, ibid.) Koolhaas concludes his analysis with the proposition that the qualities of a metropolitan urbanism, as represented by the Culture of Congestion, should finally enter public debate, so that a new approach to urban design and a rethinking of modernism and the city become possible (ibid., p.293). He argues that "the Metropolis needs/deserves its own specialized architecture, one that can vindicate the original promise of the metropolitan condition and develop the fresh traditions of the Culture of Congestion further." (ibid.) In the analysis, the Manhattan block, established through the 1811 Commissioner's Plan (ibid., p.18ff), and the skyscraper, established as new architectural building type during the first decade of the 20th century (ibid., p.82), are both identified as units and enablers of the Culture of Congestion. Koohlhaas emphasises the dichotomy of the grid – as the persisting element being fixed in space and time – and the contents of the blocks, which are constantly transformed on the basis of speculative development (ibid., p.18ff). Koolhaas suggests that in this way the grid organises two-dimensional territory, whereas the block acts as three dimensional enabler of urban space and time, in ever changing constellations.

> "The Grid's two-dimensional discipline also creates undreamt-of freedom for three-dimensional anarchy. The Grid defines a new balance between control and de-control in which the city can be at the same time ordered and fluid, a metropolis of rigid chaos." (ibid., p.20)

> "Since Manhattan is finite and the number of its blocks forever fixed, the city cannot grow in any conventional manner. […] It follows that one form of human occupancy can only be established at the expense of another. The city becomes a mosaic of episodes, each with its own particular life span, that contest each other through the medium of the grid." (ibid., p.21)

The grid as conceptualised by Koolhaas is not neutral. Its indifference to topography and context is seen as an expression of mental domination over nature (ibid., p.20). The rectilinear standard prioritises economic efficiency and speculation over traditions of city form[8], yet it is also seen as defining limits to the realisation of single inter-

8 In the 1811 Commissioner's Plan avenues are 100ft (30m) wide, standard streets 60ft (18m) and fifteen crosstown streets 100ft. The avenues-facing side of the blocks is 200ft (61m) in width. The street-facing side ranges from 922ft (281m) in the inland section of Manhattan, and is reduced to 650ft (198m) near the river front, because the increased commercial activities there at the time justified a higher density traffic infrastructure. Hence the system prioritises avenues over streets by means of their respective

ests and totalitarian intervention (ibid.). Koolhaas conceives the Manhattan condition as a life laboratory for alternative metropolitan urbanisms, suggesting that modernist schemes like Le Corbusier's masterplan for the United Nations Headquarters had to first go through substantial modifications before being admitted to the Manhattan context (ibid., p.277ff).

In the analysis of Manhattan's skyscrapers, Koolhaas identifies hybridism and the separation of content and shell as two fundamental principles that reconcile the rigidity of buildings with the demands of constant change. Where novelty is considered an end in itself, the perpetual cycle of transformation can never be fast enough. Koolhaas observes that, as the required productive life of a large building extends over a long period of time, the renewal cycles of building and content demanded the conceptual and structural separation of shell and content (ibid., p.100). This enabled change to occur recurrently inside the building without having to alter the more rigid components of the building structure. Koolhaas argues that on grounds of sheer size and external permanence the skyscraper assumes the status of an "automonument", devoid of meaning, which "[…] has to satisfy the two conflicting demands to which it is constantly exposed: that of being a monument […] and at the same time that of accommodating, with maximum efficiency, the 'change which is life,' which is, by definition, antimonumental." (ibid., p.100) Automonument and antimonument seem to converge in the Downtown Athletic Club. Koolhaas' famous analysis of the Downtown Athletic Club building shows how in a hybrid building the stacking logic of the skyscraper produces a unique mixture of changing programmes along the vertical axis (ibid., pp.154). Koolhaas speaks of a "social condenser", "definitive instability" and "[…] a machine to generate and intensify desirable forms of human intercourse" (ibid., p.152). However, despite his celebration of the urban quality of hybridity, the narrative leaves the readership, perhaps intentionally, with an uneasiness about gender issues and exclusion (ibid., pp.157f).

2.7 Failure as Agent of Change. The Myth of Pruitt-Igoe

Theorising about the production of knowledge, Karl Popper made explicit the significance of learning from our past mistakes (Popper 2002a [1963], pp.xi-xii). If conceived as a materialisation of knowledge, and a way of producing knowledge, the built environment is, perhaps, populated by numerous failures and mistakes. Many of them will never be noticed, not all mistakes matter, some mistakes produce unexpected qualities which we then wish to retain. To speak of mistakes in architecture and urbanism is, however, not as straightforward as it may appear. Mistakes can be made in areas like construction technology, building regulations, cost calculations, time schedules. To speak of mistakes or failures when it comes to design quality is problematic, because the true/false distinction hardly ever applies. Hence, the learning from past mistakes in this field is by necessity bound up with controversy, because mistakes or failures cannot be determined with certainty on the basis of a true/false distinction, or as "matters of fact" (Latour 2008, p.4). In the absence of certainty, comparative terms like better, more, or worse seem to be more useful and appropriate. However, once a problem or mis-

clear width and by means of the rectangular 1:3 proportion of the rectangular block in the grid. The avenue is a route of fast changes, as blocks have their short sides orientated towards it, while the street is the route of slow changes.

take is identified, the difficulties continue. The framing of the problem and the kind of methods applied in the analysis and interpretation are likely to be subjected to further controversy. The way we look at a design-related problem influences the way we learn from the problem. The cases of Pruitt-Igoe in St Louis, Sarcelles near Paris, Robin Hood Gardens in London, and other contested modernist projects have demonstrated how different actors claim authority over discourses and compete with their interpretations. In these contested fields, coalitions of strategic thinking and investment interests all too often offer 'solutions' which are based on the irreversible destruction of an existing architectural scheme (Trapp 2018; Stengel and Aquilar, in press).

The myth of Pruitt–Igoe is an example of failure-instrumentalisation in the discursive arena of modernist social housing (Bristol 1991). It reduces a complex narrative to a "single story" (Adichie 2009; Kling, in press). The project, located in St. Louis, Missouri, consisted of 33 uniform buildings, each 11-stories high, providing a total number of 2870[9] units on the 23ha site. The first buildings were occupied in 1954, and soon after its completion in 1956, living conditions on the estate began to decline, resulting in a constant loss of residents throughout the 1960s, while poverty, crime and neglect rose in inverse proportion (ibid.). From 1968 onwards, residents were encouraged to leave the estate in preparation for its complete demolition, which followed in stages between 1972 and 1976 (ibid.). The decline and ultimate abandonment of the estate sparked worldwide debate. In her 1991 article, Katharine Bristol traces the origins and effects of different explanations for the deteriorating condition in the estate, as well as the project's ultimate failure. She argues that analytical and interpretative selectivity contributed towards the mystification of Pruitt–Igoe, in particular among architectural and urban professions, who began to perceive the estate's demolition as a failure of architectural modernism (ibid., p.163, p.166).

At the core of Bristol's argument is the claim that architects and planners sought to put themselves in a position of authority by asserting that the problem of Pruitt-Igoe was predominantly a problem of architectural design, from which it conveniently followed that the 'solution' would be located within their respective domains (ibid., p.170). At the same time, authorities and policy makers had the advantage of having a clearly defined external cause which they could publicly blame. This allowed them to ignore the adverse effects of demographic development in St Louis and the high rates of unemployment. They were also silent about persistent underfunding, the difficulty of establishing a functioning maintenance routine and the unfavourable division of responsibilities between local and federal authorities in the social housing sector at that time (ibid., pp.166f). According to Bristol, "[…] the myth is more than simply the result of debate within architectural culture: It serves at a much more profound level the interests of the architecture profession as a whole." (ibid., p.170) The myth exploits the media-effective, traumatic ending of the estate, asserting that a different kind of architecture would be required to avoid similar failures occurring in the future. The most prominent advance in this direction was, perhaps, Charles Jencks' declaration of the death of modernism and his call for a turn to post-modern architecture to fill the gap. A documentary film titled "The Pruitt-Igoe Myth" (Freidrichs 2011) has brought the project back to public attention, taking up the problem

9 In Katharine Bristol's article a figure of 2700 is given for the projected number of units. The final number was, according to other sources not specified here, 2870 units.

Figure 34: Eastern block of Robin Hood Gardens by Peter and Alison Smithson, designed in the late 1960s and completed in 1972. The future of the estate had been uncertain for several years due to ongoing controversy over redevelopment and heritage preservation. The western block is now demolished. Balfron Tower by Ernö Goldfinger, completed in 1967, can be seen in the background. London 2011

of mystification and emphasising the need to apply a wider frame to understanding the collapse of the Pruitt-Igoe estate. Bristol concludes for the case of Pruitt-Igoe, that

> "by continuing to promote architectural solutions to what are fundamentally problems of class and race, the myth conceals the complete inadequacy of contemporary public housing policy. […] The myth is a mystification that benefits everyone involved, except those to whom public housing programs are supposedly directed." (ibid., p.170)

The persistence and vitality of the myth means that it continues to be consequential, within and beyond architectural and urban discourses. Approaching Pruitt-Igoe today, for the purpose of learning from our past mistakes, the initial question would need extending: What can we learn from the failure and what can we learn from the myth of Pruitt-Igoe? Some critics choose to follow an affirmative path and build on the myth in their arguments. In the lecture "Stadt als Entwurf" (City as Design) given at TUM in 2014, Vittorio Lampugnani presented Pruitt-Igoe together with the Parisian satellite town Sarcelles[10] as examples of architectural projects that had not been designed to respond to the "un-plannable" and that, as a consequence, resisted transformation (Lampugnani 2014). Lampugnani suggested that such schemes are at risk of being replaced or demolished when they reach a state in which resistance to change inhibits essential transformations, arguing for a different, more responsive kind of architecture as a sustainable solution to the problem (Lampugnani 2013; 2014). Acknowledging

10 The Parisian 'grand ensemble' of Sarcelles lent its name to a health condition called "Sarcellite", which was associated with depression, alienation and deprivation (Lampugnani 2013). Hence the town suffered from a similar kind of stigmatisation as had Pruitt-Igoe.

the role of social and economic effects in the failure, Lampugnani asserted that, in the case of Sarcelles, the essential cause ("wichtigster Grund" or "Urgrund") of the problem was in its architecture (Lampugnani 2014), thus choosing to argue from within the established conceptual framing of Sarcelles and Pruitt-Igoe. An alternative path of learning from St Louis was pursued by raumlaborberlin in 2016 and 2017 (raumlaborberlin, Foerster-Baldenius et al. 2018). The collective activated their space buster vehicle and visited the people currently living in the proximity of the former Pruitt-Igoe estate. The site of the housing estate had not been redeveloped after its demolition, and is at the present moment one of the many vacated or underused plots of land in the central area of St Louis. The idea of the visit was to develop an understanding of the current situation together with the local residents, to learn from their problems and initiatives, to reappropriate abandoned spaces, and to collectively work on urban change (ibid.).

The case of Pruitt-Igoe demonstrates that failures are often more ambivalent than researchers might be willing to admit and that interpretations of failures are not void of bias. The continuation of myths may create a sense of urgency, but it comes at the cost of reducing complexity to a single story. The questioning of myths demands architects and urbanists take a more differentiated view when approaching problems in the built environment, be more critical with their assessments, and allow controversy enter the process of 'learning from past mistakes'.

3. Designing and Doing Change

3.1 Deterministic and Non-Deterministic Models of Change

The following narratives shift the focus to design work and how change is approached in and through design. This includes perspectives that analyse areas which are located outside the scope of professional design work. The first concepts discussed in this section evolve around deterministic and non-deterministic models of change. The design disciplines frequently associate change with the term flexibility. Tracing the history of this concept in architecture, Tatjana Schneider and Jeremy Till observe that the meaning of the term flexibility has changed over time (Schneider and Till 2007, p.20). During the 1920s and early 1930s, a period which they describe as having developed a very strong interest in flexibility for the first time, the "realities of flexibility" and the "rhetoric of flexibility" established two principal approaches that continue to inform ideas of flexibility today (ibid.). Schneider and Till identify "on the one hand a pragmatist response to the necessities of the minimal dwelling, and on the other a more polemical stance that allies flexibility with new modes of living and mechanised technology, both of which are seen as progressive traits of modernity." (Schneider and Till 2007, pp.20f) They propose that the modernist equation of flexibility with progress is based on the logic that "[…] something that can move escapes the shackles of tradition, something that can be changed is forever new." (ibid., p.5) However, the modernist fixation of and ideological claim to the term flexibility, combined with the experience

of practical failure[11], prompted criticism and stimulated the search for alternative responses to the problem of change. Adaptability as one of these newer concepts refers to the capacity of spaces to accommodate different uses, primarily through the way spaces and circulation patterns are organised. This concept generally works without relying on physical changes (ibid., p.7). Accordingly, Schneider and Till propose that designers have two principle options for positioning themselves and their work with regards to change. "Hard" tactics are used where "[…] the designer works in the foreground, determining how spaces can be used over time" (ibid.), while "soft use allows the user to adapt the plan according to their needs, the designer effectively working in the background" (ibid.). The softer tactics provide spaces whose function is not predefined. They generally require a certain level of excess space (ibid.).

Based on this distinction, two principle approaches, or models, may be identified through which architectural and urban design seeks to respond to change in design practice. One model conceives of change as something that occurs within a given framework of possibilities. This category is based on predictability. The other model subsumes the unexpected, the unforeseen, the spontaneous and is based on uncertainty. The design of deterministic spaces identifies and integrates the scenarios which they are supposed to accommodate. It enables change to occur within a pre-defined framework. It is usually economics, practicability or convention that determine the number of possible configurations in this approach. In this respect, deterministic systems can be considered closed systems[12]. Non-deterministic models, in contrast, build on the capacity of the unexpected. Instead of forecasting possible future changes, non-deterministic models allow new scenarios to enter and appropriate spaces, interact with its elements, and produce new scenarios. Depending on the interactions performed in and through the spaces, new configurations and spatial arrangements may emerge. Hence, the non-deterministic model is an open system. Based on the properties identified above, the two main models through which designers approach the problem of change may be represented as follows:

1. **Deterministic model**:
   hard tactics – design in foreground – **flexibility** – closed system
2. **Non-deterministic model**:
   soft tactics – design in background – **adaptability** – open system

The 'De Meerpaal' project by Frank van Klingeren in Dronten, Netherlands[13], designed in 1965 and completed in 1967, could be considered an experimental prototype for soft

11 Considering the practical aspects of flexibility, mechanically enabled flexibility is seen has having regularly failed in the past, in particular for office spaces, as mechanical systems, despite their cost and intention, turned out to be inconvenient to operate, inefficient, or outdated before they could come into accepted service. This raises the question as to what extent digital concepts like the Smart Home or Smart Office will be facing similar problems in the future.

12 This does not mean that the unexpected does not occur in deterministic systems. Rather, the design seeks to control and therefore transform it, so that the outcome corresponds to the pattern of expected results. There is no permanent place for the unexpected in the deterministic model as it represents a potential threat to the stability of the system.

13 I would like to thank Prof. J. Kühn for pointing to the rich heritage of experimental Dutch architecture.

and adaptable use in community orientated design (Rieniets, Sigler and Christiaanse 2009, p.25). Conceived as multipurpose open space, it is meant to be freely appropriated by different user groups. Part of the concept is the hope that through the self-determined mix of uses, new situations and spatial constellations can be generated. The project presupposes a general preparedness to accept incompleteness and compromise, because spaces which are geared towards neutrality may provide "[…] the most neutral solution to the specific problems, but never the best, the most appropriate solution" (Hertzberger 1991, p.146) It is both an opportunity as well as obligation, for the users to co-produce the space and generate the kind of atmosphere they wish to experience there. Conversely, the 'Frankfurt Kitchen' could be considered the uncompromising prototype of a flexible but non-adaptable device, organised as a highly specialised, tight-fit and mono-functional spatial arrangement[14]. Flexibility and mono-functionality in this context are modernist strategies to avoid and minimise conflicts on the basis of simplification and externalisation as discussed earlier. Here, the approach is to eliminate conflicts from being reproduced in daily routines through design work, which is in the hands of the expert architect or designer. Arguing from the perspective of practice in housing production, John Habraken suggests that the striving for efficiency dominates processes of designing, financing and building, which is seen as cause of the excluding of occupiers and users from the design process:

14 Excursus: The 'Frankfurt Kitchen' designed in 1926 by Austrian architect Margarete Schütte-Lihotzky is a site where everyday practice, architecture and a series of explicit and implicit intentionalities intersect. On the one hand it lends itself to an analysis of design features and architectural detail, and on the other hand it allows questions to be raised as to the social, political and economical imperatives it implies. The 'Frankfurt Kitchen' was installed in Ernst May's social housing programme 'New Frankfurt' during the 1920s and eventually to more than 10,000 dwelling units in Frankfurt alone. It was featured in the CIAM II exhibition of 1929. The design applies Taylorism as guiding principle in the organisation of movements and activities. The elimination of spatial conflicts through design was meant to produce smooth and efficient workflows, pursuing the ultimate goal of minimising both, time and space requirements. The larger economical framework for this design is defined by quantity and efficiency – the provision of decent dwellings for as many people as possible by means of scaling down the size of the dwelling to an acceptable minimum (May 1930, p.10). Discussing the problem of "practical aesthetics" (Führ 1996), Eduard Führ argues that assumptions on norms and conventions are embedded in the 'Frankfurt Kitchen', and that the use of the kitchen would reaffirm and reproduce these norms and conventions through everyday practice. He draws special attention to the wall-mounted ironing board which requires the kitchen door to be closed for it to be used, thus isolating the ironing (then presumed female) person in the kitchen; making the door to open outwards solved this problem at a later stage (ibid.). In this sense, simple aspects of everyday life seem to be co-functioning as reproductive agents in the service of the efficient society. The concept of domestic efficiency points to the contradictions that become apparent in the everyday. On the one hand it could be seen as part of an ongoing emancipatory project. On the other hand, freeing up more time for consumerist activity as well as for recreational reproduction of labour seems to be also serving the requirements of capitalist production. Today, the 'Frankfurt Kitchen' is recognised as the forerunner of the contemporary western kitchen, complete with all the consumerist desires it evokes. It is one of the iconic markers that accompany the paradigmatic shift in the production of housing during the 1920s. It embodies and represents the problems and issues defined by the multiple frameworks for the production of housing at the time. It pioneered the colonisation of everyday life by tight-fit functionalism.

> "We[15] are all the product of a culture, already more than a century old, in which the exclusion of the inhabitant is regarded unavoidable and efficient. […] A common methodology is applied: The design of any housing project begins with the floor layout. Once these are known, everybody can do their part: consultants can design structure and services, builders can calculate, bankers can assess financing, developers can figure marketing. Without a predetermined floor plan the familiar system of mutual accountability and cooperation is destabilized." (Habraken 2008, p.292)

Today, the task of the two dimensional floor plan is increasingly assumed by proprietary Building Information Modelling (BIM), which may result in the divide between specialists – who are in control of the model and privileged in terms of access – and non-specialists widening. In some projects, non-deterministic elements are combined with deterministic elements in such a way that the dichotomy no longer seems to hold. The Fun Palace project, conceived by architect Cedric Price, theatre producer Joan Littlewood and cyberneticist Gordon Pask in 1964, proposed the ultimate withdrawal of the architect from the project (Price 2003). It was meant to place decisions on programmatic and spatial configurations in the hands of collective interaction, for maximum empowerment of, as well as enjoyment for the users. The Fun Palace is designed as a site of "[…] constant change, impermanence, process and interchangeability […]" (Mathews 2005, p.90), in which potential conflicts are eliminated by means of intelligent programming before they even emerge. The architect, understood to have abandoned his or her authoritarian grip on space, re-enters the scene in the guise of the powerful programmer through the back door.

3.2 Control Hierarchies and Layers of Change

Hierarchies are used to organise and give structure to complex systems. For John Habraken hierarchies provide a possible conceptual framework for dealing with complexity in design (Habraken 1987a; 1987b) as well as for the control of change. In the essay "The Uses of Levels" (Habraken 2002 [1988]), Habraken suggests that the organisational structure of the built environment could be conceptualised as a hierarchy of distinct levels of intervention and distribution of power. Changes at higher levels in the hierarchy are seen as affecting lower levels to a greater extent than the other way round (ibid., p.6), which means that lower levels tend to accommodate change more easily and with a greater frequency (ibid., p.16). Habraken proposes a five-level hierarchy for the physical constituents of the built environment, comprising "urban structure" at the highest level, ranging through "urban tissue", "building", "infill" to "furniture" at the lowest level (ibid., p.8). Based on the hierarchy, Habraken discusses different configurations in control distribution and how this could affect the way users appropriate the built environment[16]. In the professionalised, top-down scenario, the levels of urban structure and urban tissue are controlled by municipal authorities, planning professionals and other specialists; the building and its infill by architects and building specialists; and finally the furniture by individual users (ibid., p.9). In the "sites

15 John Habraken speaks to architects, as an architect.

16 Habraken suggests that control distribution might be different during the design phase and the use of the physical constituents (ibid., p.9). For clarity, I do not make this additional distinction.

and services" scenario, the building is constructed by the users, which means they are in control of the building, infill and furniture levels (ibid., p.9). In the "core houses" scenario, professionals and builders provide an empty shell, half a building, or small shelter that is then gradually appropriated or expanded by the users according to their needs and resources. In this scenario, the control of the building level is split between users and professionals (ibid., p.10). The award winning housing projects by Chilean practice Elemental, led by Alejandro Aravena, are based on this distribution of control (Awan, Schneider and Till 2011, p.44). Both scenarios have been used extensively in economies where family income available for building purposes is very limited.

The proposed "support/infill" scenario, however, is argued to be well suited for use "in large apartment buildings for relatively high density situations" (Habraken 2002 [1988], p.12). Habraken suggests that if the level of "building" is conceived as mere "support", the range of individual user control can be extended. In this scenario, the supporting structure of the building is controlled by the collective of owners if it is a condominium, or otherwise by a housing association or global owner, while the infill, comprising all partitioning walls and the horizontal distribution of services, is fully controlled by the individual user (ibid., p.12). The support/infill approach is the basic idea of Open Building, an initiative advocated by John Habraken and others for housing reform, which emerged in the Netherlands and other places during the 1980s (ibid., pp.12ff). The strict separation of support and infill is meant to enable users to make changes to their units more easily, small or large, without interfering with the rest of the building. Next to increased levels of user control, it is understood to be more efficient in the long term (ibid., p.13). The support/infill model has recently gained momentum through the growing number of participatory and cohousing projects in European cities. In Germany, variations of the model are currently being tested and experimented with in competitions and built projects, for example by BeL Sozietät für Architektur with "Grundbau und Siedler" in Hamburg (Wolfrum and Brandis 2015, pp.123ff), or the "Ausbauhaus Neukölln" by Praeger Richter Architekten in Berlin (Praeger and Richter 2017). Moreover, the principle of providing a simple and robust support structure is seen to offer advantages for open design processes in which spatial arrangements, as well as the distribution of territorial and temporal user control are collectively negotiated (Heinemann 2018, pp.67f).

In "How Buildings Learn. What happens after they are built", published in 1994, Stewart Brand shifts the perspective to everyday processes of change (Brand 1994) in search for answers to the question 'How do buildings change if they are not intentionally designed for change by professionals?'. Brand draws from a large body of comparative studies comprising past and present situations in the built environment, in particular research into life-cycles of commercial buildings, post-occupancy research and maintenance cycles, as well as Christopher Alexander's work (Alexander 1979), and Anne Vernez Moudon's "Built for Change" (Moudon 1986). As part of his conceptualisations of change, Brand introduces a layered model based on a temporal hierarchy of life cycles. The model consists of six "shearing layers of change" (Brand 1994 pp.12ff)[17],

17 The model is an extended and generalised version of a four layered model which Brand attributes to British architect Frank Duffy (ibid., p.13). The graphic representation of the model uses line thickness to symbolise rigidity and changeabilty, as well as the number of arrows to represent the typical number of changes during the overall life time of the building.

ranging from "site" to "stuff", which define the external as well as the internal components that make a building. Each layer is assigned a typical lifetime. The site's lifetime is conceived as accommodating "generations of structures" (ibid., p.13), the structure itself is understood to last for 30–300 years, with most structures not lasting for more than 60 years due to causes that are external to the model; the skin is given a life of 20 years while the services are linked to a 7–15 years renewal cycle; pertaining to the space plan, in "turbulent commercial spaces" (ibid.) the plan is altered after 3 years, in "exceptionally quiet homes" after 30 years (ibid.). Finally, "stuff", comprising furniture and all movable items, is subject to frequent changes and replacements (ibid.). According to Brand, buildings are typically organised in such a way that fast layers are easily accessible to the users and occupiers to facilitate frequent changes. Providing arguments for using the model in design practice, Brand cites Frank Duffy, who suggested that "[…] you avoid such classic mistakes as solving a five-minute problem with a fifty-year solution, or vice versa." (Duffy cited in ibid., p.17)

Broadening the above proposition, Brand relates the shearing layers to corresponding "levels of responsibility" which involve different partners (ibid.). These include the individual or family, the landlord, the community, the state (ibid.). With reference to modes of organisation in ecosystems, Brand suggests that the overall system is dominated by slow components (ibid.). Within this slowly changing framework, trends of fast change are gradually integrated (ibid.). Brand concludes that "the quick processes provide originality and challenge, the slow provide continuity and constraint." (ibid., p.18) Pertaining to the question of change in everyday spaces and buildings, Brand asserts that "a building 'learns' only through people learning, and that individuals typically learn much faster than whole organizations." (ibid., pp.188f) Hence, Brand's process-oriented idea of buildings takes as a starting point the active user. He demands that users be given the opportunity to change their environment by themselves and according to their needs – irrespective of ownership status – for which reason Brand suggests that "a building is something you start." (Brand 1994, p.188) Based on the same ideas, Habraken's approach advocates the extension of user control so that users can always start anew with their individual projects of appropriation and change.

3.3 Admitting Uncertainty and Imperfection to Design

When Stewart Brand asserts that "all buildings are predictions. All predictions are wrong" (Brand 1994, p.178), he touches upon the problems of fixation and uncertainty. The act of building is by necessity accompanied by certain kinds of fixations. As discussed above, the concept of adaptability gains its value from the anticipation of change that cannot be predetermined with certainty. There may be changes during the preparatory phase or the design process, changes during construction, changes through use and during the lifetime of the structure. If designers choose to follow the non-deterministic model in design – soft tactics, design in the background, adaptability, open system – they will have to address the question of how far to push the design and where to leave decisions with others. This has significant implications for the conceptual framing of design. Tatjana Schneider and Jeremy Till suggest that "to design a building with the specific intent for it to be changed in any way is to accept that the building is in the first place in some way incomplete, or even imperfect." (Schneider and Till 2007, p.8) However, John Habraken observes that the professions

in architecture and urbanism struggle with the idea of sharing design work with others, of admitting change and imperfection to the design process, not least because of fear of loss of authority and the idea of the "myth of the master deciding everything" (Habraken 1987a, p.15). In view of the discrepancy between the qualities we should be striving for and design reality, Habraken suggests that

> "We tend to stress the constancy and immutability of the architectural form and do not readily take change into consideration when designing. […] We need new attitudes that allow the qualities of daily life in the environment—variation and spatial development, thematic richness, and adaptability over time—to support our architecture in an efficient way. Without such qualities, environmental forms will maintain the poverty and rigidity we all deplore." (ibid.)

The multitude of mechanisms that intersect in architectural and urban productions – planning legislation, building regulations, investment strategies, mortgaging, professionalism, user expectations and convention, all seem to have their share in the control of the process, and in this way contribute to the rigidity and poverty in quality. The idea of a culture of uncertainty, incompleteness, and even of imperfection, seems to contradict the way processes are defined and regulated at the present moment. However, Habraken's observations imply that, if the routine reproduction of non-adaptable spaces and in this sense of poor quality are to be avoided, attitudes will have to change as well as the distribution of power and control in decision-making processes. Analysing the capacity of buildings to change in relation to their (im)perfection, Brand distinguishes between "low road" and "high road" buildings, according to their typical location in cities (Brand 1994, p.24). Both types are understood to feature specific adaptive properties, where low road buildings, due to their purpose and non-representative nature, are understood to accommodate changes more easily in comparison to high road buildings (ibid., p.24, pp.38ff). Brand suggests that occupiers, if enabled through ownership or other forms of empowerment, tend to apply the technique of "satisficing" to carry out alterations (ibid., pp.165ff). The composite term of "satisfy" and "suffice", borrowed from decision-making research and systems theory, depicts a process in which, instead of finding an optimum solution to a problem, people seek choices that are good enough for the purpose and that reduce the impact of problems to a level that makes them tolerable (ibid.). According to Brand, the repetitive application of "satisficing" establishes a kind of evolutionary process, in which the movement is away from a given problem, rather than towards a distant goal (ibid., p.188). Brand asserts that in this sense evolution "[…] doesn't seek to maximise theoretical fitness; it minimises experienced unfitness." (ibid.)[18] Hence, Brand argues that "satisficing" on the one hand, and striving for the optimum solution on the other hand, are two principal ways of approaching problems (ibid., p.158ff) which mirror the competing desires and interests of both the individual (ibid.) and the modern capitalist society (ibid., p.72ff).

18 This process is mirrored by Ian Hacking's juxtaposition of the western tradition of scientific progress and the model of evolution (Hacking 2012, p.xxxv), as briefly discussed in section "Instability of Scientific Knowledge and Its Movement 'Away From'". It is also taken up in Kevin Lynch's concept of "develop in the doing" (Lynch 1972, p.226) as discussed earlier.

Figure 35: Responding to changing requirements. Improvised retrofitting of circulation at the Southbank Centre, London 2017

In line with Habraken, Brand asserts that the building industry, the building process, the market, professionals and legislation collectively fail to produce buildings that respond to the changing requirements of the users, as well as to the changing requirements of technology and other factors that are involved in change. It seems that alternative narratives of uncertainty and imperfection do not easily develop in the sheltered zones of professionalism and spatial routines. In view of these and other difficulties, Thomas Sieverts explicitly points to the possibilities that uncertainty can bring to design if it is approached in a positive way, if "uncertainty is understood as 'a challenge', as an adventure in urban development, as a space that cannot be determined and fixed but can be shaped through the projection of an activating image […] in order to conceive it as an open space of possibilities." (Sieverts 2003 [1997], p.161) For the purpose of escaping the routines, protagonists often work at the interface of art and performance, community work, action research, the everyday, and other practices that enable them to assemble new and existing agents of urban and architectural change around alternative conceptual and practical framings of openness, uncertainty, incompleteness and imperfection. Recent initiatives that seek to explore and extend the possibilities of spaces of imperfection and uncertainty include, for example, the designing for "coexistence" (Rieniets, Sigler and Christiaanse 2009), the working with the "suboptimal" (Fezer and ifau 2011), or the theorising of the "Kaputt" (Aquilar 2018).

3.4 Performative Production of Liminal Situations and In-Between Spaces

Over the last two decades, the performative has emerged as a new field of architectural research and design activity (Wolfrum and Brandis 2015). The performative in architecture and urbanism relates to concepts that emphasise the mutual relationship between participants, space and actions unfolding in time. Participants are held to change the spatial setting through their presence and interactions, while the space influences the way humans feel and interact with each other in the situation. In this

configuration, both worlds – the social and the material – are seen as being dynamic and as co-producing conditions of change. What distinguishes the performative from the notion of 'performance' is the framing of the situation. During performative acts the distinction between the categories of performer, spectator and space is blurred. All participants that are present in the situation are seen as jointly contributing to the performative production and enactment of the situation (Fischer–Lichte 2015, pp.33f). Constituent core qualities of the performative are unpredictability, ambivalence, shifting perceptions and the transformative power of the situation (ibid., p.31; Wolfrum 2015, pp.28f). A growing number of urban interventions and projects have explored – and put into practice – the performative capacity of spatial situations in the service of transformative processes. These interventions tend to be highly contextual and seek to link the specific local conditions with macro-scale phenomena such as urban restructuring, shrinking or migration; they provide a temporal home for debates and collective action; they act as spatial images or markers; they gather activities around a common interest or concern, often in conditions that are transitional in character and difficult to grasp. Hence, the performative is connected to the concept of in-betweenness, in both a temporal as well as spatial sense.

In the 2001 publication "Urban Flotsam", the research collective CHORA brought forward a theoretical framework for interventions in "environments undergoing radical change and/or conflict" (Bunschoten, Binet and Hoshino 2010 [2001], p.378). The framework includes the concept of "liminal bodies" (ibid.), where "the term liminal literally means 'in between', and indicates a period outside of the normal flow of time." (ibid., p.360) Borrowed from Victor Turner's anthropologic research into rituals of passage, where it means the brief transitional phase between two rituals when a person does not hold any defined social status, the liminal defines an ambiguous condition of in-betweenness, of instability (ibid.)[19]. According to CHORA "[…] the liminal is cut out of everyday existence as a kind of ritualized or orchestrated form of instability or disorder." (ibid.) Liminal bodies, then, define a kind of spatio-temporal in-betweenness, where in CHORA's adaptation "the term body deliberately leaves open the nature of this physical presence, which may range from a group of people convening regularly in space, to a tent […], or a heavily used footpath" (ibid., p.348)[20]. Liminal bodies are seen as creating a strong sense of identity during processes of change, as they act as "[…] recognizable feature that 'names' a place." (ibid.) They establish temporal and spatial "connectivity, linking global conditions to local concerns and actions." (ibid.) Change, as I concluded in the previous chapter, tends to be entangled with conflict. CHORA understands conflict as bringing people and divergent ideas together, rather than separating them from each other. CHORA asserts that conflicts are capable of "[…]

19 Bunschoten, Binet and Hoshino relate their use of the term to the reading of "[…] 'Betwixt and Between' by the American anthropologist Victor Turner, who uses the term 'liminal' to describe a phase during which an initiate is instructed in the conflicts of life and is shown 'monsters', figures combining different and juxtaposed factors of life." (Bunschoten, Binet and Hoshino 2010 [2001], p.360) The same connection to ritual theory, or the 'liminal' and Victor's work is proposed by Erika Fischer-Lichte for the performative (Fischer–Lichte 2015, p.35).

20 Despite the difference in grounding, the emphasising of instability and ambiguity bears similarities to Georg Simmel's concept of threshold or 'in-betweenness', as developed by him in the essay "Bridge and Door" (Simmel 1994 [1909]).

Figure 36: Central workshop unit and bar at the 'Shabbyshabby Apartments' event. Project teams, visitors and curators intermingle and in this way produce a unique situation. Organised by raumlaborberlin and Münchner Kammerspiele, Marstallplatz Munich 2015

Figure 37: Lückenfülle, urban intervention conceived and realised by Leila Unland, Nick Förster, Maria Schlüter and Sophie Ramm, Maxvorstadt Munich 2016

triggering interaction between actors and agents that otherwise would not meet." (ibid., p.353) Conflicts are seen as "stepping stones" which in turn "[…] are instruments for managing urban change." (ibid., p.353) Accordingly, CHORA asserts that "the management of urban change thrives on the cycle of conflict, negotiation, (non-)settlement." (ibid., p.358)

The "Lückenfülle" project by Leila Unland, Nick Förster, Maria Schlüter and Sophie Ramm brought people and ideas together on a rather unlikely site in one of Munich's inner city neighbourhoods. The group curated and built a space that, for the period of

several weeks, developed into a situation of exchange and action. The project was part of a design studio that engaged with questions of urban change and migration at the Chair of Urban Design and Regional Planning in Munich in 2016[21]. The "Lückenfülle" connected in-betweenness, the liminal, and the performative in different ways. Filling the spatial and temporal gap (German 'Lücke') of a redevelopment site, the intervention provided a platform for planned and spontaneous encounters, discussions and play. Another example of recent academic work in this field is the 'Liminal States' design studio which was held at Oxford Brookes University in 2012–13. In the brief to the project, unit leaders Carsten Jungfer and Emu Masuyama speak of "negotiation of desires", of observing "relational phenomena", and of exploring "threshold conditions across multiple scales" (Jungfer and Masuyama 2013). The project site included different urban situations on Old Street, London EC1. As part of their design projects, students developed full scale spatial devices that could be used for performative interactions in the public domain (ibid.).

Similarly, the collaborative raumlaborberlin draws on the liminal qualities of found or generated urban situations in much of their work and engages with them in a performative way. Some of raumlaborberlin's projects are organised around "mobile activators" (raumlaborberlin 2018). The evocative "kitchen monument" and the "space buster" are perhaps the best known among them, consisting of a mobile technical unit and a translucent inflatable space that can be set up on different sites and adapted to local conditions (raumlaborberlin, Maier and Heidelberger Kunstverein 2008, p.98; Awan, Schneider and Till 2011, p.191; raumlaborberlin, Foerster-Baldenius et al. 2018). The kitchen monument is defined as "[…] a prototype with which to construct temporary communities." (raumlaborberlin, Maier and Heidelberger Kunstverein 2008, p.98) Since 2006, it has hosted meetings, community workshops and other events in different locations throughout Europe, providing a modest yet powerful spatial framing for collective action in public space. According to the initiators, the inflatable "investigates emotional anchoring spots within cities, in public places; the spheres of interaction between city dwellers and city users." (ibid.)

The space buster is inspired by the kitchen monument and has been touring New York and other US American cities since 2008 (raumlaborberlin 2018). In 2016 and 2017 it hosted a series of workshops and events in St. Louis, Missouri, were it engaged with the transformation of inner city neighbourhoods, including the area of the former Priutt-Igoe housing estate (raumlaborberlin, Foerster-Baldenius et al. 2018). Making use of its enabling capacity, the space buster hosted groups of neighbours and volunteers, who built a butterfly garden that is also used as a community space. In this sense, rather than simply documenting change, the project produces actual change. Similar performative elements and spatial arrangements are part of the work of EXYZT, muf, Assemble, ifau, zectorarchitects, and others, where the sites of urban interventions are often either characterised by high levels of instability, undergoing a phase of rapid urban transformation, or by stagnation (Awan, Schneider and Till 2011; Wolfrum and Brandis 2015; Kling and Jungfer 2018). They may be relics of processes that have ceased to be functional at some stage in the past, such as industrial wastelands or disused petrol stations. Sometimes they are simply left-over spaces in the city, such as the

21 Course leaders Sophie Wolfrum, Sofia Dona and Heiner Stengel, Chair of Urban Design and Regional Planning, summer semester 2016.

space below highway infrastructures or on roof tops. These sites seem to have escaped, at least temporarily, the regulated machinery of efficiency and "financialisation" (Hesse 2018, p.79) that otherwise dominates the production of space in cities (Kling and Jungfer 2018). The performative production of liminal bodies can be seen as the realisation of kinds of micro-utopias in urban practice – as the temporary activation of urban residues that transform a given urban situation. They are both products and co-producers of urban change.

4. Speeds and Rhythms of Change

4.1 Gradual Change and Cataclysmic Change

John Friedmann suggests in "The City of Everyday Life. Knowledge/Power and the Problem of Representation" that the small spaces and lived-in, everyday environments in cities are associated with a web of meanings that are produced by their inhabitants (Friedmann 1999, p.5).[22] According to Friedmann, changes to everyday spaces have a direct impact on these meanings and therefore on individual people's lives. As part of his criticism of the blindness of dominant planning instruments towards small spaces and the shared meanings they convey, Friedmann suggests that two different experiences of change occur in everyday environments. The first mode, according to Friedmann, is the experience of "gradual change" (ibid., p.9). Friedman locates gradual change in multiple sources, such as technology, demography, market conditions, migration (ibid., p.9). In terms of intensity and speed, Friedmann suggests that "given sufficient time to adjust, changes of this sort are seen as part of the normal course of life." (ibid.)

The second mode of change identified by Friedmann is "[…] disruptive of shared meanings and the social relations on which these meanings depend […]" (ibid.). Examples provided by Friedmann include "the construction of major thoroughfares […] market-led but state-approved gentrification of low-rent districts […] the cumulative location of unwanted facilities – prisons, garbage incinerators, land fills, chemical storage tanks – in poor people's neighborhoods, a well known strategy adopted by the state when it seeks the path of least resistance." (ibid.)[23] The list of interventions implies that both the speed and the scale of change may be of relevance for the way people experience transformations in their everyday environment. Friedmann suggests that "[…] dynamic change occasioned by planned interventions that are conceived at macro- and meso-scales frequently leads to the alienation of the city's lived spaces, causing

22 Upon framing the everyday, Friedmann explicitly refers to the writings of Henri Lefebvre, among others (ibid., p.6).

23 We can observe these strategies in almost any city. On the occasion of the "Porous City" conference in Munich in March 2018, Paola Viganò presented a map of Greater Paris, which showed that the neighbourhoods of low income groups are often located in the proximity of 'unwanted facilities' and uses which cause massive and disruptive change. Munich seems to be following a similar pattern. Its landfill, incinerator, wastewater treatment plants, nuclear research reactor, and airport are all located in the less privileged northern areas. The plans for a third runway were put on hold after public protests in 2012.

widespread anomie, destroying individual as well as social meanings as well as community bonds, and deepening an already pervasive sense of powerlessness on the part of local inhabitants." (ibid., p.4) With reference to the writings of Christopher Alexander, William Whyte and Kevin Lynch, John Friedmann states that "[…] it is probably true that most people generally prefer gradual change to change that is unexpected, sudden, and massive, especially when it affects the intimate spaces of their habitat." (Friedmann 1999, p.9) According to Friedmann, disruptive changes may lead to alienation, in particular if the transformation is imposed on the city of the everyday without prior involvement of the affected population (ibid.). Hence he rejects "[…] the sudden invasion of the city of everyday life by the state." (ibid.) Likewise, highlighting the significance of gradual change, in particular in housing, John Habraken asserts that

> "change over time is important. The recognition that things change over time and must improve over time is perhaps the single most important new aspect introduced in our thinking about housing. Housing projects and neighborhoods must grow and develop over time. There is no such thing as an instant environment" (Habraken 2002 [1988], p.3)

Habraken's assertion, however, is also directed against the idea that the preservation of the status quo, or lack of change, could be a desirable option. Jane Jacobs arrives at similar conclusions for the scale of the city and the neighbourhood level:

> "City building that has a solid footing produces continual and gradual change, building complex diversifications. Growth of diversity itself is created by means of changes dependent upon each other to build increasingly effective combinations of uses. […] All city building that retains staying power after its novelty has gone, and that preserves the freedom of the streets and upholds citizens' self-management, requires that its locality be able to adapt, keep up to date, keep interesting, keep convenient, and this in turn requires a myriad of gradual, constant, close-grained changes." (Jacobs 2011 [1961], pp.293f)

Yet, gradual change does not inevitably produce positive outcomes. Jacobs takes as an example the gradual "erosion of cities by automobiles" and the growing amount of space dedicated to vehicular traffic (ibid., p.349). In line with her argument for a liveable city, she proposes the "attrition of automobiles *by* cities" (emphasis in original, ibid., p.363) as a possible countermeasure – a tactic based on gradual, positively communicated change, which is meant to re-allocate traffic space to other uses. In Jacob's view, "attrition tactics should be applied where conflicts exist between traffic flow and other city uses, and as new conflicts of this kind develop." (ibid., p.370) In her view, long-term transformation is revolutionary in its cumulative effects, yet, "[…] like any strategy aimed at keeping things working it has to be engaged in as a form of evolution." (ibid., p.363) In this sense, gradual urban change, as conceived by Jacobs, is the product of positive or negative cumulative urban practices, where the most negative erosive changes "[…] are by no means all thought out in advance" (ibid., p.369). Hence, if it is true that people adapt more easily to gradual change, this does not mean that any kind of gradual change is desirable.

> "The changes required or wrought by erosion always occur piecemeal—so much so that we can almost call them insidious. In the perspective of a city's life as a whole, even the most drastic steps in the process are piecemeal changes." (ibid., p.369)

Jacobs works with further differentiations in her argument. She relates the question of fast or slow, big or small to the questions of funding and who takes initiative for change. According to Jacobs the kind of capital used, the framing by legislation and other conventions, influence the type and speed of transformative processes that occur in cities (Jacobs 2011 [1961], pp.291ff). Pertaining to her analysis of urban renewal projects, Jacobs distinguishes between "cataclysmic money and gradual money" (ibid.). Despite her frame of enquiry being the nation state, and more specifically the Unites States of America as welfare state during the 1950s and 1960s, Jacobs's observations in terms of effects remain valid in the contemporary urban condition. We see cataclysmic money originating from the nation state, from supranational levels, and to an ever growing extent from the global level (Sassen 2014). The speed of global capital, if it aligns with local neoliberal policy, has the capacity to cause severe rupture to people's everyday lives in the urban, in particular if it operates in the deregulated spaces provided by the weakening nation state (ibid., p.18). In the capitalist economy and the "spaces of capital" (Harvey 2001), the speed of change could be seen as a problem of turnover rate, reinvestment and absorption of surplus value (Harvey 1975, p.245; 2008, p.25, p.29). Hence the term 'cataclysmic' may be associated with a broad range of disruptive changes that have their origin in different practises and systems[24].

The speed of change as envisaged by Friedmann and Jacobs is one that is perceived and constructed in individual actors' minds, relative to their experience of the everyday. Because of differences in conditions, personal circumstance and collective constructions, the speed of a given transformation tends to be perceived differently. An analysis based on the distinction between gradual change and cataclysmic change, therefore, would not only enquire into 'what change does', but also into 'how change is perceived', thus addressing the mutual relationship between the (changing) environment and the (changing) perception of the actors involved.

24 They could be the product of public money or global capital; they could be related to public policy or to the extracting of profits for global corporations, or by a combination of them. A well known historic example of cataclysmic change that collided most radically with gradual change is the transformation of Paris during the reign of Napoleon III in the second half of the 19th century, supervised by the prefect of the Seine Department, Baron Georges-Eugène Haussmann. On the one hand, there was the existing urban grain which accommodated change within the building plot according to the specific requirements of the site, whereby initiative for such gradual change had typically been taken by the users or owners of the site. On the other hand, there was the momentum of the big project, the implementation of the new avenue system (Frampton 2007[1980], pp.23f; Harvey 2008, pp.25f). The initiative had been with the state, which provided the instruments to address the inevitable conflicts. However, despite the efforts directed towards coherence, the collision between the existing and the new produced numerous oddly shaped urban blocks, abrupt change of scale, and unexpected urban situations.

4.2 Incrementalism and the Speed of Learning

In view of the growing awareness of the limits of established planning processes, as well as the experiences with cooperative models in the IBA restructuring projects of the Ruhr area in Germany[25] during the 1980s and 1990s, Klaus Selle demands the rethinking of planning, as a practice and as a discipline (Selle 1994). In the publication "Was ist bloß mit der Planung los?" (What is happening to planning?), Selle raises a series of conjectures as to the possible future issues of the discipline and the questions and implications that emerge from them. He observes that planners have discovered the multitude of other actors that are entangled in urban situations ("Entdeckung der Akteure", ibid., p.63), with the result that processes are increasingly opened up. Selle asserts that cooperative models and project-based work offer alternatives to the centralised model of 'decide (internally) – announce – defend' (ibid., p.73). The new kinds of processes observed by Selle have in common that they develop gradually in increments, thus contrasting with approaches in planning that are anxious to deliver rapid results. The basic questions for Selle are: What kind of goals may be achieved with a process that evolves in small steps? Within which configurations does it work, and for whose benefit? (ibid., p.53) At the outset of his enquiry Klaus Selle stresses the term increment to be etymologically related to 'increase' ("Zuwachs"), and that in this sense it is associated with positive change (ibid., p.53). According to Selle, the step-by-step nature of the process does not exclude the possibility of striving towards fundamental change (ibid.). The capacity of incrementalism in this respect is that agreement about the next step or action does not require consensus about a distant goal. Selle understands cooperative and open processes as offering the possibility of arriving at incremental consensus-based solutions ("konsensfähige Lösungen"), provided that conflicts and divergent interests are openly addressed, defined and negotiated (ibid., p.73). Pertaining to the role of conflict in cooperative and open processes, Selle cites Karl Ganser and Thomas Sieverts, the 'doers' of the IBA in the Ruhr area ("IBA-Macher"), who assert that the practical IBA process relied to a large degree on the optimum level of conflict ("optimales Konfliktniveau"). This optimum level is understood to have created a sense of urgency, without the feeling of being overwhelmed by the problems, as well as a sense that joint action and agreement would be possible (ibid., p.228f). However, Thomas Sieverts states a decade later that the standard legal and administrative frameworks would still struggle to adequately address and integrate incremental change (Sieverts 2003 [1997], p.81). He observes that "[…] with the help of traditional planning tools, these changes are difficult to plan and control both at the level of the local community and the city regions, because for the most part the changes are comparatively small-scale measures of reutilisation, reconstruction, expansion, repair and modernisation" (ibid.) As day-to-day actions and "working in the fine grain" are seen as being indispensible to mobilising the ever growing number of "disused resources" (ibid.) in the 'Zwischenstadt', and as growth in many situations has ceased to be the characteristic pattern of change (ibid.), Sieverts demands that a new type of responsive planning must be developed together with a "[…] new perspective to understand and implement small-scale day-to-day tasks of planning as components of a long-term restructuring strategy." (ibid., p.82) The gradual pace of change, in this configuration,

25 International Building Exhibition IBA 'Emscher Park'. See also (Sieverts 2003 [1997], 121f).

is conceived as an opportunity of jointly working on ideas – or "images" – of possible futures that can be shared, discussed, improved and used for orientation in the process (ibid.).[26]

In the introduction to the 1971 edition of "Concise Townscape", Gordon Cullen draws a connection between the observed deficits in the newly constructed built environments and the unprecedented volume and speed of urban construction in Europe during the post-war era. According to Cullen, "the speed of change prevents the environment organisers from settling down and learning by experience how to humanise the raw material thrown at them." (Cullen 2010 [1961], p.13) Since then, the actors involved in this process have gone through multiple cycles of learning. Selle's and Sievert's criticisms suggest that the opening-up and adjustment of processes have to be conceived as a continuous process. With reference to John Friedmann's concepts of empowerment and planning, Selle suggests that in cooperative processes, due to the ever increasing awareness of the complexity of problems and instability of knowledge, the paradigm "from knowledge to action" is shifting towards "learning and action" (Selle 1994, p.292). Hence, the incremental process of change is increasingly seen as a process of cooperative and collective learning. Klaus Selle asserts that incremental cooperative action offers participants the chance not only to learn from each other, but also to more easily integrate external experiences into the process, for instance from comparable cases. Selle speaks of the dynamic of dialogic processes of learning ("Dynamik dialogischer Lernprozesse", ibid., p.71).

Learning how to conceive of, produce and manage change, both on the level of buildings or the level of urban environments, is connected to learning how to cope with change. Coping with change is a condition that involves both, groups and individuals. The sharing and integrating of coping experiences during a process may reduce feelings of "sudden invasion" as described by John Friedmann (Friedmann 1999, p.9). If groups and individuals were to have the opportunity to let their coping experience flow into processes in a meaningful way, not only in terms of goals and actual content, but also in terms of speed, they would, perhaps, find it easier to agree on transformations in the first place and assume a more active role in the process. Swift changes continue to be an option, but the learning and coping dynamic would determine the pace of change rather than the other way round.

Hence, if Lynch, Brand, Selle, Sieverts, and others assert in their narratives that learning how to shape and re-shape the built environment is a process that requires time and that needs to connect to communities and private lives, what could prevent actors from allocating sufficient coping and learning time to the process? In practice, we see that time schedules and the pace of change are often determined by external factors that are difficult to influence or beyond the control of single participants. Temporary uses on a site may have a fixed end date in expectation of a new development, or public funds may have to be spent within a certain time frame. However, pertaining to the relation of speed of change and capital flows, Jane Jacobs asserts that

26 For a historic account of the introduction of step-by-step processes and openness to urban planning, as well as the shifting notion of the term ‚Leitbild' in Germany, see (Krau 2010, pp.75ff). For exemplary images of change that had been developed as part of the IBA Emscher Park see (Sieverts 2003 [1997], pp.116ff).

> "The city building money operates as it does not because of its own internal necessities and forces. It operates cataclysmically because we, as a society, have asked for just this." (Jacobs 2011 [1961], p.309)

4.3 Rhythms of Change

During the 1980s, Henri Lefebvre begins to explicitly theorise on rhythms, first as an aspect of everyday life, and then as an instrument of analysis and as a complex field of knowledge (Lefebvre 2013 [1992], p.2) [27]. Initial ideas about rhythms had already been offered in "The Production of Space" (Lefebvre 1991 [1974], pp.205ff and p.405). Two essays, written together with Catherine Régulier, further explored this topic (Lefebvre 2013 [1992], pp.80–106)[28], which finally led to the publication "Eléments de rythmanalyse: Introduction à la connaissance des rythmes". This is Lefebvre's last book and was published posthumously in 1992, one year after he passed away at the age of 90. Lefebvre distinguishes between two main categories of rhythms: linear rhythms, and cyclical rhythms (Lefebvre 2013 [1992], p.18). He suggests the cyclical originates from natural phenomena such as day and night, seasons, waves and tides, while the linear is more related to social practice and human activity, such as the monotony of repetitive actions and movements, or the imposition of structures (ibid.). The linear as observed by Lefebvre on the streets is "the daily grind, the routine, therefore the perpetual […]" (ibid., p.40), but it is also "made up of chance and encounters" (ibid.). It is characteristic of Lefebvre's dialectical approach that these categories are not fully separable. They may shift from one state to the other, depending on perspective, and they occur simultaneously. They produce compromises and disturbances through their interaction (ibid., p.18). As a result, even in the most controlled environments, rhythms never repeat themselves in an identical way (ibid., p.17).

Lefebvre refers to the occurrence of multiple rhythms as polyrhythmia (ibid., p.25). He suggests that multiple, or polyrhythmic rhythms tend to be either in a "eurythmic" state or, conversely, in an "arrhythmic" state (ibid.). In the context of everyday life, Lefebvre understands eurhythmia to unite different rhythms with each other in "normal everydayness" (ibid.), which for Lefebvre is related to the "normed" (ibid.), while the arrhythmic is seen to unite rhythms "in discordance" (ibid.). The transition between the two states constitutes a condition of significant change, for "the discordance of rhythms brings previously euryhthmic organisations towards fatal disorder." (ibid.)Lefebvre further explores the moment of rhythmical collapse and describes the transitional phase between different modes of rhythms, or the complete abandoning of rhythmic relations as temporal space of possibilities and the new.

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27 See Stuart Elden in the introduction to his translation of "Eléments de rythmanalyse: Introduction à la connaissance des rythmes" (Lefebvre 2013 [1992]).

28 The first essay by Lefebvre and his wife Catherine Régulier: 'The Rhythmanalytical Project', was first published in French in 1985. The second essay, 'Attempt at the Rhythmanalysis of Mediterrenean Cities', was first published in French in 1986 and added to the 1992 French publication of Lefebvre's "Eléments de rythmanalyse: Introduction à la connaissance des rythmes". All three essays were published in English as "Rhythmanalysis. Space, Time and Everyday Life" (Lefebvre 2013 [1992]).

Figure 38: Winter in Munich's central park 'Englischer Garten', view along Schwabinger Bach, Munich 2016

Figure 39: The same view in summer. The comparison reveals a polyrhythmic situation in which different seasonal, social and urban rhythms interact with each other, Munich 2016

> "All becoming irregular [dérèglement] […] of rhythms produces antagonistic effects. It throws out of order and disrupts; […] It can also produce a lacuna, a hole in time, to be filled in by an invention, a creation. That only happens, individually and socially, by passing through a crisis." (ibid., pp.52f)

Henri Lefebvre relates rhythms to the everyday, the body, to work, the media, institutions and the city, as well as to the more obvious field of music. These categories, in turn, are related to his broader critique of capitalism and the production of space. According to Lefebvre, "everywhere where there is interaction between a place, a time and expenditure of energy, there is rhythm." (Lefebvre 2013 [1992], p.25) Lefebvre's definition implies that 'expenditure of energy' is a precondition for interactions, or rhythms, to occur. This energy is supplied as well as received by the categories involved in the process. If conceived in this way, rhythms are effectively components of systems that transmit and exchange energy. Rhythms may be put to work and made productive, through which they acquire a certain use-value. Productive rhythms are assigned an exchange-value if they participate in the market (ibid., p.49). According to Lefebvre, the capitalist model is based on "[…] the rhythm of producing (everything: things, men, people) and destroying (through wars, through *progress*, through inventions and brutal interventions, through speculation etc.)," (emphasis in original, ibid., p.65) thus highlighting the violence that may be reproduced through rhythms. Correspondingly, Lefebvre suggests that institutionalised systems of power seek to control and use rhythms towards their own ends (ibid., p.50).

In contemporary urban theory, the concept of rhythms is used, for example, in the analysis of commuting and use of space (Franck 2004, 2010, p.7). Georg Franck suggests that rhythms are "the epitome of a stable process" (Franck 2010, p.7), because they are made of activities that return to their initial states over and over again (ibid.). Relating the concept to design and planning practice, Franck suggests that "the activities that architects and planners call space-uses are of the characteristic form of a process that returns to the point, or state, from which it had started." (ibid., p.9) In this sense, mixed programmes could be conceived as assemblages of different rhythms. Franck contrasts stable rhythmical activities with dynamic processes that are instable, such as agglomeration. According to Franck, economies of scale and the accumulation

of central functions prevent the system from returning to its initial state and produce self-amplifying effects (ibid., p.10).

Lefebvre asserts that the study of rhythms by the "rhythmanalyst" (ibid., p.13, pp.29–36) presents a new method of analysis based on a theory of rhythms, that "[…] could change our *perspective* on surroundings, because it changes our *conception* […]" (emphasis in original, ibid., p.26). Lefebvre's outline of the method includes propositions on the practical aspects of identifying and interpreting rhythms. According to Lefebvre, the difficulty for the rhythmanalyst upon engaging with the study of rhythms in the environment is "[…] to perceive distinct rhythms distinctly, without disrupting them, without dislocating time." (ibid., pp.29f) In doing so, the rhythmanalyst prioritises time over space, without omitting the spatial, and is understood to develop an awareness for "presence" (ibid., pp.32f). To Lefebvre, one of the ways to grasp the complexity of rhythms is through the seeming paradox of situating oneself "simultaneously inside and outside" (ibid., p.37). For example, he suggests that pertaining to the observation of rhythms on the street, a suitable position of in-betweenness could be taken on a balcony (ibid.). The temporality of rhythms and their differences makes recollection an essential tool for rhythmanalysis (ibid., p.45). Conversely, there is a memorising capacity in the performing of rhythms.

According to Lefebvre, "Rhythms always need a reference; the initial moment persists through other perceived givens." (ibid., p.46) Due to the relativity of rhythms, Lefebvre demands that every study of rhythms be necessarily comparative (ibid., p.97). For the analysis of urban rhythms, this means that they have to be distinguished, and in this sense separated, before they can be jointly analysed (ibid., p.103). Lefebvre conceives of the human body as sensor and measuring instrument, as it allows the rhythmanalyst to compare the multitude of external rhythms to the analyst's own internal rhythms (ibid., p.20, p.46). "We know that a rhythm is slow or lively only in relation to other rhythms (often our own: those of walking, our breathing, our heart)." (ibid., p.20) Lefebvre's conceptualisation of rhythms is integrative in that other discourses such as ecology, social psychology, or conservation may be related to each other in new ways. Lefebvre asserts the connectedness of different worlds to each other through rhythms, suggesting that

> "If there is difference and distinction, there is neither separation nor an abyss between so-called material bodies, living bodies, social bodies and representations, ideologies, traditions, projects and utopias. They are all composed of (reciprocally influential) rhythms in interaction." (ibid., p.51)

5. Preliminary Findings

As in the previous chapter, I have assembled a sequence of architectural and urban narratives, this time with the focus on change. The selection evolved on the basis of theoretical sampling, which operated for the most part in parallel with the enquiry into the narratives of conflict. As in the previous chapter, we cannot assume the process to be fully saturated. However, the analysis has generated a body of concepts which I take to be of sufficient size for the setting-up of the theoretical intersection in the following research stage. The analysis developed in four sections, starting with dialectics, evolu-

tion, and autopoiesis as conceptual bases for urban and architectural meta-narratives of change. This was followed by the juxtaposition of a series of narratives that emerged as critical response to modernism, including a body of texts that continue to be fundamental in architectural and urban theory. The third section focussed on issues that are more design and practice-related, including deterministic and non-deterministic models of change, levels and layers of change, uncertainty and imperfection, in-betweenness and the performative in architecture. In the final section, I analysed a set of narratives about speeds and rhythms of change and linked them to problems like coping and learning.

Urban and architectural narratives of change are tools to conceptualise, communicate, integrate, memorise, instrumentalise, or politicise processes and conditions of change. They do not constitute a consistent or homogeneous body of knowledge. Some narratives maintain an abstract and theoretical level of analysis and discussion, while others are more interested in the interactions of change and design, or the practical aspects of change. These latter narratives work towards the making operable of theory, in the sense that they seek to draw concrete conclusions for architectural and urban practice. Some conceptualisations of change are connected to projections of alternative futures or utopias, small and large. Critical enquiries into change seek to theorise inequality, deregulation, financialisation, the effects of the capitalist economy on the everyday, or the global conditions of urbanism. Typomorphological narratives examine change as a problem of urban and architectural morphology, typological process and urban form. Historic and contemporary modernisms have established a tradition of reductionist representations of change that are based on ever growing amounts of data that are made operable in design and urban planning models. Conceptualisations of change that are aligned with professional architectural and urban practice are typically oriented towards the various stages of design and construction. In this field, change is conceived as a problem that needs to be addressed in the development of the project brief, in the setting-up of the realisation process, in the detailing and costing, and finally in scenarios for the post-occupancy stage. In the professional world, change tends to be associated with concepts like risk management, steering groups, change management, resilience, or flexibility.

Like conflict, change is an ever present phenomenon in the urban and in the city. Complex frameworks of agreements and legislations seek to control and influence processes of change. To control change means to maintain or, conversely, to challenge the stability of a given system or a given set of conditions. Change in the urban is related to the political and to questions of power. If we maintain the view that conflict and change are mutually related, that conflict embodies the concept of change, and that change is both product and driver of conflict, then seeking to resolve conflict in the sense of eliminating conflict from a given process must be interpreted as an attempt to bring change to a halt. Strategies of conflict resolution are therefore bound up with the question of who may benefit from the termination, or suppression, of transformative processes. These questions are positioned within constellations of power in which change, or non-change, are negotiated.

The narratives conceptualise and work with different intensities of change. Some narratives of change emphasise the 'doing' component in architecture and urbanism, the negotiating, the acting and making, while other narratives evolve around continuity, stagnation, invariance or repetition. However, they have in common the view that

architectural and urban productions are, despite their possible appearance as stabilisers and solid 'objects', generated through acts of change and entangled in situations that give rise to further change. Buildings, infrastructures, or materials are understood to change together with the controversies, perceptions, interactions, encounters and spatial relations that are linked to them. This seems to apply even if built artifacts survive for a long time, or where almost no physical change is detectible. Speeds of change in the narratives vary considerably. Speed is seen to depend on multiple parameters and be tied to the frameworks which regulate, enable, discourage or seek to make impossible change. Hence, the speed of change is seen as being connected to agency and intentionality. Speeds and rhythms of change are perceived and experienced in their relatedness to other processes and rhythms, like the human body. Terms like fast and slow, incremental or cataclysmic are relative, requiring a comparative other. Urban and architectural narratives of change offer possible interpretations of change to which individuals and groups may refer when they develop their own understandings of change. Past narratives speak to us today through materialisations, practices, legal frameworks. Narratives themselves travel in time. In terms of the relationship of conflict and change in the narratives, we can say that the narratives of change in the analysis each work with a different idea and level of conflict. It seems that the theorising of conflict is almost absent in the narratives that evolve around low intensities of change. Conversely, narratives that work with high intensities, or radical forms of change, tend to make conflict a major part of their conceptualisations.

Based on the discussion and observations made in this chapter, we may sum up the analytical process with the following preliminary findings:

1. **Change is seen as a fundamental principle that permeates all levels, spaces and social spheres**. Like conflict, change is an ever-present phenomenon in the urban and in the city.
2. **Dialectic movement, evolution and autopoiesis** are recurrent **meta-level framings** of change.
3. Urban and architectural **narratives** of change are instruments to **conceptualise, appropriate, memorise, communicate, instrumentalise, and politicise** processes and conditions of change.
4. They **do not constitute a consistent or homogeneous body of knowledge.** They approach change in different ways, for example, through critical enquiry, reductionist models, analysis of form, or design-related concepts.
5. Narratives and interpretations of change **compete with each other** in the discursive field of change. They form **narrative coalitions** and dissolve to form new coalitions.
6. Complex frameworks of agreements and legislations seek to exert control of processes of change. To control change means to maintain or, conversely, to **challenge the stability** of a given system or a given set of conditions. Change in the urban is related to questions of power and the political.
7. **Narratives** themselves change and **travel in time**. They embody changing practices, interpretations, images, meanings. They change by being **re-narrated** and comprehended in different ways.

8. The way we **experience rhythms and change** depends on our individual and collective perceptions. This has influence on how we respond to, cope with, and evaluate change.
9. Buildings, infrastructures, or materials are seen to change together with the controversies, interactions, encounters and spatial relations that are linked to them. The **non-human and human** are related to each other through change.
10. The narratives conceptualise and work with **different speeds and intensities of change**.

Architectural and urban productions are, despite their possible appearance as stabilisers and solid 'objects', generated through acts of change and are part of situations that are sources of further change. In this sense, architecture and urbanism may be conceived as disciplines and **practices of change**.