1
Introduction

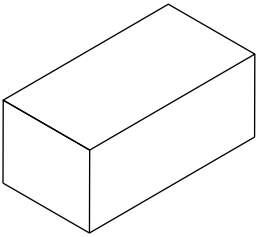

Fig. 1.1:
Box containing space.

Can there be a building with only one space? If you are an architect, your answer will be most likely, yes of course. Depending on your age, you might think of the KAIT Workshop (2008) by architect Junya Ishigami in Kanagawa, Japan. Or a bit larger, the Neue Nationalgalerie (1968) by Ludwig Mies van der Rohe in Berlin, Germany. But maybe you had a glance at this sketch above first (**Fig. 1.1**), and you are simply thinking of a shipping container, frequently used as site offices. No matter what reference you have in your mind, let us call these buildings 'monospace'. We will then have to see why this might be interesting.[1]

Can there be a movement *with* space? The answer is not quite so simple. That said, we indeed can consider movement as an action *with* space, a movement that is shaped and re-arranged by many ingredients and which generate space

1 I take up the term 'monospace' from the architect and urbanist Finn Geipel (Geipel, Koch, and Thorwarth 2011) who groups under this typology buildings which distinguish themselves by one outer shell with a maximally open floor plan.

in the course of action. This is not about a movement that occurs *within* a pre-existing space but is instead a movement that is actively producing space. Let us call this process of space-making 'spacing' and see why this concept might be challenging for the notion of monospace, and revealing for our understanding of buildings, architects and 'users', and thus for architectural theory in general.[2]

1.1
Rethinking Space with Monospace

Rethinking space with monospace starts with a paradox. Concerned with a building, which is often called a 'box', 'shed' or 'aircraft hangar', and that comprises so much space that it can be described as the 'container space' par excellence.[3] This book sets out to challenge a traditional understanding of space in the field of architecture. Opposing a space that can be entered and a view of architecture as an objective frame that surrounds and contains, I approach the typology of monospace and argue that space is not what happens *in* a building but space happens *with* a building. What at first sounds like a little intellectual pun quickly turns out to be a fundamental shaking of belief systems in the discipline of architecture. After all, the question of space is closely linked to the question of the relationship between architecture and social life. Both of which are currently being re-negotiated in an interdisciplinary context (Jacobs and Merriman 2011; Yaneva 2012, 2009b; Delitz 2009a; Löw 2001; cf. also Heynen 2013). This undertaking to explore a monospace through 'spacing' is thus not only an empirically based study on the topic of space in the field of architecture but furthermore aims to contribute to recent scholarship in re-thinking and re-conceptualising architecture's relations (Till 2013; Yaneva 2017; Latour and Yaneva 2008).

However, let us take a step back and define more precisely the subject at hand. Monospace is a specific form of open plan building.[4] To understand a monospace seems at first glance rather simple as it consists—in its most radical

2 I take the term 'spacing' up from French sociologist and philosopher Bruno Latour (1997) and not as might be expected in German-speaking countries from sociologist Martina Löw (2001). Both approaches are examined in more detail in Chapter 2.

3 Albert Einstein coined the term 'container' space in distinction to a relational understanding of space (Einstein 1954, XV).

4 The first tentative steps toward a definition of monospace and its interrogative potential for the topic of space in the field of architecture were elaborated previously in a co-authored article by myself and Finn Geipel *Über Hüllen und Werden* (Geipel and Hansmann, forthcoming).

cases—of only one room. The KAIT Workshop (2008) by Japanese architect Junya Ishigami, a studio and workshop on the campus of the Kanagawa Institute of Technology, Japan, is such a radical monospace building (**Fig. 1.2, 1.4**).[5] Comprised of roughly 2000 square meters in a single room, this flat single-storey structure has all-glass façades. The room is not empty but structured into various zones by 305 thin columns of different proportions scattered about in various densities. In between there are plants, chairs, tables, workbenches, machines and all sorts of things. Such a rich material world loosely defines different possibilities of action. Clay is processed at the turntables near the water basins, wood close to the circular saw on the workbenches. That said, the daily hustle and bustle, the trajectories of the objects, the circling and meandering movements of the students, the three to five workshop managers who are present teaching, supervising and coordinating this field of possibilities, quickly reveals that this monospace is highly complex. To grasp this building in its architectural quality we have to move 'inside' to take a closer look. The glass shell surrounding the container space gives little indication of the actual possibilities that emerge in the course of action. In contrast to buildings divided by walls into a sequence of rooms, monospaces are determined far less by the building shell than by a reciprocal relationship between space and practice and objects, materials and human bodies. The architect Ishigami compares this situation with the emergence of a landscape in which the notion of architecture as framework disappears:

> When a state of equilibrium is reached by the architecture and other elements in the process of giving form to a space, the result is more like a landscape than like architecture. The character of architecture as the framework that forms space disappears. This phenomenon can be linked to people, cars, vegetation and buildings becoming equal components in a landscape without any particular hierarchy. (Ishigami 2010, 24)

5 For additional information on the KAIT Workshop, see *Junya Ishigami: Small Images* (2008, particularly 28–43).

Contemporary studies of another monospace, the Neue Nationalgalerie (1968) by Mies van der Rohe in Berlin (**Fig. 1.3, 1.5**),[6] reveal the challenges of conceptualising and analytically grasping this architecture, which is apparently open to constant change. As I argue, to account for the reality of such buildings it is insufficient to do so on the basis of their technicality. In other words, monospace buildings cannot be understood simply by focusing on the material object. To merely read their plans, sections or static pictures (Woelk 2010) is not enough. Nor is it sufficient to study them through the movements of the 'phenomenological' body that pass through them, focusing on sensorial perceptions and atmospheres or decoding symbolic meanings (Leyk 2010). With monospace buildings, it is particularly essential to turn to the reality of the building in the process of use in order to overcome the separation of 'objective' and 'subjective' space. The former defined by numbers and measurements, the latter emerging around the human beings that perceive it. This very dichotomy that reduces the building to passive material, however, while making human life into the active component is very much anchored in the prevalent way of thinking about space in architecture.

In the course of the 20th century, space was declared the 'essence' of architecture (Scott 1914; Giedion 1954 [1941]; Zevi 1957 [1948]). In this respect architects became *shapers* of space: 'If, for a particular purpose, we separate, limit and bring into a human scale a part of unlimited space, it is (if all goes well) a piece of space brought to life as reality.' (Rietveld 1958, 162) Consequently, architecture became a discipline concerned with the task of shaping space. Ideas of space are by no means homogeneous (Denk, Schröder, and Schützeichel 2016; Forty 2004). Nevertheless, traditional spatial concepts still predominate most contemporary discussions, such as the idea that space is what is contained within an object (Hilger 2011; Till 2013; Awan, Schneider, and Till 2011). This goes hand in hand with the ambiguity that German architect Oswald Mathias Ungers has isolated in his article on the Janus face of architecture: 'architecture is, by its very nature, body of representation or container, figure or vessel, mass or void, core or shell, fabric or envelope.' (Ungers 1991, 231)[7] Thus, architecture is most commonly either concerned with the design of walls, which contain space, or the design of volumes within walls. In each instance, architecture represents a form of thought about containing space, which has roots in an absolutist understanding of space. The idea of an absolute space has existed since ancient times, however, Isaac Newton elaborated this notion as homogeneous and endless space (Newton 1872). Absolute space is independent from action—it is pre-existent. Albert Einstein then intro-

6 For additional information on the Neue Nationalgalerie, see *New National Gallery, Berlin* by Vandenberg (1998).

7 My translation. German original: '[…] ob die Architektur ihrem Wesen nach Schaukörper oder Behälter, Figur oder Gefäß, Masse oder Hohlraum, Kern oder Schale, Stoff oder Hülle sei.'

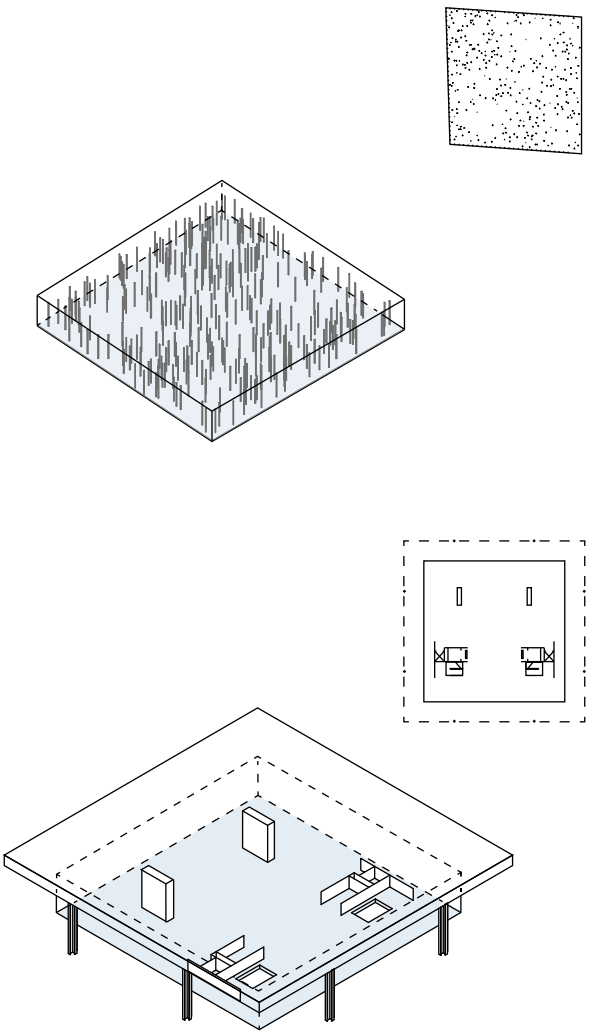

Fig. 1.2:

Isometric view. Junya Ishigami + Associates, KAIT Workshop, Kanagawa Institute of Technology, Japan, 2008.

Fig. 1.3:

Isometric view. Ludwig Mies van der Rohe, Neue Nationalgalerie Berlin, Germany, 1968.

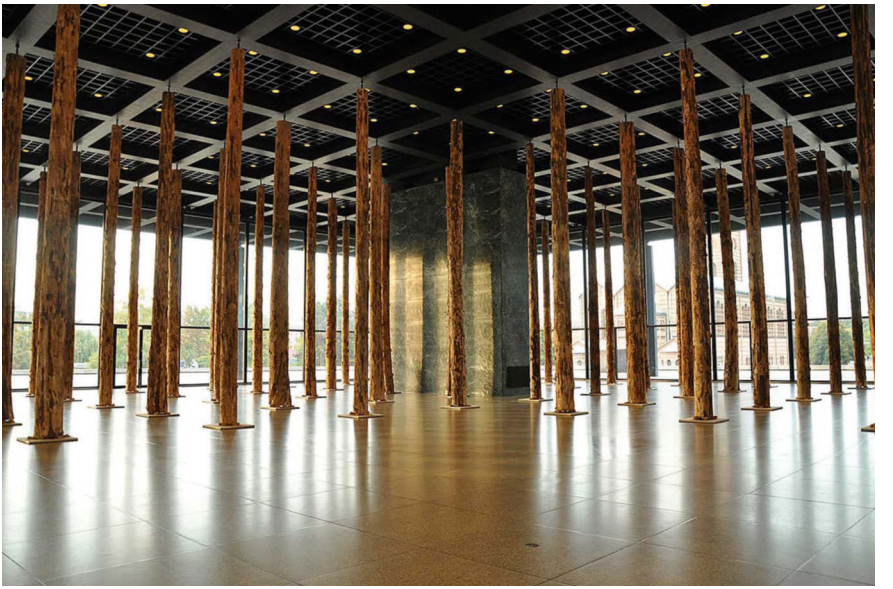

Fig. 1.4:
Interior view (2014). KAIT Workshop.

Fig. 1.5:
Interior view (2014). Neue Nationalgalerie Berlin, exhibition *Sticks and Stones, eine Intervention* by David Chipperfield.

duced the term 'container' (as a negative demarcation from a relational notion of space) and ever since we have talked about 'space as container' (Einstein 1954, xv).

The term monospace originates from this very understanding of space as contained and to some extent can be considered representative of the difficulties that the entire architectural discipline has been facing for some time. As the Canadian designer and architect Bruce Mau has put it with respect to the major challenges civilisation is facing: 'The problems we share are plural. Architectural practice and education, however, are still locked to the idea of the singular […].' (2004, 33) There are nuances to this. Indeed, some architects have started to address topics like 'flow, mobility and transformation' in their projects and have thereby turned away from 'stylistic, formal, static spatial' considerations (Lefaivre and Tzonis 2000, 58). Nevertheless, such ideas tend to stay *within* space and are seemingly unaffected by the current spatial discourse, a discourse for which we can learn from other disciplines.

In the wake of the *spatial turn* a vivid interest in space from the early 1990s onwards has permeated the humanities and social sciences (Soja 2011 [1989]; Döring and Thielmann 2008). Anthropologists and sociologists, for instance, describe how bodily self-perception has changed from a physical body as a container to an open immune system (Martin 1994); they have also addressed a new spatial understanding within the context of virtual networking (Löw 2001). With this awaking interest in the capacity to understand social phenomena through space, new concepts to investigate and theorise space were developed (e.g., in actor-network-theory (Latour 2005), practice theory (Schatzki 2002), sociology of space (Löw 2016)). Space turned into a complex social process, which can never be abstract, singular and enclosed by a shell. This should be enough of a reason to shift the focus and transform the field of a discipline involved in the shaping of space. Yet while we confront in recent decades in many spheres of life a change in spatial phenomena, this development has remained largely without effect in the field of architecture. There may be various reasons for this. The German trade journal of the Association of German Architects (BDA), *der architekt*, devoted a whole issue to the discussion of the spatial turn in architecture, stating that the discourse on space in the humanities has remained too abstract for architects and therefore had little effect on design (Denk, Schröder, and Schützeichel 2008). These authors consider architecture to be an object-oriented science, the reality of which has little need of such abstract theoretical approaches. Furthermore, as architect and academic Jeremy Till explains with regard to the task of the architect: '[t]he supposed neutrality of metric space provides a comfort zone in which dimensions can be shared as uncontested values […].' (Till 2013, 122)

Indeed, architects are entrusted with the planning of three-dimensional objects amongst other things. An absolute spatial thinking is linked to mathematical Euclidean geometry and Vitruvian architectural theory, which still today remains

the basis for dealing with the constructional parameters of the physical building elements (Hilger 2011). In this sense, architecture is concerned with a material spatial construction and thus preoccupied with a space that is contained in buildings. That architects can shape and control this space bolsters the authority of architecture as such. Accompanying this focus on the object, however, criticism begins elsewhere. Because it leads to

> the dominance of aesthetics, style, form and technique in the usual discussion of architecture, and with this the suppression of the more volatile aspects of buildings: the processes of their production, their occupation, their temporality, and their relations to society and nature. (Awan, Schneider, and Till 2011, 27)

Excluding the processes buildings are part of, they are still understood as stable and rigid objects, which contain space. As such, they are widely designed, theorised and analysed, supported by a recursive architectural discourse (Hilger 2011; Awan, Schneider, and Till 2011; Latour and Yaneva 2008).

Nevertheless space offers the possibility of overcoming these limitations. Architecture must not be located *in* space and remain isolated from the course of action (Latour 1997).

> Everybody knows—and especially architects, of course—that a building is not a static object but a moving *project*, and that even once it is (sic) has been built, it ages, it is transformed by its users, modified by all of what happens inside and outside, and that it will pass or be renovated, adulterated and transformed beyond recognition. (Latour and Yaneva 2008, 80; original emphasis)

Sociologist and philosopher Bruno Latour and architectural anthropologist Albena Yaneva programmatically demand the overcoming of the three-dimensional understanding of architecture in their article *Give me a Gun and I will Make all Buildings Move* (2008). What they propose is to integrate the numerous dimensions, processes and relations in which a building lives into the (spatial) understanding of architecture.

In the following study, I pursue the demand for earthly accounts into a 'building-on-the-move' made by Latour and Yaneva (ibid. 87), and turn to the process of spacing as a way of exploring the multiple dimensions of the monospace. What such an approach prioritises is the rich life buildings possess in reality. Exploring the monospace as a field of possibilities with the help of actor-network-theory (ANT) (Latour 2005), this book aims to enrich the understanding of (architectural) space as a complex process emerging out of the shared agency between architects,

buildings and the people who occupy and use them. ANT, as it is rooted in science and technology studies (STS), is a method of inquiry that allows us to re-conceptualise architecture from an experiential perspective. Appropriating the term 'spacing' from Bruno Latour (1997), the focus of this study are the consequences of a symmetrical processual approach to space (as rooted in ANT) for the understanding of architecture and its relations. Concentrating on the process of spacing instead of discussing its nominal form 'space', allows us to witness the emergence of space in activity. Actors here are humans as well as materials, objects, techniques, texts, norms, etc. that form networks with other actors. The power to act is distributed within these networks and can therefore never be attributed to a single actor alone. With spacing, space is no longer singular and no longer contained but actively created during multiple interactions: between objects, materials and humans. The term monospace is thus misleading, as there is not one homogeneous space but a complex and rich variety of temporally limited spaces generated *in* and *through* action. For this reason, I focus on the 'doing in common' of architecture and people. In other words, I analyse the shared process that takes place between people and a given building. Hence I abandon the still predominant static and passive understanding of architecture. The monospace *in* space turns out to be a 'multiverse' with spacing.[8]

1.2
A Realist Account on Architectural Space

In foregrounding interaction, practice and experience I follow a host of different scholars who are concerned with moving past the traditional divide between active subjects and passive objects, mind and matter (Mol 2002; Latour 1991). Some of these scholars have been particularly concerned with architecture as well. There is a turn towards design and architecture *in the making* (Loukissas 2012; Houdart and Minato 2009; Yaneva 2005b, 2009b, 2009a), as well as a shift in the approach to architecture that *is made* (Yaneva 2012, 2013, 2017). Albena Yaneva who introduced ANT into the field of architecture, demands a 'dynamic understanding of build-

8 On reading an article by Albena Yaneva *A Building Is a "Multiverse"* (2005a), I was inspired to take up this term. Also Latour and Yaneva speak of 'a complex and multiverse argumentative space' (2008, 87). The term was originally coined by American philosopher and psychologist William James (1895, 10). Camacho-Hübner and Latour explain it elsewhere: 'Since there is no good accepted term—which in itself is odd since it is the only world we all inhabit, human as well as nonhumans!—we will use James's term, *multiverse*, indicating by this word that it is indeed just as real as the 'universe' of commonsense but that it has not been prematurely unified through a continuous "physical space", in effect the res extensa.' (November, Camacho-Hübner and Latour 2010, 595; original emphasis)

ings' (Yaneva 2010, 142). 'Realist accounts of architecture are to be made in a situated and pluralist fashion' she notes and claims that 'if we really want to understand the meaning of buildings, we need to [...] make a detour to practice.' (Ibid. 145)

The interest in practices is not new. There is a broad turn to practices within the social sciences and humanities (Schatzki, Knorr-Cetina, and Savigny 2001; Reckwitz 2003).[9] In the field of social and cultural geography, Jane M. Jacobs and Peter Merriman introduce the concept of 'practicing architecture' to elaborate an understanding of 'architecture *in* practice' (Jacobs and Merriman 2011, 211; original emphasis). This includes various architectural actors from the process of creation and occupation, change or manipulation to decay and dismantling. These actors are not only human but also include animals and insects as much as processes and forces like weathering and rusting. In this way they 'wish to animate architecture' and understand it 'as an on-going process of holding together [...]. [T]he stabile architectural object (architecture-as-noun)' is turned into an 'effect of various doing (architecture-as-verb).' (Ibid. 211–12)[10] However, there is 'no unified practice approach' and while

> most practice theorists would agree that activity is embodied and that nexuses of practices are mediated by artifacts, hybrids, and natural objects, disagreement reign about the nature of embodiment, the pertinence of thematizing it when analyzing practices, the sorts of entities that mediate activity, and whether these entities are relevant to practices as more than mere intermediaries among humans. (Schatzki 2001, 11)

To what extent the world divided into lifeless matter and active life should actually be left behind thus remains contentious ground. Current practice-oriented accounts of space, such as Theodore Schatzki (2002) and Martina Löw (2001), while acknowledging materiality in their ordering capacity in social spatial production, nevertheless give (in different ways) preference to human action.[11] Even if current scholarship interested in architecture investigates 'the doings of built spaces' (Reh and Temel 2014), considering relational, processual and practice based architectural experiences (Leuenberger 2018), there is nevertheless some kind of partiality

9 On ANT as a 'stringent' sociology of processes see Laux (2011).

10 See Jacobs and Merriman also for an introduction into the literature on geographies of architecture (2011). They emphasise that '[m]uch of the existing geographical scholarship does stay resolutely interested in this human-centred view of architecture: its users, its producers and (re)designers, its meanings.' (Jacobs and Merriman 2011, 218)

11 Schatzki distinguishes two types of action, one of which is intentional and thus a distinctive feature of humans (Schatzki 2002). Löw on the contrary stresses the aspect of human synthesis as an element of the constitution of space (Löw 2001).

given to the subject. The same can be said of the accounts that begin from the co-production of atmospheres (Böhme 1993). This is indeed something that pushes the boundaries to overcome the subject-object dichotomy in space. That said, such accounts ultimately stress an intentional, reflexive, perceiving subject and/or its biographical vantage point. In general, studies that not only make a discursive contribution but also move into material reality are scarce. This has been pointed out by architectural theorist Hilde Heynen as well as sociologist Martina Löw (Heynen 2013; Löw 2001). The present study wishes to address the current gap in the literature through exploring the potential of an ANT-perspective approach, which is a different way of looking into the realm of (architectural) space.

Following humans and nonhumans by means of ANT is to approach them symmetrically.[12] In this way it will be possible to circumvent the predominant mode of assessing such things through the principally human-centred perspective on a given course of action. I claim that this approach to reality is particularly revealing for architecture's concerns. Here, it is not the point to 'catch reality as it really is. Instead it is to make specific, surprising, so far unspoken events and situations visible, audible, sensible.' And hence 'to attune to reality differently.' (Mol 2010, 255) What ANT offers is the possibility of showing the difference things make and tracing their social life. It will thus provide a way of including buildings in social space, but a social space that is as much non-physical as it is physical and that distributes agency without separating these two domains. Quite simply, agency emerges through the doing in common of people and architecture. Latour refers to the social then as '*a type of connection* between things that are not themselves social.' (Latour 2005, 5; original emphasis) When 'faced with an object', he explains, we should not aim to explain it through 'social aspects surrounding it' but 'attend first to the associations out of which it's made and only later look at how it has renewed the repertoire of social ties.' (Ibid. 234) While STS-inspired approaches in the field of architectural research produce(d) rich accounts into design practice we can find scholars in the field of cultural geography who discuss (architectural) space under its influence (Thrift 2006; Murdoch 1997, 1998). The work of Kevin Hetherington is of particular interest here since he addresses the relationship between material culture and spatiality in the context of a museum setting, which will be the empirical setting for this study (Hetherington 1997).[13] This study therefore takes up influences from an interdisciplinary field of research at the intersection of anthropology, sociology and cultural geography. It takes its inspiration from such work and wishes to convey it to the spatial discourse of archi-

12 Speaking in the following of the pair human and nonhuman I follow Latour's concept which is 'not a way to "overcome" the subject-object distinction but a way to bypass it entirely.' (Latour 1999b, 308)

13 For research into spacing and timing in relation to organising see Jones, McLean and Quattrone (2004).

tectural theory. Turning my attention to the typology of monospace, I argue that an absolutist-substantivalist understanding of such space particularly obstructs the ability to grasp the reality of these types of building. The built structure of a monospace is essentially a shell. If we fail to address the processes along with the building itself, then we have no access to the real complexity, to the tangled and messy reality of these buildings.

This book engages with a specific building located at the edge of the campus of the University of East Anglia (UEA), in Norwich, England by Foster Associates (**Fig. 1.6, 1.7**).[14] The Sainsbury Centre for Visual Arts (SCVA) opened its doors in 1978. From the outside, it is a white tube with a prominent steel framework at both ends oriented into the greenery. It houses, under one single outer shell, several different institutions and activities: the university's art gallery, a café, restaurant and shop, the School of Art History and World Art Studies and the Sainsbury Research Unit. As the architects of the building Foster and Partners put it, the Sainsbury Centre 'integrates a number of relative activities *within a single, light-filled space*' (Foster + Partners 2018; emphasis added). Is it indeed just a *single, light-filled space* that contains activities? How can we have access to the relationship between architecture and the manifold activities that emerge with it? The literature provides little insight here. From the existing accounts of this building we do not understand what this specific building does, how it fosters, hinders or supports in particular ways the daily life of the Sainsbury Centre.

Since the case study is concerned with a building of a so-called star architect and as I am speaking about 'architectural' space one could easily assume that this study is occupied with high style architecture. However, in the following it will become evident that this study is in no way preoccupied with stylistic architectural pretensions. On the contrary, the research is about 'mundane' processes—that is the understanding of the word as something earthly or worldly—that arise with buildings. Since space here is to be discussed as a complex ongoing process with buildings and people, I am not using the term 'built' space as it echoes a discrete/complete object. I am an architectural theorist and researcher and my alliance is with architecture, however, my approach to this building is hybrid. I will first introduce it in the tradition of architectural description and analysis. I will thus start from common ground only to then draw on the method of ANT in order to trace and analyse the way space emerges in the course of action. Ethnographies of architecture as conducted into the field of architectural practice (Houdart and Minato 2009; Yaneva 2009a, 2009b) have shown previously how ANT helps to analyse the entanglement of the world of the office and architects in the making of buildings.

14 Foster and Partners proceeded in the 1990s the office Foster Associates, that was founded in 1967 by Wendy Cheesman and Norman Foster. In the following I will only speak of Foster and Partners also addressing the work of Foster Associates, unless explicitly touching on historical circumstances.

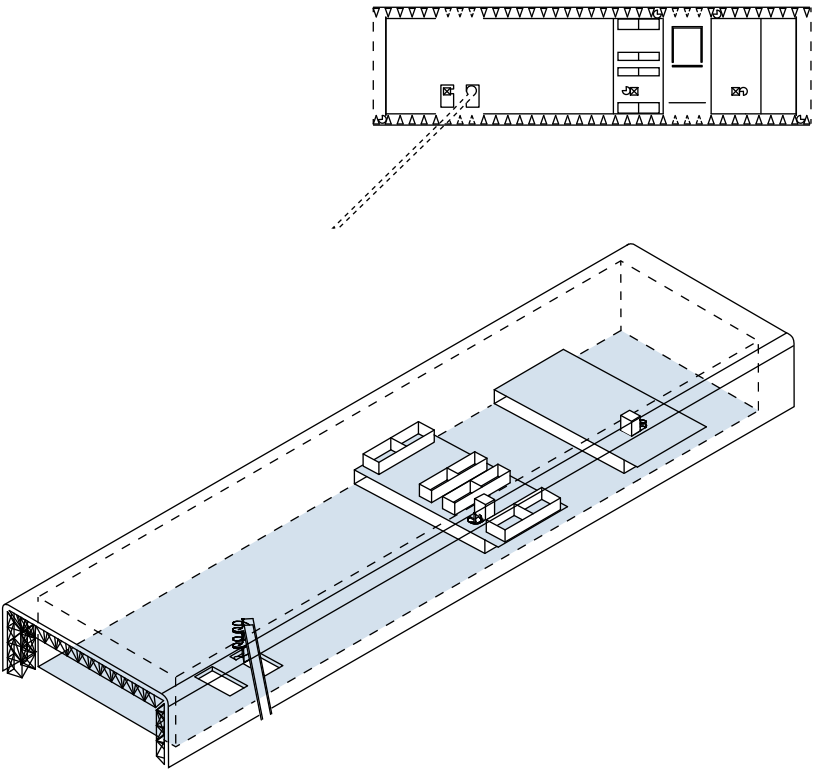

Fig. 1.6:

Isometric view. Foster + Partners, Sainsbury Centre for Visual Arts, University of East Anglia, Norwich, England, 1978.

Fig. 1.7:
Interior view (2017). Sainsbury Centre for Visual Arts.

I take this approach up and enhance it with specific types of interviews: sketching and walking interviews.

ANT is increasingly recognised in the field of architectural theory (Hauser, Kamleithner, and Meyer 2013, 2011; Crysler, Cairns, and Heynen 2012); that said, it shakes architecture's belief system in that it relocates architecture's agency in networks. Using the ANT methodology in this study to focus on the doing in common of architecture and people, analysing the shared processes that take place between human and nonhumans, means generally leaving dualism or the modernist opposition between subject and object behind (Latour 2005). This results in the disempowerment of the genuine creator of objects who acts upon the 'user'.[15] Here, the architect is one amongst many spatial creators. Turning to the building in practice and tracing the process of spacing allows us to enter the complex and mutual connectivity between architecture and the social, which is of particular concern to current interdisciplinary scholarship.

1.3
A Current Debate: Architecture and the Social

The concept of spacing is not only important in terms of how we conceptualise space in architectural theory, and how we analyse and understand buildings, it also implies a careful re-thinking of traditional ideas about the role and relation of the architect and the people engaging with a given building. In this respect, the Sainsbury Centre is an excellent example. In the first instance this is because its multi-functional uses create a rich inner world of different courses of action. Secondly, it is a building that is considered to be highly modernist. As many architects of his time, Foster assumed his buildings to have a structuring and changing impact on society (Sudjic 1986). Turning to the Sainsbury Centre in practice and drawing on a non-modernist methodology (ANT) is a way of breaking with convention. Since ANT takes a non-deterministic stance on the relation between subject and object, interesting shifts and valuable insights can more easily emerge, which will allow for a re-thinking of the architectural relation: between the building and the social. It moves the focus of interest from the three-dimensional static object in architecture to spatial structures that act latently; it relocates the architect as the supposed

15 The 'user' as a modernist term has a functionalist connotation. He/she is an abstract person, unknown to the architect and without phenomenal identity (Forty 2004, particularly 312–15). I prefer in the following to speak of 'people' or 'humans', whenever not addressing the modernist understanding. While people and humans in the first place are indefinite designations they can be enriched with specific roles, capacities, and experiences without implying a functional relation to buildings.

genuine shaper of space into a complex network of shared agencies in the making of space. Here architecture's relations are re-arranged, which allows the work to contribute to current debates on the relation of architecture to the social.

In the course of the rediscovery of space with the *spatial turn* there is also an (re-) awakening of an explicit interest in architecture within disciplines such as sociology, anthropology and human geography (Delitz 2009a; Yaneva 2009b; Jacobs and Merriman 2011; cf. also Heynen 2013). During the last fifteen years, lively research has been conducted in the field of architecture, which explicitly addresses architectural artefacts, activities, and discourses.[16] Here, we discover scholars who try to leave traditional determinist concepts, which view architecture either as a mirror of society, assuming 'that buildings [...] are essentially social and cultural products' (King 2003 [1980], 1) or as a tool to produce and shape social life (as e.g. discussed by Evans (1982) with regard to prison architecture). Both of these perspectives are reductionist, as Yaneva argues (2012, particularly 25–37). It is this very separation of social human space and physical object space, which prevents understanding the complex entanglement of both. As long as we take the monospace building as a solid object, which contains space we cannot have access to its processual nature and cannot acknowledge what it does. Yet, thinking architecture and the social together does not mean putting them into causal relation and asking 'who or what shapes/determines/organises who or what'. This merely re-produces two distinct domains, reducing the relationship to a linear process. On the contrary, a non-deterministic stance, as suggested by ANT, allows for the circumvention of traditional disciplinary boundaries, which separate the architectural object from the social. This is a very promising approach as it allows us to address the entanglement between humans, objects and buildings in the field of architecture. That said, taking this interdisciplinary path shakes beliefs within the discipline of architecture as it touches on the authority of architecture as such; it questions architectural agency and re-arranges the relation between the architect and people engaged with buildings-in-use.

Modernism particularly tied the design of the architectural object to the claim to have an effect on the 'user'. Through the architectonic 'programme' (Summerson 1990), Modernism attempted to define spatial relations with regard to functions.[17] Here architecture's agency is used to *operate* the social, which builds

16 Next to the aforementioned ANT-inspired studies into the realm of architecture one strand here is the Sociology of Architecture, an association founded in 2007 within the German Society of Sociology. Building on a range of sociological classics this association aims at creating a new discipline including the development of its own theory, methodology and research (Delitz 2010, 2009a). But also in the field of human geography, the Geography of Architecture follows an explicit interest in studying the architectural realm (Cresswell and Merriman 2011).

17 Following the definition of Summerson, the programme as a principle of spatial design works in relation to specific functions: 'A programme is a description of the

on the dualism between the 'social' and the 'architectural' or the 'human' and the 'material'. Architects tend to believe that their work is a means of improving and enriching social conditions, which 'assures them that their work has value reaching beyond the mere provision of shelter.' (Lipman 1969, 195) While studies in the 1960's and 70's attested to the strong deterministic belief system driving architects (Broady 1972; Lipman 1969), the 'belief in the moral authority of architect' is less explicit today (Hill 2003, 8).[18] There have been clear counter-movements aiming towards a less functionalistic understanding of the user. This is particularly evident with participatory architecture that specifically addressed the housing situation after the second World War as we can see for example with the work of John Habraken (1972), or the approach of Herman Hertzberger (2009 [1991]). The latter sees architecture as means of emancipating the user to a dweller. Notwithstanding the sensitisation towards knowledge and the diversity of individuals and communities, even today 'the hierarchy of architect and user is evident in the discourse of architects', as the architectural historian Jonathan Hill diagnoses (2003, 9).

'As author, the architect has *authority*, which at the same time is a prerequisite for one's credibility as a professional.' (Schneider and Till 2009, 97; original emphasis) Nevertheless, the architect as a genuine, autonomous designer-architect has recently come under scrutiny. The increasing globalised star system creates celebrated singular authorships (McNeill 2005)—Foster is mentioned here in the same breath as Frank Gehry or Zaha Hadid. In the course of highly complicated construction processes, economical and legal demands, this is romantic fiction and a new picture must be drawn to show the architect's dependencies:

> These buildings are not and cannot be exemplars of the architect's autonomous application of knowledge and talent alone. They are also striking manifestations of the architect's dependence on clients and other specialists of building, be they rival professionals or humbler executants. I call this dependence *heteronomy*, because it contrasts radically with the autonomy that is always considered a defining attribute of professional work. (Larson 1995, 5; original emphasis)

However, it is not only the clients, the countless planners and specialists, who are involved with a building in the making: the *dependence heteronomy* extends much

spatial dimensions, spatial relationships and other physical conditions required for the convenient performance of specific functions.' (Summerson 1990, 263f.) Architectural historian Adrian Forty points out that we need to be aware that 'The identification of a theory of form-function relations only appears after 1960, […] as part of the general attack upon modernism' (Forty 2004, 187).

18 See also the early studies into architectural practice which also shed light on the architectural belief system by architectural theorist Dana Cuff (1991) and sociologist Judith Blau (1984).

further. Turning towards the mundane practices in the architectural offices, complicates the situation even more. It becomes apparent that the design process is not only a 'co-operative activity' of humans but 'models, paints and pixels, material samples and plans' alike, as Yaneva shows (2009a, 12). Yaneva followed and described the daily practices in the architectural office of Rem Koolhaas (Yaneva 2009a, 2009b). The coming into being of a building emerges out of innumerable small routines and design moves. However, what is involved here is not simply a displacement of the architect from the focus of attention. Rather, Yaneva suggests re-positioning the architect as the 'setter of a specific studio practice; his buildings are born in the studio world' (Yaneva 2009a, 102). Architecture 'depends', as architect and academic Jeremy Till (2013) discusses, not only in the making, a process that involves many others during construction, but also in its occupation afterwards by many others. Thus, not only the architectural processes of designing, negotiating, presenting and re-thinking are involved in making a building but also processes that involve other actors, which in some respect call the position of the autonomous architect into question. Suffice to say, such issues create complex authorships. Looking at things from the building in practice perspective challenges the genuine position of the architect as authority. Here, accounts on 'building conversion' (Guggenheim 2010), post-occupancy re-design (Brand 1994) or the retrofitting of a laboratory building (Gieryn 2002), show how in the life of a building spatial structures change and can overwrite the architect's plan. Turning to spacing, however, this study rather reveals the being *with*, the mundane entanglement between people and objects and the building; it particularly looks into the details of the messy reality. Here not only many small modifications of spatial arrangements come to the fore, but also the work that is necessary to hold things together. Similar things can be discovered in studies of maintenance and repair (Graham and Thrift 2007; Strebel 2011), but also in the concept of architecture as a 'manifold interface' put to use (Guggenheim 2010, 7).

The Sainsbury Centre for Visual Arts is a museum and education centre. While my focus is on spacing I trace many practices that are specific to museum environments, for example object visitor interaction. In the broad field of museum studies we likewise face (in addition to the aforementioned) a growing awareness of 'multiplicity and complexity' (Macdonald 2006, 2). Here we encounter a specific tension with a museum's aim towards the creation of some kind of homogeneity (Hetherington 1999). Social anthropologist and museum studies scholar Sharon Macdonald describes the museum as 'institution of recognition'. 'It selects certain cultural products for official safe-keeping, for posterity and public display—a process which recognizes and affirms some identities, and omits to recognize and affirm others.' (Macdonald 2006, 4) This process of ordering goes hand in hand with the design of 'architecture, spatial arrangements, and forms of display as well as [...] discursive commentary—of fact, objectivity, superior taste, and authoritative

knowledge.' (Ibid.) That said, the museum as a site of knowledge creation (Hein 2006) has been recently discussed in terms of a shift from a place of authority to one of mutuality (Hooper-Greenhill 2000). Contemporary explorations of new relationships between visitor and exhibits (T. Smith 2012), and the turn towards museum objects and materiality (Dudley 2010) go beyond more traditional concepts of museum as (cultural) 'contact zone' (Clifford 1997, adapting this concept from Mary Louise Pratt). Hetherington points out the 'clear and unique perspective on the museum' that ANT in this context allows for (Hetherington 1999, 52). His ANT-inspired relational perspectives into museums show how even this place of classification never is under full control (Hetherington 1999). Hetherington traces the idea of heterogeneity along a shifting relation between subject and object as established by museums over time. Discussing how museum objects, such as Marcel Duchamp's urinal challenge the idea of an orderly and knowable world, which the modern museum as it occurred in the second half of the 18th century aimed for, Hetherington draws a comparison to contemporary philosophy and ANT. With Hetherington we can learn how objects, urinals as much as ceramic owls, create 'fold[s] in the *Euclidean space* of the modern museum' (Hetherington 1999, 69, 1997). Concerned with the Sainsbury Centre, this study then approaches the museum building (amongst others) with the help of ANT. It rarely goes into detail with specific pieces of art, but rather traces the many others that are present when it comes to visitor object/visitor building interaction and other processes as well. As such the focus of this work remains within a broader discussion of spacing as fruitful for a different understanding of architecture, providing valuable insights into museum practices. Turning to an object rich world by following spacing in the specific context of the museum setting allows for a contribution to be made to current attempts for a more complex and rich understanding of museums. Additionally, my specific account of visitor experience traces immediate encounters in object interaction, a surprisingly underexplored area in the field of museum studies.[19]

19 Social and material anthropologist Sandra Dudley who focuses on bodily sensorial (subjective) experience with museum objects points out that the physical engagement with material things have often been disregarded even in the field of material studies (Dudley 2012, 2010). Also Kirchberg and Tröndle (2012) who have also reviewed the studies of visitor experiences in museums, emphasise that this topic remains underexplored in much of the recent literature in the field of museum studies. Summarising visitor studies of exhibition experiences that are empirically based Kirchberg and Tröndle, highlight the similarity of these studies in a 'general idea of chronology and causality' (ibid. 447). Pointing out that these studies all, except for one, were 'pre- or post-visit surveys' based on questionnaires they highlight the lack of studies into the immediate visitors experiences itself (ibid. 448). Generally speaking, a more nuanced view of visitors is developing, however, this shift away from a homogeneous 'public' in museums is 'still only patchily achieved' (Macdonald 2006, 8; Falk, Dierking, and Adams 2006).

This study aims to provide a realist account of space in the field of architecture: neither reducing architecture to material or technology nor humans to simple user. I thus wish to trace the rich reality of a monospace building, and the specific reciprocal relationships between practices, objects, materials and humans to deepen our understanding of the relation between architecture and social life. Validating research methods by 'studying through experience', I will contribute a valuable analysis to current architectural discourse. This follows the postulates of a new field of architectural practice (Awan, Schneider, and Till 2011), and current attempts to extend the concepts of architecture and architectural theory (Hauser, Kamleithner, and Meyer 2013, 2011; Crysler, Cairns, and Heynen 2012). Beyond this field of interdisciplinary architectural research, I will add to ANT-inspired anthropological works on architecture in general and in this field furthermore to research into museum environments.

1.4
Structure of the Book

The monospace urges us to rethink our understanding of space within architecture and to question our understanding of what architecture is and what it does. How does a building, its layout, objects and materials contribute, promote, hinder or change spatial processes? How can we refrain from understanding a building as a stable and passive object? How can we trace the mutual entanglement of practices, objects, materials and human bodies within the world of a building in use?

I begin with an overview of the typology of monospace and present it as a specific form of the open plan building (Chapter 2). Understanding a monospace as a physical object seems simple—a box that contains space—however, this does not do justice to the reality of monospace buildings in use. Arguing that space can give access to the mutual entanglement of monospace buildings with social life, I open up a theoretical discourse on space. As an absolutist-substantivalist concept of space excludes the buildings from the courses of action that take place within them, I consider the theoretical foundation and positions that apply to relativist-relationalist concepts of space as currently often employed in the field of sociology. To make sense of the multiple connections that occur between space and practices, objects, materials and human bodies, I then turn to ANT in order to be able to neither focus on the physical built environment nor on the social life in courses of action, but to gain a view 'in-between'. I lay out the terms of actor, agency and network as they are rooted in ANT and which are essential for including objects into processes of spatial production. On the basis of this theoretical foundation, I conclude the chapter with an outline of the empirical analysis.

Turning to the Sainsbury Centre for Visual Arts, I first explore the building with an architectural description and then provide a glimpse into the available literature (Chapter 3). How does this specific monospace look, and what enables the large spatial volume? Approaching the Sainsbury Centre as a monospace implies adding another reference system to a building that has been put into many contexts previously. However, instead of applying another rigid and static framework to the Sainsbury Centre I take this building type as a point of departure and place of arrival simultaneously. During the analysis, a careful examination of the world of the Sainsbury Centre with the help of ANT (Chapter 4–6) provides an understanding of what a monospace is. This shifts from the formal-typological to a nuanced understanding of its possibilities and dependencies by means of a realist account. A monospace will be what it does. This generates a typology in flux—a typology we can only understand from 'within' and which thus focuses on the becoming (of space) (Geipel and Hansmann, forthcoming).

Thus, following the processes and practices *with* the building we leave the idea of a beautiful and static object that resides *in* space behind. Based on interviews and ethnographically inspired accounts we turn to the building 'in practice'. This is where we can witness the entanglement of architecture and all its elements with people. 'In practice' permits the discovery of the ordinary and the exceptional—mundane problems, contradictions, ephemeral and long-term decisions—*with* the building, and thus with the elements integral to spacing or specific spacing processes themselves. Firstly, we take a walk through the building with the Head of Collections and Senior Curator (Chapter 4). Structured along three stops, we follow our guides and listen to the staff of the Sainsbury Centre Institute who introduce different modes of *working with* the building. Working-with is a sharing of agency with the building in spacing. This chapter allows us to follow and unravel the connectivity between architecture and people. Through its analysis we will see that both people as much as objects can act in unpredictable ways. With the help from STS and ANT scholars, we will learn to differentiate the ways they jointly engage in spacing, both in terms of material arrangement and in terms of courses of action. We will witness how the building begins to move and change when we approach the world of working-with and how the building as a fully blown actor entangled in spacing becomes visible.

Equipped with a clear understanding for how exploring the world of a building from *within* always opens the complexity of that very building in reality, we then move on and turn to the experiences of people who are engaged with the Sainsbury Centre, albeit only temporarily (Chapter 5). Once more we do not turn our attention to the objective or the subjective perspective. Approaching the rich and ephemeral state of flux involved in spacing we look into the possible contributions of a specific form of interview. Asking interviewees to sketch while answering questions about their stay at the Centre we see how many objects, materials and practicalities

come to light by means of this tangible activity. We witness how the building is perceived, practiced, and experienced. While spacing circuits the distinction between subjective and objective it also challenges any determinism tied to functionalism. Hence, we also add that it equally rejects the reductionist understanding of the 'user' in architecture as much as of the 'public' in the museum. Various experiences simultaneously coexist with the building, as it is manifold in its possibilities of allowing, hindering, and fostering certain courses of action.

Along with specific experiences of light we then move deeper into the world of the building itself particularly focusing on the various contributions of objects and materials in the work of spacing (Chapter 6). Light is a controversial issue in the context of museum buildings and it was in a state of re-negotiation during my research at the Sainsbury Centre. Following the many *spacing devices* in the complex networks involved in the making of light, we learn about the specific quality of objects that bridge times and locations. Furthermore, interactions are always made of different materialities. In tracing the making of light we can witness the complicated nature of spacing. Space is made with materials, objects, technical devices, rhythms, etc. and it is the reciprocal relationship between space, building and humans that becomes visible when tracing the connective power of light.

The final analysis then brings the results of the study together, discussing the findings and their significance for architectural theory and practice and their pertinence for current debates about the relationships between architecture and social life (Chapter 7).

1.5
Writing Style

Monospace buildings are often dismissed as non-functional. I do not aim to criticise or to defend such buildings. What I attempt rather is to engage with the world of the building in order to trace its multiplicity. In so doing judgement is not my concern. By means of detailed description, we will approach the world of the building to unravel the mutual processes of spacing, following the constant work that is involved in the making of space. Thus, while my text is argumentative when considered theoretically and methodologically, it is rather reflective in terms of the presented case. Methodologically, because I try to open up spatial processes and show how we, as architectural theorists, using our own analytical repertoire, and utilising ANT, can access such processes. Thus, I am concerned with a way of thinking and approaching space and its implications for our understanding of what architecture is and what it does. To use this technique to judge buildings or to employ it for prospective designs I leave open for the future.

Using the first person singular, the 'I', is uncommon in Germany in the context of academic writing; on the contrary, in an English setting, it is used frequently enough. But there is another reason why it is tricky to use the 'I' in this work. It could suggest an auto-ethnographical stance that hints at a phenomenological approach, which I particularly chose not to follow, as I will explain in more detail (Chapter 2). Nevertheless, I do use the first person singular. Not to make myself more important than necessary, but to make myself visible as an actor in the spatial processes I observe and participate in. Thus, I wish to acknowledge that I myself am an actor in this work. In contrast, I address an academic distant narrative using the 'we'.

A final word on the use of images. Images can neither represent experiences nor convey their sequential character. They reduce, separate and freeze a course of action, a moment in time and convey rigid impressions. Furthermore, they focus on the visual sense. However, of course images are a central component in the production of architecture as well as in architectural analysis. Therefore, I pursue three strategies when using images in this study. Firstly, I follow architectural tradition in presenting the building through a variety of drawings. There can be no single drawing that shows or makes the whole building understandable, but rather a multitude of drawings in combination with pictures. Secondly, I use isometric drawings and annotate them with links to specific text passages with detailed descriptions. In this way, the drawing becomes a navigational tool that allows the reader to travel to different dimensions in order to explore the complexity of the building.[20] Thirdly, I use a series of picture, fragmented images and snapshots that accompany ethnographically based chapters. Such sequences have no separate textual explanation prior to the ethnographically inspired account. I do not wish to reduce the abundance of visible things to a caption simply to focus the reader's attention and guide them. There is no simple way of knowing a building.

20 Using the annotated drawing as a navigational tool is inspired by the discussion of (navigational) maps in the field of geography, which was suggested by November, Camacho-Hübner and Latour (2010).