Taming The Central Station

A Material Ethnography of Defensive Architecture in Copenhagen

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Abstract

This thesis presents a socio-material ethnographic study of defensive architecture in Copenhagen. While defensive architecture (also referred to as; *hostile architecture*, *dark design,* or *evil architecture*) has been discussed increasingly in recent years, a geographical gap exists in which defensive architecture in the Nordic countries is yet to be critically examined. Based on a case study of Copenhagen's Central Station, the thesis offers insights into how material objects must be closely examined and conceived as co-constructing the social reality of the station. The research shows that The Central Station of Copenhagen contains multiple examples of material objects that comprise a disciplinary agency that constrains certain activities and people from the space of the station. The defensive architecture of the station has been subtly integrated into the urban environment through a camouflaging aesthetic and a process of *naturalization*. Examining this architectural typology in the context of a traditionally strong Danish welfare regime, the research discusses how a subtle exclusionary material praxis (as defensive architecture) challenges classical ideas of a social-welfarist regime. Ultimately, the thesis argues that defensive architecture provides an important perspective to understand how things and objects actively shape urban spaces. Furthermore, the thesis sheds light on an increasing architectural trend that focuses on safety, security, and orderliness, and the research thus critically questions how such architecture fits into the idea of the democratic welfare city.

Keywords: defensive architecture, material culture, welfare city, defensive urbanism

Abstrakt

In dieser Arbeit wird eine sozio-materielle ethnographische Studie über defensive Architektur in Kopenhagen vorgestellt. Während defensive Architektur (auch *als feindliche Architektur*, *dunkles Design* oder *Evil Architektur* bezeichnet) in den letzten Jahren zunehmend diskutiert wurde, besteht eine geografische Lücke, in der defensive Architektur in den nordischen Ländern noch nicht kritisch untersucht wurde. Anhand einer Fallstudie des Kopenhagener Hauptbahnhofs bietet die Arbeit Einblicke in die Art und Weise, wie materielle Objekte genau untersucht und als Ko-Konstruktion der sozialen Realität des Bahnhofs verstanden werden müssen. Die Untersuchung zeigt, dass der Kopenhagener Hauptbahnhof eine Vielzahl von Beispielen für materielle Objekte enthält, die eine disziplinierende Wirkung haben, die bestimmte Aktivitäten und Menschen aus dem Raum des Bahnhofs ausschließen. Die defensive Architektur des Bahnhofs wurde durch eine tarnende Ästhetik und einen so genannten Naturalisierungsprozess auf subtile Weise in die städtische Umgebung integriert. Bei der Untersuchung dieser architektonischen Typologie im Kontext eines traditionell starken dänischen Wohlfahrtsregimes wird untersucht, wie eine subtile ausgrenzende materielle Praxis (als defensive Architektur) die klassischen Vorstellungen eines sozial-wohlfahrtsstaatlichen Regimes herausfordert. Letztlich argumentiert die Arbeit, dass defensive Architektur eine wichtige Perspektive bietet, um zu verstehen, wie Dinge und Objekte aktiv städtische Räume gestalten. Darüber hinaus wirft die Arbeit ein Licht auf einen zunehmenden architektonischen Trend, der sich auf Sicherheit und Ordnung konzentriert, und die Forschung hinterfragt kritisch, wie eine solche Architektur in die Idee der demokratischen Wohlfahrtsstadt passt.

S**chlüsselwörter:** Defensive Architektur, Materielle Kultur, 4CITIES, Kopenhagen

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Introduction

"Technology and strategies developed by the military have always played a key role in the urbanization process. Since the beginning of urban civilization, defence against people or the natural elements has always been a factor influencing the structure and landscape of cities, becoming an ever-present preoccupation as the ruling powers sought to defend and secure their interests, and create increased feelings of safety." (Coaffee 2005, 447)

Gates, city walls, ramparts, and other types of fortification architecture have historically been central to protecting the city. In the 21st-century city, these walls may not protect urban dwellers from foreign forces but have increasingly taken new shapes to separate residents from each other. The defence of the modern city lies as much in controlling the ordinary citizen and unwanted behavior as it is concerned with defending against the enemy outside. One can argue that "the city is similar to the patient with depression, who is fighting an enemy from within" (Ring, Steiner, and Veel 2018, 51). With this increase towards internal and domestic defence, the architectural interventions and defensive urban strategies take new formations that can be considered "technically updated equivalents of pre-modern moats, turrets and embrasures of the city walls" (Bauman 2003, 31). While the grandeur of the city walls is out of use (as a fortification, at least), more subtle and invisible forms of control are shaping urban spaces, and defensive architecture has and is developing into a sophisticated industry.

This type of architecture is often embedded in banal objects that make the everyday urban landscape, and the theoretical (or perhaps philosophical) foundation of this thesis lies in the attention to an architecture that often goes unnoticed by its banal character. The banality and *misleading innocence* (Garutti 2014) surrounding these architectural designs makes it an ever more important field of study. Roland Barthes believes it is impossible to act (e.g., to dress) innocently without any form of signification, and perhaps we can draw inspiration from this attention to the *impossibility of innocence*. While one as a person always conveys some sort of symbolism (e.g., through one's way of dressing), the urban environment will be

equally representative of meaning, and the design of it will never be neutral – never *not* play a role or convey meaning. Therefore, it is wrong to assume that architecture and the physical environment are neutral mediators of life. Quite contrary, we must recognize that "the built environment is never innocent, but rather is embedded with meaning which its users decode, recode and encode" (Raahague in Stender 2006, 55). One can think of Paris' Art Deco metro signs or London's red telephone boxes to know that objects mediate identity and meaning. This project focuses on understanding how the urban is embedded with meaning, discipline, and control.

The thesis analyzes the case of Copenhagen's Central Station, which presents an interesting example of an urban environment shaped by defensive architecture. Through a socio-material ethnography, this investigation brings to life the material objects that are often neglected, taken for granted and seen as passive *things*. Following the likes of Latour, Miller, Yaneva, and others, the thesis follows an approach that perceives material culture not only as signifier of something but as a dynamic actor participating in the construction of the social.

As defensive architecture has become a growing urban phenomenon and praxis, it is essential to understand how these designs materialize and actively shape our cities. As much of previous research has been done within an American and British context, it is timely to introduce a northern European perspective. As will become evident, this context differs from the classical Los Angeles-inspired penitentiary city (Davis 1990), and this research, therefore, brings new empirical insights to how defensive architecture has become a central part of everyday urban planning – also within a socio-welfarist urban context. The research does not attempt to assess the efficiency of the defensive designs. Instead, it examines the implementation and materialization of it, as well as discusses the relationship between this architecture within the context of a social-welfarist urban environment.

Ultimately, the research attempts to:

Unravel how the built environment of The Central Station mediates discipline and order through defensive architecture and how this architectural typology challenges ideas of a social-welfarist regime.

The thesis consists of three main sections contributing to particular research objectives. First, a general presentation of defensive architecture at the Central Station is specified. This provides an overview of the empirical data, which stipulates the foundation of an analysis that takes its epistemological and theoretical starting point from the perspective of material culture and object-agency. Ultimately, the thesis aims to discuss how subtle exclusionary practices like defensive architecture challenge a traditionally strong welfare regime that punishes specific social groups rather than providing a helping hand.

Literature review

The following literature review presents the theoretical framework that the research engages with and is divided into three chapters. First, an introduction to the history of architectural restructurings and spatial formation as a means of social control and order, is given. The second chapter adds a temporal and political perspective and presents the extensive literature which focus on how defensive architecture coincides with the rise of neoliberal policymaking. In this section, local literature that focuses specifically on the welfare regime of Copenhagen is also presented. The final chapter presents how urban space can be considered a product of socio-material entanglements. Further, this perspective focuses on how the analysis of urban environments can include non-human entities, and thus presents an interpretation of how morality and politics go beyond human affairs and are actively produced and negotiated through material artifacts.

I. Spatial formation as means of control and order

Architectures of Control

"Cities have always been shaped by control mechanisms to prevent disorders, riots, and defended city borders" (Trandberg Jensen and Jensen 2023, 74).

Within urban studies, there is a long tradition and attention to how spatial formation can be used as a tool for control. From the early industrial ages, Friedrich Engels (2001) described how poverty and the inequalities of a capitalist system were "removed from the sight of the happier classes" (2003, 176) by creating separate territories. Around the same time, Baron Haussmann's transformation of Paris showed how designs of broad avenues could help law-enforcement control riots and revolutionary upheavals – something other architects, like those of the Ringstrasse development in Vienna, copied later in history (Schorske 1987). Haussmann's transformation shows the dialectic relationship between making space for something and simultaneously closing down something else. Walter Benjamin comments on

this dialectic, as he writes, "the true purpose of Haussmann's work was to secure the city against civil war" (Benjamin 1969, 87). While the boulevards were symbols of a new life, opening up the city and bringing cultural life for "the new man" as part of a modernistic emergence of the bourgeois city, a darker and disciplinary function lurked underneath. The new plan actively created space to control crowds, fortify neighborhoods, and remove the working class from the center. Thus, Haussmann's makeover exemplifies how architecture and urban design can be used as a tool of urban governance.

Michel Foucault sheds light on how architecture can transform individuals and how physical spaces work to achieve social control. In his work *Discipline and Punishment: The Birth of the Prison* (1975), he analyzes how bodies and, thus, individuals have been disciplined and docile. Foucault brings forth an analysis of changes in the penal system and an emerging power of discipline. He investigates how individuals in history have been disciplined to be productive and dutiful. This discipline over the body is seen primarily in hospitals, schools, the military, and the industrial realm of factory workers. What is shared throughout society is the forcing of attitudes and appropriate behavior, as when "the teacher will place the pupils in the posture that they should maintain when writing and will correct it, either by sign or otherwise, when they change this position. A disciplined body is the prerequisite of an efficient gesture" (Foucault 1995, 152).

A coercive force is being imposed upon the body, and with this discipline comes a culture of surveillance that observes if bodies have internalized the control. This constant surveillance has been popularized in Jeremy Bentham's highly cited notion of the panopticon, but other forms of surveillance can act as a similar disciplinary force. This is exemplified by the guard walking up and down the aisle inspecting the workers: "By walking up and down the central aisle of the workshop, it was possible to carry out a supervision that was both general and individual; to observe the worker's presence and application, and the quality of his work; to compare workers with one another, to classify them according to skill and speed; to follow the successive stages of the production process" (Ibid, 145).

While this disciplinarity and surveillance are closely related to specific physical spaces (e.g., institutions), using his concept of disciplinarity in urban spaces is relevant. Defensive designs can be understood as (co-)producing the "right and wrong" ways of behaving and aiming at controlling how bodies behave in space. This disciplinarity can be managed through material configurations, and this perspective can help analyze how defensive urban design is used to control and manage behavior.

Foucault leaves little agency to the individual and puts much emphasis on the prescribed functions of the material design (like the Panopticon), and this is a theoretical limitation that will be discussed more in-depth during the discussion. Smith & Walters' (2018) perspective of resistance theory will provide a theoretical framing to discuss this limitation to Foucault's work. Smith & Walters analyze how individuals can re-create and manipulate these scripted environments of discipline. Defensive spaces are not mere forces of production and power, as Foucault would argue, but individual actors are also reproducing them [spaces] through *desire lines* which Smith & Walters describe "as a muddy path inscribed in space where people have created their own route outside of those prescribed by abstract place makers." (Smith and Walters 2018, 2987). Smith and Walters' theory is comparable with Michel de Certeau's (1980) focus on *strategies* and *tactics* and Deleuze & Guattari's *Philosphy of desire* (1972).

Another critical scholar that builds upon similar notions of Foucault is Gilles Deleuze. Contrary to Foucault, Deleuze focuses on the *society of control* rather than the *society of discipline*. Deleuze focuses on the spreading out of controlling mechanisms to a decentralized system and network of things. Discipline and control do not merely become relevant in institutions like schools, hospitals, or prisons (spaces of enclosure) but have emerged into an all-encompassing system of discipline and social control beyond physical spaces. This perspective recognizes control as adaptable and a modulation that can continuously change. Deleuze thus suggests that power is not necessarily linked to space to the same degree as before since it has been dispersed into various objects, technologies, information, etc. (Deleuze 1992, 3–7).

Although Deleuze goes beyond physical space, his idea about discipline being spread out to multiple systems brings an important perspective to how defensive architecture works in practice.

Defensive urbanism

Starting in the 1970s, theories regarding defensive architecture were situated within the debate and political agenda of crime prevention and security-making. Criminologist C. Ray Jeffery presented the term *crime prevention through environmental design* (CPTED), which suggests the usage of tactical design solutions and effective planning of the urban environment to deter criminal activities. Jeffery's notion is similar to Oscar Newman's *defensible space theory,* which argues that the environment can be designed in ways that can increase or reduce criminal activity (Newman 1972, 3). Therefore, Newman focuses more on spatiality than the social production of order, and he argues that physical measures can establish order and reduce crime. Newman's ideas closely resemble the views of the Panopticon, as presented earlier. Both theories mentioned above echo the *broken windows theory* (Kelling and Wilson 1982), stating that visible signs of crime and disorder will promote more disorder and vandalism. Even though there are several pitfalls (methodologically and ethically) of these theories – as is touched upon in the analysis - they provide ways to understand the emergence of defensive design and urbanism as part of an urban political toolbox.

Instead of focusing solely on crime prevention, scholarly work from the late 1990s focused on how defensive architecture affects everyday life in cities and the social repercussions it may present. In an American context, Mike Davis wrote the pivotal book *City of Quartz* (1990), in which he describes the fortification and militarization of Los Angeles: "A 'roughening' of the urban landscape takes place as a class war is being fought, not only rooted in a socio-political realm but just as much in the built environment. Deterrents, like sprinkler systems or bum-proof benches, play central roles in the urban transformation of Los Angeles." (Davis 1990, 233). Davis' work analyses societal change with attention to architectural and urban design.

Around the same time, Steven Flusty (1994) sheds light on spatial regulation and defensive spaces. Flusty defines exclusionary spatial strategies in the term *interdictory*

space. This refers to spaces "designed to intercept and repel or filter would-be-users" (Flusty 1994, 16). The term becomes an umbrella term as Flusty continues to divide interdictory space into five sub-categories of spaces; *stealthy*: space that cannot be found, camouflaged, or obscured by view impediments, *slippery*: space that cannot be reached due to missing infrastructure or topographical constraints, *crusty*: space which is inaccessible due to physical obstructions like walls, gates, fences etc., *prickly*: "space that cannot be comfortably occupied", *jittery*: a space which presupposes surveillance and a space that cannot be utilized unobserved. These categories of defensive urban spaces give a valuable typology for describing urban topographies. However, it is worth mentioning that the different categorizations often intertwine and turn into "distinctly unfriendly mutant building typologies" (Flusty 1994, 49). For this thesis, several of the five subcategories will be relevant, but especially *prickly space* will provide a relevant theoretical perspective for analyzing the empirical examples of defensive design in Copenhagen. About *prickly space*, Flusty further describes that "it is defended by such details as wall-mounted sprinkler heads activated to clear loiterers or ledged sloped to inhibit sitting. Prickliness is in the details, and any site can be made prickly through the removal of the right amenities or the addition of the wrong ones." (Ibid, 17).

The examples of water sprinklers furthermore exemplify how an object is multifunctional and how the intended and innocent function - watering the park grass – can be used for more defensive measures. The defensive measure is camouflaged into the existing landscape (the act of watering grass), and this camouflaging is a central component of defensive architecture. Allow me to unfold this argument by looking at terror security instalments.

Contemporary anti-terror security is subjected to a *realm of camouflage*, where they [security measures] must not be visible. Thus, working simultaneously as security and contributing to the quality of life. This explains why aesthetically pleasing flowerpots and decorated concrete blocks make up the contemporary defensive anti-terror catalog (Ilum 2022; Coaffee 2021; Deutinger 2018). In the same way, defensive measures of social control and order of the everyday are often made so subtle that they become invisible to the public gaze. While terror or national security will not be

a focus of this thesis, the design strategies and theoretical notions of these provide excellent inspiration for examining the empirical examples of this thesis.

Before we get deeper into the world of defensive design literature, it is appropriate to introduce Sara Chellew's (2019) attention to the terminology of defensive urban design. *Defensive architecture, hostile architecture, dark design*, and *hostile design* (to mention the most commonly used terms) are all descriptions of the same phenomena. Since the authors choose different working terminologies, I will use them interchangeably in this state-of-the-art section as the authors use them. Even though this confusion of terminology exists, the different defensives strategies all describes a process of controlling access and conduct in public space through the material environment (Chellew 2019, 21). Throughout the rest of the thesis, I will follow one terminology of *defensive architecture*, which can be defined as "an intentional design strategy that uses elements of the built environment to guide or restrict behaviour in urban space as a form of crime prevention, protection of property, or order maintenance. It often targets people who use or rely on public space more than others, like people who are homeless and youth, by restricting the behaviours they engage in. From benches specially designed to prevent lying down to the addition of elements that are meant to deter skateboarding, forms of defensive design vary according to the behaviour it is intended to restrict" (Ibid, 19).

Besides giving attention to the lack of consensus on terminology, Chellew analyses the production of defensive urban spaces regarding three different strategies. Elements can be *added*, *modified,* or *removed to* make a defensive space. The *addition* of elements is, for example, spikes being added to a surface – or even the implementation of music which once appeared on the station. This use of "weaponizing classical music," in the words of Hirsch (Hirsch 2007), could also be theoretically analyzed by looking at Danish writers like Harsløf (2006) or Kreutzfeldt (2011), who both describe the use of music in Copenhagen. Second, the *removal* of objects from public space, also referred to as *ghost amenities*, is a lack of benches, public toilets, water fountains, etc. Third, a *modification* of a pre-existing urban element can be the modification of seating, where the bench is made so that it is sloped or turned into an object you can only lean against. Licht Field (2020) and Koeppel (2019) also adhere to this trilogy of defensive

urban design. For Koeppel, the modification of urban furniture can be termed as the designing of *anti-objects*, which the *Camden Bench* is a notable example of: "The Camden Bench has a special coating which makes it impervious to graffiti and vandalism. The squat, featureless surface gives drug dealers nowhere to hide their secret caches. The angled sides repel skateboarders and fly posters, litter, and rain. The cambered top throws off rough sleepers. It is specially crafted to ensure it is not used as anything except a bench. This makes it a strange artifact, defined far more by what it is not than what it is. The Camden Bench is a concerted effort to create a non-object" (Deutinger 2018, 18).

Theo Deutinger's description of the Camden Bench becomes a central story of how defensive measures are integrated into society and that "for every obstacle to organizing and controlling society, there seems to be a technical solution at hand" (Ibid, 7). Deutinger further argues that the protective borders of the urban perimeter are gone and that cities today fight and defend against a different kind of enemy than earlier fortification defended against: "Besides the threat of terrorist attacks, there is a much less violent 'enemy' to the city: the ordinary citizen" (Ibid, 85). Deutinger sees unwanted behavior as the "basis for the implementation of subtle design elements" (Ibid, 22). Design elements that aim to influence this behavior appear as a preventive measure. Often, the unwanted activities include graffiti, lying down in public spaces, standing in a group, and lingering in space – activities that are also advertised for in the making of the vibrant city. This creates a battle of realities between people, users of space, and urban governance. This aligns well with James Petty's (2016) work on hostile architecture in London. Here public space reflects political values, and hostile architecture directly contradicts the ideals and realizations of democratic spaces. Petty writes about hostile architecture's impact and analyzes how its increase in use can be linked to city development, where public space is planned regarding consumption and a neo-liberal marketization process.

II. Regulation of public space in the age of neoliberalism

Neoliberal endeavors

In this capital-driven space, pariah groups such as the homeless[1] become "undesirables," to use the words of Mike Davis. Other scholars, like Tim Creswell, have also touched upon this notion of the homeless being targeted as a disruptive image of the city. In his study of New York, specifically Grand Central Station, he argues that a particular appropriate behavior exists in the space (Cresswell 1996, 615). In 1980s New York, the erstwhile mayor, Ed Koch, introduced anti-loitering laws that enabled the police to remove homeless people "loitering" at the station. This was done because "Ed Koch was upset by homelessness—it did not fit into his image of a wealthy and improving metropolis" (Ibid, 4). This elimination of the democratic mixture is also evident in Davis' text, where the militarization of public space is, "designed to ensure a seamless continuum of middle-class work, consumption, and recreation, insulated from the city's 'unsavory' streets" (Davis 1990, 159). What is considered unsavory comes from constructed ideas of what fits the norm and what does not.

I draw on Mary Douglas' anthropological work on the classification and cultural systems of purity and impurity (dirt) to further understand this dynamic. In her work *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (1966), Douglas analyses dirt as a so-called matter *out of place* since dirt does not fit the socio-cultural order for purity and is thus considered a threat to the existing order. Therefore, removing the polluting elements and cleaning spaces is essential. Nothing is dirty by default, "shoes are not dirty in themselves, but it is dirty to place them on the dining table," so what is considered out of place is established through a set of constructions and classifications (Douglas 2002, 39). Douglas' categorization of what is out of place can be a helpful way of understanding the management of space and people.

[1] The term *homeless* will used throughout the thesis although the term contains a degree of stigma and can be considered as dehumanizing. Other words such as; *unhoused, houseless* or *people experiencing homelessness* can provide a less stigmatizing way of talking and writing about people with no fixed homes. Nevertheless, considering that the academic literature that I encountered and engage with for this research use the term *homeless,* and taking into account that the informants in the project also use the term *homeless,* it was decided to stick with this term throughout the writing.

Another form of purification is the *designing out* of certain people and activities, which are turning cities into "soulless, cheerless, pasteurized piazzas, in which plastic policemen harry anyone loitering without intent to shop. Street life in these places is reduced to a trance-world of consumerism, conformity and atomisation. Young, homeless, and eccentric people are, in the eyes of those upholding this dead-eyed, sanitised version of public order, guilty until proven innocent", as Moss & Moss (2019) express it in their discussion of social control and spatial regulation in Manchester (2019, 4).

Similarly, Smith and Walters (2018) present an analytical discussion on the rise of disciplinary architecture and urbanism that coincides with the rise of neoliberal governmentality in which control of public space is fundamental. Smith and Walters also shed light on everyday objects, like the bench, and argue that "the new hallmark of urban furniture is that it must be so uncomfortable as to render prolonged sitting unappealing and lying down impossible" (Smith and Walters 2018, 2984). Marcuse's (2000) short description of the hostility towards sitting down resembles similar observations, as he argues that it is almost as if the city seating is yelling, "Don't sit on me!" (Marcuse 2000, 18). Furthermore, Smith and Walters argue that because of this disciplinary and defensive urban practice, public space will lose its democratic function and afford only limited engagement with cityscapes that is not part of a commercial or transactional sphere. In the same line of argument, Coleman et al. (2005) analyze entrepreneurial governance that, instead of "opening up" spaces, rather "closes down" urban spaces through control and regulations. Coleman et al. tie this process to a neo-liberal urban development, stressing "the business interest in this state-building process and the impact it has on socio-spatial formation" (Coleman, Tombs, and Whyte 2005, 2512).

The revanchist city

As has already been discussed, defensive urban design exists to keep out certain groups of people and unwanted activities, and much literature has linked these processes to Neil Smith's work on the revanchist city. In his seminal work *The new urban frontier: Gentrification and the Revanchist City* (1996), Neil Smith describes the

processes of gentrification as part of a policy of revenge, meaning that gentrification works as a reaction against what is perceived as theft or something that has been "stolen from the public" (1996, 215). Smith describes this process concerning the example of Tompkins Square Park in New York, where officials claimed that the residing homeless population had "stolen from the public" and that the park needed to be reclaimed. The park, therefore, with political will, closed, and 300 homeless people were evicted. This situation marked the ethos of the revanchist city. This revanchist policymaking is a trademark of the late-capitalist city of the end of the 1990s and onwards. Thus, Smith's description resembles Mike Davis's apocalyptic descriptions of Los Angeles. Taking revenge on the poor is revanchist urbanism that guides a social order with a normative way of being. *Revanchism* refers to territorial loss and the willingness to reclaim lost pieces of land. It is a political display that originated in wartimes, where nationalists of France could not bear the defeat and loss of land to Prussia. This created a will to reverse the territorial loss. The revanchist city of the late-capitalist era seems to be at war with itself and its people. This perhaps makes defensive urban design an important academic discussion because it showcases that the defensive city targets not another foreign enemy but the ordinary citizen. This is exemplified in the quote from Neil Smith: "Giuliani identified homeless people, panhandlers, prostitutes, squeegee cleaners, squatters, graffiti artists, reckless bicyclists, and unruly youth as the major threats to urban order and the culprits of urban decay" (Smith 1996, 219). The revanchist approach seems to single out unwanted behavior and people, and defensive architecture is a strategy that enacts this approach. Thus one could follow Moss & Moss' argument and stress that "the postmodern urban environment has become a fortress, where interdictory forces work to maintain a particular mode of socio-spatial regulation, from which those within it cannot deviate" (Moss and Moss 2019, 5).

It should be noted that the American context differs from the Danish, in which a traditional welfare state plays a significant role in urban governance. "Danish urban governance and urban regeneration efforts, in particular, are not purely revanchist (i.e., driven by a malicious state ascribing the blame of urban decay on the poor and intending to take revenge on the poor). However, under the market pressure to

maintain Copenhagen as *Wonderful Copenhagen* in the global economy, they do present streaks of selectively adopted revanchist policies/discourses that end up punishing the poor" (Roy 2018, 294). Parama Roy has investigated and tried to make sense of homeless exclusion in renewed urban areas of Copenhagen. Her studies balance how revanchist measures and defensive design have influenced the discussion of the inclusion and exclusion of homeless people. As Roy mentions in the quote, the welfare state and particular Danish governance play an essential role in making urban space. This attention to the local context of the welfare state and its relation to neoliberal processes, like revanchist urbanism, is a relevant source of inspiration for this thesis. This line of thinking is further discussed by Weiss et al. (2019) in the specific context of Copenhagen.

The welfare city

A welfare city should be understood as a place where the built environment is based on the principle of welfare policies (Nielsen 2019, 39). Gaining momentum after the Second World War, the 1960s and 1970's were characterized by an urban development emphasizing "fairness and equality" (Weiss 2019). Public urban spaces, "were necessary for realising the democratic vision of the welfare state by democratizing access to 'green' areas which in early industrial society and the nineteenth-century city had to a large extent been for the privileged elite." (Nielsen 2019, 39). Thus, space was considered to play a pivotal role in representing the welfare ideology. As part of this planning, the prominent urban planner Jan Gehl came to set the tone for the planning of public space, as he criticized the lack of human scale during times of a functionalist planning regime. From a Gehlian perspective, the city is considered a community where people should meet, engage, and experience each other, and the built environment must animate this "enlarged living room." A solid moral foundation exists for creating *the good life* for the commons. Nevertheless, Weiss points out that "the biggest Danish cities are seeing record increases in housing prices, and entire population groups are being pushed out of the city and replaced with wealthier groups" (Weiss 2019, 132). While this threatens the idea of a welfare society, it is important to analyze how defensive architecture has its place in these growing inequalities.

In the book *Kritisk By/Critical City* by Weiss et al. (2019), the success and failure of the Danish welfare city is discussed as the authors present arguments for how the welfare concept is losing its function as the primary urban policy. I will discuss this loss of the welfare regime and analyze how defensive urban design is a material example of how the welfare concept risks losing its foothold in Copenhagen. As a city, Copenhagen is turning away from a welfare city of democratic and inclusive urban planning towards a prosperous city that, by its market-driven agenda, becomes more exclusive and closed. This market logic then challenges the basic ideas of the Nordic welfare model and socially (humanistic) attentive planning that characterizes Copenhagen. Developments like these should be viewed within a societal and paradigmatic change, where classical European values like freedom and equality are being re-negotiated and challenged by values like comfort, security, and sustainability (Simpson 2019).

III. Material Culture

Material agency

Looking at the built environment and the material objects of defensive architecture, it is helpful to adopt a perspective that deals with understanding the material culture. This line of theory aims at moving beyond the idea that "the only true agents in history are human individuals'' (Giddens and Pierson 1998, 89). British social anthropologist Alfred Gell (1998) views art objects as having an agency to produce and act, not just being mere representations of something. Likewise, Marcel Mauss' pivotal work illustrates how things have the capacity "to embody and objectify, as well as produce, social consequences" (Knappett and Malafouris 2008, 10). Similarly, Tilley (2001) argues, "the meaning of an object is born when that object is used towards a purpose," and the material can be said to be "forming both a medium for and an outcome of action" (Tilley 2001, 260). In general, the field of anthropology has provided a critical understanding and framework of the idea that agency is not restricted to humans but "…may include spirits, machines, signs, and collective entities" (Tilley et al. 2006, 78).

In the 1980s, anthropologists such as Daniel Miller argued that "social worlds were as much constituted by materiality as the other way around" (Miller 1987, 3). He argues that "things matter" and that objects constitute our everyday lives. Thus, his approach criticizes agency as "narrowly understood from an anthropocentric perspective" (Knappett and Malafouris 2008, 13). A material turn thus allows for more complex understandings of agency by emphasising the role of artifacts in the making of social structures. Using this approach as a framework for a further examination of defensive architecture, it is worth asking "what things matter and how?"

Defensive strategies are being implemented in cityscapes through a variety of design modifications to the built environment. Yaneva (2017) examines the role that things play in human life and how do they contribute to shaping the social. The built environment and architecture must not only be seen as a merely aesthetic practice, but as a mediator of life through a system of things. Her academic work is similar to the work of Bruno Latour in the sense that they both scrutinize the subject-object dichotomy. Everything that modifies an action, whether human or non-human, is an "actant" (Latour 1996a)). Both the work of Latour and Yaneva share similarities and inspiration from the older anthropological approach that takes material culture into account. Latour argues that objects can substitute the actions of people and shape human action by prescribing certain affordances and possible uses of things e.g., the traffic light replacing the policeman and prescribes people to stop or go, or perhaps the speed bump whose nickname is a *Sleeping Policeman*.

This mediation is similar to Alfred Gell's term *distributed personhood*, which is "defined as personhood extended beyond the body-boundary through various artefacts" (Jurkowlaniec and Sarnecka 2017, 6). Society is embedded with these actants that aim to impose behavior upon society, and Latour proposes that materiality and sociality are equally constitutive: "Consequently, the non-human actants are not merely tools, or intermediaries, employed to fulfil human intention, but instead they become mediators, always modifying the initial objective" (Knappet and Malafouris 2008, 8). Latour looks at these actants through the perspective of networks, hence the *Actor Network Theory (ANT)* that can be considered a theoretical and methodological approach emphasizing the relationship between actants, and Latour writes, "all

entities participating in those networks should be treated analytically as of equal importance" (Latour 1996a, 369).

Both Latour and Yaneva opt for a dynamic view where things are not political by default but become political by virtue of the process and engagement with it. In other words, the power of things does not lie in itself, but rather is constructed via the network of things and in their associations. Thus, the world is shaped by a mixture of social and material processes that work in a mutual flow. By acknowledging that objects and architecture are dynamic, both Latour and Yaneva counter a material determinism, in which the built environment prescribes certain possibilities and actions. Yaneva argues that "buildings are networked with other things; architectural artefacts, skills, builders, materials, settings, designers and affordances are aligned together." (Yaneva 2017, 260). This didactic is nicely understood through Latour's example of the seatbelt and its impact on people's morality and safety. The act of car-driving is a system itself, and within this system a moral has been programmed in the car: "If a car is moving, then the driver has a seatbelt" (Latour in Bijker and Wiebe et al. 1992, 225). Today, cars will start making panicking noises and lights will alarm you if the seatbelt is not fastened. In Latour's words it has become "sociologically impossible to drive without wearing the seatbelt" (Ibid). The point for me to make here, or rather for Latour, is that it is not only the seatbelt that makes the driver moral, but a complex system of actants: the individual, the patented engineers, the police, the alarms, the seatbelts etc. Thus, a series of actants which is delegated some action, imposes a behavior back onto the human body. Therefore, non-human actors can be understood as participating in shaping values, morals, ethics and duties. It is not only immoral to not use your seatbelt because you are being told so by a police officer or advertisements, but the artifact itself tells you, educates you about what is right and wrong. While for most people this system of things does make the driver wear a seatbelt, there are ways in which this can be re-negotiated by drivers who do not want to wear a seatbelt. They can get a mechanic to drill out the alarm or other *tactics* to subvert the use of a seatbelt. While objects and things are mediators that constitute, recreate and modifiy relations, by authorizing, transcribing, and displacing people,

they (objects) do not function in fixed ways by default, but rather perform the social and political as they are interacted with.

This view differs slightly from Langdon Winners (1980) argumentation and notion of material agency. While Winner, Latour and Yaneva take things and objects seriously so to speak, Winner is less interested in the network of things and looks more at the object as a sole entity, as something that is *doing* something on its own. For him, technology and material objects are ways of building order in the world, while he also explores the relations between artefacts, politics and moral. While Winner differs from Latour and Yaneva in their ontological beliefs, they all present a good framework for understanding material elements and how non-human entities (co-)shape our lived reality. This line of theory is resembled in the work of Verbeek (2005) and his *philosophy of artefacts,* where the value of artefacts and objects in contemporary culture is given significance. Same significance is well provided in the work of Lieto (2017) She follows this *thingly turn* and looks at how agency is extended to non-humans and objects, and thus interprets how moral and politics goes beyond human affairs and are actively produced and negotiated through artefacts. This materially focused investigation then sees urban space as something dynamic that unravels processually through materiality. By analyzing defensive architecture with attention to the materiality, it helps us understand and emphasize that material culture may do more than reflect something, but also dynamically construct or challenge the social.

Affordance theory

A quick word on affordance must also be made. Gibson (2015) argues that the use of an object will be linked to the shape of it, and thus objects afford certain possibilities of action. Affordance thus refers to what possible actions can take place. The shape thus affords how one can possibly make use of/with the object. Nevertheless, unexpected way of engaging with materials exemplifies how people engage with things and material matter in ways that the object may not afford: "Somewhere in New York City, a traffic light regulates the vehicular flow at a street corner. At a distracted glance, 'a traffic light is a traffic light', and we do not think about it differently: what we already know, as 'normal' citizens, is that it regulates traffic by

changing its light signal at given intervals and that it is often attached to a pole. At a closer glance, though, we see an iron chain wrapped around the pole's base and securing a shop- ping cart. This might seem odd. But some observers will know that the cart belongs to a person who collects plastic bottles and aluminium cans on the streets, a canner. (…) it is an unexpected way to use an object, one that takes it out of the formal 'script' which has produced it—urban traffic regulations." (Lieto 2017, 574). Similar to Latour's description of how people circumvent the use of a seatbelt, the material cannot be said to strictly determine how the objects is used, and the engagement with the object and the affordance created here will depend upon the situational reappropriation, as will be discussed later.

Methodology

To examine how defensive architecture is embedded in the urban environment of The Central Station, I follow a methodological approach of a socio-material ethnography. The work stems from a single case study research of the Central Station of Copenhagen and the research design is shaped by a series of methodological practices and data sources which will be clarified in the following sections.

Why a case study?

The case study can be a useful tool to learn something about a specific topic within a well-defined context. Through site specific learnings, we gain a better understanding of various phenomena and practices that take place in urban environments. This case study will not provide any predictive theory nor universal model, but rather leads to a concrete and context-dependent case of defensive architecture in Copenhagen. By analyzing the data produced here in comparison with data from other contexts, we can then broaden the scope and develop more comprehensive theories of a phenomena like defensive architecture. Doing a case study of Copenhagen's Central Station is a way to limit the analytical scope to one precise and concrete urban setting. This *zooming in* on one setting is of particular importance in a limited research period like this thesis project. Living in Copenhagen for one semester made it accessible to choose the city as a case study context. Furthermore, the research process; doing interviews, reading local Danish literature and policy documents, seemed more accessible as Danish is my mother tongue. In the beginning of the research process, multiple urban settings were considered as potential case studies. In the end, The Central Station was chosen as the most interesting and relevant setting for studying defensive architecture. As the station is a symbol of the city, a city within the city and the beating heart of the capital, it brings together the whole nation and thus provides a scene where a multitude of existences and identities co-exist. This makes it a space of contestation and a place with a desire for structuring and ordering. It provides an urban setting for which defensive architecture has increased during the past years and is playing a pivotal role in structuring the urban life. Furthermore, the station provides

an example of a space that contains an ambivalent expression and place in the urban environment. It is built on principles of being a place for the commons and symbol of the city opening up after the former city walls and ramparts were taken down.

A qualitative single case study allows me to form a connection and familiarity with the field I was trying to understand. Having multiple cases to study, would have been overly time consuming and would have made the thesis less grounded in analytical details and ethnographies. A comparative study of the four cities; Bruxelles, Vienna, Copenhagen and Madrid was initially the idea. Studying how defensive architecture is materialized across the four cities, would have provided a rigorous database of defensive architecture and could provide a strong basis for conceptualizing a general theory of defensive architecture. As this was not feasible for a multitude of reasons, a more in-depth understanding of the case of Copenhagen presented itself as an opportunity to work detailed with an urban setting that is yet to be discussed academically. The field work was carried out between September 2022 and February 2023, with occasional field visits throughout the spring and summer of 2023. As case studies often combine several data sources (Patton 2002), let us now consider the interview methods that helped guide the case of the train station.

Interviews

Interviews can be a way to gain information about practices and socio-cultural phenomena that otherwise would be difficult to access and understand. Furthermore, most case studies provide cases of contestation and differing perceptions since "different individuals or groups involved in the same line of activity have complicated, multiple perspectives" (Rowlands and Johnson 2012, 101). Following this line of thought, it has been important to understand perspectives from a variety of actors to allow me to explore, and to "tell the story in its diversity, allowing the story to unfold from the many-sided, complex, and sometimes conflicting stories" (Flyvbjerg 2006, 238).

NAME	BACKGROUND	DATE/PLACE	DURATION
Emilie Barkved	Municipality of Copenhagen (Teknik- og miljøforvaltning)	02.06.22 Online	60 minutes
Jørgen Dyrendaal Rasmussen	Senior Advisor for DSB's estates	22.10.22 Copenhagen	70 minutes
Gamlesmølf	Newspaper vendor for Husforbi	17.12.22 Copenhagen	95 minutes
Jesper Malmkjær	Chief Architect for Metroselskabet I/S (The Metro Company)	27.03.24 Online	40 minutes
Maria Uhrenfeldt	Production Manager at Go' Morgen Danmark	16.03.23 Copenhagen	45 minutes
N.N.	Cleaning Staff for DSB	20.03.23 Copenhagen	25 minutes

Figure 1. Table of interviews[2].

Semi-structured interviews were conducted with DSB officials, the Metro Company, the municipality of Copenhagen and with an employee of a GoMorgen Danmark[3]. Furthermore, informal interviews were held with a variety of people, employees, and travelers during the many field visits. These informal interviews were accompanied by jotting notes after the conversations, while I recorded all the in-depth semi-structured interviews. Having to record the informal and serendipitous interviews did not seem like a methodological strength and "the right thing to do" in the moment since the conversations were of an informal character and suddenly adding the element of a recorder (phone) and asking for permission to record could have changed the nature of the conversation. All informants were aware that I was doing research and thus knew about my agenda, but adding a "science apparatus" such as notebook or recorder can change the informality of the conversation, and thus I follow the argument proposed by Rutakumwa et al. who emphasize that "recording devices – social science tools or apparatuses – are not mute or innocent entities that simply

[2] Interview transcriptions will be given upon request.
[3] TV show that had their live studio at the Central Station in the period from 2002 until 2018.

record interviews'; the recording devices have a place in the interview and have an influence on the data." (Rutakumwa et al. 2020, 566)

A **walk-and-talk interview** was conducted at the Central Station. Also referred to as a *go-along interview* or *guided tour* this form can be considered a method where "a participant is asked to lead the researcher through the location (often, one that is personally significant to him or her) while describing and explaining its features, thinking-aloud the ideas and feelings to which it gives rise, and responding to a researcher's gentle prompts and conversational inquiries." (Thomson 2015, 1). I was therefore observering and participating in the spatial practices in situ and tried to understand the "various spatial levels within the context of their daily lives rather than separated from it" (ibid). This particular interview was done with vendor, Gamlesmølf, who used to be homeless and who set foot on the station every day for multiple years[4]. Thus, he provided a guided tour in an environment in which he was the expert. As I had expressed my research interest and my project, defensive architecture was the framework of the tour, and he was interested in showing me how he had experienced this design on his own body. The participant was thus choosing the route and places we visited, but I would ask about specific objects that I found interesting. It therefor was a dialogue back and forth discussing the material aspects of the station - first from the perspective of the participant, and secondary from mine. This interviewing technique was adopted for two reasons. One is the fact that the participant has concrete experiences with the space of the Central Station and material environment that I could have no understanding of without being physically present with him. Second, the go-along is a considered "an inclusive process compared with the traditional sit-down interview, because it is viewed as more of a partnership, thus reducing power imbalances." (Pranka 2020, 1). As the respondent has experienced homelessness and marginalization, the walk-and-talk seemed as a more appropriate method to apply.

[4] A walk-n-talk interview with a local graffiti artist was also scheduled, but due to private circumstances, the interview could not be done.

All interviews and were conducted in Danish and have been translated into English to ensure a fitting reading flow. Likewise, all quotes that are originally of other languages than English, have been translated into English by the author.

Participants: Who and why?

The selection of participants followed a wish to obtain perspectives from a variety of actors. First of all, it was important to talk with DSB, which is an independent public company owned by the transport ministry that caretakes train-transportation in Denmark. They caretake maintenance of the train station and decide what activities are allowed for, what furniture is present and all matters regarding the use of the station. Besides DSB, the Metro Company, with whom I conducted an interview with the chief architect, is another institutional actor of importance. The Metro Company has designed the area of the Central Station metro station, which will also be a part of the analytical scope. Although most of the environment of the station is run by DSB or the Metro Company, some of the adjacent space just outside of the station is managed by the Municipality of Copenhagen. Therefore, this institutional actor also became a part of the research, and furthermore provides a more general understanding of defensive architecture in Copenhagen, from a municipal and political point of view. While these actors all have a political part in the structuring of the urban environment, it was also important to gain perspectives from actors who was not having any apparent motive for organizing the material aspects of the station. Therefore, interviews with people working or travelling at the station for other companies than DSB was done. These interviews provided valuable insights to the daily life of the station and helped me understand the development of the station throughout the years. By obtaining insights from people who often are targeted by defensive architecture, it helped map out the defensive elements that I otherwise would have overseen. The interview with HusForbi vendor, Gamlesmølf, was therefore instrumental for the development of this thesis. All in all, the sampling of participants thus provided different perspectives, perceptions coming from a variety of interactions with the central station.

Other relevant actors that I contacted were architectural companies that have done some of the restoration work of the station. The primary companies of relevance were KHR Architecture, Gottlieb Paludan and Arup Architects, but they all rejected talking to me, and so the empirical evidence relating to design measures by either of these companies have been analyzed from what is publicly available from digital and printed sources – as well as from interviews with DSB.

Observations

An important part of the research process was field observations. While I had serendipitous trips to the station, much of the observations were systematically planned. Fields visits took place at mornings, afternoons, evenings and nights since the atmospheres and life of the station has a changing rhythm throughout the day. Observations took place on different days, such as weekdays, weekends or days of celebration where massive crowds were expected. As I focus primarily on the built environment, these objects are not changing their character per se with regards to the time of the day, but the engagement with them may differ throughout the day. Furthermore, the field visits and observations helped me access an understanding of what kind of life is taking place at the station and I was able to observe what role the material environment played in this regard.

It was through an ethnographic approach that these observations came to life. Traditionally, ethnography was used as a method to study cultures outside of the researcher's typical environment and has historically been part of the field of anthropology, in which it replaced the armchair anthropology where no field observations were made. While much early ethnography must be heavily scrutinized for a variety of reasons, the basic idea of getting into the field is valuable. My ethnography aimed at looking at the material environment and was thus an urban material ethnography with a focus on investigating and describing the built environment of the station. Nevertheless, one should not neglect the "importance of the 'armchair' phase of our investigation; the stage in our research project when we

study the relevant literature, archival, statistical, historical and other documentary sources (these days including, of course, online sources) and engage theoretically with the relevant"(Prato and Pardo 2017, 12). This armchair phase also known as *desktop research* has been an equally important part of writing this thesis project.

Visual material

To structure the research and findings along the way, I found it helpful to capture empirics with photos. The use of photography made it possible to "go back" to the field in ways that I would not be able to with purely written field notes. By having visual material from the field, I was able to constantly analyze and look for details that I could have overlooked in the moment, which is a methodological strength emphazised by Šupa, who states, "the advantage of using photographs rather than notes for documenting observations lies in capturing minute details that may be missed during fieldwork" (Šupa 2015, 97).

Additionally, the visual material will help the reader visualize and grasp the materiality of the discussed objects. It was therefore necessary for me to include photos showcasing the defensive architecture that can be difficult to purely write or read about. By looking at visual material through GoogleMaps and using the timeline feature as well as local archives, it also becomes possible to visually describe transformations of environments, and thus shed light on the historicity of the central station.

Research perspective – positionality and reflexivity

All in all, the different methodological approaches to the empirical research can be understood as an assemblage of multiple methods that together can be viewed as a socio-material ethnography. If we follow Latour's attention to the assemblage of actants that together are constitutive of the research (Latour 1996), one should also consider that the research consists not only of me as a researcher or the participants. Just as an architect must apply scissors, miniature models, glue, and sketches to do the work of an architect and visualize how a building will look (Yaneva 2017), so too is the urban researcher doing research with a multitude of assisting objects. Therefore,

one can argue that the notebook, the camera, archives, software, pencils, computers etc. can be considered essential actants of this process. Without any of these objects, the production of scientific work was not possible. This attention to things beyond the human-centric condition, is perhaps a nice breeding ground to think about the positionality of the researcher. It is well-known by now that the idea of objectivity must be deconstructed. As urban ethnographic research (and most other research for that matter) hold multiple ways of interpreting observations and empirics, the ethnographic writing always stems from a certain position and will be enmeshed in history, power and politics. Consequently, this research presents a piece of writing that can be considered as a *partial truth* (Clifford 2020) and therefore oppresses any universalistic claims of any grand theory or claims emphazising a single perspective.

Limitations

As with all research, some bumps on the road have been encountered. What could be seen as a limitation to the study is the rejection of interviews that I received from the architectural companies that have undertaken some of the designs on the station. Go-along interviews with any of these actors would have provided meaningful empirics that could have been discussed in relation to the information which is available online. Another element that made the writing process difficult was the translation of text from Danish to English. As meaning can become lost in translation, one is facing difficulty providing the reader with the most accurate translation possible.

Introduction to case study

Next stop: Copenhagen Central Station

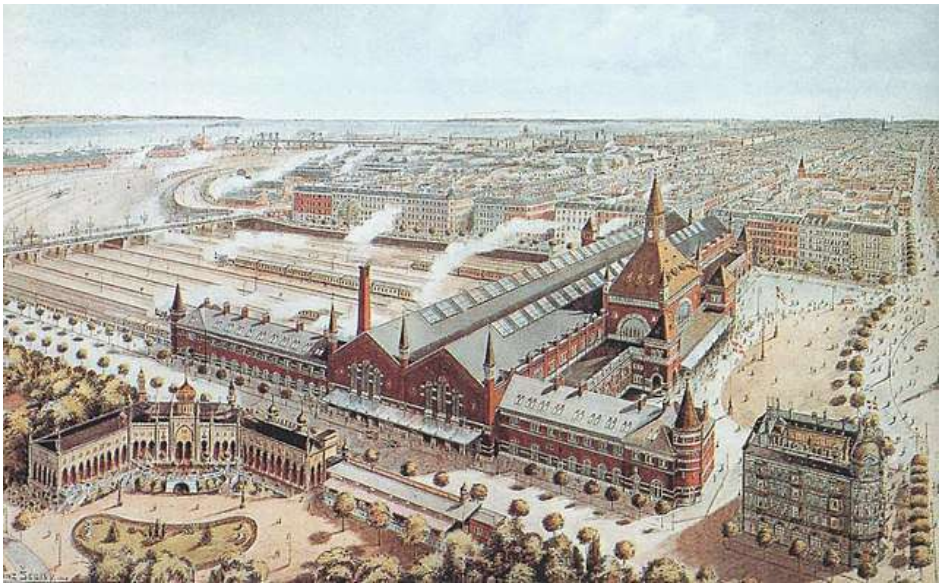


Figure 1. Illustration of the Central Station by Frank Sedivy (1908). Source: Wikimedia Commons

"In the name of the king and on the king's behalf I express my recognition of the technical wonder and craftmanship which has been put into the completion of this railway station. It will surely be remembered as a monumental memory of Danish architecture from the 20th-century. As I hope that the new railway station must connect the capital city with the provinces, Denmark with foreign countries, I declare Copenhagen's Central Station as open!" (Flindt Larsen 1994, 6)

In 1911 Prince Christian officially opened Copenhagen's new Central Station. The station was the third central station to be built between 1847-1911. The two stations built earlier both got taken out of use, but the third and present station came to be the new beating heart of the city. Designed by architect Heinrich Wenck around the same time as the Copenhagen City Hall (1905), Copenhagen got two architectural landmarks to connect the nation. The station can be considered an example of *gesamtkunstwerk* in which Wenck has designed every detail, from handrails to tiles to the impressive chandeliers. The many arches signify an open space and can be considered an invitation to a new world of Copenhagen as well as the world beyond

the Danish borders. With its many architectural details, the station is an outstanding architectural piece and a piece of architecture that is supposed to house the masses - "the passengers' cathedral" (Nielsen 2023). The roof construction is reminiscent of a motherhen and the materiality of the central station implies that it is a space that connects the nation as a whole: "Appropriate for Denmark – for our country's conditions and its character – so that the last impression that travelling Danes got was the same that met the arriving strangers: – Something Danish" (Flindt Larsen 1994, 4).

Built on the former fortification of Copenhagen, The Central Station opens up where the city used to close down. While the city walls and gates kept the city enclosed, The Central Station did the complete opposite – it made Copenhagen a metropolis oriented towards its citizens, the provinces and the abroad, as the prince remarked. Thus, the station symbolizes an open space that can house the masses. This is symbolized by the many arches and the canopy roof of the main entrance, which is inviting the citizen to step inside the station. "On my side of the train station hall, daylight streams in through large windows adapted to the circular shape of the arches. In the windows, coloured glass mosaics have been inserted in the shape of coats of arms with flags of Danish provincial towns." (Carlsen 2020, 3). The inside is as astonishing as the outside. With the level of detailed ornamentation and architectural construction, it is no surprise that writer Harald Bergstedt in his poem *Københavns Hovedbanegård* (1927) *remarks*, "the most beautiful of all in the most beautiful city…that is the hall of the Central Station!" (Nielsen 2023).

Figure 2. Photo from 1909 just a few years before the opening of the station. Source: Ernst Nyrop Larsen

A (bustling) melting pot

As the station became a central arena for everyday life to unfold, it quickly developed into a melting pot: "It is a cross-section of Denmark. An ark that drifts through time with its load of existences from the city's outer corners to the inner circles of society. At the Central Station people send letters, take showers and exchange currencies. They drink tea and kiss softly and go to jail. In one end of the building, popstars and politicians enjoy the fame in TV2's Good Morning Denmark television show, in the other end, junkies crutch down and punctuate their veins with needless in the gloomy night." (*Politiken* 2000). A melting pot of different livelihoods, social statuses, and life worlds, echoing Danish sociologist Henning Bech, as he writes, "railways concentrate the city. All the elements are here, compacted and condensed within a delimited space" (Bech 1997, 159). The Central Station is no exception and has always represented everything between the city's outer corners and the inner circles of society. Former worker at the station explains, "from the time you left your car to get to the station early in the morning, you would get all kinds of offers. People offering you drugs or some people even thought you were a sex worker. You meet all kinds of people on the way to work at the Station" (Interview with *Go' Morgen Danmark* Employee).

The station as a scene for all classes, and this diversity of people was foreseen by architect Wenck who invited artists to decorate the columns with 24 face murals. These faces were all different, and each represented different regions of the country and thus symbolized the diversity of the population (Flindt Larsen 1994, 8–10). Furthermore, the murals also emphasize that the station is for the people – a space for the commons.

Figure 3. Face murals ingrained in the walls of the Central Station. Source: Author, February 2022

Beyond Transit

For many people, the central station provided more than just transportation and was "an oasis during waiting hours or as a place of reunion before or after going out into the city" (*Politiken* 2000). Waiting halls provided spaces in which travelers could meet fellow travelers and friends, as well as being spaces of great entertainment and creating a desire to travel: "There was a nauseating smell of beef in the waiting room, but one was too busy to notice anything, one stood with watchful eyes and ears, feeling a faint current of wanderlust" (Flindt Larsen 1994, 33).

Figure 4. Station hall and the Jotland Express (1916). Source: Firmaet Elfelt

Accompanying the waiting halls, the travelers could also enjoy meals and beverages at the station's restaurants: "In the Central Station Restaurant you never have to be bored; the scene changes all day long. People come and go. The station is the gateway to the big city, a place where people like to sit down to feel the pulse of metropolitan life." (Ibid, 35). The restaurant was furthermore one of the only places in the city open during Christmas Eve. It thus provided a caring place for those parts of the population who had nowhere else to celebrate Christmas. Other restaurants and cafes also became essential meeting points for people and offered a place for people to dwell - whether travelling or not. Another point of attraction at the station that became popular for travelers and everyone in or near the city, was *Kino – Den Hvide Verden*. This cinema opened in 1935 as a place for passengers to pass the time while waiting for the train,

as well as being an effort to construct the Central Station as a place worth a visit. It was a huge success for 30 years, but with the growing use of televisions in private homes, the cinema was outperformed and had to close in 1971.

Figure 5. Newspaper stand (1918) and man waiting for train (1936). Source: Mogens Falk-Sørensen, Stadsarkivets fotografiske Atelier

The station was a magnet in the city that concentrated everything from cinema lovers, homeless, adolescents, workers, tourists, poets, flaneurs and flaneuses. To find each other in the chaotic environment of the station, the clock became the rendezvous for many people – "let's meet under the clock!", as the local saying goes. As too many people gathered and blocked the entrance to which the clock was hanging above, two clocks were installed at the indoor central hall of the station. This space was better suited for many people occupying the same space and would not create a sense of crowdedness.

In the 1980s, interrail travelers came in hordes to the station. The young travelers were sleeping on the station and "using it as a camping lot" (Flindt Larsen 1994, 56). In the beginning, it was a hassle for DSB, who sought order and who received complaints

about the "relaxed youth taking space" (Ibid). But while DSB initially was concerned about the loitering of the interrailers, they decided to install a designated interrail center to house the travelers and provide them with basic amenities. DSB reckoned that Copenhagen could become a favorable destination internationally for travelers of rail transport if they also provided the facilities for it. The interrailers became a group of people who could generate economic value by opening the Central Station to a network of international travellers willing to stop by the capital.

While the young travellers were greeted by nice conditions, less welcomed people were expelled rather than invited: "We are keeping a close eye on what is happening. We certainly don't want the street's parliament to use the place as a hostel. Our inspector will be on duty in the hall, and if people are sleeping without a train ticket, they will be asked to leave" (Head of Unit, DSB). Throughout its whole life, the Central Station has been an assembly for marginalized groups of people facing difficulties being accepted in regular daily life: "Mentally ill, homeless and addicts have during the past year now used the station as a shelter, but it has become such big an issue that the management of the station has decided to close the station during the night" (Flindt Larsen 1994, 50). The station was until 2001 open 24/7, but because of undesirable activity, the station came to close its doors between 04.30-02-00, which are still today's opening hours, except for the weekend where the trains run all night.

The station was a hub for people with nowhere else to go, and former worker at the stations states, "often it was the same people laying there at the station in the morning. We have found people who were extremely intoxicated, and who we later found dead on a bench" (Interview with *Go' Morgen Danmark* Employee). It became increasingly important for DSB that the people using the station had a legit reason to be there e.g., journey ticket or purchasing items or services. This furthermore meant that the station's design came to change to deter many non-travel related activities "by reducing the number of hiding places and hangouts, intensifying surveillance of the toilets and installing ultraviolet lights to make it difficult for drug addicts to consume their drugs, the number of undesirable persons was gradually reduced. The remodelling of the station's interior also drew heavily on the lessons learned from this

work, as any visitor to the station can see for themselves. There is not so much as a mouse hole left to hide in." (Flindt Larsen 1994, 50). As becomes evident here, the attention to the material design of the station has a pivotal role in how the use of the space is perceived and to whom the space is supposed to cater to.

Modernization

Like many other central stations worldwide, Copenhagen's Central Station is a vital organ of the urban lifeworld in the city. Throughout the years, the station has undergone a variety of refurbishments and has been a place of change - change in terms of architecture, businesses, and social life at the station: "Today things are more efficient and less time consuming, while before people had and spend more time at the station" (Interview with *DSB*).

Figure 5. From cinema to fast-food. Source: GoogleMaps and Thomas Haursle.

As the station tried to adjust to city development it underwent a series of modernization processes. The most recent and noticeable is the modernization that finalized in 1994. To make room for the 100.000 daily visitors, the station changed character and became a modern traffic hub. More space for passage, modernization of escalators and elevators, and the introduction of the *Mall of the Central Station*, which became the official organisation of all the shops at the station: "The Central Station of Copenhagen is a place which most Danes and foreigners have a connection to. It is the station of the whole of Copenhagen, in fact the station of the whole of Denmark. Welcome to your station, a place with everything" ("Hovedbanens Shoppingcenter" n.d.) The station noticeably became a city within the city, but also a more controlled

space, tightly managed to meet the needs for flow and mobility. This meant no more waiting halls and fewer spaces to dwell.

The latest transformation of the Central Station is the underground metro which opened its doors to the public in 2019. Having little aesthetic similarity with the historical station from 1911, the metro adds an architecturally distinctive element to the space. Being under no strict laws of preservation as the 1911 station, the metro station of The Central Station presents a futuristic and *nothing-but-travel* design. With new and different requirements of flow and higher frequency of trains, other needs and obligations of design affect the structure and functioning of the metro. While the metro has little aesthetic similarity to the old station, it has a clear iconicity with the other metro stations in the city. They are all built by the same architectural principles signalling "pure Scandinavian minimalism" (DAC n.d.) The design of the metro prioritizes travelling and nothing else but travelling, catering for "the need of flow, meaning entering quickly and exiting quickly" (Interview with *Metroselskabet I/S*). With trains coming every 2 to 4 minutes the space of the metro station is stripped from any amenities that could make people want to stay. The architects of the metro write, "the metro should be safe, open and overseeable, and the straight lines, smooth surfaces and light gray colors of the station rooms have no obvious corners and hidden nooks for potential criminals and harmless street musicians who have to stay above ground" (KHR Architects n.d.)

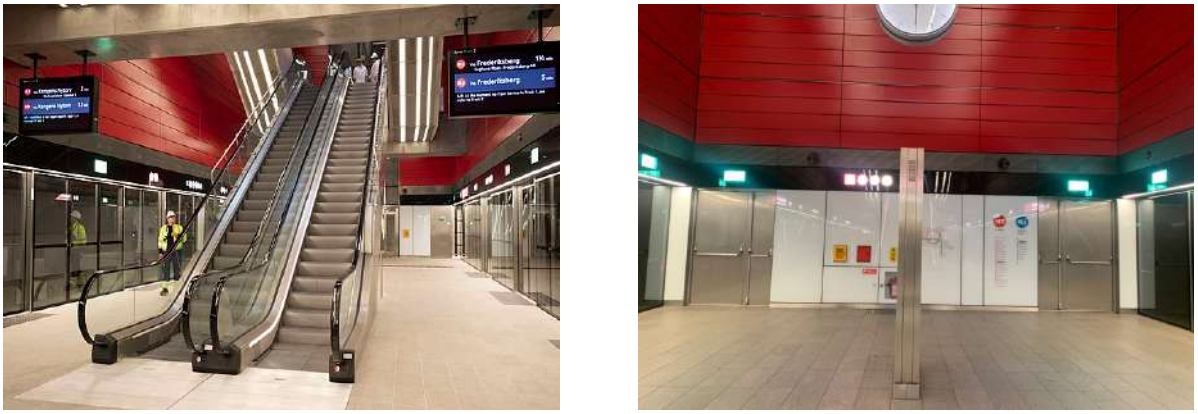


Figure 7. Metro station of the Central Station Source: Author, 2022

Thus, for this thesis, Copenhagen's Central Station includes both the traditional s-train and regional network connected to the main building from 1911, as well as the inner-city metro network operated from 2019. With obvious differences, one encounters two different aesthetics and architectural designs within one space. Nevertheless, with the modernizations of the traditional station and with upcoming renovations beginning this year, one also sees a process of a design similar to that of the metro (a sort of *metronization*), in which the historical values and traditional room for dwelling become increasingly challenged.

Before we begin the analysis of the Central Station and focus on the defensive architecture that penetrates it, let us contextualize the practice of defensive architecture in Denmark.

Defensive architecture in a Danish context

As the idea of public space differs across socio-political contexts and urban regimes, the material fabric of these urban spaces varies from city to city. So to, does the practice of defensive architecture fluctuate across the globe: "The degree of control and access in public space varies from place to place. New surveillance technologies, modes of governance, and exclusionary practices vary in their application and depend on how they fit within existing social relations, political practices, and cultural traditions" (Chellew 2019, 21). It is therefore necessary to specifically locate defensive architecture within a Danish context that furthermore is a geographical region that has received limited - if any - academic focus concerning defensive and disciplinary architecture.

As a country with a historically strong welfare state, the general urban agenda is to be "a city that offers room for everyone" (Interview with *The Municipality of Copenhagen*). In 2020, this idea was scrutinized by journalists and the media's discourse about *dark design*, as became the emic term of defensive architecture. Short news videos, vox pops, and multiple articles spread out, and defensive architecture eventually became a political topic. As member of the political left-wing party Enhedslisten comments, "it is shameful to plan and work with the idea that some people should be prevented from finding accommodation. It is a practice that we do not like because it signals that Copenhagen should not be for everyone." (TV2 Lorry 2020a) A majority of Danish politicians shared this view, and it was politically decided to conduct an inspection that would evaluate *if* and *how* dark design is present in inventory offered by public actors in Copenhagen. This inspection did not change the existing urban environment since no publicly installed furniture was considered dark design. Nevertheless, it has been decided that when actors manage public spaces, "it must be included in the material that it cannot be anti-homeless design. In other words, benches must not have fitted armrests and similar things" (TV2 Lorry 2020b). Although the debate and awareness of dark design is new, a political focus considers it an undemocratic practice that does not fit the image of the Danish regime.

Thus, one encounters the wish to eliminate the practice of dark design. However, an increase in this type of design, both by private and public actors, is taking place. This

contradiction is echoed in the municipality of Copenhagen's ambivalent discourse of dark design: "Dark design is unfortunate, but a necessary prioritization. We cannot say that we will never make dark design, but we try not to do so". (Interview with *The Municipality of Copenhagen*). This seems to be symptomatic of how actors go about dark design in Copenhagen. DSB also deals with this ambivalence as they want to offer people rest and a place to sit, but at the same time "not offer any infrastructure for unwanted behavior" (Interview with *DSB*). Thus, these defensive design measures provide a case of an ambivalent architecture since it is a hostile feature in an urban world that is supposed to be inclusive and for everyone.

Another important aspect is that dark design is a debate centered around the homeless population. Dark design is often used interchangeably with the term *anti-homeless design* and provides a narrow understanding of what dark design entails. Instead, gaining a broader idea of defensive architecture and analyzing how this disciplinary materiality is a more general and common strategy in the urban toolbox that goes beyond benches and design against the homeless population is important.

Before we continue to present the findings, a comment on terminology is necessary. As seen above, multiple terms have been used to describe the same practice. As of now, the terms: *dark design*, *hostile design*, *hostile architecture*, *defensive architecture*, *exclusionary architecture* have been used interchangeably to describe the same strategies. I have chosen to use the term *defensive architecture* as it is less normative and denigrating as *hostile* or *dark*, and second because the objects of interest are designed to *defend* against something unwanted – and thus contain some degree of *defensiveness*. While dark or hostile both have clear connotative and emotional values, using the term defensive provides another theoretical stratum well suited for this thesis. As one could read in the introduction, the thesis outlines how cities have historically opted for defensive strategies to protect themselves. The thesis explores how the classical notions of a defensive city can be applied in the 21st-century that defends against different threats and forces than before. Thus, the term defensive has a historical orientation suitable for describing the architectural practice discussed in this thesis. Before conducting the field research, it was considered if it could be potentially problematic to use the term defensive architecture since dark design is the most used

term in Danish media and society. Although there is a discrepancy between the etic and emic terminology, I did not encounter any difficulties or confusion about terminology.

Findings - *The Good, the Bad, and the Ugly*

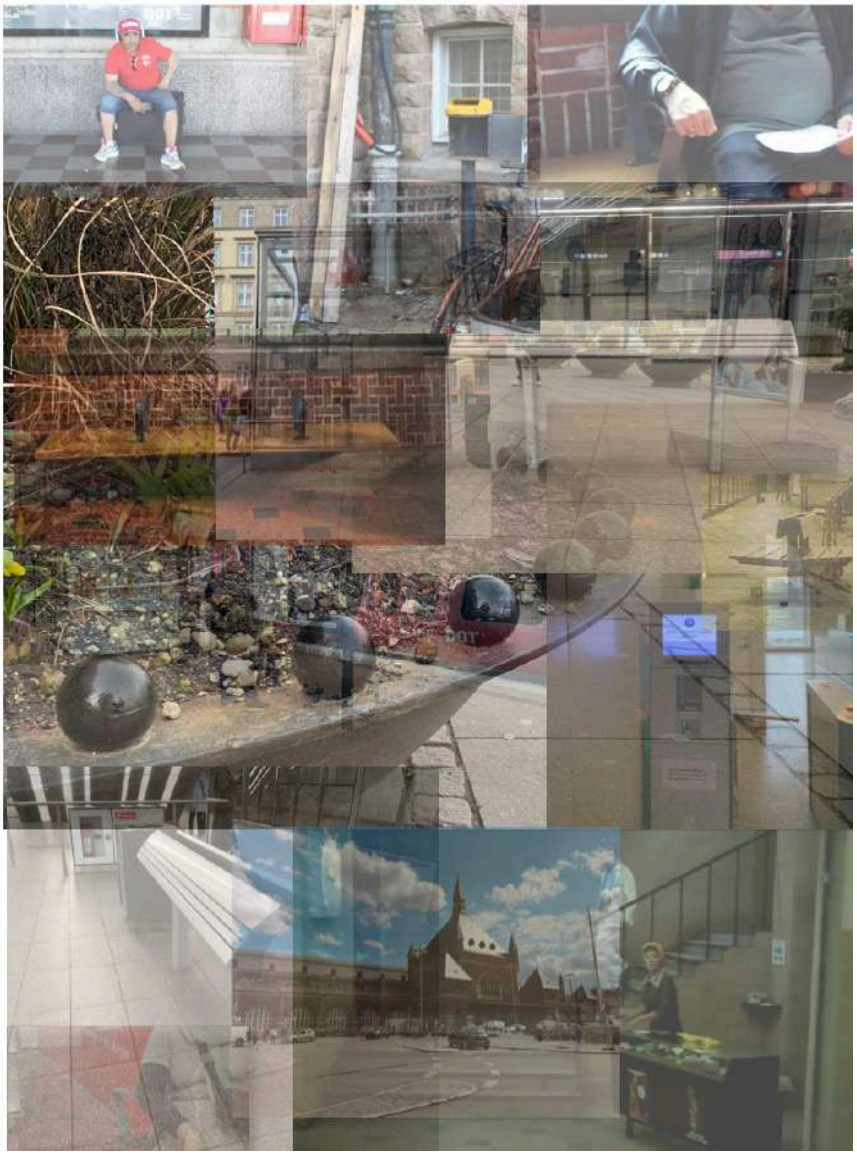


Figure 8. Collage of defensive architecture. Author, 2023.

Having presented a general overview and historical context of The Central Station, this part of the thesis zooms in on how defensive architecture is a present urban feature by introducing and dissecting the findings and results produced during the research. The section is divided into two chapters that together seek to examine how defensive architecture works and materializes. The first chapter analyzes the rationale and intend that foster the implementation of the defensive designs in the first place. This provides a good breeding ground for the second chapter that examines the material configuration and practice of defensive architecture.

I. Following the script

Being a space managed for the purpose of a railway station, the design is geared towards the act of travelling and transit. The space itself is thus programmed to foremost ensure the flow of people and to be a space of passage. As a general code of conduct, DSB provides the guest with a set of rules to follow whilst staying at The Central Station.

Figure 9. Written rules to be followed. Built into the bricks of the station. Source: author, 2020.

These rules provide the general framework for how the life on the station is expected to be. This regulatory framework has changed over the years, with the latest regulation from 2022 being the strictest it has ever been: "We have new regulations that are significantly stricter (Interview with *DSB*). As one sees, the rules are built into the bricks and mortar in the shape of a sign. As will become evident in the next chapter, the control of the space is literally built into the urban environment, not only through a standardized sign but through specific architectural designs. Before we dig into the material configuration of these designs, let us continue to unravel the rationale behind them.

Upsetting the order

"Over the years, Copenhagen Central Station has been a gathering place for individuals and groups who have found it difficult to make it in mainstream society. Many of these outcasts, or in a slightly nicer word: marginalized people, have permanently stayed at the station, which has been a serious image problem for DSB. These people do not use the station for its actual purpose as a traffic center, but as a social gathering place and warming room" (Flindt Larsen 1994, 46).

As presented earlier in the introduction of The Central Station and in the abovementioned quote, certain groups of people and activities are perceived as undesirable by DSB. Adding to this "image problem", DSB points out three groups of people that challenge the rules and order of the station: "We have many people who loiter at the station, and this does not seem to get better. It is a big problem for DSB because it creates feelings of unsafety. You can divide them into 2-3 main groups. There are those who are alcoholics. By and large, they are reasonably harmless. Another group is the categorized homeless and socially disadvantaged, often in combination with mental illness. And then there's the last group that we struggle with the most. These are young groups of misfits drifting around. And these are people aged 12-16. Of course, there are some who are outside of these categories, but those are the three main groups." (Interview with *DSB*). These social groups are perceived as breaking the codes of conduct by behaving in ways not in line with the intended use of the space.

The architect of the Metro Company similarly expresses fear of having homeless people using the space: "we do not want to invite for people taking up space for longer or sleeping there. Like homeless or people like me who may have had a beer too much on a Friday night" (Interview with *Metroselskabet I/S*). Infrastructure that can cater to the needs of these people is thus considered unwanted. The object of a standard bench in the metro area is thus considered an object that will facilitate unwelcomed activities e.g., people lying down. The clear intention of defensive architecture is to not invite

certain activities by not providing certain amenities – this is something that will be analyzed thoroughly in the subsequent chapter.

In the interviews with DSB, a distinction was made between negative and positive activity: "Some things installed aim to create and foster positive activity, like cafes and shops, you can buy a cup of coffee and so on. Or signs saying 'have a nice day!'. Customers enjoy that." (Interview with *DSB*). These normative categories provide an understanding of how the Central Station's space is managed and controlled. What is considered negative is mainly found in the set of rules presented earlier, but a normative categorization like this also brings arbitrary feelings of right and wrong. One could say that DSB tries to ensure "ideological categories and concepts of public order and 'normal behavior'" (Bavinton in Lamb 2014, 109). There exists, therefore, a clear vision of decreasing the behavior that does not fit the script. In this regard, those not capable of fitting this normative vision are considered a kind of *matter out of place* (Douglas 1966).

During one of my field visits, I encountered an elderly man sitting on a bench with a yellow plastic bag next to him. As he was holding a bottled beer in his right hand and a plastic bag containing more bottles (I assume based on the clinking sound of glass) in his other hand, he seemed under the influence of alcohol. He was walking from side to side with no clear purpose of going anywhere but seemed to have difficulties standing still. It did not take long before a DSB guard approached the man and started talking to him, "don't you think you can take that activity somewhere else? You cannot just be lingering here," the guard noted. The man was unable to respond with a fully comprehendible sentence and seemed not to realize what the guard wanted from him. "Let me help you carry your stuff outside. We can't have you doing that here" the guard said again. The situation struck me as reminiscent of writer Kirsten Thorup's description of a similar situation at the Central Station in her novel *Lille Jonna* (1977): "We came up into the hall. In front of one of the benches were two large puddles of vomit covered with sand and sawdust. This is the big city.
A porter with a cap and a stern pale face was throwing out an old long-haired and gray-bearded alcoholic. He resisted and wouldn't leave.

And Marie interfered:
- What do you imagine you are doing, harassing peaceful people in this way, she said furiously.
- this gentleman has nothing to do here. He has no ticket and is not going on the train, the porter defended himself.
- Should that really be necessary to be allowed to stay in this filthy station? It's a scandal for the city." (Thorup 1977, 205).

There has always been people looking for a place to stay, and Carlsen writes, "in the past, many people sought overnight accommodation here in the hall; both transients and a more or less regular clientele of homeless people. Nowadays, there are more night guards, and they throw out unwanted people. What defines an undesirable person varies a bit, it seems. If you can't produce a valid ticket to leave by train from the central station early the next morning - or the same night when the night train was running - you are generally not allowed to stay in the building. On some nights, people with a legal reason for staying prior to train travel have still been kicked out, but this has happened when they have earned it through bad behavior. After all, a travel ticket is not a simultaneous license to be rude while waiting." (Carlsen 2020, 9)

Safe and Clean

Deterring these perceived negative activities is furthermore a way to ensure that the space is perceived safe by the users of it, DSB expresses. *Safety* is an overarching agenda pivotal for the management of the space. People loitering is perceived as contributing to a feeling of insecurity. This line of thought is present in the visions of the Metro Company who says, "the metro is designed to make you feel safe and to protect against crime, etc. No corners, no angles, no hiding places. You need to have an overview" (Interview with *Metroselskabet I/S*). According to statistics provided by the analytical institute Voxmeter, there is widespread insecurity for people using public transportation (Voxmeter 2022), and in November 2021 the government

implemented the so-called Safety Deal[5] (*Tryghedspakke*) that seeks to strengthen feelings of safety in public spaces. As part of this deal, train stations are spaces of interest since "in recent years, there have been several examples of groups of mainly young men assaulting random citizens at S-train stations and on S-trains, as well as hanging out at stations and creating a great deal of insecurity with their appearance and presence." (Justitsministeriet 2020). As a strategy to counter this apparent (politicized) insecurity and unsafe environment, DSB has increased the surveillance and control: "Until recently, surveillance cameras were sort of deactivated meaning that they are recording, but no one is looking unless there is an occasion to do so. But over the summer (2021), as part of the new security deal, there has been an upgrade of surveillance with more cameras and now workers are also actively monitoring the cameras live. Furthermore, guards in the central region are present 24/7 at the stations and in the trains, and also there is a hotline you can call if you feel unsafe, and then the camera can follow the actions live from where the call is coming from" (Interview with *DSB*). More precisely, "DSB will increase the staffing of DSB's surveillance center so that in the future there will be two employees present around the clock to handle various video surveillance tasks. At the same time, DSB will upgrade more than 700 cameras at the S-train stations to improve the quality of the video surveillance material." (Justitsministeriet 2020).

One sees a renewed focus and attention to strengthening the monitoring units at the Station. Although this increase happened in 2021, two former 4CITIES students felt the surveillant gaze on their own bodies 11 years earlier. In 2010 Mohammad and Muhammed undertook a field study at Copenhagen's Central Station as a preparation for a presentation. As they were studying The Central Station they barely got the chance to take any photos or notes before they were stopped by DSB officials who pulled them aside fearing they had plans of conducting a terror attack. While this act of DSB should be ridiculed and scrutinized, the anecdote highlights the focus on surveillance and urban control. While video surveillance nor human guards are

[5] The Danish word *tryghed* can be translated into multiple English words, but mostly *security* or *safety*. As *safety* refers more to the well-being and comfort I choose to translate *tryghed* to safety in this thesis.

objects of analysis in this thesis, it provides an important context of control and management of space for which defensive architecture is a part of.

Within this safety and security paradigm, there is also an intention to keep the station clean, as DSB states, "if a station is nice and clean, then most people treat the station well, while if the stations looks sad and unclean, people will be prone to also throw trash and don't care" (Interview with *DSB*). This line of thought resembles Kelling & Wilson's *Broken Windows Theory*, in which they argue that "if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken. (…) one unrepaired broken window is a signal that no one cares, and so breaking more windows costs nothing" (Wilson and Kelling 1982, 4) . This is also pointed out in the interview with the Metro Company: "The cleaner the environment is, the less people throw their trash" (Interview the *Metroselskabet I/S*). Thus, DSB and the Metro Company believe that a certain physical environment will encourage certain behaviors, and they establish a causal link between behavior and the design of the environment. Most often, this causality is rather simplistic because it displaces the issues it tries to solve, and instead offers a surface-level solution with little effect on the actual socio-economic causes.

Nevertheless, to take on the role of the devil's advocate, DSB nor the Metro Company may not have any interest in solving complex socio-economic matters. If they eliminate the unwanted activity in "their" space, the intended strategies prove effectful. What is relevant for this thesis is though not whether defensive architecture is effective and successful in its intention. However, this example provides an important aspect for understanding the rationality of defensive architecture. If the unwanted activities can be pushed out of a space, and most likely create a sort of waterbed effect where the presence of homelessness, let's say, moves somewhere else, then their job is done: "We [DSB] assume that when we create a café area, and shops facing Reventlowsgade, some of the elements that create insecurity will move elsewhere" (Brink 2022).. Therefore, the intention of adopting defensive architecture is not to solve a problem but to deter activities from taking place activity in certain spaces. This is one of the reasons why defensive architecture should be critically

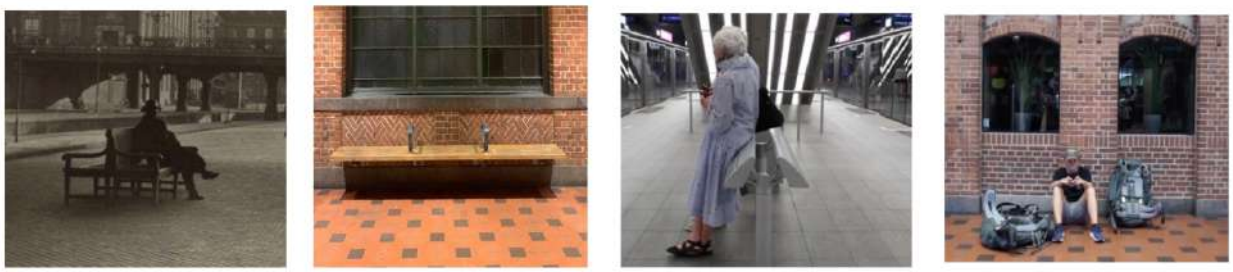
discussed, and one must criticize the adoption of this design as best practice – as will be done in the discussion.

Another aspect that fosters the use of defensive architecture evolves around the the question of finance. A problem for DSB is the high costs of maintenance, especially in regard to graffiti removal. In 2021 DSB spent around 71 million Danish crowns on graffiti removal nationally, and DSB has agreements with a cleaning company specializing in the removal of graffiti. While there are many ways of perceiving graffiti, DSB believes it is a factor that creates an unsafe environment for travelers: "We [DSB] would like to impose a zero-tolerance policy, and in the central region there is an agreement with a company going to 20 stations every day to look for and remove graffiti". (Interview with *DSB*). Besides being perceived as a driver of an unsafe environment, graffiti is furthermore perceived as adding to a degrading milieu and as something unclean. This furthermore adds to the broken windows-driven argument.

II. Spatial formation of defensive architecture

As presented in the literature review, there is a long tradition and attention to how spatial formation can be used as a tool for control, regulation and urban order. While chapter one introduced the intent of implementing defensive architecture, this chapter provides a material investigation showcasing how the orderly intentions mentioned above have materialized in the urban environment. So, in the context of *Copenhagen's Central Station, what are the material formations of defensive architecture, and how are they embedded in the urban landscape?*

By looking at the design of a rather simple and banal object of a bench, it is possible to trace how defensive architecture materializes. Inspired by Gideon's work on furniture and the technological advances and manufacturing techniques (Gideon 1948), I seek to trace not only the changing materiality, but also to analyze the social, political and normative reasoning these objects embed.



I. Double-bench with armrest at each end

II. Bench with armrest in the middle (addition of armrest to existing object)

III. Leaner/Half- bench (modification of the idea of a bench)

IV. Removal of bench (removal of bench or seating amenities)

Figure 10. Evolution of bench design. Source: Elfelt and by author (2022).

Having the bench as an object of inquiry into the world of defensive architecture enables us to outline three typologies of defensive architecture*; modification*, *removal* and *addition*. These categories help us expand the idea of defensive architecture to go beyond benches, and further investigate the multitude of objects delegated a defensive attribute. The second chapter of the findings sections then is further divided into three separate sections that discuss the three different typologies.

II.I Typology of modification

This typology deals with modifying existing objects that are modified in ways that certain activities are no longer as possible as before. A clear example of this strategy is the modification of surfaces, making them resistant to graffiti.

Foliage and coatings

DSB considers Graffiti to be an act of vandalism and driver of fear and an unsafe atmosphere: "For DSB's customers, using trains or staying at stations covered in graffiti makes them feel unsafe" (Interview with *DSB*). By adding a layer of graffiti-resistant coating or transparent foliage, it is possible to prevent graffiti from sticking to the surface or make it easier to remove the graffiti: "Within the last 3-5 years toilets have been renovated and the walls have been added photos and coated with a surface so you can't make graffiti" (Interview with *DSB*). Not only are the stations designed to defend against vandalism, but trains also contain elements of protection, as is described in Grønlunds novel *Sub-Land* (2005): "The litra-train has undergone two

major renovations and modernizations, 1984-1986 and 1992-1995. The atypical form is deliberately constructed non-graffiti friendly" and "all seats are upholstered in a type of fabric that could reduce the impression of possible vandalism" (Grønlund 2005, 79,80).

Pay-to-use toilet

Another way of trying to deter the use of graffiti is by modifying the act of using the toilets. *Pay-to-use* means that the guest has to pay a certain amount of money to unlock the toilet service (5 Danish crowns in this example). It is believed that this system has a deterring effect on impulsive graffiti artists: "Those who make impulsive graffiti or other vandalism usually do not want to pay for it" (Interview with *DSB*).

Figure 11. Entrance fee and graffiti-resistant foliage. Source: author, 2022.

Until 2011 it was possible to use the restrooms without paying, although a voluntary donation was possible: "Toilets moved [to different location] and became payment toilets. Previously you could donate if you wanted to. And oh yeah, now it is card payment only. It is normal that a homeless don't have a credit card" (Interview with *Gamlesmølf*). Although, from the opening of the the The Central Station, four out of five toilets were pay-to-use toilets. About these toilets, journalist, Hakon Stepehsen describes the experience of using the toilet anno 1966: "One of these rooms are free to use. The other four rooms can be accessed by paying 25 cents linked to the lock. If, after this experience, the guest should wish to wash his hands, or perhaps after a long journey to freshen up a little, he must leave this expensive room. He will then find a door leading into a rather narrow back room, where a friendly servant in a short-

sleeved shirt manages four sinks which have been set up. You can use this sanitary facility by paying another 25 cents." (Stephensen in Flindt Larsen 1994, 26).

Sometime during the 1980s, these toilets then gradually became free or donation-based. They were managed by a caretaker, who not only helped facilitate the cleanliness and functioning of the restrooms, but also provided a form of informal social work with the users of the restrooms – a *tissekone*[6] as it was called: "In this toilet, we take in everyone - even those without money. From prostitutes to a bride who needs to freshen up before getting married" a former tissekone says (Schouboe 2011). In a similar vein, a former user of the toilet user reports, "it's like coming home when you get there. There's a warm welcome and you're accepted, no matter who you are, whether you have holes in your clothes, whether you're homeless or a drug user. You can have a shower and a chat. Many of those who come have no one else to talk to (Ibid). In 2011 this place changed from the underground to the ground floor and instead "these 14 toilets, 6 urinals, and 2 handicap friendly toilets have become bright, modern – and 5 crowns more expensive. Access is only gained through buying a ticket from the machine and scanning it when you enter" (Egebo 2012). The modification and monetization of the restroom facilities is a way to create an environment that is "bright, stink-free and calm" as service worker of the current payment toilet notes (Egebo 2012). Furthermore, it is noteworthy that the former caretakers were not invited to become part of the new restroom. Instead their job and place in the station was neglected.

Figure 12. Former toilet and toilet worker as depicted in the movie 'Alt På Et Bræt' (1977). To the right, former toilet with colorful selection of underwear for sale. Source: youtube and Berlingske Tidende (2011).

[6] The Danish word 'tissekone' refers to the female genitalia, but literally means "pee woman", hence the title of the job.

As the photo shows, the former donation-based toilet provided a colorful and unpredictable place bound up with informality and social interaction. The modernized [read: monetized] version is controlled quite literally by a small gate, which first prevents less privileged social groups from accessing the space and adds to a process of banalization and commercialization of The Central Station. This effect of monetization and defensive restroom change will be discussed in depth later.

Transparent architecture

Staying within the context of lavatory issues, the elevator presents another interesting example of defensive architecture. The elevator is a place that is notoriously known for smelling of urine, being a canvas for graffiti artists, and vandalism. The newest elevators taking passengers to the metro underground are all designed with transparent glass that "besides being nice design, we also hope that this [glass] will discourage people from urinating in the common elevators" (Metroen 2021).

Figure 12. Glass elevator. Source: Author, 2022.

By adopting a transparent design, people using the escalators will be under the public gaze and thus more surveilled to make "proper use" of the infrastructure. Thus, the glass-structured elevator can be argued to be a kind of window display where the possibility of being surveilled can lead the individual to increased self-discipline. This potential surveillance is the underlying belief or motive that makes the glass architecture a technology that prevents people from urinating in the elevators.

The lean

When discussing the category of modification within defensive architecture, one of the most discussed examples is the bench. The increasingly common design of a so-called *leaner,* also known as perch-bench or half-bench, epitomizes the modification of a classical object like a bench turned into to a defensive piece of furniture: "In some of the places where we were most affected, we made butt benches where you stand halfway up, but it is of course not a bench" (Interview with *DSB*). The leaner in the Copenhagen Metro, is by the designing company KHR Architects referred to as *ballehviler* which translates to 'buttock recliner'.

Figure 13: *Ballehviler* design by KHR Architects. Source: to right by: https://khr.dk/projekter/ballehviler/ and to the left by author (2020).

The leaner does not provide proper seating but offers a *leaning* experience, where the corpus must stay upright: "we offer rest for the body, but it's not really a bench" as DSB states. The leaner is present at the station, to not provide or afford any lying down (or even sitting down) as is the wish from DSB and KHR Architects, who writes, "there is a maximum of four minutes between each train in the Copenhagen Metro. *Ballehvilerne* underlines the short stay of the passengers at the station – that the traveler is underway on a dynamic journey" (Beedholm, nd). Regardless of the short duration of the stay of passengers, the Metro Company acknowledges that the leaner "is an example of dark design" (Interview with *Metroselskabet I/S*), but furthermore adds, "if you cannot stand up for two minutes it is not our problem" (Ibid).

II.II Typology of removal

Another solution - which may not be deemed technical, but rather magical for its powers of making objects disappear - is the removal of benches and other amenities like "…washrooms, benches, and water fountains that are often included in public spaces to make them more comfortable, but are absent due to disrepair, reduced operation, or intentional omission. This is done as a way to reduce maintenance costs, avoid vandalism, or to deter loitering" (Chellew 2019, 23).

Where are all the benches?

The act of removing benches from spaces as a strategy of DSB can be identified as early as the 1970s and 80s. During this period, it responded to a growing number of people who used the station in "ways that were not intended" (Flindt Larsen 1994, 8). The removal of benches was opted for to deal with this issue architecturally: "this explains why, to the dislike of many travelers, during the 1970s and 1980s the central station became remarkably empty of benches" (Ibid, 49). The same observation is made by the protagonist in Thorup's novel, as she writes, "…there are far too few benches. This message you [DSB worker] should pass on to the man upstairs!" (Thorup 1977, 72).

During the walk-and-talk interview with HusForbi vendor, Gamlesmølf, he multiple times emphasizes that "many benches are no longer here. It used to be easy to find a bench to take a rest, but this is no longer the case" (Interview with *Gamlesmølf*). Every time I would visit the Central Station for fieldwork, I would start by strolling along the four walls, where all the benches are placed. I would observe how they were used and if any changes in use or shape had occurred since the last time. What seemed to be a constant for every time I observed the benches was that they were always in use - all of them. Rarely would there be a spot available. There would be a relatively high degree of substitution of people, in the sense that as soon as someone left a free spot on a bench, it would quickly be occupied by someone else – "this might not strike you as an intellectual bombshell, but people like to sit where there are places for them to sit." as William Whyte famously said.

Figure 14. Platform with double-bench from 1972 and platform anno 2021. Source: Wikimedia Commons and by author.

The photo above is symptomatic and representative of how the platforms are designed. A variety of commercials, signposts, 7-eleven shops and birds take up the space, but seating amenities are absent. The platforms have historically never offered a swarm of benches. However, benches used to be more present than now. In the photo above, the commercial signboard to which the person is standing in front used to be a combined billboard and bench, as the reader can see in figure 15.

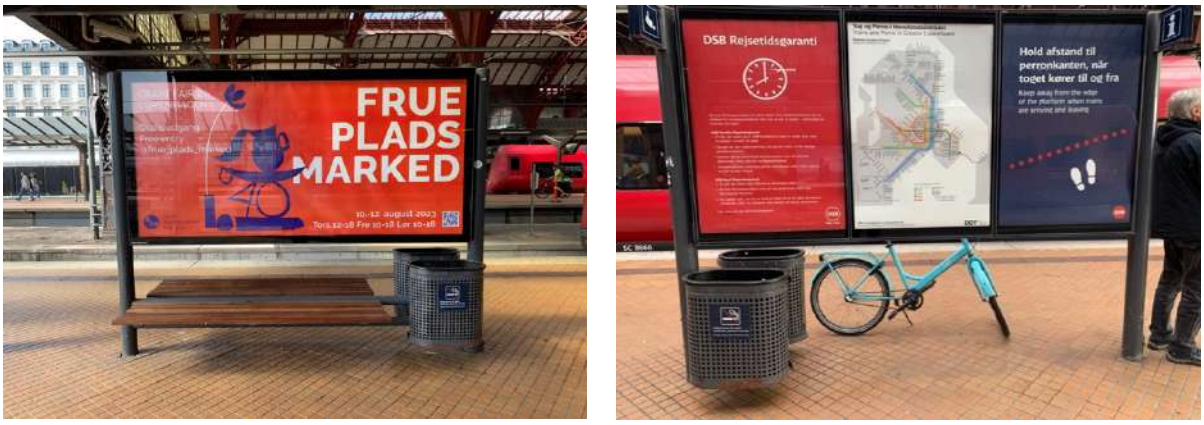


Figure 15. A common billboard-with-bench and billboard-without-bench at Copenhagen Central Station. Source: Author, 2022.

As the photo to the left shows from another station in the city, a bench is sometimes integrated into the billboard. This is no longer the case in the photo to the right, where you can almost sense that something has gone missing – the bench is suddenly a "ghost amenity" (Chellew 2019, 23).

Privatization and temporal removal

The station's environment offers different seating options depending on the time of the day. As I was jotting down field observations in my notebook while drinking a Coca-Cola at an "outdoor" table belonging to one of the cafes, I was suddenly told to

pack up my stuff: “it's 9 PM, we are closing,” the employee said. This meant that the tables that otherwise are put outside of the shop and into the hall would be taken inside. Banal as it may seem, the shops which close at 19.30 or 21.00 take in the seating options that are “offered” during the day. While these seating options are commercialized/privatized and can thus only unlocked by buying products from the shop, they offer seating to a vast amount of visitors during the day.

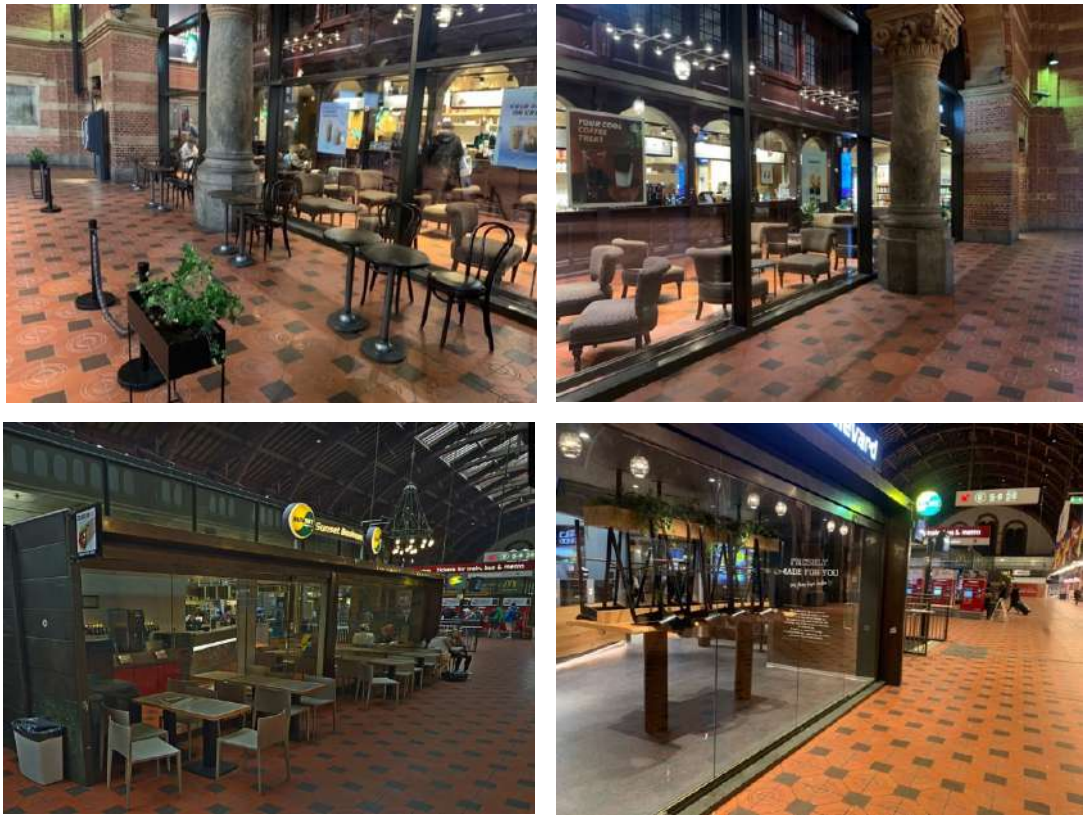


Figure 16. Left side: Open shop = seats are available. Right side: Closed Shop = seats are not available. Source: GoogleMaps and by author (2023).

The privatization of the seating possibilities and private shops taking up space at the station can in itself be considered a kind of defensive architecture by presenting a financial barrier to the use of the space – similar to that of the payment toilets: ”Only through consumption is it possible to gain access to certain urban spaces” as Saskia Sassen writes in the *Metropoloi Consumata* (2013). When the seats are being locked inside after closing hours, the environment becomes even more defensive and empty of accommodating amenities. This temporary removal of (privatized) amenities thus also adds a defensive element to the scape of The Central Station, where one who is

on the hunt for seating options can look through the glass and see the furniture locked away from the public.

Bottle shortage

"The use-and-throw-away culture is clearly reflected in the DSB-owned garbage boxes. Beer cans, plastic cups and paper cups abound. But the bottles, which were so plentiful just a few years ago, are sadly not found to the same degree anymore. On my 16th round, I have ten bottles and a whopping four crowns, found by a systematic search (…). For the sake of the financial situation, I decide to extend my collection territory to the outdoor area around the station. It is a very special and indefinable feeling to put one's paw into these community boxes, which so perfectly reflect life with all its joys and sorrows. The boxes contain not only shit, which can be washed off with soap and water, but also used razor blades and needles, which can quickly become a lifetime of shit. I am considering complaining to the Danish Working Environment Authority" (*Berlingske Tidende* 1997). Another persistent type of removal at The Central Station is the removal of recyclable bottles. The diary from the station offers an account of how looking for refundable bottles in trashcans is a part of the livelihood of some people.

With its 100.000 daily visitors, The Central Station possibly provides an attractive place for people collection pant (*pantsamlere*). Yet, as DSB aims to assert a certain order, the practice of collecting bottles and the people performing this activity is perceived as unwanted: "we witnessed a situation at Copenhagen Central Station where a man who was collecting bottle deposits was approached by one of your [DSB] service staff. She scolded him and asked him to hand over the empty can that he had just fished out of a bin." (Heide-Jochimsen 2023). It is preferred by DSB to not have people looking for bottles in the trash, and one way of minimizing this act is to remove recyclable bottles from trashcans. This preventive act is underlined by Gamlesmølf (HusForbi), and during my fieldwork, I noticed how the cleaning staff of DSB always checks the garbage cans and fish out the livestock of others. While the typology of removal in defensive architecture tends to focus on stationary objects and amenities being removed (such as the bench) one should also include mobile objects, e.g., bottles that,

in this context, are more than mere objects of trash. Rather, the bottles present an object of finance that people depend on. By removing these, the urban environment becomes emptier of resources and aims at deterring certain groups of people of using the space. While the removal of bottles may not be an architecturally defensive strategy, it sheds light on how simple objects, like the bottle, and the management of these objects play pivotal roles for organizing space in a defensive way.

II.III Typology of addition

The removal of things is a common defensive strategy, but another typical trademark of defensive architecture is the use design features that " are *added* to a space to deter possible users" (Chellew 2019, 23). Video surveillance (CCTV) is a commonly discussed object within this category, and something that has been added to a high degree at The Central Station. Cameras could thus be objects of interest, but this thesis narrows the scope of urban control elements towards more camouflaged and seemingly innocent objects. Therefore, other empirical examples that perhaps go under the radar, are prioritized.

Gatekeepers

During a field visit, it was noticed that two automated teller machines (ATMs) occupy a position that seems *out of place*, in the sense that they look rather awkwardly installed and not in line with the surrounding environment. Using the Streetview option on GoogleMaps it was noted that two room divider panels/walls previously were in place until 2017.

Figure 17. Previously installed room dividers and current ATMs. source: GoogleMaps and by author (2022).

A room divider is – as the name suggests – an object that divides a space into two (or more). In this case, the space behind, divided, first by the room divider walls and second the ATMs, is inaccessible due to the obstruction made by the objects installed. Thus, the former room dividers and the current ATMs act as physical obstructions and gatekeepers to the empty space that provides a relatively out of sight resting spot.

Anti-urination

"In London a man may sometimes walk a mile before he can meet with a suitable corner; for so accommodating are the owners of doorways, passages, and angles, that they seem to have exhausted invention in the ridiculous barricades and shelves, grooves (…) to conduct the stream into the shoes of the luckless wight who shall dare to profane the intrenchments" (*Atlas Obscura* n.d.). In efforts to counter unhygienic and unsanitary acts like urinating on the street, cities around the world have installed urine deflectors. Some of these goes far back in history, as early as the 17th-century. Particularly in the UK, where the urine deflectors became a popular tool to deal with issues of urban hygiene during the 19th-century's "dirty old London". Furthermore, urine deflectors were historically used to prevent soldiers and guards from loitering and urinating in corners. Because these pee bumps are tilted downwards, the urine is led away from the building and "down on the feet of the wrongdoer!" (*Atlas Obscura* n.d.)

Figure 18. 19th-century anti-urination and pee-bump in Liverpool and anti-urination fence at CPH Central Station. Source: Dismalgarden and by author (2023).

The photo above is an example of an anti-urination device installed at the outer façade of the central station. The anti-urination fence in the photo does not necessarily deflect the urine as other typical examples of anti-urination objects, but rather a fence is added to the corner to limit the possibilities for the urinating person to get into the corner, which typically is the sought for place when urinating in public.

Disciplinary Acoustics

At the same entrance to which one finds the anti-urination fence, music was implemented to discourage people from loitering in 2003. This entrance of The Central Station has, in local lingo been referred to as *Istedgade-indgangen*, which is the adjacent street leading to the entrance. The term Istedgade-entrance refers more to the cultural connotations of the street than anything else: "For more than 100 years, this street has been housing the cheap part of Copenhagen's street prostitution and brothel industry, and since the release of pornography in 1969, the street scene with its photo pornography, film, and erotic remedies as well as small erotic cinemas was fulfilled" (Harsløf 2006, 83). As one sees, this adjoining area of The Central Station has a history of quirky existences and social issues. This geographical location of the entrance meant that it became a magnet for a crowd of marginalized people, who could find shelter from the weather, and Harsløf further describes, "this space then became a multifunctional space as marketplace, injection room, meeting point, bodega and safe haven" (Ibid, 84).

For DSB and some local residents, this was seen as an unfortunate occupation of the entrance: "DSB thus had a serious problem which had to be solved in a humane as well as efficient way. In 2003, a loudspeaker was set up at the entrance, from which piano and orchestral music from the romantic period (approx. 1800-1860) was played with a strong, but not disturbing volume around the clock." (Harsløf 2006, 88). With inspiration from *Deutsche Bahn* and the Hauptbahnhof in Hamburg, DSB implemented specifically composed anti-loiter music. While DSB got inspiration from abroad, they inspired another train travel company, *Banedanmark*, to install anti-loiter music in the elevators on the bridge of *Tietgensgade* to the platforms of the trains: "our staff couldn't

get the unwanted people to leave the elevators, so we had to find an appropriate and long-term solution. And we didn't have to look far before we quickly realized that classical music has solved a similar problem at The Central Station's exit to Reventlowsgade." (Due 2010).

In the case of the central station, those targeted by the music seemed to have their experience shaped by it: "Within just a few days, the space was emptied from addicts, and one week after, a painter could clean the walls, ceilings, floor, and woodwork, and thus apply the same colors which otherwise embellished the rest of the central station" (Harsløv 2006, 89). Similarly, a local user of the space said, "I don't fucking notice if there are a few violins, but the music reminds us that we are not welcome here" (Kreutzfeld 2011, 11).

Interestingly, these remarks contradict or at least nuances what Gamlesmølf (HusForbi) expresses, "if you need your drugs, you need your drugs. So classical music will not affect that" (Interview with *Gamlesmølf*). Along the same lines, DSB express that "the music did not really have an effect, so it is not considered to be needed at the moment. There is a bakery and there is our luggage center, so there is not the same need. But there are many other places around the country, more than we have ever had, like around 15-20 places where the music is installed. We actually just got new music composed for it" (Interview with *DSB*). While the addition of Lagkagehuset (a bakery) replaced the loudspeakers, anti-loitering music is more present than ever in the general Danish landscape, 14 train stations (anno 2023) in Denmark contain these disciplinary acoustics (Pratt 2023).

One could now critically ask how music relates to defensive architecture and if sound can be considered as architecture. "Can architecture be heard?" Steen Eilar Rasmussen asks in his pivotal book *Experiencing Architecture* (1959). While Rasmussen talked primarily about acoustics of buildings and spaces, the case of specifically composed anti-loiter music presents an interesting case where sound and urbanism become intertwined. Sound, whether acoustics or actual composed music, play a role in how space can be perceived. In this regard, Kreutzfeldt remarks, "the thesis is that sound

and hearing can help reveal the social form of a place at least as much as sight." (Kreutzfeldt 2011, 6) and thus we can talk about a sort of *sonic architecture.*

Double-defense and surface tensions

Even though this thesis does not focus on defensive measurements against terrorism, allow me a moment to guide your attention toward the flowerpots standing in front of one of the entrances.

Figure 19. Anti-vehicle flowerpots. Source: Author, 2023.

These flowerpots work as anti-vehicle barriers that aim to make the space more resistant to vehicle-driven terror attacks. Flowerpots have become the preferred solution for aesthetically pleasing terror design formation globally (Coaffee 2021). At the Central Station the flowerpots are made by design company GH-Form and issued by the Municipality of Copenhagen since this area is communal and not under the jurisdiction of DSB. While these flowerpots add to the total environment of *defensivity*, the addition of knobs to the edges of the flowerpot is the object of analysis. During a field visit, I noticed that the flowerpots had knobs added to the pre-existing design, which is not a standard feature of the flowerpot.

Figure 20. Anti-vehicle flowerpots. To the left: classic flowerpot made by GH Form in different location. To the right: knob-fitted flowerpot at the Central Station. Source: GH Form and by author (2023).

The knobs were added in December 2022 as a defensive strategy to deter people from sitting along the ledges: “The reason is that the flowers are destroyed when people sit on the edge. Often a backpack or other bag gets stuck in the flowers, causing them to break or get crushed. Or they [people] stand on the edge to watch concerts over in Tivoli. This means that we have had a significantly higher cost in connection with the restoration of the flowers right here. We have therefore had to find a solution that could reduce the problem. It is only the pots at the Central Station that have buds on them” (Barkved, personal communication, 2023). Thus, the buds/knobs are added as another defensive element to an already defensive object. In this example, the object is designing against both the enemy of the terrorist, but also the ordinary citizen who tries to make use of the urban environment - a two-fold intentionality is designed into the object.

The notorious armrest

"The wrought iron arches that divide us benches into sections are placed so close together that an adult person cannot lie stretched out. This is not a mistake. In addition to serving as armrests for sitting, the iron also has the intended function of preventing us from serving as a sleeping place; at least not a comfortable sleeping place" (Carlsen 2019, 11). As told from the perspective of one of the armrest-fitted benches at The Central Station, we learn that the armrest has the function of preventing people from lying down. When discussing the defensive architecture, the armrest-fitted bench has become the symbol of this architectural typology.

Figure 21. Bench with armrest. Source (from left to right): TV2 Lorry and by author (2022).

In the case of The Central Station, all free[7] seating at the station comes in the shape of benches, which are all located (except two) along the walls in the rectangular formation the station has. As seen in the photos, the bench contains two armrests that are located towards the center of the bench. In this case, these armrests make it possible to discuss the *defensiveness* of the furniture. While an armrests offers - as the etymology hints - a place to rest an arm, it is commonly used to prevent people from lying down on the bench. Rosenberger refers to this type of bench as an "anti-sleep bench," which he further describes as "a bench fitted with seat dividers or armrests that discourage its use as a space to lie down" (Rosenberger 2020, 885).

Rosenberger is one of many scholars who have guided our attention to the defensive architecture of benches – and not without reason. The bench is perhaps one of the most banal and central urban designs and pieces of furniture. Journalist, Edwin Heathcote goes as far as calling the bench the "seat of civilisation" and further writes that "the bench is a vantage point for the city and, in a way, it melts into the metropolis, a small piece of 'cityness'. So much so that its actual form becomes anonymous." (Heathcote 2015). While the bench may seem anonymous to most people, and look like any other bench in the city, it presents an example of defensive architecture and thus becomes the center of attention of an array of theoretical discussions: "It [bench] should be a simple piece of furniture where people can sit down, but it is not", as DSB tells me. The armrests are strategically implemented "in two places so you can't lie down and sleep on them and is an attempt to adapt to the complex situation of having to offer rest for people but not providing infrastructure to unwanted behavior" (Interview with *DSB*). One sees here how the seemingly banal urban design presents a complex matter in the management of urban spaces.

[7] That is to say: benches that do not belong to any commercial enterprise but are part of the train station's general infrastructure.

Conclusion of findings

Safety, cleanliness, ideas of order and maintenance costs underline the intent of the defensive architecture of the station. Categories of what is acceptable behavior and what is matter out of place are created. These labeling processes are based on socially constructed values of "rights and wrongs", as well as economic values. The increase in surveillance and control of the station stems from both a governmentally driven agenda founded in the Safety Deal, but is also driven by DSB's ideas about what is positive and negative activity. While more human guards and cameras have been installed in the space of the station, the empirical focus of this thesis lies in how the banal material environment embeds a disciplinary agency. As DSB says, "no one will follow rules written on a poster" (Interview with *DSB*) and as minister of defence Trine Bramsen comments, "security guards cannot solve all challenges" (Justitsministeriet 2020). By looking at how defensive intentions materialize into defensive architectural designs at the Central Station and the immediate surroundings, it has been possible to detect three typologies of defensive architecture – which is in line with existing literature (Chellew 2019). As seen above, objects have been modified, added, and removed to deter specific uses. Interestingly the object of the bench was discussed in each section and hence embed all three techniques. Throughout the station's history, there has been an increase in the use of material objects to enforce attitudes and behaviors. While removing or displacing benches was a strategy in the 1970s and 80s, it has become increasingly common since the 2000s to use the urban environment as a disciplinary agent and tool to assist in managing space. As seen with the metro station that opened in 2019, a total defensive material environment came as the default setting. This hints that spaces today are more embedded with attention and tuning to make them safe, controllable, and orderly. Therefore, the delegation of discipline to objects and the material environment seem to play a more significant role today than previously.

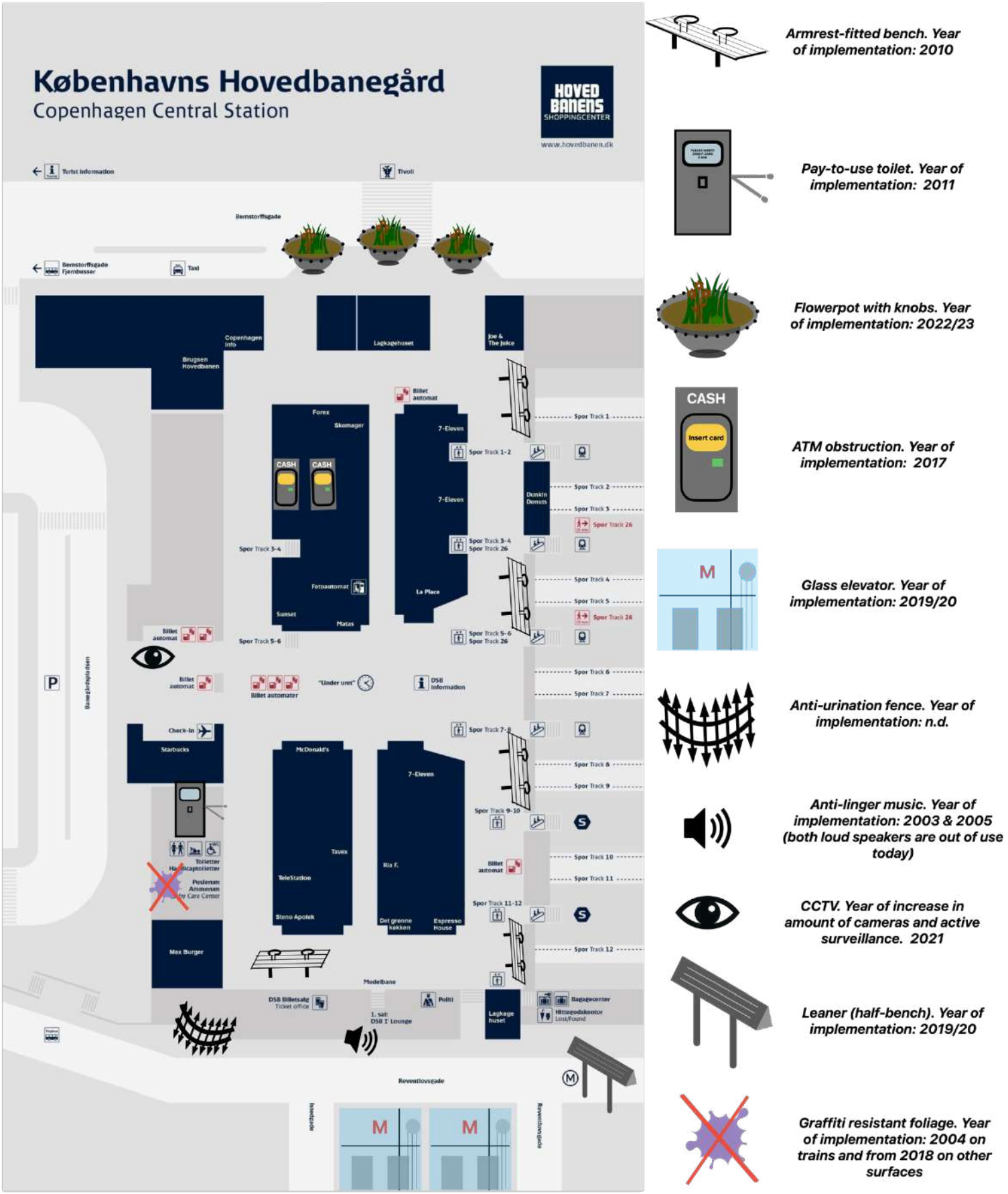


Figure 22. Overview of the Central Station of Copenhagen and the discussed empirical examples of defensive architecture. The ghost amenities (removed objects) are not included since they are difficult to visually include. The illustrations does not accurately depict an placement of the objects, but gives an approximate idea. Source: Map by www.hovedbanen.dk and drawings by author (2023).

Analysis - Fooled by the Innocence of Mundane Matter

Figure 22. State Parkway overpasses on Long Island, New York. Source: NYC Urbanism, 2022.

This section provides an analytical perspective on the presented empirical findings. Arguably, The Central Station can be seen as an ”interdictory space” that is designed to filter out certain groups through exclusionary design strategies. This interdictory space “functions to systematically exclude those adjudged unsuitable and even threatening, people whose class and cultural positions diverge from the builders and their target markets.” (Flusty 2001, 659). Furthermore, “interdictory space, however, has done more than merely remain in place. It has undergone a process of continual evolution, becoming subtler and more systemically pervasive.” (Ibid). This section consists of a fourfold analysis, in which the first section analyses defensive architecture at the Central Station from a perspective of how things and objects participate in the control and construction of the urban environment, thus adding to *the material turn*. The second section examines how the camouflaging and banal character makes this defensive architecture fly under the radar and why this process of naturalization is opted for. The third section analyzes the diversity of defensive architecture and adopts a post-panoptic perspective on the disciplinary architecture

at the Central Station. The fourth and last section nuances the idea of the direct relation between materiality and behaviour and provides an understanding of how materiality not by default prescribes a specific use of space.

I. The Sleeping Policemen

As the findings show, the urban environment's mundane objects should be considered important actors (co-)constituting urban life. It must be argued that "material features of everyday life contexts are more than inert background for social practice" (Caronia and Mortari 2015, 403). Rather, objects such as the bench "participate in the construction of the social reality" (Ibid). As this thesis draws attention to how objects are delegated competencies to structure the use of space, it is worth analyzing: *how, in the case of the Central Station, are objects embedded with disciplinary intentions, and how can we consider these disciplinary objects as active agents*?

About the bench, DSB says, "it should be a simple object, but it is not", and thus we can begin a material study taking the case of benches and leaners as a good starting ground. The leaners, also referred to as "non-benches" by Marcuse, are imputing a certain discipline towards the user of the space: "A person can shift some body weight from the feet to the lower middle rear of the body while waiting. (…) more than five minutes is hard to take, and sitting it can scarcely be called" (Marcuse 2000, 18). By design, the leaner aims to assert a certain way of being within the space of the metro by adopting a specific design that only affords limited bodily positioning. A corporeal punishment and discipline is produced – "it is not our problem if you can't stand up for 4 minutes" as the Metro Company says. In the words of Foucault, docile bodies are created by this obedience to the design. Similar to how the teacher in Foucault's example from educational institutions is discipling the pupils on how to sit and manage their bodies orderly, so does the material environment cast a discipline of orderly behaviour. In this way the leaner functions to order the many existences and possible actions, and resembles Foucault's idea of discipline, as he writes, "the first of the great operations of discipline is, therefore, the constitution of 'tableaux vivants', which transform the confused, useless or dangerous multitudes into ordered multiplicities" (Foucault 1977, 148). The objects of defensive architecture re-produce

and reinforce a normativity of the *normal* in the use of certain kinds of objects, and thus, the leaner bears a resemblance to the Camden Bench, which is described in Deutinger's work as a *non-object*.

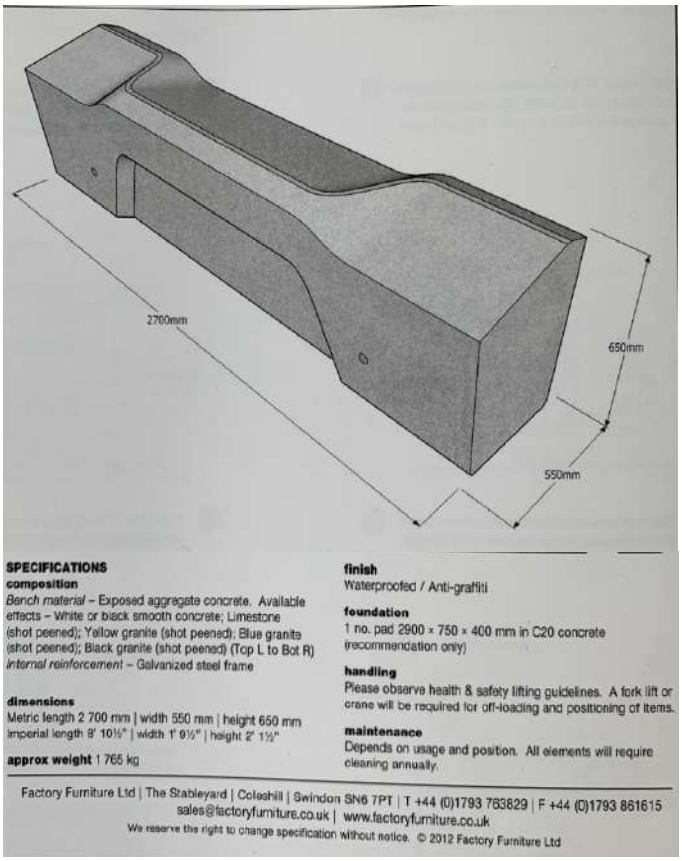


Figure 23. Camden Bench with specifications. Source: book *Handbook of Tyranny* by Theo Deutinger (2018).

"Behold the Camden Bench. This pale, amorphous lump of sculpted concrete is designed to resist almost everything in a city that it might come into contact with. Named for the London authority that commissioned it, the Camden Bench has a special coating which makes it impervious to graffiti and vandalism. The squat, featureless surfaces gives drug dealers nowhere to hide their secret caches. The angles sides repel skateboarders and flyposter, litter, and rain. The cambered top throws off rough sleepers. In fact, it is specially crafted to make sure that it is not used as anything except a bench. This makes it a strange artifact, defined far more by what it is not than what it is. The Camden Bench is a concerted effort to create a nonobject" (Deutinger 2018, 84). While The Copenhagen leaner may be less complex architecturally, they

[leaner and Camden bench] present examples of objects that are designed to repel more than what they provide.

Similarly, the role of the armrest-bench is a problem-solving tool to "unwanted behavior" as DSB puts it. Yaneva argues that "space is not a neutral, passive and inert backstage of political actions; it rather has an impact on political efficacy by physically preventing or mandating certain actions, encouraging certain kinds of behaviors rather than others (…) Architecture is expected to play a role in the cementing of norms of civility and difference and in the spatial disciplining of citizenship. (Yaneva 2017, 16). The design of an armrest to a bench aims at "physically preventing" a certain kind of behavior – namely, lying down. The steel object of the armrest thus is being trusted with producing a practical and social consequence. The same goes for the knobs installed along the edges of the flowerpots. The knobs have been clearly delegated an intention to facilitate how a space is used – or rather how the space should not be used - "the flowers are destroyed when people sit on the edge" (Interview with *The Municiaplity of Copenhagen*). In this case, the knobs actively balance the threshold between "orderly look" of space and "disorderly play" and present a similar case to a type of defensive architecture referred to as *skatestoppers*. These are "products designed to deter skateboarders from grinding the edges of external areas such as retaining walls, handrails, seats, planters, street furniture and more. Skate deterrents are usually made of stainless steel and are installed across architectural features with continuous straight runs. They work as mini speed humps" (*Classic Architectural Group* n.d.).

Figure 24. Skatestopper. Source: Wikimedia Commons

This “surface tension” as McDuie-Ra and Campbell call it, is part of a process of controlling the use of space. As one skatestopper-manufacturer advertises about their device: “ [it] only requires a one-time cost, and [they] are ‘on duty’ 24 hours a day, 7 days a week, 365 days a year!” (McDuie-Ra and Campbell 2022, 234). This rhetoric of the advert shows how the objects [skatestopper] are active agents on duty, in a similar way to how a human guard would be. At The Central Station “our [DSB] inspector will be on duty in the hall, and if people are sleeping without a train ticket, they will be asked to leave” (Interview with *DSB*). By opting for defensive architecture, this duty can be delegated to the material world.

The defensive benches and the knobs are always on duty, and work in similar ways as the speedbumps on your local neighborhood street that limits people’s ability to drive faster than the prescribed speed. Known also as *sleeping policemen*, these bumps are modifying the street, and thus “a certain program of action is inscribed into the speed bump and drivers are forced to join the program if they want to keep on driving” (Latour in Bijker Wiebe E et al. 1992, 244). The speedbumps then contribute to making the space and affects how it can be used. The armrest on the bench likewise aims to encourage a programme of use in which people are enforced to position their bodies in a specific way. If the prescribed action of the environment is not followed in the case of the speedbump, the suspension of the car will be damaged, while it is the corpus of the person trying to stretch one’s body that will feel the pain of the steel when “breaking” the prescribed programme of the bench. Thus, as the driver is “forced” to slow down, the travellers are “forced” to join the program of proper use, if they want to keep on travelling or be allowed to use the station's space.

It then seems reasonable to extend the notion of agency to equally include non-human actors and thus move beyond the notion that “the only true agents in history are human individuals’’ (Giddens and Pierson 1998, 89). The materiality of defensive architecture must be argued to play a role in the making of social structures. While there are still human guards aiming to control the use of the urban environment, their work is indeed assisted by these disciplinary designs that embed a *distributed personhood* (Gell 1998). By acknowledging that material matter is performing control

and is co-constitutive of the ways of acting at The Central Station, it becomes possible to trace what mundane objects do and why they matter. Furthermore, the empirical examples hold a strong degree of deviousness that makes the object seem innocent and somehow unimportant, but as Garutti states, "the environment we live in is more crowded than ever with artifacts and projects that implicitly induce specific behaviors" (Garutti 2016, 108). This devious and covert social control will be discussed in the following section.

II. Fooling the Enemy

"Since the war started the POPULAR SCIENCE MONTHLY has published photographs of big British and French field pieces covered with shrubbery, railway trains 'painted out' of the landscape, and all kinds of devices to hide the guns, trains, and the roads from the eyes of enemy aircraft. Until recently there was no one word in any language to explain this war trick. Sometimes a whole paragraph was required to explain this military practice. Hereafter one word, a French word, will save all this needless writing and reading. *Camouflage* is the new word, and it means 'fooling the enemy'. (*Popular Science Monthly* 1917, 217)

As is apparent by now, the defensive design presented most often finds its way into the urban environment through a subtle and socially acceptable form. There is a sense of invisibility to the defensive mechanisms that seek to regulate the use of space. James Petty's article on anti-homeless spikes in the case of London sheds light on this dynamic. He argues that the spikes used to prevent mainly homeless people from taking shelter in public space were considered a "blemish on London's urban aesthetic" and former Prime Minister, Boris Johnson, held that the spikes were "ugly, stupid and self-defeating" as well as saying "that they were 'not a good look'" (Petty 2016, 75). This calls for an interesting discussion of how the defensive and hostile elements of the urban environment need to fit a certain urban aesthetic.

One finds an interesting duality and ambivalence when looking at the defensive designs adopted at tThe Central Station. The defensive elements are being designed

to be *in place* while they design out what is deemed *out of place*. The defensive objects are thus materialized into socially acceptable forms to (invisibly) deter what is considered out of place (homelessness, people consuming alcohol, lingering, etc). ATMs, elevators, armrests, or music are not in themselves perceived as harmful or unjust objects. Rather they are everyday objects understood through their primary function, e.g., being a money machine or providing a place to rest an arm. Therefore, the banality of the object and the seemingly innocent character makes the camouflage.

One could further analyze this defensive design strategy as "an aesthetically pleasing veil" that masks the urban space's regulatory and disciplinary nature - a so-called *quaintspace* (Relph 2016, 252–58). This pleasing veil that is adopted can be understood as a process of naturalization in which "surveillant control becomes so deeply embedded in our daily lives that we simply fail to notice it. This naturalization of interdictory spaces and practices has been accelerated by efforts to render the increasingly pervasive technologies of security relatively transparent" (Flusty 2001, 261). The fact that visible disciplinary constraints are superseded by invisible ones, is mentioned in the work of Virilio who argues that "the importance of city gates as the symbolic entrance to the city has been replaced by invisible forms of control embodied in electronic surveillance systems. Physical constraints, such as city walls, have been superseded by other, more sophisticated methods of control." (Virilio in Leach 1999, 75). The camouflaging of defensive architecture adds to this process of naturalization and invisibilization. The term camouflage originated in France as a means to blind or veil. It has its roots in the military lifeworld in which the French army in 1915 listed a so-called *section de camouflage* (camouflage division), consisting of servants known as *camoufleurs*. Their job was to design and implement military camouflage on battlefields, such as putting up artificial, camouflaged trees to trick the enemy or make their military base blend into the environment.

Figure 25. Image of *Nine French soldiers at a wooden building with military camouflage* by Fernand Cuville. Soissons, Aisne, France, 1917. Source: Wikimedia Commons.

The way to trick the enemy, thus, is to adopt designs that look natural and true to the landscape. The same can be about the defensive designs at The Central Station. These are not attracting unwanted attention, rather they blend into the existing landscape and are thus able to perform the "battle" without being seen by anyone. The object of the armrest is not an anomalie on a bench, nor do ATMs seem like strange objects in the environment of the station. The discipline is thus embedded into a process of "absorption into other urban furniture" (Raahauge and Eeg 2022, 108). The difference between the military context to civil society and life on The Central Station is though, who is the enemy trying to fooled?

When camouflaging against other military troops, one is designing to optimize survival chances of not getting spotted by the enemy forces. When camouflaging defensive designs at The Central Station, one is hiding mechanisms of control, and defensive architecture only remains hidden for the people who are not in contact with the it. As Mike Davis notes, "although architectural critics are usually blind to this militarized syntax, urban pariah groups – whether young black men, poor Latino immigrants, or elderly homeless white females – read the signs immediately" (Davis 1990, 159). The enemy is the person who uses the space in non-welcomed ways, but this enemy reads the sign/camouflage immediately, as Davis says. For the homeless, the armrest is in no way near invisible, nor are the knobs on the flowerpot invisible when one tries to sit on it, and the same goes for the anti-loiter music - "the music reminds us that we are not welcome here" (Kreutzfeld 2011, 11). The deviousness of the design should rather be considered as a matter of hiding the exclusionary practice from the people not affected by the defensive architecture - the camouflage is for the *non*-enemy.

Similar to the idea of *decorum*, the camouflaging "refers to a certain order, which evokes a feeling for cleanliness, an orderly and accomplished aspect of social flows in the city, a fight against 'indecency' embodied by subjects and practices that are not easily assimilated to those, equally indeterminate, of the 'good citizen'" (Izzo 2022, 532). By adding subtle measures that are considered mild rather than aggressive – a round knob rather than a pointy metal spike - it is likely that people won't react with outrage. As Fine Licht puts it, "mildly defensive measures will probably be used more widely than more conspicuous defensive landscape architecture in the future, because most liberal, middle-class individuals react negatively to spikes and similar designs" (Fine Licht 2017, 30).

Figure 26. Skatestoppers with decorated deterrents (maple leaf). Location: Montreal, Canada.
"These beautiful, handcrafted skateboard deterrents add an artistic flare to any application" (Skatestoppers.com).
Source: Skatestoppers.com

As pointed out by Petty in the London spikes controversy, space is closely connected and reflective of political ideals and values. This is also seen in the political attention to rejecting defensive architecture as belonging to the Danish landscape. Defensive architecture should be rejected because it resembles values not in line with the political ideas, but by camouflaging the defensive architecture, it becomes possible to adopt exclusionary and potentially non-democratic measures without upsetting the general public, because the installments are not necessarily perceived to "contradict the ideals and realization of democratic space" (Koeppel and Owen n.d., 33). Thus, the camouflage makes an *unfit* architectural praxis palatable. This is something that Flusty

encountered in his own fieldwork: "When I expressed concern over the fence's role in the loss of accessible neighbourhood open space, one colleague responded that she 'didn't have a problem' with the fence, especially as it was painted a pleasant emerald green to blend with its surroundings." (Flusty 2001, 264).

This camouflaging of *defensivity* and discipline has been very dominant within anti-terror design – as is exemplified by the flowerpots shown earlier. Here the concrete barrier has been substituted to make room for a flowerpot that may be perceived as more friendly and not symbolizing a threat or insecurity. It is, in many ways, a similar dynamic that is at play in the subtle formation of the defensive architecture at the Central Station, and the process thus resemble Jensen's work: "The design of architectural atmospheres amounts to a subtle form of power, in which people's behavior, desires, and experiences are managed without them being consciously aware of it" (Jensen 2020, 329). The unawareness is present in the examples of The Central Station as well, and it becomes clear that "devious design can be implemented through a disguised object, to cheat or to protect" (Garutti 2016, 108).

An infamous example of concealment is the case of a series of bridges in New York. Commissioned by Robert Moses, the bridges were designed so that busses could not pass under them and hence limiting access to the leisure spaces of Long Islands to those privileged enough to afford a car: "He [Moses] began to limit access by buses; he instructed Shapiro to build the bridges across his new parkways low - too low for buses to pass. Bus trips, therefore, had to be made on local roads, making the trips discouragingly long and arduous. For Negroes, whom he considered inherently 'dirty', there were further measures. Buses needed permits to enter state parks; buses chartered by Negro groups found it very difficult to obtain permits, particularly to Moses' beloved Jones Beach; most were shunted to parks many miles further out on Long Island." (Caro 1975, 318). The design of the bridges prevented marginalized groups of New York to access spaces that were available to the middle class, or at least impeded their chances of gaining access to these leisure spaces. The bridges are thus embedded with moral and politics, as they are gates of rejection disguised as bridges.

Figure 27. Low bridges/overpasses along long islands. Source: film *Misleading Innocence (tracing what a bridge can do)*, a film conceived by Francesco Garutti and directed by Shahab Mihandoust (2016).

The bridges provide an example of a devious design that "can be characterized as morally negative: to impose one's own intentions in a concealed way, through the use of a form-object that is apparently neutral, and to stimulate a behaviour in an invisible way." (Garutti 2016, 106). While the story of Moses' bridges has been debated for its validity, it nevertheless provides an analytical resemblance to the findings and the material configurations of defensive architecture at The Central Station. Similar to the bridges, the armrests, flowerpots knobs, glass facades and other examples of defensive architecture are disguised objects that influence social relations and aim at achieving a certain social goal and thus echo Joerges' attention to things: "Technological things are socially constructed and interpreted. They become political when they influence social relations or when they are used to exert power or achieve certain social goals." (Joerges in Garutti 2016, 125).

A last example of the disguise of the defensive intention of the architecture of the Central Station is the glass elevators. As the elevators are designed in transparent glass, the user enjoys the possibility of looking out at the surrounding environment but is simultaneously under a potential watchful gaze from the very surroundings one can look at. The transparent window of the elevators provides no rest from the public gaze, rather, one must stay civilized throughout the elevator journey, for one is potentially always being monitored by fellow citizens. The potential surveillance is the underlying belief or motive that makes the glass architecture a technology that potentially deters people from vandalisin the elevators. The defensive design aiming at preventing vandalism is not produced in a way that is visible, but instead made in a socially acceptable form that goes unnoticed - it is for the 'pee-needy' that the

designed un-comfortability is felt – as is the case with the person trying to lie down on the bench. In this regard, Marie Stender's work on glass facades provides an interesting way of analyzing this use of glass: "The inherent visibility of the glass houses' surroundings and the time within them actualize the viewer's sense of being in and part of the seen space-time. The sheer possibility of being watched over by others increases the individual's self-discipline even if the surveillance is real or not" (Stender 2006, 28). While this potentiality of being surveilled resembles that of Bentham's Panopticon, the difference is that there is no single watchtower from where the surveillance takes place. Instead, the person in the cell (elevator), which is not made of "heavy bricks", but see-through glass, is observed from a multitude of places by a multitude of guards (citizens). Therefore, "the panopticon of the glass houses is of a different and more diverse kind, where the space is not only visible from one, but from countless places, and if not overlooked, then at least made visible." (Ibid).

In this way, both the invisibility of the disciplining mechanism and the diversity of the disciplinary gaze, make us question how, in this emerging control technology (architecture), can we expand the scope to go beyond the idea of panopticism to describe urban processes of control and discipline.

III. From panopticon to oligopticon

When describing issues of urban securitization and control of urban life through design, scholars, such as Soja et al., have used term urban panopticon to describe these processes. This term draws on Michel Foucault's work of the panopticon, in which control and discipline are produced over a subject by the feeling of constant surveillance: "Surveillance and spatial control have become an integral component of the means by which the urban environment is governed. Foucault viewed this as active panopticism embedded in the very nature of modern life, so much so that we cease to recognize its existence" (Moss and Moss 2019, 6). It seems to hold true that disciplinary spatial mechanisms are embedded in the urban fabric in a way that we cease to recognize the existence of it (think just about the abovementioned examples of camouflaging). Foucault's idea of the panopticon alludes to an absolutist gaze that

sees everything all the time, and so a central place of power – a sort of singular gaze e.g. the watchtower is accentuated. Even though the idea of the panoptic gaze has gained large recognition in urban studies, I find it useful to add a different perspective, which goes beyond the central gaze and introduces a dispersed form of discipline and surveillance.

As seen at The Central Station, control and discipline are embedded into various objects. The ATM machines act as gates, transparent glass elevators as possible showrooms of inappropriate behavior, leaners as corporal punishment etc. – the list of defensive elements is long and diverse. Therefore it is with little reason that one would focus on a single instrument or structure as urban social control. There is no single watchtower or panoptic design from where the discipline is being produced. Instead, one should ask: "what is the *interrelation* of disciplinary and biopolitical practices of social control and how do they work in larger, more complex urban spaces?" (Šupa 2015, 84). By adopting a post-panoptic view and noticing how the diverse elements in their totality constitute a defensive architecture, it becomes possible to detect how discipline works in practice. This perspective does not leave a Foucauldian framework, but adds to the understanding of how discipline and control can also work. Rather than analyzing it from the perspective of a panopticon, Foucault also illustrates how a carceral city can work oppositely: "there is, not the 'centre of power', not a network of forces, but a multiple network of diverse elements – walls, space, institution, rules, discourse; < . . .> a strategic distribution of elements of different natures and levels (Foucault in Šupa 2015, 91.) As emphasized in the quote, it is the multiplicity of things that can work as a disciplinary network. Therefore, we can for now (in this particular analysis) "abandon the Foucauldian premise of surveillance, as the displacement of the central gaze of the Panopticon alludes towards a more dispersed form of surveillance supported by multiple sites that monitor through a system of networks" (Manley, Palmer, and Roderick 2012, 310).

Deleuze's discusses this spreading of control in his *Postscript on Societies of Control* (1992), but Latour's idea of the *oligopticon* provides an interesting and new way of theorizing how urban control and discipline manifest in the built environment: "The panopticon, as every reader of Michel Foucault knows, is an ideal prison allowing for

the total surveillance of inmates imagined at the beginning of the nineteenth century by Jeremy Bentham. Nothing, it seems, can threaten the absolutist gaze of the panopticon, and this is why it is loved so much by those sociologists who dream to occupy the centre of Bentham's prison. Yet, unlike most sociologists, instead of looking for utopia, Latour looks for places on earth that are fully assignable. The oligopticons are just those sites since they do exactly the opposite of panopticons: they see much too little ('oligo' – little, not everything), but what they see, they see it well" (Yaneva 2022, 81). Latour does not particularly work with urban control or how discipline can be embedded in the material environment. Still, his attention to how processes result from situated and networked systems is a relevant perspective for this case study. Let us look at the defensive elements of the station again.

None of these can present themselves as providing an absolutist gaze from which everything and everyone is seen all at once. Rather, the armrest only "sees very little" in the sense that is defends against someone trying to lie down. It does not defend against people drinking, shouting, or behaving in other unwanted ways. The same is true for the anti-urination fence. It protects against one action of urinating at the corner of the building and only in *one* place within a total space of thousands of square meters. The leaner deters people from lying down, the knobs on flowerpots deter people from sitting, etc. Nevertheless, by adding them all together, a defensive blueprint of the urban space reveals itself – as one can see in figure 22.

The objects do not defend against all possible unwanted actions. Still, by their *interrelated defensivity* they aim to create a controlled urban environment where the margin of error (acting out of place) is limited. The disciplinary effects of defensive architecture stem not from an all-seeing gaze, but from the multiple objects that each seek to discipline. So, while it may seem intriguing to mark the defensive architecture at the Central Station as panoptic, it is more precise to see the space as an oligopticon, where the network of defensive things creates control and order. The idea of the oligopticon thus goes well in line with Latours work with actor-network-theory that underlines the interconnectivity and interrelation between actants. This perspective thus offers a way of understanding and unravelling how the surveillance and control

of the (mis)use of the Central Station is liquid and dispersed onto multiple defending *lieutenants*.

IV. Situational Reappropriation

"No work of art can set out to be political once and for all, no matter how ostensibly it labels itself as such, for there can never be any guarantee it will be used the way it demands" (Jameson 1997, 258). Even though armrests are added to a bench, some people counter this design and sleep on it anyways. Similar processes of *anti-programming* – to use the word of Latour – can be found in the response to other presented examples of defensive architecture.

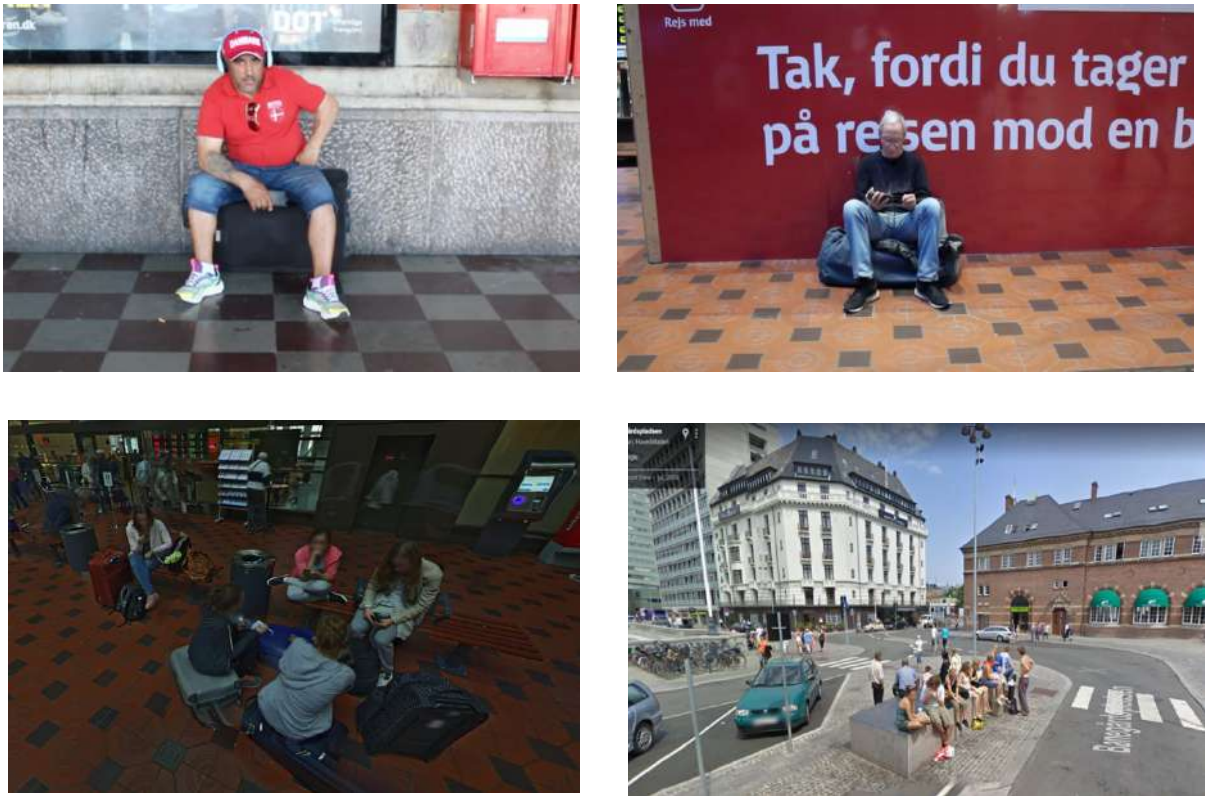


Figure 28. People re-interpreting their environment to create a place to sit. Source: GoogleMaps and by author (2022).

One sees examples of people finding ways to sit down and rest and create possibilities for themselves in an environment that limits the activity of sitting down by design. The *ghost amenities* create a landscape that offers few possibilities of sitting down, loiter, or stationary activity in general. Nevertheless, this kind of defensive architecture is - ironically - *defenseless* to the agency of individuals that challenge the

spatial logic and ordering. This practice can be understood as a "resistance to the imposed order" as done by Smith & Walters, who investigate how people challenge defensive architecture through the notion of *desire lines*. Desire lines are closely related to Michel de Certeau's theory of tactics in *The Practice of Everyday Life* (2011). People sitting down on an object they find suitable presents a similar re-interpretation and re-positioning of an unforgiving environment. When there is a lack of benches or other seating options, people create a "spatial work-around" such as using other objects, e.g., suitcases or exhaust devices (photo bottom right). Space becomes a contested urban space, where the individual must apply tactics to circumvent the defensive landscape. In the words of Georges Perec: "Space is a doubt: I have constantly to mark it, to designate it. It's never mine, never given to me, I have to conquer it " (Perec 1999, 91).

Another way of conquering space is found in the production of graffiti: "Something we [DSB] are seeing in recent years is acid graffiti, which is a grayish substance that eats into the otherwise graffiti-resistant surface" (Interview with *DSB*). Even though DSB installs surfaces with special coatings that intend to repel graffiti from sticking to the surface, the graffiti-makers find new ways of conquering the space, thus challenging the otherwise defensive environment they find themselves in. Similarly, the toilet worker, mentions that people always try to jump over the toilet gate to not pay: "I am gone for 20 minutes and I come back to vandalized toilets. Also people are jumping the gate if I look away" (Interview with *DSB Cleaning Employee*). This was also mentioned by Gamlesmølf who said, "at times, I just jumped the gate" (Interview with *Gamlesmølf*). His engagement with the defensive urban environment furthermore adds to this discussion of renegotiating space.

When we were standing at the ATMs blocking of the empty space he said, "they [DSB] aren't' really smart! If I did not have my dog, I would just jump in behind the machines" (Interview with *Gamlesmølf*). Additionally, he pointed that he had been able to stay overnight in the Central Station although it closes during the night. "I woke up in here one night, and I was 'wow, I was not kicked out?'. I was hiding, and also, I was not smoking or anything" (Interview with *Gamlesmølf*). Regardless of the defensive measures implemented by DSB, he was able to find his way of using the space by

repositioning within the urban environment. By not smoking and finding the good hiding spot he is in a Bourdiean sense, a virtuoso of practice and his environment (Bourdieu 1972), and knows how to navigate the playing field and re-interpret this defensive environment.

The flowerpots provide another empirical example to emphasize this point. The knobs were added exactly because people stood on the edges and used the object in ways not intended for. This hints that there are multiple ways space can be used that goes beyond the designer's intention, and that defensive designs "do much more than carrying out power and domination and are also offering permissions, possibilities, affordances" (Latour in Garutti 2016, 154). Artifacts and objects then can be said to have multiple ways of being interacted with, which is nicely exemplified in Jensen and Jensen's work: "During the Copenhagen Marathon, the [safety] barriers were used as temporary benches, resting spots for tourists and locals, social meeting spots as well as playful viewpoints for youngsters. So while the design function or 'intentionality' (Winston & Edelbach, 2011) of concrete barriers serve the primary purpose of blocking traffic, the interpretive flexibilities of the barriers (i.e., their flat top surface and their slightly elevated and vertical axis) mean that many different users of the city either consciously, intuitively or through playful practices re-appropriate the barriers for their open potentialities." (Trandberg Jensen and Jensen 2023, 80).

Thus, there are "open potentialities" meaning that any object can be reappropriated with regards to what the situation demands. These situational practices of engaging with the objects highlight a need for a dynamic understanding of how the material environment functions: "Design is a part of an open-ended process and performance, where the involvement and engagement with things make the agency. In this sense, the material world is not something passive with strict predesigned orders that is followed, but rather something dynamic and changeable. The objects should not be 'paralysed' and seen as 'a mere representation' of something else." (Yaneva 2017, 44). In this case, the suitcase (sat on by the travelers in the photo) may have the primary affordance of being an object of travel and a container of one's belongings, but this

sole interpretation is paralyzing the object to a kind of *uni-stability*[8]. Rather, as the empirical example shows, the suitcase becomes a resting spot (a sort of bench-like object) in the active process of using it and thus offers a *multi-stability,* where there the object itself can change depending on the context and engagement with it: "Multistability refers to a technology's potential to support multiple relations; a single technology can be understood in multiple ways, taken up in many contexts, and employed for various purposes." (Rosenberger 2014, 376)[9]. We can thus never paralyze objects to be one thing because it is the engagement with the object that establishes what the object can afford and is. In the words from Borges: "The taste of the apple [...] lies in the contact of the fruit with the palate, not in the fruit itself" (Borges 1999, 2). This rather metaphorical writing from Borges nevertheless sheds light on the engagement aspect that Yaneva, Latour, Jensen and Rosenberger emphasize so strongly. The same logic which was applied to discuss the multistability of the suitcase is equally applicable to that of the armrest-fitted benches of the central station.

While the benches presented may be examples of defensive architecture, they are not just defensive and part of an exclusionary praxis that signals who space is *not* for. For those lucky enough not to have to use the bench as a temporary bed, the bench is likely not be perceived as defensive (as explained earlier, the armrest is not a visibly aggressive deterrent). The armrests also function as a *material assistant* that helps one to bring the corpus to an upright position or by giving rest to one's arm. This exemplifies how an object most often affords multiple effects and uses and highlights that an object can mean multiple things and have different perceived affordances depending on the "relevant social group" (Pinch and Bijker 1984, 401). The different social groups that engage with the artefact, Pinch and Bijker argue, may have radically different interpretations of the object.

[8] Understood as monofunctional, *uni*stability could be a term because it relates directly to the theoretical term of multistability.

[9] Talking about a hammer, Jonh Ihde argues: '' [it] may be used in a number of ways. It could, and perhaps is dominantly used, for its designed purpose—to hammer. But it could be used as a paperweight, an objet d'art, a murder weapon, a pendulum weight, a door handle, etc." (Ihde in Rosenberger 2014, 377).

Figure 29. The armrest in function. Source: author, 2022.

Thus, the bench with its armrest can be said to "transcribe and displace the contradictory interest of people and things" (Latour 1996, 153). For some it is unnoticed - it fulfills a function that they wish for. Contrary, for others, it performs a function of humiliation and displacement. The armrest performs the contradictory elements of spacemaking and does not only *signify* a political wish but *performs* it as it is being interacted with. In this sense, the bench can help us understand how the urban environment is a part of a process of "segregating and regrouping, keeping apart and bringing together." (Yaneva 2017, 71).

The theoretical notion of a situational and dynamic understanding of materiality is a critical instrument in questioning a material determinism that most often takes the cause and effect of design for granted. Objects perform the social and the political in the active engagement. This also means that objects may cause different outcomes than what has been desired: "technology, in other words, has its own intent and import which makes the best (or the worst of intent) drift away" (Latour in Garutti 2016, 155). There will most often – if not always – be a dual effect of design. This kind of spill-over effect can be detected in the case of the Central Station: "Inspired by DSB's experiences, 5-6 years ago we [Banedanmark] began playing [anti-loiter] music in the three elevators at Tietgensbroen. But actually, more drug addicts started taking their shit in those elevators after the rumour about elevator music had spread. Before, not many knew that the elevators even existed" (Due 2010). In this example, there was a clear unintentional effect – a contradictory effect even. Similarly, DSB's anti-loiter music installed at the west entrance entrance also gave rise to complaints from neighboring residents who got tired of hearing the music daily: "When you create

these initiatives, it has the downside of being inconvenient to others. In the places we play [anti-loiter] music, we also get complaints asking 'why do we have to put up with this every day?!'" (Interview with *DSB*).

Technology and objects can have effects that the designer did not expect, as seen in the empirical examples. These examples provide ways of thinking differently about a material determinism that sometimes haunts the field of urban and material culture. For Foucault, "the layout of the panopticon affords various techniques of control, which, Foucault thought, would in themselves assure almost automatically the subjection and the subjectification of the inmates." (Leach 2019, 8). This is a limitation to Foucault's idea, which does not leave space for the process of anti-programming, where people act in unintended ways and where the material world thus does not by default programme a specific outcome. Likewise, Yaneva emphasizes that the idea of the panopticon not necessarily can engineer a sociality and behavioural outcome, because we cannot assume that power can be "literally built into stone and bricks" (Yaneva 2017, 73). This is an important aspect to nuance the discussion of how the material world is shaping the urban life. While urban artifacts and material culture can mediate and prescribe certain ways of being and behaving, it must be emphasized that objects rarely force people to act in totally predictable ways. There will always be a way of *not* performing the prescribed idea of the object.

Discussion – Guilty Until Proven Innocent

Figure 30. Teenagers sitting on the floor. Source: Author, 2022..

While defensive architecture has been discussed in recent urban literature, most of the empirical examples stem from a North American and British context. There is very little - if any - Danish literature on the topic, and generally there is a lack of academic work on the topic within a Nordic context. The *social democratic welfare state regime* (Esping-Andersen 1990), also known as the *Nordic* or *Scandinavian model* does not only have an effect on socio-political issues but also affects the way in which urban space is designed, lived, experienced, and ideologically understood. With a solid attention to public and democratic urban spaces and an egalitarian society with less socio-economic inequality than USA or United Kingdom, there has been less of a need or willingness to adopt a coercive, hostile, and defensive architecture. Denmark has been resisting privatization and thus tried to minimize the loss of public space more than countries like the United States or the United Kingdom (Nielsen 2019, 54). Nevertheless, a social-welfarist urban landscape provides an interesting geographical context to discuss issues of defensive architecture – as the empirics have already shown. Divided into three sections, this discussion thus considers how the rise of defensive architecture challenges classical ideas of the welfare regime and potentially dismantles basic principles of a caring social-welfare agenda.

I. What happened to the welfare state?

While Denmark can be argued to have a successful welfare model, the social landscape experiences increased exclusion, marginalization and spatial concentration of the less affluent (Andersen and Pløger 2007, 1352). This challenges the common planning objective that seeks to strive for "economic, cultural and social equalization, where the ongoing growing level of welfare could be managed for the benefit for all the parts of society" (Ibid, 1357). There exists a strong idea of minimizing social polarization and an ideal of providing citizens with equal opportunities for a *good life*, regardless of one's socio-economic economic status.

This is seen in the political ambitions laid forward by the city of Copenhagen that emphasizes strong social cohesion and accessibility to common public goods: "The aim of Copenhagen is to make the city livable, so all aspects of citizens' lives are taken into consideration in an inclusive strategy of urban planning. It also means creating physical spaces in the city where people can meet, gather, play, and engage as active citizens. This has the purpose of building and maintaining the social fabric that is so fundamental to resilient societies." (Martin-Moreau & Mènascè 2018, 31-32). It thus lies at the core of Danish society that urban spaces should be as inclusive as possible - a humanist tradition in which Copenhagen is "a city with room for all" as the municipality tells me. Denmark's egalitarian ethos, social tolerance, and welfare morality thus create an "inclusive ideal of equality and fairness with equitable access to shared resources" (Weiss et al. 2019, 199). Copenhagen is ideologically understood as a democratic welfare city that "invites everyone by offering both very specific and locally defined qualities as well as catering for universal human needs." (Nielsen 2019, 44). Nevertheless, we see an architectural trend in which these values are being challenged.

I.I "Is it not a fucking human right to go to the toilet?"

At the Central Station, there is an ambition to tame unwanted activities and people instead of creating social contracts and solutions that "benefit all parts of society" - as is a crucial tenet of the welfare model. This is exemplified in the change from the previous donation-based toilets to contemporary pay-to-use toilets. About the former

toilets, it is said: “there's a warm welcome and you're accepted, no matter who you are, whether you have holes in your clothes, whether you're homeless or a drug user. You can have a shower and a chat.” (Schouboe 2011). Writer Nina Søndergaard describes a similar line of thought: ”Enter the underground toilets at Central Station. There are dark tiles on the wall, panties for sale and a strange blue light - it's heavenly, a sanctuary. It's the safest and nicest place in Copenhagen.”(Søndergaard 2015) . While it may not be shared amongst the majority that the underground toilet is “the nicest place in Copenhagen”, it has often been referred to as a safe haven for many people, who depend on this type of inclusive amenity. This facility and (accessible) design emphasize “the ideal of providing all citizens with equal rights and chances for a good life, regardless of background and social or economic status, through equal access to common public goods” (Nielsen, 2019, 38) and furthermore facilitates a sort of ”social contract with its citizens” (Raahauge and Eeg 2022).

On the other hand, the architecture and design of modern-day toilets do not allow for this contract between the place and the user because the guest must pay to unlock a basic service. In this regard, Leach is arguably right in stating: "physical discipline has been replaced by more gaseous systems of control, where the credit card has supplanted the gaze of the foreman” (Leach 1999, 80). The foreman (*tissekone* in this case) has surely been supplanted by the credit card, but the physical discipline is still there by virtue of the gates that must be passed - “is it not a fucking human right going to the toilet?” (Schouboe 2011) a former toilet worker asks. Elsewhere in Copenhagen, all public toilets have since 2011 been accessible free of charge. This was decided to strengthen the right to the city for most social groups, and thus the payment toilets at The Central Station fail to meet a basic social agreement of making the city as inclusive as possible.

I.II From welfare to risk management

The space of the Central Station can be argued to have become prickly in the sense that it “cannot be comfortably occupied” and by a process of “removal of the right amenities or the addition of the wrong ones” (Flusty 2001, 658). The structuring of The

Central Station is not so much about providing generous and inviting spaces but has the primary focus on creating a safe, secure and sanitized environment for travelling.

"A familiar criticism of Haussmann's city plan for Paris with the long, wide boulevards is that their design was primarily shaped by military concerns. It was easier for the army to control the citizens in the new Paris. In other words, our most beloved streets were designed to be a means of oppression" (Weiss et al. 2019, 323). Like the critique of Haussmann's military-inspired planning of Paris, one could have similar concerns regarding places like the Central Station that will be shaped – not by military matters – but safety and security concerns. Paradoxically, security at the Central Station deals very little with terrorism or national security threats – at least architecturally. There is open access to the station from a multitude of entrances with no checkpoints, no X-ray machines, and no passport control. Instead, the security of the station is concerned with the citizens and their behavior – security and discipline that targets the ordinary resident. This development then follows the projections made by Graham, arguing that "welfare states are simultaneously being re-engineered as risk-management systems (…) geared not towards the social welfare of communities but towards controlling the location, behavior, and future of seemingly risky 'anti-citizens" (Graham in Raahauge et al. 2022, 96).

The controlling of the so-called "anti-citizens," as Graham describes it, is an ambiguous dialectic balancing the fact that "the citizens of the welfare state expect and demand security" (Raahauge and Eeg 2022, 92) without comprising the evenly distributed accessibility and idea of social homogeneity. By moving from social welfare to risk management, there is a redistribution in the attention to welfare and security, where the latter is possibly superseding the prior. Social security is a fundamental principle inseparable from welfare - there is no welfare without security. But this social security is being replaced by emerging physical security measures (Raahauge and Eeg 2022), and there is more vigorous attention towards providing safe and secure spaces than providing citizens with well-being and care: "Ultimately, this may mean our notions of welfarism as an ideological yardstick in the urbanism debate may be superseded by other, more urgent security concerns" (Weiss et al. 2019, .279).

The Central Station has never been driven as a centralized *welfare space* as hospitals, schools, or social housing estates are considered. Nevertheless, the station has always been a social ark housing the masses and a place that has been able to bring together all strata of society and been emblematic of an inviting urban environment. With the emerging presence of defensive architecture that "filters out the dirt" the provision of welfare on an everyday basis is being challenged, and those deemed out of place are being punished rather than offered a helping hand.

I.III "Difference is fine, so long as it is surrendered at the gate"

Looking back in history, one finds similarities to when the early contributions to the welfare state were in the making. In this period (1830-95) the middle class wanted to "tame the city" by making people with low incomes adapt to a higher standard of living. This was done by erasing activities and livelihoods which did not fit the idea of a good life – that were considered out of place: "When the middle class walked the streets of Copenhagen in the 1850s, they felt troubled by the city's filthiness and the poor and simple people's lack of manners. This was perceived as threatening and prompted a desire for better surveillance of the city's streets" (Lützen 1998, 103). There was an ambition to create a more "civilized" urban sphere: "…when the public sex workers stayed inside their homes, they were not allowed to expose themselves in the window, which they may have done anyway, because in the 1850's it was decided that the window of the sex workers should be frosted. (Ibid, 262). This particular period of Danish history thus highlights the construction of what activities and manners should be tolerated and what should be tamed. Partly as a social help and care provided to the less affluent by the middle class, and partly as a way of upholding a certain standard of what should be tolerated as proper manners.

It is a similar process of taming that is taking place in contemporary urban planning through defensive architecture. While most defensive design is born out of a discourse of security and safety, it also serves as a tool for sterilizing urban space by erasing the unwanted, and thus prioritizing the consumer, middle class traveler, etc.: "The cleanliness of the lovable and attractive tourist city has been the grounds for

incidents or defensive measures against, for example, homeless and Romani in public spaces" (Raahauge and Eeg 2022, 108). It is not that safety and security erase welfare per say - those categories are integral to that of providing welfare - but the challenging aspect of the securitization (defensive architecture) is that it defends against something not particularly dangerous, expels already vulnerable groups of society, and possibly become a higher prioritization than the provision of basic social needs.

This type of defensive architecture aimed at creating a secured space filters out the diversity that used to be DNA of the Central Station. We must recall Flusty's attention to the dynamics of interdictory space "which is not to say, however, that 'the Others' making up the bulk of the city are forever banned from interdicted precincts. They are, in fact, often welcomed in. But only so long as they behave appropriately. And what constitutes appropriate behavior in interdicted spaces is rigidly defined and strenuously enforced by management. In short, difference is fine, so long as it is surrendered at the gate." (Flusty 2001, 259). The process is similar to how Moss & Moss describe the increasing securitization of public spaces in Manchester where "young, homeless and eccentric people are, in the eyes of those upholding this dead-eyed, sanitized version of public order, guilty until proven innocent" (Moss and Moss 2019, 4). The "young, homeless, and eccentric people" are exactly those groups of people considered dangerous by DSB, and this has clear implications for how space is used and how space is perceived: "The urban space is where we meet. The urban space expresses how we meet; it reflects the given urban hierarchy." (Dahl in Weiss et al. 2019, 323). The hierarchy becomes clear when one looks at the structuring of the urban environment, as one sees a clear prioritization of certain social groups over others – space becomes unevenly distributed, and a central pillar of the welfare regime - *equal accessibility* – is challenged.

Again, The Central Station echo similar dynamics to Moss & Moss's accounts from Manchester: "The postmodern urban environment has become a fortress, where interdictory forces work to maintain a particular mode of socio-spatial regulation, from which those within it cannot deviate" (Moss and Moss 2019, 5). Being able to deviate from the established normative agenda set by various actors (DSB, Metro

Company, Municipality of Copenhagen) becomes increasingly difficult when the urban environment is embedded with modern and subtle defence mechanisms. With an increase in defensive architecture that seeks to reject vexatious activities - such as sleeping, making graffiti, or drinking alcohol – the individual is disciplined to a certain mode of being. Thus, "the excitement traditionally associated with the capricious nature of cities is replaced with sanitized, planned, almost clinical environments, which 'internalize control, morals and values', disciplining the body to act *correctly* when traversing the new urban environment" (Ibid, 6). While this type of (pessimistic) account of the effects of these spatially regulated environments has been scrutinized for being a "tightly focused political philosophy of angry Marxian anti-neoliberalism" (Soja 2000), it nevertheless stresses important dynamics of the organization and regulation of urban spaces.

II. Battle of realities

As physical security measures seem to create an emerging security-focused welfare regime, it is perhaps worth asking if the demand for security and control has become such a strong planning idea that places come to lose some of the qualities that we usually associate and strive for in a city; bustling, dynamic, vivid, livable, creative and which "put people at the center of everything" as the Municipality of Copenhagen markets it.

On the one side, the city is a space for the commons with unrestricted access to the open city with room for all. Still, on the other hand, one encounters a material reality that deters all of that and creates a closed, restricted, and predictable city. As mentioned, the station is built as an antidote to the former city gates and fortification and is thus supposed to open up the city. The original architecture of the station is full of detailed ornaments, arches, and sculptures meant to be seen, enjoyed and experienced by the people. The entrances are intended to make one feel welcome and create an engaging space where people must spend time and feel at home. While this inviting architecture is still part of the original building structure, another reality is pushing in the opposite direction. The idea of *openness* symbolized in the ground structure is also "a social quality strived for in the context of Nordic cities." (Raahauge

and Eeg 2022, 100). That spaces are open provides a basis for welfare by design, but with defensive architecture, the space is closing down. Instead of being a livable space aiming for the provision of physical and social wellbeing, it becomes a space geared towards getting in fast and getting out even faster. This entails providing a bare minimum of physical amenities that otherwise could provide a platform for a welfare space with "room for everyone", "diversity and tolerance," and "a city where people meet regardless of their background"(Municipality of Copenhagen 2019). When anti-loiter music is installed or when benches are removed, it is considered "a practice that we [City of Copenhagen] do not like because it signals that Copenhagen should not be for everyone" (TV2 Lorry 2020), and central nodes of a social-welfare agenda are being threatened.

This ambiguity, as Theo Deutinger refers to as a *battle of realities*, in which the democratic city is coinciding with the closed, fortified, and exclusionary city is not only visible in the material fabric of the station. There is an apparent ambivalence in the management of the space by DSB, who in principle wants to offer people a good experience, while making sure to "not offer any infrastructure for unwanted behavior" (Interview with *DSB*). The same goes for the Municipality of Copenhagen, that politically is condemning defensive architecture but simultaneously see it as a "necessary prioritization" (Interview with *The Municipality of Copenhagen*). Perhaps this ambiguity is epitomized by the socially acceptable form the defensive designs take. The aesthetically pleasing veil of defensive architecture makes it possible for space to somewhat mimic and represent "the ideal image of society" (Nielsen 2019, 45), in which the values of the welfare state are seemingly kept in place. Consequently, there is a risk of creating a glossy image where the reality of social inequality and other disparities are swept under the carpet – "removed from the sight of the happier classes" (Engels 2001) if you will.

Writer Søren Ulrik Thomsen wonders if "we have become so good at designing the good city with comfort and liveability that we are losing some of the other qualities that we associate with the city" (Weiss et al. 2019, 311). While The Central Station is not exactly built or designed upon principles of liveability nor comfort, the question

is worth asking if we substitute those words with *security* and *control*. There is a growing tendency toward defensive architecture becoming an "advancing urban trend" (Rosenberger 2020, 884) – also in Denmark. "These controls, that are branded as defensive landscape architecture are progressively becoming best practice for practitioners, within the landscape architecture, design and construction industries." (Binnington and Russo 2022, 244). This further emphasizes the need for more research done on defensive architecture in diverse socio-political contexts. Defensive architecture is becoming a normalized urban typology used to make spaces orderly. As DSB comments with regards to the forthcoming modernization of the Central Station: "We expect that when we make new café areas and shops facing Reventlowsgade, then we also make the fear-inducing elements move elsewhere" (Interview with *DSB*). While cafés and shops do not necessarily fall under the category of defensive architecture, it should be considered an equally important aspect of making spaces orderly and controllable. Similar ideas are present in the design of the metro, where the introduction of leaner and general empty environment was pre-installed, and not as a reaction to a problem that arose - defensive urban inventory is becoming a default setting.

III. A trashcan for inspiration?

In the immediate outside area of the station, where the busses arrive and depart, a different urban ideal is present. While this area is still part of The Central Station, it is managed by the Municipality of Copenhagen (not DSB), as has already been mentioned earlier. Here the example of trashcan design can provide a counterargument to the discussion above on moving from welfare to security.

Figure 31. Pro-pick garbage can with designed space for bottles next to double-bench. Source: Author, 2023.

In Denmark, recycling bottles and receiving a small economic payback when returning them at a recycling machine is possible. By virtue of a designated *bottlespace* design, people do not necessarily have to go through a whole dirty trashcan to find a bottle, but rather benefit from the bottlespace on the side of the trashcan. This design highlights how banal design can be more democratic and provide social welfare rather than warfare. The design of this trashcan encapsulates a Nordic ideal about welfare and is arguably an example of a democratic and humanist way of managing public spaces – something Copenhagen wants to represent. You could argue that this simple design is the outcome combining the principles of the welfare city that encapsulates t "the model of democratic urban public space focused on bringing together different social segments of the population in a space" (Nielsen 2019, 52) and where the democratic space is understood as "belonging to everybody" (Ibid, 54). One may wonder why these trashcan designs are only found outside the station and not inside. In the analysis, it was discussed that the recyclable bottles were often removed by the DSB staff, and it is not difficult to imagine that DSB would not be interested in providing pro-pick garbage cans fearing it would attract *bottle-collectors*, which is unwanted for DSB.

Thus, within a common space of The Central Station, one sees examples of architecture that is emblematic of the welfare ideal, and oppositely an architecture of discipline that, instead of helping the citizens, sanctions them. The latter must be argued to be contributing to socio-political polarization that doesn't "embrace diversity as a premise and positive value – positive in the sense that individualism and individual freedom are part of humanism (Nielsen 2019, 46). Similar to what Parama Roy found in her work, this development and use of defensive architecture can be seen as "a reflection and a by-product of the rising entrepreneurial drive of the Danish state that prioritizes the vision of a safe, orderly and market-friendly city, even when it comes at the expense of exclusion of the poor" (Roy 2018, 290).

Conclusion

The research attempted to understand and unravel how The Central Station of Copenhagen is embedded with discipline and control through the lens of defensive architecture. It has been argued that the material objects should be of crucial importance in examining the functioning of urban spaces as they set constraints and possibilities as to what activities take place. The role of the *armrest-bench* and other defensive designs at The Central Station are considered actors to help solve a problem of "unwanted behavior" and can be argued to be co-constructing the social reality of The Central Station by displacing people and establishing a script of use and mis-use of the station. The research has shown how urban spaces subtly morph into defensive environments through the implementation of socially acceptable and camouflaged forms of disciplinary architecture. This naturalization of defensive architecture is "part and parcel of the urban 'forting up process', protractedness, a tendency to grow accustomed to, complacent about, and even welcoming of the presence of surveillant control." (Flusty 2001, 660). The defensive architectural designs have been implemented in relation to issues of safety, security, maintenance costs and a wish for order. While there are certain needs for a transit space like a train station, the defensive architecture of the Central Station can be considered an example of an excluding material reality that deliberately *designs out* certain people and social realities. Although defensive architecture historically has been present to a small degree, the use of defensive architecture has increased considerably in recent times, and it has become a part of the everyday urban landscape as a normalized architectural tool. These motives of safety, security, and order are becoming entangled with the workings of the traditional welfare state, and the case of The Central Station indicates similar findings as Roy, who argue that Copenhagen is presenting "streaks of selectively adopted revanchist policies/discourses that end up punishing the poor" (Roy 2017, 294). While the station historically offered a space for dwelling, people are now expected to leave the stations as quickly as possible. This is perhaps a general change in attitude towards the space of The Central Station, whose function as a caring and exciting public space diminishes rapidly. The Central Station of Copenhagen thus presents an example of an urban environment in which physical security instalments

are challenging or changing classical ideas about how a democratic, welfare city is supposed to function. In this regard, it is pivotal to take seriously the material environment's active role in constructing the socio-political reality of urban spaces, and by looking at the spatial formation, we can discuss ideas about welfare provision that goes beyond the classical issues of healthcare or unemployment benefits.

For future research, this thesis has opened alternative ways of thinking about control of urban spaces. As technology advances, one sees how defensive design can become even more subtle and invisible, especially given the positive narrative on *smart city* development. In the city of Eindhoven, the local municipality has implemented the *De:escalate Project,* which with the implementation of smart technology, "seeks to complement existing 'target hardening' architectural techniques—bars on windows and doors, alarm systems, surveillance cameras, metal detection, et cetera—with an interactive sound, smell, and lighting design in the inner-city entertainment area Stratumseind" (Schuilenburg and Peeters 2018, 4). By using technology and smart data, the forms of defensive architecture can change rapidly and one can reflect on the question raised by Theo Deutinger: "how long will it be before intelligent sidewalks or benches tell you not to stay there?" (Deutinger 2018, 85). Thus, it will be of great importance to broaden the scope of defensive architecture and investigate how technology is becoming increasingly entangled in the assertion of discipline and control in urban environments.

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