1. Introduction

As we stepped out of the scrap collectors' truck, I realized that the left-over furniture was stacked in front of the apartment building: a rug, a wooden side board, a damaged mirror, a bathroom scale, some old-fashioned chairs and a few knickknacks in plastic buckets. Showing me the stack, Engin said, "these will be taken to the flea market." Then he exclaimed: "Nothing goes to waste!" He added that he had already sold the reclaimed PVC frames to a second-hand wholesaler from Black Sea Region. The garden looked trashed. The trees were removed. Before entering the building, I noticed that it was named, ironically, İstikbal Apartmanı [Future Apartments]. On the ground floor, I saw that they stored some of the reclaimed materials and building components like windows and doors. There was a note on a salvaged kitchen cabinet with the name of the second-hand buyer written on it. There was a bed on the floor. Next to it, there was a TV on a chair. It was as if someone was temporarily living among all those stacked materials in that room. I heard some deep banging sounds coming from the staircase. I decided to follow the sound. The air smelled burnt.

At the bottom of the stairs was a propane tank. A hose attached to the cylinder extended up the stairway. I followed the hose. On the stairs, I saw some graffiti in Arabic written with red paint. I assumed that it might have been done by the refugee worker from Syria I met earlier. From time to time, streams of sparks were falling from the elevator shaft next to the stairs. I could see inside it because the elevator door was removed. I followed the hose to an apartment on the 3rd floor where the front door had also been removed.

As I went into the apartment, I encountered a worker who asked me how I entered the building. He warned me that the site was dangerous. I noticed that he wore non-construction clothing just like myself. I mentioned that I came with Engin. After that, everything was fine. He told me he was his brother and continued cutting off metal pipes from the heating system. I asked if he knew about

> the beating sounds coming from above. He answered that somebody had already started demolishing the building with a sledgehammer. I pointed to the cast iron heater and asked what they would do with it. He explained that he would sell it to a metal scrap dealer. He added that he cut up the elevator into pieces too. While he worked, small fires began to appear on the surface of the wall. The blowtorch's flame left burn marks on the wallpaper. I noticed the yellow mattress foam lying beneath the foot of the worker was also burned.
>
> —from my fieldnotes, entry on 08.10.2016.

Throughout my five years of fieldwork research in Turkey, I often encountered scenes similar to the one described above. It was a time when demolitions were increasing because of urban renewal and the state authorities were not addressing the issue of the overflowing building waste.

With resources depleting as quickly as they are today, reuse has become one of the biggest environmental sustainability topics in urban planning and architecture. As a practice, it has been going on for a long time in Turkey, where not only does there not exist any state structure for handling the massive debris from decades of building demolitions, there is not even any proper material recycling infrastructure. What is worse is that the Turkish government also declares waste pickers illegal.

Within this vacuum created by state negligence, various unrecognized groups of people stepped in and created a livelihood out of this salvage work. These people who will be the main protagonists of this book are referred to as çıkmacıs (singular çıkmacı: reclaimer/reclaiming in Turkish).

There is a saying in Turkish to describe this sort of work: *ekmeğini taştan çıkartmak*, "make your bread from a stone." The construction site is rough; the working conditions are precarious. The phrase is about being persistent in doing the hardest jobs for the lowest income. *Çıkartmak* means extracting in English. The term "çıkma" means "dismantled or second-hand" and, by adding the "-cı" suffix, the word represents a profession: building salvagers. The çıkmacıs' livelihood emerges from an absence of resources and infrastructure. By stepping into this absence, they have adapted to gaps in the margins of capitalism.

1.1 Bread from a Stone: Material Reclamation in Turkey

This book focuses on building salvage, informal waste management and circulation of second-hand materials in Turkey, a country where 6.7 million buildings are structurally weak to survive an earthquake and thus are, according to a Turkish parliament report (Turkish Parliment (TBMM) 2021), slated to be seismically retrofitted or newly rebuilt. In reality, this means that most of the buildings will be demolished and this leads to the question of what to do with the building materials that are scrapped or have been declared waste.

Demolition is the total removal of buildings without any material reclamation. It 'subtracts' the dwelling from the cityscape so that the site can be developed "creatively" by architecture and construction companies (Easterling 2014). Deconstruction, on the other hand, is a thorough and detailed dismantling of construction elements. Material reclamation or building salvage is a kind of mining of the construction materials and architectural elements. This demolition waste often consists of massive, heavy materials such as concrete, wood, asphalt, gypsum, metal, brick, glass, plastic; salvaged building components (doors, windows, and plumbing fixtures); and materials from clearing sites (trees, stumps, earth, and rock).

In the European Union in 2018, almost 36 percent (813 million tons) of waste was generated by construction and demolition activities (EUROSTAT 2020). In the same year, 800 million tons of construction and demolition waste (CDW) was produced in the USA (USA Environmental Protection Agecy 2018). The equivalent statistics in Turkey are not available because the state turns a blind eye on the CDW issue. Over the last decade in Turkey, demolition always seems to accompany new urban development which focus on inner-city slums.

Since the 1960s, rapid informal urbanization for profit in Turkey has had many negative results. Previous tectonic movements of the earth resulted in several historical disasters that destroyed residential areas along with their occupants. Such a history shows that the built environment is weak and dangerous. Due to the fact that the housing stock has already fulfilled its physical and economic lifespan, the demolition of these buildings is utilized by urban developers, state apparatuses, construction companies, architects, and private dwelling owners. For the last two decades, the AK Party government channeled its economic and political agenda towards urbanization and construction of the cities. Hence, the current situation created an economic opportunity to vitalize the construction industry and adapt it to neoliberal dynamics.

Along with this adaptation came the dispossessing of informal dwellers by inner-city slum clearing processes, the privatization of public spaces, and other unjust profit-driven development. Top-down urban regeneration plans overlook the actual need of dwellers because they are associated with urban renewal projects based on large-scale real estate investments. In this scenario, demolition means an immediate solution to eradicate the existing environment rather than a comprehensive plan for building deconstruction or the strengthening of apartment blocks. The housing-stock regeneration has to be privately financed since the state's financial resources are limited. Homeowners are responsible for deconstructing and reconstructing their apartment blocks. To afford this, the state prefers to change zoning laws that result in higher buildings.

In these demolitions, much waste is produced, and much is unmanaged by the city authorities because a circular economy, in which markets have incentive to reuse products, is still only an emerging concept in Turkey. In recently modernized or post-colonial countries, waste lies in a gray zone between the formal and informal sectors. Collection and separation of waste creates a significant livelihood for new rural migrants and refugees. Therefore, waste management is a heterogeneous process, in which formal and informal actors cooperate (Tuçaltan 2018). On the formal side, private recycling factories process plastic and metal waste and some municipalities have waste sorting facilities. On the informal side, self-organized waste and scrap collectors gather and separate the same materials and sell them to the factories. In the end though, state municipalities want to eliminate these street collectors and impose their own collection operations and sorting facilities, which has the effect of limiting job-seeking labor and marginalizing street collecting.

Within the context of this study, a 'construction project' includes both demolition and the making of a new building. General contractors, who manage this process, sell the scrap materials to *çıkmacıs* who, in turn, dismantle, collect, classify, and store them. Recyclable materials are sent to factories, and building components are sold on the second-hand market. *Çıkmacıs* extract PVC window frames, doors, radiators, kitchen counters and sanitary equipment as second-hand components. They also remove lighting hardware, plumbing fixtures, copper electrical cables, taps, and metal pipes; dismantle elevators and central heating systems for metal recycling. They even collect furniture and household items from the previous tenants to sell at a flea market in Kadıköy.

Çıkmacıs operate in an environment in which no regulations exist. They have an informal labor structure and constitute a heterogeneous assemblage

including scrap collectors, demolishers, private businesses, governmental institutions, laws, second-hand components and other nonhuman actors. Plus, they have been operating since the peak urbanization began in major Turkish cities, that is, since there was a sudden demand for affordable materials needed to build *gecekondus* (literally 'put up overnight' buildings). Historically they emerged from a rapid urbanization that was shaped by sociomaterial processes in the 21st century. Additionally, demolition and the second-hand sector have been an income resource for migrants as they are now for refugees. The critical debates in this book concern informal labor; metabolic cycles of reuse after demolition processes; urban transformation's role in creating second-hand surplus; second-hand trade and the agency of materials in dwelling construction.

Figure 1.1: A supply yard in Istanbul

Source: Author's own

1.2 The Goal of this Study

This study examines the demolition activities of *çıkmacıs* within the context of historical developments and urban renewal in Istanbul. In terms of the creation of CDW, it is essential to discuss the material life cycles as Istanbul was built up, unbuilt, and rebuilt in different eras of rapid urbanization.

Current urbanization trends will be compared with past activity in order to identify the adaptation processes of these urbanization assemblages. By reflecting on present-day urban regeneration, the study investigates how *çıkmacıs*' unrecognized reclaiming activities result from an excess of earthquake-driven projects. More specifically, it investigates these activities by examining sectoral distinctions in the gray zone between formal and informal processes.

This book focuses on the livelihoods of *çıkmacıs* as informal workers in the construction and recycling industries. This is a significantly neglected field in architecture studies. Using low-tech deconstruction processes, the *çıkmacıs* reclaim recyclable and reusable materials from buildings slated to be demolished. They have been active but formally unrecognized actors throughout several different urbanization periods, especially in Istanbul, from its informal urbanization in the 1960s to its current neo-liberal development. Such employment is precarious, especially in low-income geographies with peak migration, rapid urbanization, and cheap labor. *Çıkmacıs*' are migrant laborers. Never completely rural or urban, their lives are wedged between the city and the village. Thus, the study's objective is to investigate the social and economic relations that create networks of labor between the city and the village.

In addition, there will be an analysis of the second-hand trade between Istanbul and other places. An analysis of human and non-human agency is essential for determining the market mechanisms at work in the supply and demand chain of affordable reclaimed materials. The second-hand market functions through supply yards. It is essential to analyze the spatial properties of these yards and their network's rapid growth in their particular context. There is more demand for affordable materials in economically depressed rural areas. Many villagers repair their houses with second-hand construction materials: roofs made out of used wood beams, façades assembled with old PVC frames and metal doors, kitchens built with used cupboards, and floors covered with reclaimed plastic parquets. In those zones, there are more precedents for adaptive reuse in architecture. The afterlife of these materials, including their reuse and movements, is important in terms of addressing sustainability. That is why I trace the ways these materials are reused in new constructions: I document how the materials are disassembled and reassembled into different architectural forms and seek what sort of socio-materiality is reproduced in the 'new' dwellings.

Both human and nonhuman actors within their relevant networks need to be assessed. For example, the non-human agency of earthquakes substantially

affects urban planning processes because, in the context of Turkey, they are a threat to the poorly-built environment. Within only a few minutes, an earthquake can destroy cities and transform geographies. Another example are the hazardous materials used in constructions, such as asbestos. They endanger human and no-human lives when they are carelessly dismantled during demolitions. Supply yards accommodate CDW and the people who benefit from its revaluation. A theoretical approach that acknowledges such sidelined agencies can help develop institutional sensitivity toward the idea of sustainable buildings, safe work conditions and environment protection.

1.3 The Unrecognized Future of Waste Management

Existing CDW management research primarily focuses on environmental engineering issues and is heavily influenced by the field of circular economy (Yuan and Shen 2011). Labor conditions in low-income countries or the agency of salvaged construction materials are rarely discussed. There is, for example, remarkable work on the salvage of end-life of ships traded to the Global South for their scrap value (Gregson et al. 2010). However, ethnographic-architectural studies of building salvage practices are noticeably lacking. This is especially unfortunate due to the pressing need for more research into this aspect of the construction sector, especially in regard to climate change, resource exploitation, and CO_2 emissions.

I highly benefited from the guiding research on waste pickers that document the informality of struggling workers in the Global South (Portes, Castells, and Benton 1989; Gidwani 2015; Dias 2016; Gutberlet et al. 2017; Corwin 2018). The linkages between waste picking and building salvage guide the understanding of informal economy and precarious livelihoods. The existing literature on informal waste management is focused on waste paper collectors and how they are influenced by global markets (Dinler 2016); urbanization processes around dump sites; and ethnic struggles of informal workers (Tuçaltan 2018). Regarding CDW, the research emphasizes the emerging sector that deals with excavation work (D. Öztürk 2019). Research on material reclamation and second-hand markets is, however, absent. Referring to this knowledge gap, the study aims to answer the following questions:

- How is CDW produced and managed during the urban renewal process in Turkey?

  - How are material reclamation and demolition interrelated?
  - What are the current urbanization dynamics behind the increasing demolition activities?
  - How was CDW reused in the history of Istanbul's urbanization?

- What are the human and nonhuman actors within the material reclamation process assemblage?
  - How do *çıkmacıs* organize themselves as unrecognized labor?
  - How are second-hand businesses networked through supply-yards in Turkey? How do these shape *çıkmacıs* livelihoods?

- How can waste be conceptualized as a socio-spatial process in terms of its impact on çıkmacıs' livelihood, urbanization and environment?
  - What kind of materials are actively influencing the reclamation processes?
  - What is the agency of second-hand components in construction?

Based on these questions, this study discusses waste material excess as a result of urban renewal, its informal management, and its vital materiality produced by demolition processes and second-hand trade.

The approach of the study contributes to a shift in perspective in architecture and urban studies toward distinguishing between human and non-human actors, formal and informal sectors, and rural and urban linkages and livelihoods. In an era of rising energy prices, material scarcity, greenhouse gas emissions, and climate crisis, the issue of demolition and waste in the building sector is very urgent but also very neglected.

1.4 Assemblage Thinking and the Agency of Waste

In the milestone book, A Thousand Plateaus: Capitalism and Schizophrenia, by Gille Deleuze and Félix Guattari (1987), a rhizome—a philosophical term and metaphor—is a root-like structure that ceaselessly creates heterogenous connections between different things, entities and circumstances. It is used for describing relations, connectivity and difference between things. A rhizome establishes assemblages that are non-hierarchic constellations. According to Manuel DeLanda, an assemblage is a rhizomatic and heterogeneous system consisting of active singularities and it represents horizontal organizations for

understanding complexity and the layeredness of collectives (2006, 14). The opposite—structuralist manifestations—imposes tree-like hierarchies (arborescent) that are shaped by predominant power relations based on human agency. In Actor Network Theory by Bruno Latour (2007, 63), assembling involves the transfer of agency from an individual to a network composed of people, objects, and stories. Multidirectional and complex understanding of 'the social' takes into consideration the agency of non-humans to alter human-centered, linear and dualistic conceptualizations.

This study focuses on concepts based on assemblage thinking like 'thing power' (Bennett 2010), 'trans-corporeality' (Alaimo 2010), 'living waste' (Bell 2019), and the notion of 'cosmopolitics' by Isabelle Stengers (Blok and Farias 2016) in order to conceptualize how a nonhuman agency shapes the world. This concept is used as a framework for articulating critical imaginary that progresses through relational and generative urban formations (McFarlane 2011, 219). For instance, the occurrence of the 1999 Earthquake in the Marmara Sea is regarded in the literature as a natural phenomenon that assembled and reassembled the urban structure of Istanbul (Angell 2014, 667).

Within this framework, the neoliberal urbanization is not taken as a global and overarching development but rather as a trending situation or economic arrangement that influences particular instances of urban change (Simone 2009). The structure of the political economy is not regarded here as generalizable or pregiven. Urban renewal policies, for example, are assembled not only through economic and political bodies, but also through particular moments in household meetings; policy documents; procedures at demolition sites; earthquakes; the accumulation of second-hand PVC frames; or even unexpected opportunities and juxtapositions in everyday life situations.

This book attempts to better identify the emergence of different processual strategies and survival tactics of marginalized urban dwellers adapting to global urban change. For instance, the circular economy cannot be regarded as a new concept in the Global South. Since resources are limited, more or less nothing goes to waste in subaltern geographies (Gidwani and Reddy 2011). That's why the neoliberal approach is not inclusive enough to identify *çıkmacıs* and their interaction with the materiality of waste, such as how they are salvaging building materials without a formal model. The concept of circularity in material reclamation processes in Turkey seems to be efficient and successful in the absence of bureaucratic rules or waste management procedures. Informal actors are more active and creative as they form a symbiosis with existing formal waste management systems. However, neoliberal policies and inte-

grating models automatically eliminate the heterogeneity existing within distributed agency systems (McFarlane 2011b). By contrast, assemblage analysis introduces sociomaterial interaction that promotes multiplicity, co-functioning (symbiosis), emergence, gathering and networking (Parnet and Deleuze 2002; McFarlane 2011a; Farias and Bender 2011).

The implications of assemblage thinking are revealed by ethnographies of everyday practices through thick description[1] (McFarlane 2011a, 210). In my study, a thick description will illustrate the alternative uses and everyday opportunities that construction waste enables. It gives a different perspective that links the everyday to materiality. This perspective reveals the linkages between *gecekondu* urbanization and current neoliberal urbanization. Different transformations of the city led to the emergence of *çıkmacıs.* In both trends, they survive by flexible labor strategies, trade infrastructure, their connection to their village, and the second-hand construction elements' agency. In order to view this agency as an emerging process that is spread across the social and the material, assemblage thinking necessitates careful study of the significance of diverse materials within assemblages (McFarlane 2011b).

Çıkmacıs create an infrastructure that is produced from their material and social relationships. In theory, this is comparable to relational infrastructures, which are everyday organizational strategies for arranging labor, allocating resources, and recognizing success in the Global South (Simone 2015, 34). The infrastructure is facilitated by the relational movement of people, matter, feelings, and information. In this environment, waste is a valuable resource that highlights the vitality of matter versus human-centric conceptualizations (Bennett 2010; Gregson et al. 2010; Bell 2019). To provide an alternative political and economic perspective and highlight the distributive agency, 'assemblage thinking' is used as a framework to understand the livelihood of *çıkmacıs* and their relationship with materials and architecture. The framework of critical urbanism grounded in political economy assists in explaining the interruption caused by the duality between formal and informal processes; however, this gap masks heterogeneous forms in terms of shared agency. On the basis of this dispute, I use political economics to explain how neoliberal politics benefit from urban land rent on the one hand and instrumentalize urban demolitions on the other. As a supporting concept, I use assemblage thinking to zoom in

1 Thick description is a technique used in anthropology to describe and understand the multifaceted meanings of human activities, relationships, and environments.

on the features of socio-material connections in building salvage and construction of rural dwellings. In other words, the critical political economy's primary issues remain crucial for an ontological analysis of capitalism's effect on land commodification and urban change. Nonetheless, by focusing on assemblage thinking as a fundamental analytical and empirical paradigm, the book expands into new areas of inquiry such as nonhuman agency and ethnographic studies of survival maneuvers by the urban poor.

The top-down urbanization has already eliminated the existence of *gecekondus* and their social habitat in the 2000s (Erman and Eken 2004). Such ignorance will most likely eliminate the *çıkmacıs* too. Their importance is insignificant to mainstream architectural and urban development of the city. In order to break this narration, the conceptual framework aims to highlight the agency of objects and materials. However, the political economic perspective is still taken as a consequence of a historical urban development that creates second-hand surplus from demolitions. In a setting lacking guidelines or legislation for demolition, the study problematizes how construction materials were reclaimed during Istanbul's demolition and by whom. The notion of assemblage is crucial for envisioning shared agencies that reside in entities like tectonic movements, second-hand components, second-hand building supply yard[2] networks, and unrecognized labor.

What kind of materials are recycled and reused and where are they traded? What are the origins of unrecognized reclamation labor that link the recycling and construction industry? To answer these questions, it employs ethnographic methods to observe the *çıkmacıs* and follow second-hand components in the second-hand market. The fieldwork expands to a multi-sited ethnography by mapping trade routes and supply yards. Further, it figures out the trajectory of building components in an extended supply chain. To identify their role and skills in material reclamation processes, an ethnographic fieldwork was done starting from the Kadıköy district in Istanbul where the middle-class apartment buildings were being demolished and rebuilt intensively. There, I could observe the way that the building components are distributed out of Istanbul through second-hand trade networks.

The findings show that *çıkmacı* reclamation runs in two directions: reuse and recycling. In the first case, the building parts are revalued as second-hand commodities. They collect them and distribute them to other parts of

2 In the rest of the text, I will refer to these places as supply yards. These yards were once called *ardiye* in Turkish.

Turkey. The existing literature on *gecekondus* shows that they are not a new phenomenon. When Istanbul was urbanizing rapidly with *gecekondus*, *çıkmacıs* (as demolishers) were providing materials reclaimed from inner-city demolitions to *gecekondu* dwellers. They constitute an unregulated second-hand market networked through migratory associations and personal connections. Because of the removal of *gecekondus*, which provided affordable material demand, they were forced to trade their second-hand components to buyers outside of Istanbul in rural places where building permits are not strictly controlled.

In the second case, they provide non-reusable parts of the buildings to recycling factories in terms of recycling. They are subcontracted for gathering plastic and metal as raw materials for industries grounded in the circular economy. Yet even still, they suffer from precarious conditions and are vulnerable to exploitation. In addition to mapping the supply chain, some of the *çıkmacıs* maintain a dual livelihood divided between scrap collecting and farming. In the urban centers, job-seeking rural and refugee migrants find informal seasonal jobs in scrap collection and demolitions. As a social and economic precaution, they limit their farming practices to the other half of the year.

As demolition activities increase in large urban areas, the second-hand supply yards expand into places where affordable materials are needed because of economic shortages. Hence, such demand comes from low-income households in rural areas and small cities where they themselves build or repair their buildings incrementally. In the near future, the excess of CDW has to be thoroughly reconsidered since material resources are increasingly understood as limited, not endless. Arguably, the formal waste sector will organize the demolition discard management, or an alternative scenario could be imagined, namely, one with the characteristics of an urban commons. However, the agentic future of the *çıkmacıs* is uncertain, especially in terms of how they can adapt to such systematic formalization and privatization.

I hope to contribute to the body of knowledge regarding building demolition, reclamation, unrecognized nonhuman actors, informal labor, and transitional livelihoods between urban and rural. This book addresses the current limitations of research in this area and provides practical and conceptual knowledge to academics and professionals who operate in architecture and urban studies. Beyond its outreach, research is limited by the accessibility of demolition sites, time restrictions, and geographical borders. Due to unregulated and precarious situations, I could not always enter some construction sites. The research was also conducted at a time when the number

of demolitions was increasing. Multi-sited ethnography also has constraints since second-hand elements were spreading to unreachable spaces where the investigative power of one researcher is not enough.

Before summarizing the research chapters, I will explain how the research project began as an art project. This preliminary part of the research is essential for understanding my multi-scalar orientation. Consequently, my involvement with reclaimed objects resulted in an unexpected outcome.

1.5 Preliminary Research and Artistic Practice

My first encounter with *çıkmacı* supply yards was in 2011 when I was an assistant for Mike Nelson, an artist from the United Kingdom. He was making a large installation at the Venice Biennial, imitating the Büyük Valide Han, a historical caravanserai in Istanbul. I was hired as an assistant for him. We were visiting supply yards located on the periphery of Istanbul to find second-hand building components. It was a long excursion between the Asian and European sides of Istanbul to collect second-hand materials. Later, this collection was sent to Venice to construct the British Pavilion.

With Mike Nelson, we drove around Kağıthane on the European side of Istanbul, where old factories were demolished in 2011[3]. We stopped to see the ruins of factories covered with rusted metal, corrugated roof material, and various other structural remains. Our peripheral exploration by car was critical for mapping the *çıkmacı* supply yards and depots because the periphery was unreachable with public transportation. When we noticed supply yards by the side of the road, we stopped and bargained with the owners for old stuff. During these visits, I was making an inventory of second-hand components. These were industrially produced construction products from the 1980s. Additionally, we encountered some antique building salvagers. The antique depots

3 This area was a demolition site for urban renewal projects after the district was deindustrialized. Currently, what is there is a university campus, some shopping malls, offices and residences all of which adhere to the multi-functional development plan. In this district, some old çıkmacıs supply yards are still located along the main road. They are still operative but not like they used to be due to the competitive demolition market and the construction economy in crisis. The yards were owned by the building wreckers who were active during the deindustrialization demolitions of big and small industries along the Golden Horn. They were suppliers of affordable housing material for gecekondu dwellers which used to work in the factories in Kağıthane district.

were located in Zeytinburnu on the Asian side. They stored aged wood from old barns in the Black Sea region of Turkey. Besides that, they salvaged wooden building parts from old traditional buildings in the villages: ceilings, staircases, doors, and built-in furniture. These construction elements were historically more significant compared to what we found in the supply yards. Because of their antique value, they were expensive, and interestingly they were eventually exported to the US.

After assisting Mike Nelson with his project, I revisited those supply yards located on squatted land for my master's research. Further, I made architectural survey drawings of spaces to show the spatial configuration. Some of the large depots' mappings were an earlier version of the diagrams in Chapter 6. I mainly used the 'excursion with the car in the periphery' as a mapping method. In this way, I could find retail hubs, individual supply yards, and depots where *çıkmacıs* and demolishers created their self-organized zones.

As a part of my master's thesis, I showed three artworks related to building reclamation in the exhibition entitled Tadilat (Remodel) (Ceritoglu 2011). My first work in the collection was mapping the four supply yards I visited in 2011. As preliminary research, the creation of property plan sketches, as a part of my visual notes, illustrated the spatial organization of demolished buildings and supply yards. In addition to this sketching, detailed photographic documentation was made to create a sense of place.

As a second work in the graduation exhibition, I made an installation out of salvaged doors from an old apartment flat. Earlier, I reclaimed these doors from a renovation project where I managed the construction process. The conceptual approach of the artwork was based on the materiality of salvaged doors; however, the production process reflected my involvement in the salvage process. Through my active participation, I was in the field as a professional architect. While designing and managing the construction workers in the application process, I focused on how the dismantling processes of existing building components were performed. All the interior materials were replaced because they were unwanted by the owner. Yet, I reclaimed some of the construction elements to make an installation. By observing and filming the actions of these workers, I documented the deconstruction process, which consisted of dismantling, discarding, and various transportation activities. My involvement in the project enabled me to meet construction workers, conduct preliminary participant observation research, and thus better understand salvaging. These earlier discoveries and artistic research created a knowledge and methodological ground for my latter ethnographic fieldwork on *çıkmacıs*.

The concept of my next exhibition, "Demolishdemount" in 2014, focused on the building demolitions and urban renewal project in Fikirtepe. The video created for it, entitled "Demolition Feast, 2014", documented the ongoing demolitions. It showed how the excavators broke the concrete, extracted the reinforcement bars from the rubble, and collected them into large 'balls of string' that were then transported out. Later, these scrap balls were sold to a scrap dealer who traded metal with recycling factories. While filming on the construction site, I observed how the scrap collectors did their reclamation. Then, I conducted accompanying interviews with the excavator operators and managers during their lunch breaks.

Figure 1.2: Rebar Balls, 2014 at Sabancı Museum

Source: Murat Germen Archive

My investigation of materiality continued with "Rebar balls, 2015" in which I exhibited a one-ton metal string ball made out of scrap reinforcement bars (Figure 1.2). The aesthetic properties of such an object were my priority because it carried a visual code encrypted with urban renewal, decaying buildings, demolition, and the increasing amount of CDW. For this work, I visited a scrap dealer who gathered all kinds of metal before sending it all to a recycling factory. The ball was purchased at a price calculated with a foreign currency rate. Throughout this process, I made a video about the selection, negotiation, and transportation process. During the production of the work, I met some scrap collectors who became my informants in the study. After the exhibition, I sold the scrap ball back to the supply yard owner at the same metal currency rate. The concept of my artwork refers to the agency of the discarded construction objects that is also discussed in chapter 7.

Through renovation and remodeling projects, I got professionally involved in reclamation. Such wasting via architectural obsolescence (Abramson 2017) highly influenced my line of practice-based research in a multi-disciplinary setting combined with urbanism, architecture, and art. Before engaging in ethnographic fieldwork, I got familiar with the context of the study through my master's thesis and professional practice. This preliminary research prepared me for the ethnographic fieldwork that concentrates on informal labor, building reclamation, recycling and materiality.

1.6 Summary

Employing assemblage thinking resulted in figuring out how to show the relationship between the social and material in the context of Turkey's *çıkmacıs*. Waste entails unwanted materials and marginalized labor. For this reason, this book focuses on the material, social, and political agency of nonhumans. By doing so, it shows how the networked spatialization of supply yards are replicated places where unwanted things accumulate. As a result of this analysis, the assemblage of *çıkmacıs* brings together three different empirical themes: the role of human labor, second-hand trade, and the agency of materials. The first relates to the informal labor structure and reclamation processes. The second focuses on commodity exchange through second-hand valuation assemblages. The last argues for the independent agency of different materials and construction elements.

Chapter 2 reviews the theorization of waste in the existing literature to gain a philosophical background for acknowledging its agentic ontology. In this chapter, waste will not be conceptualized as a passive entity but rather as a nonhuman agent that influences micro and macro systems within urbanism. It offers an alternative to the theory of waste that distances it from the human and sees it as only a by-product. This alternative perspective introduces a conceptual framework that reveals how waste's agentic materiality influences political and social processes (Gregson et al. 2010; Hawkins 2010; Bell 2019). With the notion of thing-power (Bennett 2010) and Actor-Network Theory (ANT), it inquires into vital materiality debates around waste. It then delves into the spatialization of waste and looks at the debates on assemblage urbanization (McFarlane 2011a; 2011b; Blok and Farias 2016) and its criticism (Brenner, Madden, and Wachsmuth 2011). Incremental construction is taken as a precedent for such assembly. Additionally, it reviews the literature about informal labor as infrastructural maneuvers (Bayat 2000; Simone 2015). Lastly it focuses on issues around unacknowledged waste labor: formalization, adaptability, privatization, cooperatives, and labor safety.

Chapter 3 is the methodology chapter. It explains the evolution of the project from its initial beginnings as artistic research to its culmination as a Ph.D. in urban studies that utilizes ethnographic methods. It locates a thick description of micro-urban situations in assemblage thinking to decipher human and nonhuman relationships (McFarlane 2011a). In addition, it offers brief information about the long-term duration of the research and the follow-the-thing approach that leads to multi-sited ethnography (Cook 2004; Marcus 1995). Low-end commodities (Hulme 2015), the end-life of ships (Gregson et al. 2010), and waste trade (Balayannis 2020) are discussed in these studies. It introduces cross-disciplinary methods combining ethnography and architecture. These are participant observation, architectural surveying, interviews, and documentary photography. Going further, it sheds light on the research process that questions the ethical and reflexive position of the researcher while doing the fieldwork. To this end, it also introduces the issue of the changing status of the researcher. Finally, it describes how abductive reasoning is employed as a conceptual tool to structure the research process and analysis of empirical data to create a theory. Structurally the empirical findings are grouped into three parts to express the importance of the symbiosis between people, matter, and space in material reclamation.

Chapter 4 is the context chapter that gives a historical background to Turkey's urban renewal and the utilization of demolitions. It contextual-

izes the role of demolitions in Istanbul and specifically in the district called Kadıköy; it looks at this though the lens of four particular urbanization processes: the commodification of land in the Ottoman Empire; state-led national developmentalism in the early days of the Turkish Republic; liberalization of the economy in the 1980s; and neoliberal development in the 2000s. Later, it focuses on the privatization of land in Istanbul and urban development in Kadıköy in the last days of the Ottoman Empire. The commodification of land explains how Modern suburban houses replaced Ottoman mansions in Kadıköy. It explains the role of the *çıkmacıs* for the emerging *gecekondu* urbanization. They supplied second-hand components to informal squatter constructions. The transformation of single-floor houses to multi-floored apartment blocks (*apartmentalization*) through urban centralization is described in the contemplation of *gecekondu* and middle-class housing upgrades. It focuses on the different political and economic agendas behind the utilization of demolitions in mentioned periods and highlights the significance of material reclamation, especially during *gecekondu* urbanization because of its circular logic in reusing materials.

Chapter 5 is the first empirical part of the research and introduces the labor activities of *çıkmacıs*. It briefly introduces their form of livelihood while contemplating the literature on informal waste management. Then, it evaluates waste management in Istanbul as being heterogeneous because it has both informal (waste pickers and scrap collectors) and formal (municipality and recycling factories) actors. *Çıkmacıs* are determined to be invisible actors among scrap collectors and demolishers who salvage end-of-life buildings. Next, the building demolition processes and material reclamation are explained. Besides this, it documents the labor structure, including family members and refugee workers. It continues by describing the dual lives of a *çıkmacı* family that alternate between material reclamation and farming. The seasonal mobility of labor displays a circular pattern that connects the rural and urban and reflects migration patterns. Finally, it pinpoints what constitutes their dual livelihoods: precarity, relationality, and adaptivity.

Chapter 6 proceeds as the second empirical chapter about the trade activities of *çıkmacıs* in the second-hand market. It discusses the conceptual issues around supply yards as places of second-hand accumulation like location, experience, entrepreneurial success, distribution geography, and customer profile. The spatial organization of yards is illustrated with diagrams. The main empirical objective is to study the differences in supply yards between Istanbul, Ankara, Kayseri, Nevşehir, and Niğde. For this reason, the chapter is outlined

according to geographical location. The first is dedicated to yards located in the Asian and European parts of Istanbul. Then, demolition yards in Anatolian towns are described. Finally, the findings on Georgian second-hand traders that visit these yards to export them to Tbilisi are presented.

Chapter 7, the last empirical one, focuses on the materiality of waste in order to determine the nonhuman agents in the assemblage of material reclamation. First, it bridges waste theory literature and Latourian actant ontology, which is also contextualized within assemblage thinking. The active properties of materials in health, construction, and environmental terms are identified as an aspect that influences the human body. Second, it examines the PVC window frames recovered by building salvage processes. It also discusses the agency of asbestos emissions that authorities, and even workers, often overlook in the construction sites. The PVC frames are discussed as a renovation phenomenon in Turkish households. The recovery processes of PVC through recycling processes and its effects on the environment are critically described. The dangers of asbestos exposure in demolition sites are explained in this subchapter. Third, it gives examples of dwellings in which second-hand elements are used. Reclaimed materials play a strong role in the design processes of incrementally constructed dwellings in a wide range of geographies (Greene and Rojas 2008; McFarlane 2011b; Dovey 2014). With the aid of incremental urbanism, a city may grow as its inhabitants or builders make their way through quickly changing circumstances while juggling a lack of resources. The construction process is ongoing, adapting to the skills, materials, cultures, and resources that are available.

The conclusion, Chapter 8, summarizes the book's theoretical and empirical chapters while mentioning research restrictions. Additionally, it underlines the contribution to academic knowledge methodologically, theoretically, and empirically. Plus, it highlights the practical implications of the study. It ends with proposals for future research in this field.