4. Maintaining Mass Housing: Methodology of Research and Comparative Perspective

Daria Volkova

Introduction

Mass housing has gone from being perceived as a progressivist housing approach, celebrated as an achievement of modernist urban planning, to being harshly criticized and even demonized. The professional and public discourse in different countries has either adhered more or less to one of these perspectives or made its way from one side of the spectrum to the other or even bounced back and forth. The rich history of discussions and changes around large housing estates offers us a unique opportunity to observe how similar environments are treated differently due to various social, political, economic, and cultural reasons, et cetera, and how materiality and the environment of such housing, while being very prominent in professional and public discourses, do not play a primary role when it comes to research.

Here, I explore how research on mass housing approaches the issue of materiality and its changing dynamics. Following the ideas of actor-network theory scholars, I propose a different angle of view on mass housing through the issue of maintenance, which allows for the unpacking of social dynamics and multi-actorship in each particular case.

For this purpose, I took the comparative perspective of three different cases. Here, I draw on Russian and (East and West) German contexts. In each case, the attitude toward housing and infrastructure provision differs: from ideas of the welfare state, centralized planning, and the distribution of resources, to market principles and direct subsidies. Drawing from the history of the last fifty years on this matter, different programs and approaches to resource allocations resulted in each case in various approaches to sustain mass housing. The condition of materiality in each case could be generally

described as: (1) an infrastructure crisis in Russia; (2) huge investments and attention of policymakers after the collapse of the former provision system in East Germany; and (3) market regulations with debate on the subsidy system in West Germany.

I argue that differences in how well the mass housing in each case has been sustained until this day cannot be explained purely by turning to institutional peculiarities per se or to the flow of investments. Not downplaying these factors, I suggest taking a micro-perspective on materiality and maintenance, unpacking those factors, and see them in action. I propose to look at mass housing estates as a system of actors and interactions, in which each building could be described as a set of actors, and sustaining materiality—as a process, implemented through the network of interactions.

Materiality and practices of sustaining it are often either missed from academic research or become the central focus that overshadows others. I propose to account for materiality as a system of relationships and not only as a given fact. This text leaves behind the debate on how appropriate mass housing estates are as a form for the needs of a contemporary city and how the environment could be framed as problematic and then adjusted. Instead, it proposes to uncover what makes actors treat materiality the way they do.

First, by comparing the approach to infrastructure provision in three institutional contexts, I show why mass housing can be considered as infrastructure and why this approach is fruitful. Second, I describe how the view of actor-network theory could be adopted to research on maintenance. In the last part, I propose a methodological approach to study maintenance through its practices.

Infrastructural Turn and Housing Studies

Scholars turn their attention to infrastructure since it helps to capture the ambiguities of urban development and the hidden work that embodies everyday life in a city and helps it run smoothly (Denis and Pontille 2014; Graham and Thrift 2007; McFarlane 2011). By exploring the communications and how they operate, scholars discover the side of urbanity rarely mentioned before: the maintenance of the mundane. By focusing on infrastructures, researchers reveal the complexity and decentralization of this phenomenon. Infrastructure demands multiple actors to support it; to invest time, resources, and knowledge.

As the discourse developed further, the object of research on infrastructure was broadened. Housing also could be considered as infrastructure, when taking into consideration the debate on how to provide it (Dodson 2017; Steele and Legacy 2017). Mass housing is a great example of the debate on infrastructure provision and how differently it is handled across the world. Here, I suggest exploring three different contexts—Russia, West Germany, and East Germany—to compare approaches to housing provision. First of all, mass housing in these three contexts and even inside each one differs significantly in terms of appearance, materials, and construction peculiarities, policies, et cetera. One of the major differences is which percentage of housing stock such buildings constitute. The mass housing environment often gets much attention in both the media and academic discourses in all three contexts. The look of it and its materiality is pictured as being crucial for the everyday life and practices of the residents. In Russia, panel buildings are often seen as fading and decaying: mass media, authorities, and some residents push the discourse on "morally deteriorated buildings" that are not suitable for the life of modern citizens (Zhelnina 2019). In Germany, mass housing is often stigmatized (Glasze et al. 2012): such neighborhoods are a relatively rare occasion in the built environment of cities (compared to Russia), which makes them more visible and emphasize their distinctions.

The question of how to supply infrastructure, allocate resources, and distribute responsibility for doing so is taken into account differently in different places. Consequently, this reflects on the average physical state of mass housing in each context. In the last fifty years in Russia, the change in infrastructure provision can be seen as tantamount to the sudden collapse of the welfare state. The introduction of a market economy changed the way housing is treated by the government, from the provision of the commonwealth to address support (Collier 2011). In the same way, infrastructure was excluded from the policy agenda. The focus of the government turned to deal with particular cases instead of carrying undivided responsibility: it is a "shift from a centralized infrastructural regime to an individualized and fragmented system" (Tuvikene et al. 2019). Neglected infrastructure and the high costs of maintaining it and the urgent need for repairs resulted in an infrastructure crisis and deteriorating communications, which inevitably touched mass housing.

Although East Germany also experienced governmental withdrawal from centralized infrastructure provision, the response to the high deterioration rate was different. The need for rehabilitation and maintenance of the housing stock was constantly stressed by many experts (Balchin 1996). This demand

was met by many reconstruction programs that considered both the physical condition of the buildings, along with communications and appearance, and the changing needs of different social groups living there. Moreover, the whole system of ownership changed: from being owned by the state to being sold to international private companies (Urban 2018).

West Germany did not experience a socialist past and the collapse of the maintenance system in the past fifty years. However, the debate on how to provide housing was very crucial, and mass housing played quite an integral part in it, being one of the most affordable accommodations on the market. One of the crucial issues discussed in this regard is the amount of rent and how tightly it should be controlled. However, even in this heated debate on payments, maintenance costs, which are also paid by the renters, were not in focus for a long time (Busch-Geertsema 2000). Regarded as "secondary costs," the cost for maintenance was left uncontrolled until the early 2000s, while a sharp increase influenced the housing costs by far. Maintenance is often left unaddressed by the discourse on housing, let alone by research.

There has already been a large range of scholarship focused on mass housing estates from different angles. The research encompasses a variety of focal points, from various discourses and residents' satisfaction to planning principles. However, I argue that there is still a gap in areas of knowledge and especially in geographical range. First, the gap emerges between the contradictory presence of mass housing environment in research; second, scholars mostly focus on large cities. The most efficient way to address the gap is, as I argue, to focus on the micro level in research and to conduct comparisons.

The research on mass housing that accounts for materiality in some form can be vaguely allocated between two poles: environmental and social determinism. In such research, materiality frequently appears exclusively as a given background for the main action, which does not influence any of the studied phenomena—as it is often presented in sociological research—or as the main substance, which is often not very dynamic and is disconnected from the practices that constitute and change it. As has been repeatedly proven, the physical appearance and the environment of mass housing is not determinant of how this housing will be discussed and dealt with in particular context, but social relations rather than the environment per se are what drive this discourse (Zupan 2020).

The question of materiality and the system of its maintenance, and the way this leads to housing presented as deteriorated environments or housing which needs to be supported and maintained has barely been explored by

researchers. In Russia, there has been a growing field of studies on cooperation among residents, some of which were triggered by a recent renovation program in Moscow that exposed a significant amount of mass housing stock to demolition (Zhelnina 2020). When it comes to discussing infrastructure and mass housing, researchers tend more to explore macro-pictures of state or city policies (Büdenbender and Zupan 2017; Inizan and Coudroy de Lille 2019). Research on German cases is more extensive with greater empirical reach and tends to cover more particular cases (Grossmann et al. 2017; Grunze 2017). However, when the issue of maintenance is addressed in terms of social relations rather than technical peculiarities, materiality is presented in a static manner. Changing the angle in research to explore housing as infrastructure could help to uncover dynamics behind maintenance and see it as a consequence of social, political, cultural, and economic conditions—as well as of the agency of materiality.

ANT – Approach to Materiality

Not many actor-network theory researchers focus on housing, as it is a complex and multifaceted subject. Research on maintenance touches a lot of topics and objects in an urban environment (see, e.g., Strebel, Bovet, and Sormani 2019). Few researchers exploring the topic of housing point out how relevant the research on everyday routine and maintenance is for mass housing, and how it helps to avoid overgeneralized explanations aimed at "big" theoretical claims as well as superfluous descriptiveness (Jacobs and Cairns 2012). In the case of mass housing estates in post-socialist space, such a focus also helps to bring different actors with different agendas into one system where each actor is equally important in the research.

In such an approach, researchers claim that each building should not be considered a unified and stable entity, since it changes and transforms even during the time in which any particular researcher begins and ends their inquiry. Taking into consideration the dynamics and temporality, researchers suggest that each particular building should be considered as an assemblage of actants, events, and social constructions "subjected to external and internal disruptions" (Edensor 2011). Mass housing estates can be seen as a set of actors, events, conditions, and materials. Each of these elements influence the way the materiality of the building is sustained. However, those elements should not be treated as constants: each of them is fluid and changing all the time. The condi-

tion of each building can be seen as a negotiation over the cultural, economic, and social value of this housing, implemented by a set of interactions and dependent on existing materials and technicalities of the building. The main feature of such an approach is that it reveals what is visible only in the long run, such as deterioration, aging, and changes in the characteristics of the materials, and, from the perspective of the insider, such as the often-unseen territory of repair and maintenance.

Figure 1: The facade of a mass-housing building in Moscow that shows how differently residents deal with the materiality they are given: insulating balconies, changing windows, installing bars, using the greenery.

Source: Author.

Viewing mass housing through maintenance helps to account for materiality not just as a result of social relations but also as a driving force for a change in the whole process. Repairing something does not necessarily mean fixing something that is out of order due to human cause, such as vandalism or improper use. The nature of materials drives the maintenance and frames

it (Jacobs and Cairns 2012). Deteriorating constructions, thinning and eroding bonding paste between elements, faulty lighting above the entrance—maintenance should take into consideration the features of materials and mechanisms and their potential to change. Moreover, it should be emphasized that it is not possible to account for everything that could possibly happen to a building for at least two reasons: first, the complexity and interconnectedness of the system itself—because one may never know how properly another will use the utilities, which may influence the whole system; and second, due to emergencies that could be caused by internal properties of the materials.

Scholars following these theoretical notions put special attention to practices in the field. As they claim, institutional explanations are not sufficient to uncover what actually happens in any particular case, thus such explanations are no more than a mental exercise for a researcher, and all we can actually observe empirically are interactions and practices (Law 1992). Only through interactions do actors build up what we call institutional peculiarities. For the case of mass housing, this means that we can see resources allocated differently in all three cases mentioned above. However, only by observing the practices of maintenance could we find out why, for instance, a decision was reached to spend money and labor on painting the facades this year and how actors negotiated or handled such decisions.

Such an approach focuses on particular cases and helps to avoid overgeneralization that could otherwise be the case in research on mass housing. But the phenomenon itself is so diverse that the majority of generalized statements cannot be applied to mass housing even in a more or less single institutional context. As an example, mass housing in former East Germany was already influenced by different nearby processes involving the residents, the city itself, and environment, and could be categorized into various categories depending on how popular such housing is at the moment, what the situation on the housing market is in this particular city, and the programs undertaken in this regard (Grunze 2017). Researchers have particularly emphasized that we need to understand the particular pathways of housing estates without generalization: cases within East Germany should be compared cautiously with other post-socialist cases (Grossmann et al. 2017). I would add that when adapting the perspective of actor-network theory, research should be sensitive to making statements even for one entire neighborhood, and should distinguish carefully between generalizations that could be made for different scales.

Vignette: On Sewer Pipes

How can materiality be envisioned as an actor in the complexity of maintenance?

"I think I need to start from the beginning. Any system of public utility has a point where the authority for it changes. Up to a certain point, the utility provider is responsible, and after this point, the responsibility falls under the authority of a management company. The same applies to sewer systems. The part of the sewer pipe up to a certain point belongs to Mosvodokanal [water supply and sanitation company] *and after that, it belongs to a management company, Zhilishchnik* [state-owned management company]. *And that's the point where it is not clearly divided*
It's stated in a very confusing way in the law, and many interpretations exist. The Ministry of Housing and Communal Services states that it should be defined as the first sewage well. So here is the building, and the pipe goes from there to the first sewage well. However, often the interface is interpreted as the physical boundaries of the building. That's why there are 2–3 meters of pipe, between the edge of a building and the first sewage well, for which authority is often questioned. And consequently, this part of the pipe is clogged most often.
Do you see the problem? This part of the pipe is not repaired centrally because our Repair Fund defines the zone as the boundary of a building. Consequently, they do not change this section before the first sewage well. And it turns out that this segment of the pipe is the most problematic area. Consequently, if there's a breakdown, there's an emergency—it's severely clogged or torn up and only then Zhilishchnik comes to restore this section, swearing. It excavates the site, which is difficult and costly, and the building stays without a wastewater connection until the work is done. But at least it gets done. However, if this section is just a bit clogged from time to time and the cellar is flooded with shit and it smells in the flats—they [Zhilishchnik] *do not do the work."*

A resident of a mass housing estate in Moscow, explaining the peculiarities of maintenance

Practices of Maintenance

The story above accentuates mass housing as a complex object. In regard to the issue of maintenance and successful resolution of a particular task, as this case demonstrates, it is useful to picture the building as a system of interactions.

Despite the fact that the legal framework behind the sharing of responsibilities is, in this case, publicly known, it is interpreted differently by different actors. Moreover, the practices of maintenance go beyond the technical necessities and depend on negotiations and the way materiality itself performs and influences everyday life. As this short vignette shows, the question of who operates the building's infrastructure, and how, is quite crucial, but it can be explained in more detail when revealed through practices rather than through the institutional framework.

Practices are the crucial concept for addressing the issue of maintenance. By observing the maintenance through practices, one can see how actors establish rules through the interactions and negotiations amongst each other. The main concept to observe here is the limits of the order, the status quo: the conditions of the changing environment perceived to be normal. Residents, management companies, the building's owners, and the municipal authorities all have their own criteria to judge how and by what means the condition of any particular element of the building remains normal, and when it needs to be repaired, demolished, or significantly changed. Programs that aim to increase the energy efficiency of buildings, for example, are not a natural response to climate change or other environmental issues: these should be seen as a set of decisions inside the ecology of maintenance, which lead to a particular decision on how and when maintenance should be implemented.

Repair in this sense should be seen as a "successful event," evaluated as such by the actors (Jacobs and Cairns 2012). The built environment is changing and fragile, and repair is a way to reproduce it by certain rules and to a certain degree. Thus repair might be a practical, political, and/or theoretical category (Jackson 2019). As was shown by Alain Bovet and Ignaz Strebel on the example of tenants and caretakers in Switzerland, actors in maintenance do negotiate about which parts of the material environment can be repaired, how, to what degree, and how agreement on when the repair is to be finished can be reached (Bovet and Strebel 2019). They show how both aspects matter in this process: the discussion of power between the tenants and caretakers, and the embedded materiality and its features.

However, the status quo and the conditions under which something should be repaired or replaced is not a simple dichotomy. It is not an opposition between maintenance and repair (i.e., mundane upkeep vs. mending breakage) when the hidden processes behind everyday routine reveal themselves (Denis 2019). Sewage pipes do not have only two conditions: clogged and unclogged. There are instead several stages at which the situation is considered to be a

bearable condition by some actors but not by others. Many argue that there is a spectrum between functional and dysfunctional, and it is not easy to distinguish between different stages. However, such a view allows seeing the materiality of the building as a system that cannot be described in the terminology of binary choice, depicting whether it is working or not; it is rather fluid and adjustable (de Laet and Mol 2000).

Figure 2: The practices that are noticeable when looking at the facade of a mass-housing building in Weimar, Germany, are different. In this case, residents are inclined to let the materiality remain as it is and do not adjust much because the system of maintenance emerged differently: responsibilities are distributed in a different way, and repair and renewal happen more often.

Source: Author.

Each building must be seen as an ecological form that has to be maintained, shaped, and/or ignored through the order of things (Domínguez Rubio 2020). Actors shape maintenance not only through the way materials behave and

deteriorate, but also through the way different institutes, companies, and residents value the building, the way the economy influences its development, et cetera. Both components are crucial and cannot be considered apart. Here, I suggest using the term "ecology" in the sense that Domínguez Rubio proposes: "the material, atmospheric, semiotic, and imagined conditions in and through which something [. . .] exists, subsists, and becomes" (Domínguez Rubio 2020:8). The term ecology is not limited by practices of maintenance. It comprises the fluidity of the object, different structural conditions in each case, and takes into account the acting materiality itself.

Focusing on different ecologies of maintenance allows accounting for phenomena that are missed by structuralist logic. One example is DIY culture, in which actors adapt the given materiality by themselves and take over responsibility from more organized and centralized actors in maintenance. DIY could be a way to improve something if it is not possible to improve it otherwise, as was the case with the DIY culture in the Soviet Union (Gerasimova and Chuikina 2004), or the way to be conscious about and reuse the environment is present in the public discourse in modern Germany (Kuni 2016), or the important component of the "Ossi" identity in former East Germany (Kreis 2018). Tracing the effect of such culture on mass housing maintenance is possible only through the lenses of complex approaches such as ecologies.

The interplay among materiality and discourse, power, and the structure of repair can be unpacked by comparing how different actors treat look-alike materiality (Henke and Sims 2020). I suggest that the comparison between different contexts and cases reveals the opportunity to see beyond the given materiality and actants and to recognize the political and cultural elements as part of an ecology of maintenance.

Conclusion

This paper outlined how mass housing can be seen through the issue of maintenance. Research on housing, and on mass housing in particular, does not give much attention to the way materiality is sustained: it often appears either as a static background or as a subject of dispute. Focusing on maintenance allows one to see the system in relationships, how materiality is seen for different actors, and how it changes.

Such an approach to researching mass housing could benefit the debate in many ways. First and foremost, it could pave the way to discuss the environ-

ment and physical appearance of such housing as a neutral entity outside the debate on aesthetics. At the same time, stressing the importance of materiality and its agency, such an approach leaves no space to limit the physical characteristics to a simple container of social reality, but instead depicts it as a moving and changing actor. Taking into account the complexity of mass housing as an object for maintenance, such a view supports the idea of variety in the research. It adds to the debate on mass housing as a differentiated problem that should not be conveniently and simplistically lumped together merely because the appearance of such housing is similar. This paper is more of a set of observations than empirically proven knowledge. However, it gives the theoretical setting for an approach that solicits more empirical data and knowledge that can depict the changing environment of mass housing and capture its dynamics.

In lots of countries, large housing estates still remain one of the most affordable types of housing, available to different groups of citizens. In the face of housing and ecological crises, the matter of how to sustain already available housing and how to improve it and make it useable becomes integral. Focusing on maintenance, as proposed in this text, follows this idea and aims to contribute to achieving it.

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