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Bombed Cities: Legacies of Post-War Planning on the Contemporary Urban and Social Fabric

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Editorial

Bombed Cities: Legacies of Post-War Planning on the Contemporary Urban and Social Fabric

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Abstract
Post-Second World War reconstruction is an important field of research around the world, with strands of enquiry investigating architecture, urban archaeology, heritage studies, urban design, city planning, critical cartography, and social geography. This thematic issue offers a critical statement on mid-twentieth century urban planning, starting from the period of the Second World War. We approach post-war reconstruction not only from the mainstream actualised perspective, but also considered by alternative visions and strategies, with an emphasis on empirically driven studies of post-catastrophic damage and reconstruction, implementing a range of different methodologies. In this editorial we identify two research strands on post-war planning of destroyed cities, one investigating the processes and practices of reconstruction and heritage conservation and the other assessing the legacies of planning decisions on the social and urban fabric of today's cities. These two strands are interlinked; early planning visions and subsequent decisions were dominated by contemporary concerns and political values, yet they have been imprinted on today's urban and social fabric of various bombed cities, affecting our urban lives. Thus, reconstruction strategies of destroyed cities should engage diverse voices in a broad dialogue through sensitive inclusion, as today's planning decisions have the capacity to define the urban and social conditions for future generations.

Keywords
building reconstruction; city transformation; damage maps; heritage conservation; post-war planning; social fabric; wartime bomb damage

Issue
This editorial is part of the issue "Bombed Cities: Legacies of Post-War Planning on the Contemporary Urban and Social Fabric" edited by Seraphim Alvanides (Northumbria University) and Carol Ludwig (GESIS — Leibniz Institute for the Social Sciences).

1. Introduction

This thematic issue provides a critical statement on mid-twentieth century urban planning, starting from the period of the Second World War. It extends the accounts of Diefendorf (1990), Düwel and Gutschow (2013), and Pendlebury et al. (2015) by examining how the early planning visions and decisions have been imprinted on today's urban and social fabric of various bombed cities. Post-Second World War reconstruction is an important field of research around the world, with strands of enquiry investigating architecture, urban archaeology, heritage studies, urban design, city planning, critical cartography, and social geography. Yet, current events highlight the need to continue revisiting this area of research with renewed focus from different urban planning perspectives. This year marks the 75th anniversary of the Marshall Plan, a US programme

of financial aid introduced in 1948, designed to boost the economies of western European countries after the Second World War. Such historic events offer opportunities to reflect on the successes and failures of twentieth century post-war planning and reconstruction and how the legacy of war has shaped today's cities. Importantly, this thematic issue is being published on the anniversary of Russia's ongoing invasion of Ukraine, a major escalation of the Russo–Ukrainian War, which started in 2014. In October 2022, Germany's government and the European Commission invited experts to an *International Expert Conference on the Recovery, Reconstruction and Modernisation of Ukraine*, calling for a modern-day "Marshall Plan" for Ukraine, currently estimated in excess of half a trillion US dollars by the World Bank.

Against this backdrop, it is critical to unpack the lessons from the past and draw useful insights to aid the future reconstruction of post-catastrophic and/or bomb-damaged cities, including Ukraine. It is therefore not only of contemporary relevance, but also timely to revisit post-war cities, re-evaluate the significance, quality, condition, and suitability of their reconstructions in the light of the present and reassess the urban and social changes that ensued. This thematic issue has a distinct European focus, covering different regions of Western, Central, and Eastern Europe. It includes contributions that examine post-war reconstruction and the politics of preservation/conservation, the (re)invention of cultural/local identities, including the movement of state borders (and peoples) resulting in reshaped political maps, as well as how the legacy of the urban fabric can be assessed using advanced spatial digital humanities methods. The articles published here cover two strands of enquiry on post-war planning of destroyed cities as we discuss below.

2. Reconstruction and Heritage Conservation

Post-Second World War planning began as early as 1943 but the exact period of "post-war planning" is rarely clear-cut, having no fixed start or end date. Some cities were drawing-up damage maps and reconstruction plans while the war was still raging but did not commence their reconstruction until years (sometimes decades) later. Across Europe various plans at differing scales (city, site, block, or building level) were drawn-up, but many were never realized for one reason or another. Unlike in the rest of Europe, British plans were re-cast as part of the formal "Development Plan" process, arguably "watering-down" some of the originally aspirational plans (Larkham & Adams, 2023). The development plans were required to have a particular format and a long lifespan with a strategic vision looking forward over 20+ years. While many towns and cities suffered considerable destruction in the Second World War, the extent of damage, re-planning processes, and actual reconstruction therefore varied significantly across Europe (Diefendorf, 1990; Düwel & Gutschow, 2013). The post-war periods, however, were for all affected cities "years of restabilization and demobilization, but also of change" (Stola, 2019, p. 31). In some cases, the recovery of cities is still ongoing, as Lorens and Bugalski's (2023) account of the reconstruction of Polish cities demonstrates. Moreover, the "post-war planning" that actually occurred was in many cases a continuation of earlier interwar plans, often spurred into action by the bombing of a city which acted as a catalyst for action. This remarkable era of historical investigation can therefore be considered on the one hand rapid and transformational, while on the other hand more gradual with less chronologically specific forms of change. The immediate post-war period tended to be characterized by the initial clearance of rubble, followed by more rapid-response emergency planning measures such as temporary accommodation to meet the urgent housing shortage. Subsequently, the reconstruction process was not just a moment of planning, rather an important instance of inheritance and preservation, as discussed in detail by Knauer (2023) focusing on Vienna, Austria. In this case, by highlighting individual buildings and the entire old town an attempt was made to influence the planning process, guiding the longer-term development of the city.

In other cases, the use of approaches such as "disencumbering" (Ladd, 2014)—treating isolated historic buildings as museum artefacts, rather than elements of urban landscapes—also played a role in the planned recovery, as demonstrated by Larkham and Adams (2023) in relation to proposed plans for Bath, UK. Post-war planning decisions thus extended not only to heritage-making moments, but also to influence actual conservation processes and practices. For example, addressing questions about whether damaged buildings should be restored or preserved, or whether destroyed buildings should be reconstructed/replicated. Replication of destroyed buildings was quite rare in Britain because of the strong influence of the Society for the Protection of Ancient Buildings and their strong anti-restoration views. However, such practices took place in other European cities and were quite extensive in Germany where a gamut of reconstructionist approaches can be observed. As Altrock (2023) argues, it is important to appreciate architectural values of diverse periods as legitimate parts of the complex history of our cities and not sacrifice them so easily for an uncritical retro-style urban repair. Linked to this, Vialard (2023) highlights how the reconstruction of an urban space must position itself in the face of its past and think about the history of the place, and how to respond to its destruction. Preservation of character is partially embedded and expressed in the physical characteristics of the urban tissue that includes the street, plot, and building patterns, while changes in the relationships of these three elements greatly impact the character of a city. Ludwig and Alvanides (2023) discuss this in relation to Nuremberg, Germany, where the careful consideration and retention of the existing urban morphology of the

city was a key success factor for the continuation of its traditional historical character, which is so valued today.

3. The Legacy on the Urban and Social Fabric

Following the Second World War bombings, most cities conducted audits of damage and presented the results visually in diagrams and damage maps, for specific purposes (rubble clearance, structural assessments, planning, etc.). Although such damage maps took various forms, using different scales, drawing techniques, and legends, and present information of varying quality and completeness, they constitute an important historical data source for wartime analysis (Elżanowski & Enss, 2021). These maps, alongside other wartime plans, were used by the actors of the reconstruction process to think more holistically towards implementing a collective vision, providing a basis to argue for the protection, restoration, or reconstruction of historic buildings. In Britain, it was this knowledge of the extent of loss that led to the process of identifying and listing significant historic structures, which became a ministerial duty from 1947 (Delafons, 1997). However, in addition to the historic urban fabric, post-war planning strategies also influenced the arrangement of today's land uses and the social fabric of cities, dictating where people are to live, work, shop, and how they are to move around the post-war reconstructed city. Particularly in Western Europe, modernist planners were driven by the ideas of the Modern Movement (promoted by the CIAM), which focused on the creation of a functional city, characterized by the zoning of land uses and prioritization of the private car. In this regard, the image of the city was "broken down into its constituent parts" (Chapel, 2014, p. 28), dimensions and spatial interrelations of the city were mapped, generally with the intention to look forward to a modern era, without much regard to the city's early evolution. Other cities implemented more traditionalist approaches to replanning by retaining the historic street network, apart from the widening of some streets to better accommodate vehicular movement and necessary minor adjustments to building footprints. Post-war planning strategies for Eastern Europe varied even further; a framework for understanding the contemporary urban design paradigms of Central and Eastern Europe is provided by Lorens and Bugalski (2023), who examine Polish cities facing unique challenges associated with the shift of borders and the relocation of entire communities, the so-called "Recovered Territories."

Using modern geospatial methods of analysis, we can identify the urban morphological traces of the legacy of different visions and approaches with the view of considering and assessing their value. We can identify patterns of land use, mixed-use and monofunctional areas, block typology changes (Ludwig & Alvanides, 2023), new street connections, and the intelligibility of urban environments, which all influence how we use space and ultimately how we live today. For example, while the introduction of new long and straight streets create clear thoroughfares and long vistas, improving the cognitive intelligibility of the city layout and facilitating navigation, Vialard (2023) warns that the creation of new connections that shift the centrality of a layout also create a disconnect from the past, which should not be underplayed. Through renewed research from today's standpoint, we see purposeful memorialization of bombed buildings, structures, and areas, historic spaces with contemporary uses, as well as forgotten places, longing for redevelopment. We see the surprisingly short lifespans of some post-war buildings and even of major infrastructure investments (Larkham & Adams, 2023) and growing debates around reconstructionism and such strategies to improve outdated modernist planning (Altrock, 2023). We see areas whose original post-war intentions are no longer applicable to the present-day vision for the area, for example London County Council's changing "cultural vision" and replanning of the London Dockers (West, 2023). We also see a redistribution of the social fabric of the city, the movement of state borders (and peoples), and the long-term impact of the associated de-heritagization and the use of planning and architecture to underpin the reinvention and reconstruction of local identities, as is the case with Opole's new geopolitical situation following the change of European borders in 1945 (Szczepańska, 2023).

4. Concluding Remarks

The collection of articles in this thematic issue draws out some important points for consideration. While the intentionality of the various post-war planning strategies across Europe are debated, the interplay between political and socio-economic priorities, dominant architectural styles, and redevelopment doctrines and practices played an important role. So too did the level of destruction, land consolidation issues, and the vision of the architect/planner in charge, as discussed by Vialard (2023) from the French perspective. Moreover, the reality in many cities was a messy, uncoordinated, incremental process, which needed to adapt to and negotiate the shortages of materials, funding, and construction workers, as well as the shifting political goals and uncertainties. In all cases, the process was dominated by contemporary concerns and political values: top-down, expert-driven designs and principles, which were communicated to a public that was not necessarily meant to influence them. The non-professional, local community input did not play a decisive role in Second World War reconstruction planning, yet the resulting urban fabric significantly affects the patterns of life for all who live, work, shop, and move around these cities. Thus, future reconstruction strategies of destroyed cities should, from the outset, engage diverse voices in a broad dialogue through sensitive inclusion. It has been shown how post-war visions (and needs) change over time, depending on contemporary socio-, environmental,

and geo-political contexts, and that many post-war constructions are today deemed no longer fit for purpose. As Larkham and Adams (2023) argue, one of the major challenges for contemporary planning and urban management across much of Europe today is to reassess its post-war urban fabric and space. With this in mind, not only are present requirements, styles, and trends important, but also the need to plan high quality, sustainable urban spaces that are flexible, adaptable to changing requirements, and built to last.

Conflict of Interests

The authors declare no conflict of interests.

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Seraphim Alvanides is a social geographer, with expertise in quantitative methods and geographical information science. His substantive interests involve the analysis of large spatial data related to urban sprawl, active transport (walking/cycling), and spatial humanities. The question driving his research is to what extent the environment (broadly defined) influences the behaviours and outcomes of individuals and groups. He is co-editor of the journal *Environment & Planning B: Urban Analytics and City Science* and associate editor for the journal *Heliyon: Environment*.

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Article

Revisioning and Rebuilding Britain's War-Damaged Cities

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Abstract
This article presents an overview of Second World War bomb damage to British towns and cities and a systematic evaluation of the relationship between damage, revisioning, replanning, and actual reconstruction in a sample of cities—Bath, Birmingham, and Hull. Two were severely affected by aerial bombing as port/industrial targets, and the third for propaganda purposes as a historical city. Two had extensive plans produced by eminent consultants (both involving Patrick Abercrombie) but the city managers of the third did not support "big plans." Birmingham, without a specific plan, rebuilt extensively and relatively quickly. Hull's plan was disliked locally and virtually vanished. Bath was repaired rather than rebuilt. These contrasting experiences have shaped the contemporary city via subsequent generations of replanning (not all of which was implemented) and, in Birmingham's case, the demolition of major reconstruction investments after relatively short lifespans. The article demonstrates the difficulty of conceptualising a generic approach to post-catastrophe reconstruction and the problems of such large-scale change over a short period for the longer-term effective functioning of the city.

Keywords
Bath; Birmingham; Hull; post-war replanning; rebuilding; reconstruction; UK; wartime bomb damage

Issue
This article is part of the issue "Bombed Cities: Legacies of Post-War Planning on the Contemporary Urban and Social Fabric" edited by Seraphim Alvanides (Northumbria University) and Carol Ludwig (GESIS — Leibniz Institute for the Social Sciences).

1. Introduction

During the Second World War, a large number of towns and cities in the combatant states suffered substantial damage, although the nature and extent of the damage varied considerably, due to the nature of both the weapons and the settlements themselves. Clapson (2019) sets these air raids and their damage in the wider context of 20th-century aerial warfare. In Britain, the damage was caused by aerial weapons and the cities affected ranged from London, the capital city, to major industrial cities and smaller historical towns. The municipal administrations of damaged cities began replanning very quickly, even as the bombs continued to fall, although some had recognised the need to replan congested centuries-old city cores and slum industrial-era housing even before the war—Coventry employing a radical new city architect and Birmingham with slum clearance plans, for example (Campbell, 2006; Manzoni, 1955). There was a great deal of continuity in pre-war, wartime, and post-war replanning (for example, in Belgium, see Uyttenhove, 1990); the real shock, or novelty, was in its scale and speed.

However, the replanning processes and actual reconstruction varied significantly from place to place in Europe (Diefendorf, 1990; Düwel & Gutschow, 2013) and, seven decades later, even the most successful and uncontentious examples of reconstruction are being re-evaluated and, in many cases, redeveloped. Connecting to wider discussions around the need for careful research that explores the shifting trajectories and peculiarities of post-war urban change in Europe

and elsewhere (Couperus, 2015), this article explores the processes and products of reconstruction, and their short- and long-term implications. It draws on extensive archival work in British national and municipal archives, set in a wider context through reference to European examples. The varied processes and products are examined through a comparison of cities differing in size, function, nature of damage, and attitude to replanning. The examples used are Bath (a historical city), Birmingham (an industrial city), and Hull (a port city). Archival research is used to complement contemporary plans and more recent research on the individual cities (Jones, 1998; Lambert, 2000; Larkham, 2016) and comparisons (Flinn, 2019; Hasegawa, 1992). Most of this literature focuses narrowly on local planning processes (including some of the personalities involved), while the comparative studies extend to themes such as economy and practicality. This article brings the reconstruction story up to date and adds nuance to the general argument that post-war cities were reconfigured solely to reflect the desires of eminent planner–architects acting in the experimental spirit of a sweepingly modernist vanguard. It also explores some of the long-term implications and fates of "reconstruction-era" structures. This is an area only recently receiving systematic research, such as in the work of Harada et al. (2022) on Tokyo.

2. The Nature of the Damage

Incendiary and high explosive bombs cause different forms of damage, and it is possible for incendiaries to cause fires that burn the combustible parts of buildings (such as timber roofs) but leave stone or brick standing and, potentially, restorable. Britain did not suffer the more intense and more destructive ground warfare experienced on mainland Europe, nor the intensity of raids which caused the firestorms of Dresden and Hamburg (Diefendorf, 1993; Hewitt, 1983; Overy, 2013); nevertheless, the damage was significant, often substantial, and usually widespread. German technology could, for example, accurately direct bombers to target cities, but the pattern of the bombing was often dispersed, leading Birmingham to feel that the whole city and its population were targeted rather than the valid military targets of arms production factories ("German bombing news story," 1940). The impact of blast damage was more widespread but less severe, taking tiles off roofs and, for example, shattering much of the Georgian glass of Bath. Although war damage cartography, certainly in Europe, provided valuable data to inform the rebuilding process, some histories have substantially downplayed the extent and impact of war damage (Willis, 2015). Yet this evidence not only captured the diverse states of ruination, but it also helped to project "desired states of urban clearance" (Elżanowski & Enss, 2022, p. 611), thereby feeding the need to plan for efficient, modern post-war cities.

Mapping evidence exists for all UK bomb-damaged cities, the best being contemporary mapping on large-scale Ordnance Survey sheets, identifying the precise location and severity of the damage. These sheets were updated for successive raids. Those for London are of exceptional quality and completeness and have been re-published in atlas form (Ward, 2015). But the nature of the damage was a military secret during—and even long after—the war and many such maps have not survived in public archives. Aerial photography in the early post-war years is more common and is beginning to be re-evaluated (Passmore et al., 2016), identifying cleared sites but not the wider but smaller-scale damage caused by the blast. Perhaps the most common records are compiled by local historians, although the accuracy is very variable: Bomb locations are often mapped but the spread and nature of the damage are more rarely plotted.

3. The Nature of the Plans and Visions for the Future

Most war-damaged city administrations across Europe moved quickly to develop plans to rebuild the damage, some working even while the conflict continued. This was particularly true in Britain from 1942 as the impact of aerial warfare lessened. It became evident that redevelopment was also needed to improve aspects of the outworn and outdated urban fabric unsuitable for modern traffic conditions and shifting social and economic conditions (Burns, 1962). Official guidance from the relevant minister, Lord Reith, repeated to several cities, was to "plan boldly" (Reith, 1941). The few pre-war plans were updated and often widened in scale given both the damage and the more supportive official and public response to planning. Many little-damaged or even undamaged towns, such as Warwick, embraced the opportunity to replan and rebuild, apparently fearing being left behind in the post-war repositioning of urban economies: To some extent, this was a product of place promotion (Larkham & Lilley, 2003). A small number of cities did not create reconstruction plans, for a variety of local reasons.

These early "advisory reconstruction plans" ranged from short, small booklets to large-format colour-printed books, and many were supported by exhibitions visited by thousands: In the case of the exhibition for Exeter's plan, perhaps one-third of the city's population visited in its first two weeks ("Exeter Plan exhibition report," 1946). Yet this was hardly a form of participation in which public views altered the plan proposals; instead, it was a top-down communication of intentions (Larkham & Lilley, 2012). However, most of these plans were illustrated, with maps, plans, and renderings of potential new buildings. There was an evident effort to convey the proposals to the wider public; this represented something of an "experimental interlude" (Couperus, 2015, p. 516), and the earlier plans were often radical, large in scale, and likely to last decades.

Both "official" and "unofficial" plans emerged. Many were drawn up by consultants, often with little local knowledge and for large fees. The appointment of

consultants was often mediated by the Town Planning Institute, and a small number of individuals won many contracts. A majority of plans, however, were produced by local authority staff. Regardless of authorship, plans had to be approved by the ministry (Ministry of Works and Buildings, 1940–1943; Ministry of Town and Country Planning, 1943–1951; Ministry of Housing and Local Government from 1951). Staff of the Ministry of Town and Country Planning's Planning Technique section, a wartime innovation, were extremely critical of many plans—including those produced by its own former staff (such as Thomas Sharp) or other eminent planners (such as Patrick Abercrombie; see Hasegawa, 2013b; Larkham, 2011).

A realisation that existing legislation was insufficient for the scale of the reconstruction task led to new Town and Country Planning Acts in 1944 and 1947. The latter introduced the "Development Plan," to replace the former advisory plans. These new plans were more formulaic, more targeted at professional rather than public readerships, and led to problems in communicating planning ideas. Plans became less radical and were later criticised for being too inflexible to cope with unexpectedly dynamic post-war social, economic, and demographic changes (Hasegawa, 1999).

4. The Nature of the Rebuilding

Once a plan was proposed and eventually approved both locally and by the ministry, a battle for implementation ensued. Few projects began promptly. Birmingham's inner ring road, for example, was designed in 1943 and received parliamentary approval in 1946, but construction did not begin until 1957. Funding and materials dominated early implementation, and both were in short supply. The hopeful dreams of the plans often met the stark realities of everyday experience and the messiness of implementation (Flinn, 2019). Britain was particularly badly affected by the need to pay for the costs of war: Construction materials in particular were in short supply and were rationed until the middle 1950s. Structural steel was rationed by a cabinet-level committee (see, for example, "Blitz Reconstruction Programme: Steel Allocations," 1952). With the need to generate substantial overseas income, steel was sold abroad (for example for buildings in Sydney), delaying reconstruction of UK bomb-damaged cities (Butler-Bowdon, 2009, p. 283). It was not until mid-1948 that a senior ministry official could report that "We now have authority to inform the local authorities concerned that the government is prepared to allow some start to be made on the rebuilding of blitzed cities in 1949" ("Reconstruction Committee: Reports," 1949).

While housing was a key priority in all official plans, to replace bomb damage, deal with slum clearance, and catch up on half a decade of no building maintenance and severely restricted new construction, other elements were common—in some cases seeming to dominate the plans. Housing was often dealt with by relocation away from the city centre, in some instances to new satellite towns, and in "neighbourhood units" with their own services and, ideally, nearby employment. But the bomb-damaged city centres were subject to radical redevelopment visions, involving large-scale new infrastructure (usually high-speed ring roads), shopping, entertainment, office districts, and "civic centres" (large municipal offices). While the new buildings depicted in reconstruction plans and models were usually uninspiring boxes—because the focus was on planning rather than architecture—this gave a misleading impression that the "new" was to be plain, boxy, and modern. Indeed, as fashions and architectural education had changed in the inter-war period, that was often the case. At the time, although the loss of the familiar and "old" was often lamented, the radical modern did provoke some surprisingly positive public responses, as with Coventry's 1941 exhibition (Larkham, 2014, pp. 139–141).

But, as circumstances changed during the lifespan of a plan, inevitably the plan also changed. New concerns began to dominate new plans, including rising populations, the dominance of the individual motor vehicle, and a move of goods delivery from rail to more and larger trucks, to suit the needs of an expanding array of public and private interests involved with shaping post-war urban centres.

5. The Examples of Bath, Birmingham, and Hull

The small number of Bath raids, part of the 1942 Baedeker raids on historic towns, "had destroyed 329 houses and rendered unfit for human habitation at least another 1,000…15,638 [had] suffered damage…serious damage was in scattered pockets rather than being general and widespread" (Rothnie, 1992, p. 68). Birmingham had numerous scattered raids, and bombs fell widely across its dispersed suburbia. The major raid on 9 April 1941, as a typical example of more focused effort, involved 235 aircraft dropping 280 tons of high explosive and 40,000 incendiaries. "Within a short time the centre of Birmingham was suffering severely, with huge fires burning in the Bull Ring, the High Street, New Street and Dale End" (Ray, 1996 p. 225). In Hull, 114,738 houses were reported damaged, "nearly half" of the principal retail trading establishments were destroyed, and industry had "suffered severely" (Lutyens & Abercrombie, 1945, pp. 17–18). The severity is marked by the number of properties which had not been repaired by the end of the war: 407 shops, 415 commercial buildings, and 315 factories/warehouses ("Post-war Building Programme," 1945). For a relatively small city, this was a high proportion of damage. Table 1 shows the damage, but also the patchy recording of data.

Of these three cities, Birmingham is distinctly different and thus worthy of examination. The country's second-largest city, which was also second-equal in terms of bomb damage, did not produce a

Table 1. Wartime damage details.

City	High explosive dropped, September 1940–May 1941 [1]	War damage (acres) [2]	Declaratory order applied (acres) [2]	Declaratory order granted (acres) [2]	Number of houses destroyed [3]
Bath	400 bombs	?	Applications abandoned 1946 [4]	?	1,214 [5]
Birmingham	1,852 tons	?	?	?	5,065 [6]
Hull	593 tons	136	300	246	4,184

Notes: [1] "Air defence of Great Britain" (1949), Appendix IV, although this focuses on "major raids," hence the vague figure for Bath. [2] Principally from National Archives files (air raids/civil defence and reconstruction), especially "Conference of local authorities on reconstruction problems" (1947) and "City centres: Government sponsoring 1949" (1948–1950); a "Declaratory Order" identified areas of damage. [3] "Reconstruction Committee" (1943–1944) unless otherwise specified; "Houses" was taken to mean most types of dwelling, including accommodation above commercial premises. [4] "Population forecasts: Regional progress reports" (1951–1952). [5] 2,256 "seriously damaged or destroyed," according to Abercrombie et al. (1945, Table 3); 12,125 destroyed according to the city surveyor and engineer discussing the 1946 Birmingham Housing Survey (Birmingham City Council Public Works Committee, 1947). ? Indicates lack of data in relevant National Archives files.

comprehensive city-wide reconstruction plan. This was very unusual. Instead, planning was the responsibility of its city surveyor and engineer, Herbert Manzoni, appointed in 1936. He was not in favour of large-scale plans which, he felt, were "often obsolete by the time they were put into effect" (Sutcliffe & Smith, 1974, p. 448) and the city had pre-war plans for slum clearance and road improvements (Manzoni, 1955). Post-war reconstruction to create a fully-functioning "motor city" occurred, but in a piecemeal fashion (Gunn, 2018). There were plans, but nothing comprehensive until the city belatedly responded to the legal requirement in the 1947 Act to prepare a city-wide Development Plan. It is this requirement that rendered all previous advisory reconstruction plans outdated at a stroke, and so perhaps Manzoni's reluctance and/or foresight was merited. Probably the most accessible publication on the city's reconstruction aspirations was a compilation of newspaper articles by the Chairman of the city's Public Works Committee (Price, 1959).

A major focus of reconstruction was on a series of residential areas around the city core that had been severely affected by aerial bombing and were therefore studied by the ministry in early 1941 ("Bombed Areas: Replanning," 1941–1943). An initial plan for one area was presented to the Public Works Committee in May 1943 and later refined as five redevelopment areas, locally known as "new towns" (Manzoni, 1943; Figure 1). The city moved swiftly to use new planning powers to purchase large parts of these areas: "Other cities had not been so well prepared as we were, and this is why we were the only ones to acquire such large areas at this time" (Manzoni, 1968, p. 2). The ministry was later critical of these proposals but felt that they were too well established for amendments to be required ("Duddeston and Nechells Redevelopment Proposals: Technical Report," 1949). Much of the new housing was delivered as tower blocks often using the designs of speculative developers, but there were significant tensions between speed and quality of construction (Lewis, 2022).

The bomb-damaged city core generated radical visions but no plan. In early 1943, a senior member of Manzoni's department gave a lecture illustrating:

> Suggested buildings of the future in Birmingham…with roadways built on the sides of huge shopping premises, level with the first floor, and complete with bridges across the road, while footways tunnelled at the side of the buildings underneath the first floor. ("Report on lecture by F. Greenwood," 1943)

Many schemes had prolonged gestation periods and many, including one involving Walter Gropius, remained unbuilt. What was actually built was a series of individual developments, led by speculative developers such as Land Securities and Ravenseft, sometimes of street-block size and often designed by local architects, such as John Madin. By the mid-1960s there was dissatisfaction with progress, the *Birmingham Evening Mail* ("City-centre development news story," 1965) noting that "there is no apparent pattern in the redevelopment at the heart of the city" although there were "gleaming new buildings and roads" (Sutcliffe & Smith, 1974, p. 479). The "jealousy and disagreement between the city engineer and the city architect" (Ross, City Estates officer, interviewed in Sutcliffe, 1967–1969) certainly led to problems of implementation. Ultimately, later criticisms centred on how many urban dwellers' experiences of the new city were subordinated to the desires of overbearing transport systems, and a redeveloped centre built around cultures of leisure, consumption, and work (Gunn, 2018).

Hull, a major port city, was badly bombed and city officials moved swiftly to commission a plan from one of the country's most eminent architects, Sir Edwin Lutyens. He was elderly and ill—dying on 1 January 1944—and shared the commission with Patrick Abercrombie. The plan was

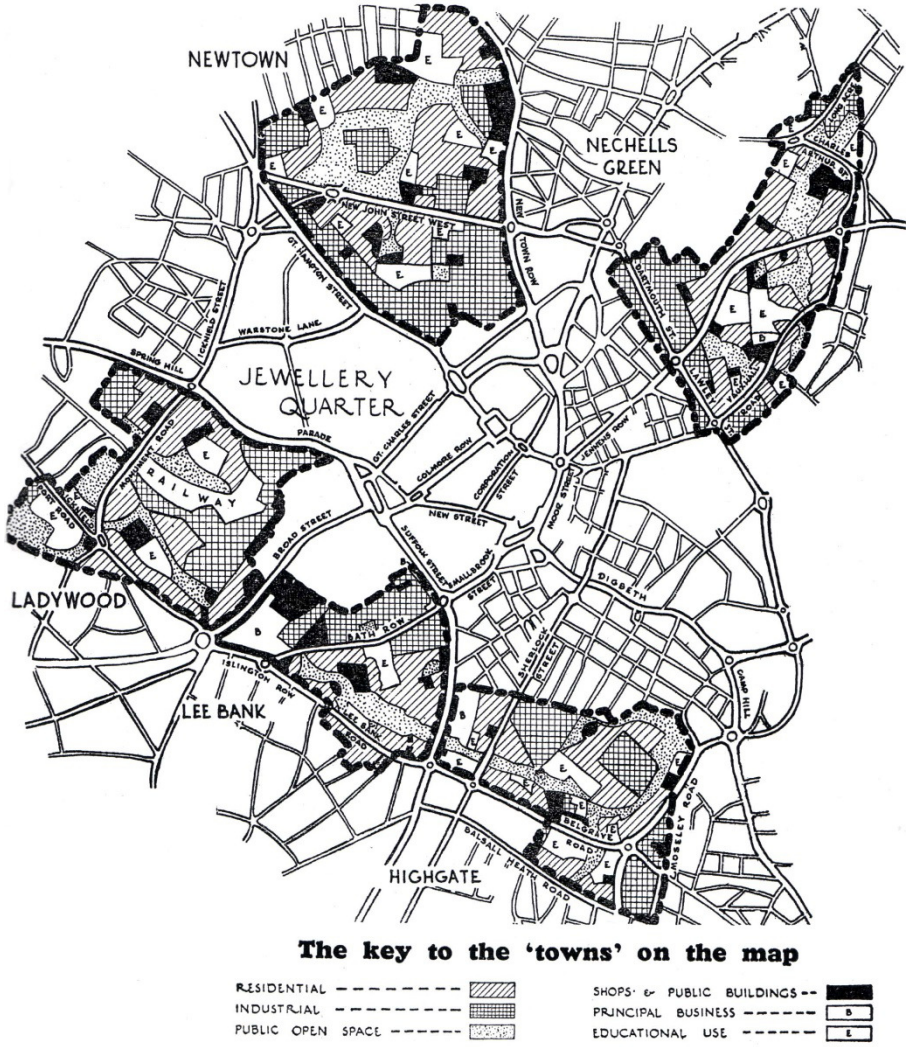

Figure 1. The five "new towns," otherwise known as reconstruction areas. Source: Versions of this graphic, originally drawn by Manzoni's department, were reproduced in many publications; this is from Price (1959, p. 3).

innovative and understandably focused much attention on improving the city core, although this held major implications for the rail lines serving the docks. There were also proposals for "community planning" and suburban extensions (decentralisation, not further sprawl) and for a Humber bridge. The plan, completed after Lutyens's death, was published as a well-illustrated large-format book, with a local exhibition opened by the minister ("Professor Abercrombie's plan," 1946). Abercrombie considered that this was "probably the best report he had been connected with" (Dix, 1981, p. 1222), and he contributed most to it, given Lutyens's illness.

Inevitably, the city-centre plan involved a ring road, with two new river crossings, and a segregated land-use subdivision into four "centres": for shopping, theatre, cultural uses, and a large civic centre for the city administration. Queens Gardens would be extended to form a major public open space on the alignment of an infilled dock and medieval moat. Another major axis would connect the railway station to the new city core, as in the plan for Plymouth. An imposing *beaux-arts* city layout, albeit with modernist buildings, would result. However, the "radical and challenging" proposal (Jones, 1998, p. 313) was to relocate the shopping centre and give it the form of a traffic-free precinct, although not in the same form seen in Coventry's emerging proposals nor the decked structures proposed for Bristol and Hastings.

The City Council "expressed its approval and acceptance" of the draft proposals in April 1943 ("Hull Plan news report," 1943). However, the subsequent response from local politicians, landowners, and retail operators, with vested interests in the pre-war retail area, was very strongly negative and alternative plans were circulated (Figure 2). The ministry's response was also negative, to the point where a civil servant noted that:

> Generally, it seems to me a tragedy both for Hull, Sir Patrick Abercrombie and planning generally that he ever went near the place, and the sooner Hull gets away from his wilder ideas and faces up to the practical job of replanning…in a sound, decent, ordinary way the better. (Gatliff, 1946)

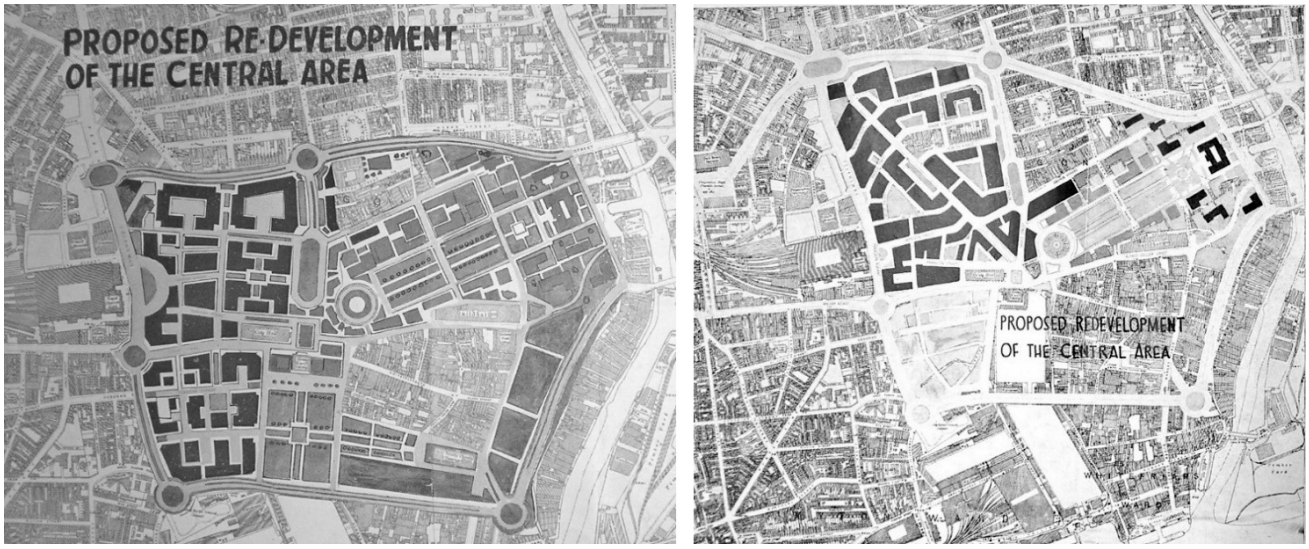

Figure 2. Competing visions of central Hull: From the City Council (left) and Chamber of Trade (right). Source: Kingston Upon Hull Chamber of Trade (n.d.).

Although the ministry was generally dismissive of plans produced by people outside its own staff, this was an unusually vituperative comment (cf. Hasegawa, 2013b; Larkham, 2011). Faced with this opposition, and the intractable railway problems, the plan sank virtually without a trace, and indeed the city archives have retained few records of this expensive commission. Unfortunately, despite the "strong, coherent and intelligible" nature of the plan (Jones, 1998, p. 314), the city-centre proposals tarnished its wider ideas, including resolving the road/rail conflicts and a satellite town to better manage population growth.

Of these three examples, perhaps the most successful, but nevertheless controversial, plan was that produced for Bath. Abercrombie was again the chosen external consultant, at a fee of between 500 and 750 guineas ("Proposed redevelopment of war damaged areas," 1944–1955). Indeed, he had a significant personal influence over the replanning of post-war Britain, both through his own direct involvement in city-level plans, and several regional plans commissioned by the ministry. He was often supported by various ministers and on the recommended list often supplied by the Royal Institute of British Architects when asked for suggestions by local authorities. As professor at the Universities of Liverpool and then London, he also shaped the views of many others involved in contemporary planning. For the Bath plan, he was supported by H. A. Mealand (Town Planning Officer for the Bath and District Joint Planning Committee) and J. Owens (Bath City Engineer). But Abercrombie had already been involved with the 1930 Bristol and Bath Regional Planning Scheme and was a consultant to the Bath and District Joint Planning Committee, so he was familiar with the area and the personalities (Abercrombie, 2017, Part VII, p. 22; Lambert, 2000, pp. 174–178).

The setting and architecture of Georgian Bath were already seen as iconic (Green, 1904), and the founding of the national Georgian Group in 1937 gave further support to this. Much of the serious bomb damage had coincidentally avoided the Georgian areas, and the major planned improvements were therefore focused on the later, and partially industrialised, riverside areas (Figure 3). Damage in some of these areas facilitated the demolition of other properties in slum areas with which the council had been trying to deal for years (Lambert, 2000, p. 183). But the proposals here were for radical and large-scale change. The plan's phrase was that "most of the other properties are old and obsolescent. Our plans propose redevelopment on new lines and the elimination of all existing streets" (Abercrombie et al., 1945, p. 57).

Not only was this a radical change to physical form, but land-use separation and precincts were proposed. A tightly drawn ring road ran approximately on the alignment of the vanished walls. Some key historic buildings would be isolated for display, a controversial approach later termed "disencumbering" (Ladd, 2014), which treats these as museum artefacts rather than elements of urban landscapes—although the plan states that this was not the case (Abercrombie et al., 1945, p. 54). A surprisingly modern proposal was to create a new civic building immediately behind the Royal Crescent, incorporating and converting one of the houses that had been bomb-damaged and 15 others, and facing onto a new proposed east–west road across the city. Indeed, the location of many new buildings in relation to street alignments was distinctly modern rather than Georgian. But there were still traces of *beaux-arts* alignments, as with the concert hall and health centre. In addition to the expected focus on the damaged Georgian centre, the plan also had extensive coverage of residential neighbourhoods, industry and employment, open spaces, and communications.

The Bath plan was also published as a large-format book, with an edition of 3,000 copies at a cost of £3,000

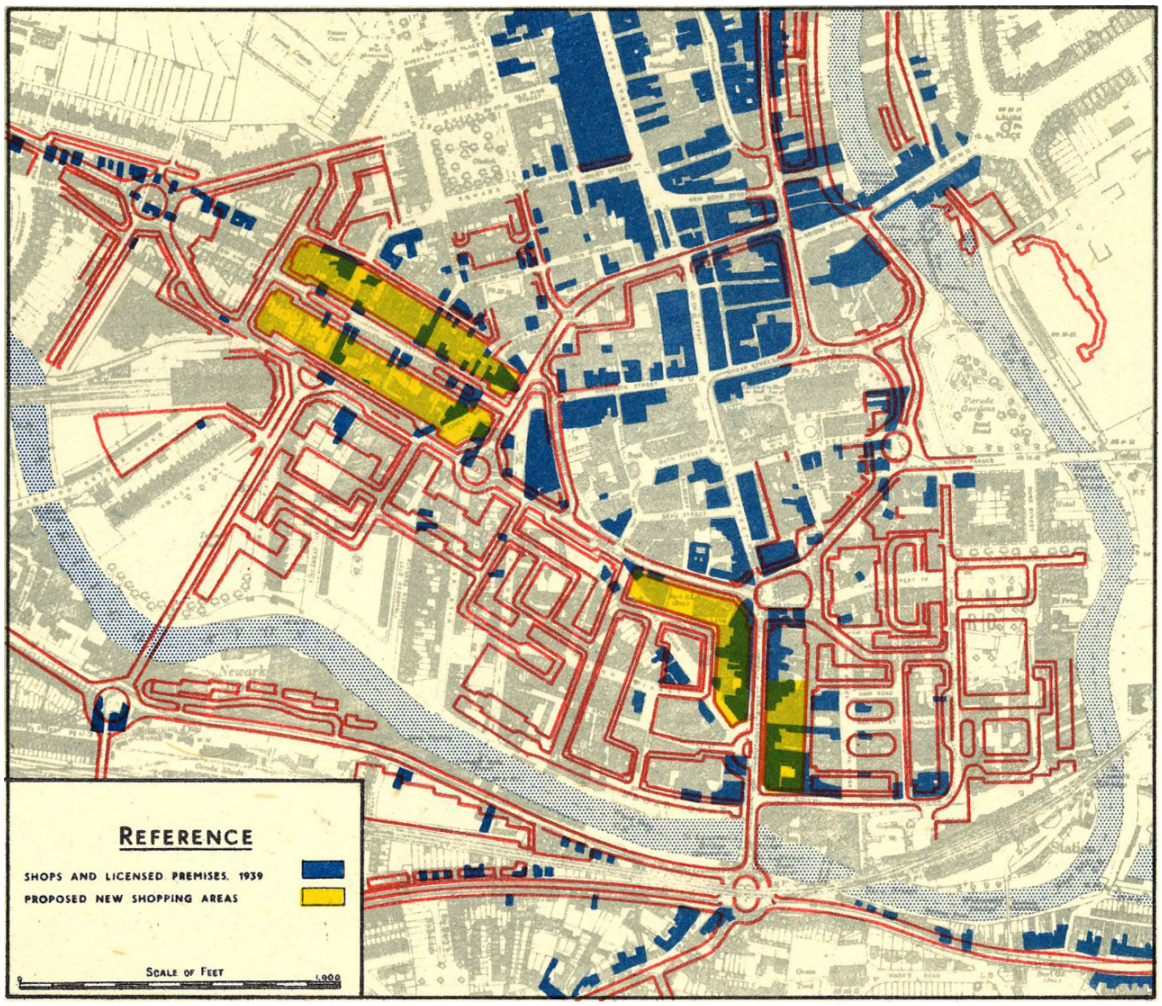

Figure 3. Redevelopment proposals focusing on the worn-out and bombed areas south of the city core. Source: Abercrombie et al. (1945, following p. 62).

agreed upon by the council in October 1944. The plan was launched with an exhibition opened by the minister. It was also "introduced to the inhabitants by coloured magic lantern slides shown in every ward in the city" ("Bath Plan news report," 1944, p. 337).

The City Council approved the plan, with the exception of the conversion of the Royal Crescent, in late 1945 ("Bath Plan approval news report," 1945). The plan met a generally favourable reception, being reviewed widely and positively in national newspapers and in professional journals. The Bath Preservation Trust supported the plan, although the Bath Group of Architects criticised the plan's traffic-focused, over-symmetrical and monumental character, and emphasised the contribution of less-significant Georgian buildings, in a series of articles in the *Bath Daily Chronicle* (Lambert, 2000, p. 187).

6. Conceptualising Post-Catastrophe Change

Models of post-disaster reconstruction highlight an "emergency response" stage. This is worth mentioning although it is, by definition, not part of the planned response. In the UK, one such response was the rapid clearance of the rubble, although in some instances this involved the over-enthusiastic demolition of structures (especially churches and public buildings) that might otherwise have been stabilised and saved. A second response, immediately following the peace, was construction of temporary emergency housing, often as prefabricated bungalows, located on any available open space. Birmingham had about 6,000 such "prefabs," often built by aircraft companies looking for work following the loss of wartime contracts. Despite short design lives, many persisted for decades; some have been reclad, and a few survive in original condition, having themselves achieved "listed" status (i.e., placed by the relevant minister on the Statutory List of Buildings of Special Architectural or Historic Interest). Those that remain have "fossilised" a temporary emergency response: a point recognised in the Bath plan, which says that such structures "have no place in a long term planning scheme" (Abercrombie et al., 1945, p. 81).

More significant is the planned response, the main stage of most disaster response models, and, understandably, the focus of most professional and public attention. This is the response to the "opportunity"

provided by destruction to engage with novelty and radical ideas (Couperus, 2015). Concepts, designs, and technologies certainly emerged across a range of scales and actors, though these were not widely implemented for reasons of cost, other practical concerns, or the inertia imposed by an existing urban morphological frame. But, as with all plans, the radical future turns out not to have been particularly radical or necessarily successful in the longer term. The sometimes surprisingly short lifespans of some buildings, or even major infrastructure investments (Larkham & Adams, 2019), demonstrate this; nevertheless, plans have to be made. Hence, both the reconstruction plan and the physical reconstruction require eventual re-evaluation.

However, in the UK, post-Second World War reconstruction started very slowly, accelerated massively in the 1960s such that it generated an anti-development, pro-conservation response (Aldous, 1975; for Bath, see Fergusson, 1973) and then stopped suddenly in 1973. The Arab-Israeli war in the Middle East and the consequent oil shortage spurred a further economic crisis, and most building projects were halted. When the economy allowed construction some years later, the socio-economic situation was so different that many stalled projects, including Birmingham's library, were never completed as originally planned. This artificial end to the "reconstruction era" has implications for conceptualising the final stages of reconstruction.

7. Evaluating Post-Catastrophe Changes Seven Decades Later

This evaluation would form a further stage in a disaster response model, although it is rarely explicitly recognised. All buildings and areas have a life span, in more recent years expressed as a design life. Yet this was rarely a consideration in the reconstruction plans, which understandably focused on the redevelopment itself over periods of 20, 30, or even 50 years. Even areas designed and constructed early in the reconstruction era have not all withstood these challenges with, for example, Birmingham's 1940s-designed inner ring road being viewed as a "concrete collar" restricting the growth of the city core by 1988 (Sparks, 1993) and partially demolished in the early 2000s, part of a wider reaction against the car culture embedded in the city's post-war urban form (Gunn, 2018).

The Government's expert advisory organisation Historic England (formerly known as English Heritage) has—from as early as the mid-1980s—been recommending some protection through listing, but more recent research has engaged with a wide range of stakeholders to better understand some of these issues. For example, the long saga of Birmingham's 1970s Central Library is now well known (Belcher et al., 2019; Larkham & Adams, 2016). The outspoken opposition of some senior city politicians and officials to any suggestion that the structure could be reused or conserved is noteworthy, as is the campaign by the building's supporters, using both new and traditional media (Clawley, 2015). English Heritage's experts recommended listing on two occasions, but both ministers in office at the time refused to accept those recommendations. Although refurbishment of the 1970s library would have been costly, its replacement was probably three times as expensive. Civic ambitions for redevelopment outweighed both local and expert views.

Replication of destroyed buildings is very rare in the UK, in contrast to some European locations after both world wars. There are rare examples in Bath, Leamington Spa, and London, particularly where part of a uniform terrace was destroyed—but the influence of the Society for the Protection of Ancient Buildings's criticisms of this approach dominated. Nevertheless, such replication was mentioned favourably in an influential book by Roy Worskett (1969, p. 180), then Bath's chief planner.

Birmingham's iconic Rotunda office block was Listed in 2000. Nevertheless, soon afterwards it underwent a major and radical refurbishment—albeit with the support of its original architect, James Roberts, and having received all appropriate consents. Its overall form and mass remain as original. However, all the cladding is new, and the balance between glazing and cladding panels is slightly changed, and its podium has been penetrated by a supporting pillar for the Bullring shopping centre of 2003, replacing the 1964 centre. The sinuous office block on Smallbrook Ringway has also been subject to redevelopment proposals involving recladding, two glazed additional storeys and a new central tower but, in November 2022, demolition was proposed (Spocchia, 2022). In this case, listing was considered but not recommended. This was the first-built section of Birmingham's inner ring road, starting in 1957, and the city was trying to secure an income stream from rental of the shops and offices on this narrow site. However, the ministry felt that these were inappropriate alongside an urban high-speed traffic route and the design of subsequent sections was changed. Official disapproval decades ago seems still to influence decisions today.

The surviving reminders of the bombing itself have provided a heritage, and potential problems. Most bombed buildings were cleared very quickly, although some remained—a combination of inaction and deliberate choices—and a few remain even today. For example, bombed churches or cleared sites of destroyed churches remain in quite a few cities, in the UK alone including London (12), Bristol (three), Birmingham, Coventry (two), Southampton, Plymouth, Liverpool, and so on. Some of these sites were deliberately retained with a memorial function. Others are landscaped gardens (a combination of public open space and memorial), especially in city centres with little other public open space. Some seem merely to be landscape features, particularly as historic centrepieces for new developments. Some have attracted new uses and users, for example St Luke's, Liverpool, with its community and art-related

uses. Others remain part of thriving and active churches, and Coventry Cathedral and St Martin le Grand, York, have also built profiles as centres for peace and reconciliation. Yet some seem hardly to be used or visited; and this category would include St Thomas, Birmingham, despite its re-invention and redesign as a Peace Garden in the late 1980s. The continued conservation of these structures, especially in the current economic climate, must be increasingly doubtful given their low use, and their structural integrity considering the length of time that has elapsed since their ruination (Larkham, 2019).

In several cities including Birmingham, bomb sites remain as surface car parks. In both Hull and Bath, bombed secular buildings that have survived to the present day as ruins have been listed, although the survival of structures (as opposed to sites) is rare. The ruin of a bombed cinema in Hull, long neglected and listed for its rarity as a surviving bomb site, is about to be converted into a civilian war memorial, with a grant from the National Lottery Heritage Fund (Historic England, 2022a; Young, 2021). In Bath, a bomb-damaged but patched-up and now-listed municipal office building has retained its scars in a major rebuilding (Historic England, 2022b).

Research on stakeholders of these contested buildings suggests that particular individuals can be extraordinarily influential in decision-making processes and that the actual decisions made, with all due legal process, may not appear to be firmly based on evidence. For example, Berlin's Gedächtniskirche was retained largely as a result of public pressure, with one newspaper reporting over 47,000 letters debating the proposed ruin clearance (Brude-Firnau, 1983, p. 126). St Alban's Church, Wood Street, London, survived the war as a burned-out shell but a complex and not clearly logical series of decisions then left only the tower remaining, isolated on a tiny traffic island (Martire, 2018). More recently, the social media comments of some pro-redevelopment individuals about Birmingham's 1970s library seem to be emotive and less evidently evidence-based, while Tessa Jowell, when the minister responsible, made forthright comments to a local radio programme that give the impression that personal taste may have influenced decisions. Protesters are becoming very "smart" in mobilising support via different media, often from far afield (Larkham & Adams, 2016). Those making decisions need to learn lessons about how the processes of decision-making are communicated in the contemporary media arena: how the careful, professional evaluation of evidence arrives at a clear decision in a transparent manner.

8. Conclusions

The three British cities discussed in this article, comprising a broad range of types and sizes of cities, provide an important illustration of replanning and reconstruction approaches and activities. These were dominated by contemporary professional and political values: As with other cities, these were top-down, expert-driven processes, scarcely consultative until proposals were ready for public presentation and "criticism" (a much-used word at the time). Much of this communication was a form of propaganda (Larkham, 2014, p. 144). Yet there was little evidence that public views changed plans. The British experience was little different to that of much of the rest of Europe (for occupied Germany, see Deeming, 2010; for other examples, see also Diefendorf, 1990). Novel factors across Europe included the necessarily large scale and speed of action and a much more technocentric approach to the use of data and technological solutions such as communications infrastructure. This demonstrated the influence of modernism, not just as an architectural and urban form but in the drive towards speed and efficiency of urban activities (certainly for vehicles but perhaps less so for pedestrians; Hubbard & Lilley, 2004).

These plans, even the "non-plan" of Birmingham, originated in the early war years, while bombs were still falling. However, Prime Minister Churchill was sceptical of such efforts, stating that "we must be very careful not to allow these remote post-war problems to absorb energy which is required, maybe for several years, for the prosecution of the war" ("Committee on reconstruction problems: Composition and functions," 1940–1943). Yet it is scarcely conceivable to think of the impact on public morale had not some such efforts been made, demonstrating positive responses to the catastrophe of damage on the "home front."

Even mapping the bomb damage was a political act (and contemporary use of technology makes this even more evident; van den Hoek, 2021). It was a form of propaganda: as much about recording loss as about reshaping and reimagining cities (Elżanowski & Enss, 2022). In Britain, knowledge of the extent of loss led to the process of identifying significant historic structures, a ministerial duty from 1947 (Delafons, 1997, Chapter 8). Likewise, even using images of destroyed homes and workplaces was discouraged by censors for reasons of morale and military secrecy (Pohlad, 2005, pp. 3–4). Knowledge, and its graphic representation via these maps and other images, was indeed power (Harley, 1988), in terms of the still opaque processes of selection and categorisation and their effects on reconstruction decision-making.

Inevitably, the examples discussed here add to the story of a more fragmented, non-linear interpretation of post-war urban change. There were significant difficulties relating to short-term action especially given shortages of material, funding, and people. The ideal of wartime reconstruction plans, all highly aspirational despite Churchill's reservations, met the harsh reality of post-war rationing (to 1954–1955) and shortages, political and technical obstacles as well as financial problems (Flinn, 2019; Hasegawa, 1992). Expectations of swift action generated by the energetic production of plans were dashed, not least by a new planning system requiring the recasting of all plans in a new approach as

"development plans." Reaction to the first of these plans was negative:

> As for the few town maps which have been prepared, what are we to make of them? It is a minor matter that the form in which they are required to be presented is repulsive. It is a worse fault that they are almost unintelligible. But it is far worse again, indeed it is deplorable, that they are in part meaningless—and deliberately so. (Sharp, 1951, pp. 429–430)

In fact, this change in how planning ideas were communicated to a wider audience has had a long-term adverse effect throughout much of the post-war period.

The intense local opposition to the Hull plan was dominated by vested interests in existing land ownership patterns and rhetoric against diverting resources to new road alignments instead of replacement buildings that received great prominence in local media. "These were precisely the short-term arguments which Abercrombie feared would dominate post-war reconstruction" (Jones, 1998, p. 312). An alternative plan was commissioned and, with the new focus on development plans, the Lutyens/Abercrombie plan vanished. Such vociferous and well-orchestrated opposition to reconstruction proposals was very unusual, although some opposition always arose when, as in almost all cases, reconstruction required the compulsory purchase of the property. The equivalent land reallocation process in Japanese reconstruction was perhaps simpler, though not without problems; but there was a very different national and civic culture (cf. Hasegawa, 2013a). It is not wholly accurate to say more widely, as Higgott (2007, p. 72) did of the County of London Plan, that "the assumption of the rightness of the power to carry out these proposals in the common good is never questioned."

The perceived slowness of implementation, the changing focus of planning ideas and communications through development plans, and perhaps opposition such as in Hull led to a very distinct watering-down of the types of proposals seen in the early outline reconstruction plans, some of which had been a very radical response to the opportunity of destruction (Essex & Brayshay, 2008; Hasegawa, 1999). Nevertheless, many of the buildings that eventually lined the new street layouts were largely modern, a radical and unfamiliar departure. This is seen in the series of reconstruction-era plans for historic cities such as Durham, Exeter, and Chichester by Thomas Sharp, which established his reputation (he was president of the Town Planning Institute in 1945–1946) and became the new orthodoxy.

This study demonstrates that neither the size or nature of the damaged city nor the scale, nature, or extent of the damage itself had much influence on the nature, production, or implementation of replanning and reconstruction. Far more significant were factors relating to agents and agency active at the time, including the values and views of decision-makers and the processes being used. The incomplete nature of Table 1 demonstrates the different degrees with which the three cities engaged with the standard formal bureaucratic procedures. Manzoni boasted of his high-level contacts and activities, including his exertion of influence on developing legislation such that Birmingham got what it wanted (i.e., the extension of reconstruction powers in the 1944 Town and Country Planning Act to include slum clearance; Manzoni, interviewed in Sutcliffe, 1967–1969, p. 4). Poor interpersonal or inter-departmental relationships at the city level, and between cities and the ministry staff more widely, were significant problems and causes of delay. In the longer term, even the nature of the plan and plan-making was of relatively little importance: The downfall of Birmingham's reconstruction was not the lack of a "reconstruction plan" but the changing dominant paradigm of planning from the vehicular priority of the 1930s–1970s. However, the critical factor given less attention by many of the studies of individual cities and plans which dominate the urban and planning historiography of this period is the wider scale of wartime disaster, and thus the need to conceptualise disaster response and longer-term planning over a far wider physical area than any one city and its hinterland. In this respect, one of the major shortcomings of the UK's post-Second World War reconstruction planning was its ad hoc nature, and the lack of any form of "national plan."

The nature and extent of urban reconstruction, most of which was delivered in just a quarter-century, means that it now faces block obsolescence. The challenge for contemporary planning and urban management across much of Europe is to reassess the significance, quality, and condition of these buildings and areas. How much of this difficult and dissonant urban heritage can be re-used in the longer-term effective functioning of the future city?

Conflict of Interests

The authors declare no conflict of interests.

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Article

Post-Second World War Reconstruction of Polish Cities: The Interplay Between Politics and Paradigms

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Abstract
By the end of the Second World War, many of the Polish cities—and especially their historic centres—were in ruins. This was caused by both bombings and sieges conducted by the Nazis and Soviets. The particular group of cities is associated with former German lands—now called the "Recovered Territories"—which were incorporated into the borders of Poland as compensation for its Eastern Borderlands lost to the Soviet Union. These cities started to be gradually rebuilt after the end of the war, although one can distinguish certain stages and types of interventions, varying from the restoration and idealisation of the pre-war townscapes (so-called "Polish School of Conservation," which was developed along principles contradictory to the urban conservation theories of these times) to late modern as well as postmodern (called the "retroversion") principles. This process is ongoing, meaning the reconstruction of the historic cities is not yet completed. At the same time, these processes were embedded within the changing political perspectives—varying from "restoration of destroyed heritage" through "providing modern living environments" up to the "theming urban spaces." In some cities, various stages and approaches overlapped, creating unique palimpsests. The article focuses not only on the evolution of both politics and design paradigms but mostly on the interplay between them and, as a result, on the doctrine's evolution. Consequently, these considerations allow presenting the similarities and differences in the evolution of the reconstruction of Polish cities to the cases known from Western Europe and provide the framework for understanding the contemporary urban design paradigms of Central and Eastern Europe.

Keywords
conservation; Polish School of Conservation; Recovered Territories; retroversion; socialist modernism; socialist realism; theming; tourism economy; urban heritage

Issue
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1. Introduction

Between 1939 and 1945, as a consequence of the intense warfare in Europe (Second World War [WWII]), countless cities were heavily damaged. The urban heritage of many historic city centres was destroyed, and their reconstruction became a very important issue for not only architects and planners but also politicians and local communities (Diefendorf, 1989, 1990, 1993). However, in many cases, these processes have been stretched over decades and—very often—are still being continued. These are confronted with changes in urban conservation and regeneration doctrine, political issues and priorities, the economic and social needs of local communities, as well as the evolution of architectural and urban design paradigms.

The reconstruction processes of such "bombed cities" were also conducted differently in particular countries. The main focus of this article is to discuss the case of Poland, a country facing very unique challenges associated with the shift of borders (Figure 1) and the relocation of entire communities (Mazur, 2006). This

resulted in the need to deal with at least three types of situations:

- Pre-war Polish cities that were destroyed by Nazis during the "defence war" of 1939 (when Nazi Germany invaded Poland and—during artillery bombings and air rides—destroyed some of the historic cities and their parts), as well as during and after the Warsaw Uprising (this is limited to the case of Warsaw);
- Pre-war German cities, as well as Gdańsk (constituting before the war the Free City of Gdańsk, then also named as Free City Danzig, and incorporated into Germany on September 1st, 1939, at the moment of the outbreak of WWII in Europe), that were destroyed by the Soviets during the "liberation war" of 1944 and 1945 (when the Soviets intentionally destroyed the centres of these cities, which was considered as an act of revenge for war-time destruction of Russian, Ukrainian, and Belarussian towns) and are located within the zone now called "Recovered Territories";
- Pre-war Polish and German Cities that were partially destroyed due to sieges and war-related activities but were not meant to be purposefully destroyed by either Nazis or Soviets.

As the borders of Central and Eastern Europe were redrawn after the end of WWII, many pre-war communities of towns incorporated into the Soviet Union, as well as coming from destroyed Polish cities, were resettled to the west. This resulted in both the massive relocation of Germans to the west of the Odra River (future East and West Germany) as well as in the relocation of Poles from the "Eastern Borderlands" towards the above-mentioned Recovered Territories (Figure 1). At the same time, the capital of Poland, Warsaw, faced a massive inflow of people from other parts of the country. The same phenomenon could be observed—to a lesser scale—in other Polish cities. Therefore, an entirely new social geography of the country was created, which resulted in breaking the relationship between place, memory, and identity.

Within this article, special attention was paid to the area of the Recovered Territories. Cities located within its borders, being part of the hostile state (from the Red Army perspective), were completely plundered, devastated, and burnt down (Lubocka-Hoffmann, 2004). However, it is still hard to judge whether these activities were carried out as part of a well-thought-out strategy for the eradication of German material culture from these areas or as pure revenge for the Nazi's previous campaign in the East. Regardless, the fact is that, right after the war, among approximately 700 historic cities within the borders of post-war Poland, the average

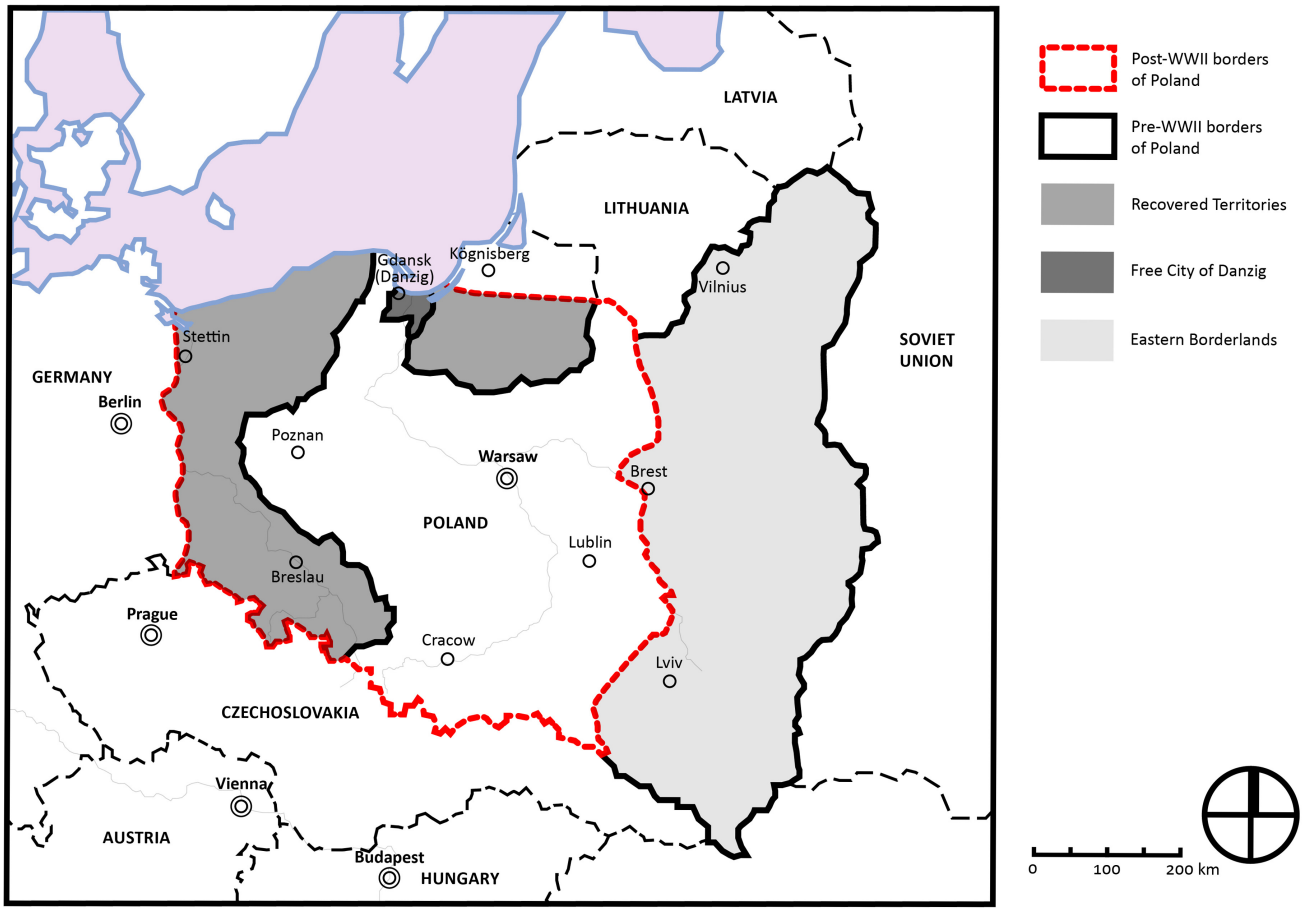

Figure 1. The shift of Polish borders after WWII.

destruction in 177 centres was over 50%, and the overwhelming majority of this destruction took place within the most densely built Old Towns of cities located within the Recovered Territories (Lubocka-Hoffmann, 2004). What distinguishes these cities now is the issue of discontinuity, caused primarily by the severance of the relationship between place, memory, and identity as a result of the complete exchange of the population of these urban centres. The above mentioned exchange of population refers to the removal (by the order of the Allies, meaning USA, UK, France, and Soviet Russia) of the pre-war German community which had to leave to the west (to the present Germany) and to reallocation of the remaining urban structures to the refuges coming from the pre-war eastern part of Russia (also expelled from their homes by Soviet Union). This was accompanied by social change, associated with a redefinition of the entire country's social structure (Leder, 2014). The extermination of the Jews and the liquidation of the landed gentry led to the replacement of the social structure based on the estate's division, still functioning in the interwar period, with a modern social model based on the class system. Furthermore, it also must be pointed out that the post-WWII redevelopment processes of the historic urban structures were embedded in the reconstruction efforts undertaken after the destruction caused by military actions during WWI (the Great War). These relate both to Polish cities (like Kalisz) and German ones (the East-Prussian cities; Salm, 2006).

In addition to the social changes, the altering political and socio-economic perspectives must also be pointed out. These vary from "restoration of destroyed heritage" through "providing modern living environments" up to the "theming urban spaces." Furthermore, what must be pointed out is the interplay between the evolution of both politics and design paradigms and—as a result—the evolution of the urban redevelopment doctrine that shaped the post-war reconstruction of destroyed cores of the historic cities in Poland.

Although this study is presented from the Polish perspective on the topic, it also allows presenting the similarities and differences in the evolution of the reconstruction of Polish "bombed cities" to the cases known from Western Europe (Chomątowska, 2016; Tung, 2001; Ward, 2002) and provides the framework for understanding the contemporary urban design paradigms of the central and eastern parts of the continent. This relates not only to the design paradigm and its evolution but also to the complex history of transformations and—in many cases—overlapping of the results of the rebuilding processes (Salm, 2001). Therefore, the results of these considerations may serve as the point of reference to the future redevelopment processes occurring after the conclusion of other conflicts. To make a presentation of the main elements discussed within this article, its content has been presented in the form of a table in Section 4 (Table 1). This table might be considered a useful guideline for the complexity of a whole article as it systematises presented consecutive periods concerning the interplay between political and socio-economic priorities, dominant architectural styles, and redevelopment doctrines and practices.

Finally, it is important to point out that this article focuses on the redevelopment process of historic urban complexes and does not discuss the rebuilding/restoration of the individual buildings and their complexes. Although those undertakings have common theoretical roots with urban redevelopment processes, both should be clearly distinguished from each other. Therefore, the text consists of a limited number of related terms: The term "reconstruction" describes more significant attempts at redevelopment referencing a historical scale and forms of the post-destruction city; the term "rebuilt" is used in a more general context, focusing rather on filling the void of destroyed cities again with a new architectural and urban value. The authors also would like to point out that various terms are used in the literature dealing with this topic, but they decided to consequently use the ones mentioned above.

2. Methods and Literature Review

This article is based on the analysis of the existing literature, which is mostly available only in Polish. In addition, the authors were able to present a specific perspective on the topic based on their personal experience with rebuilt historic centres of Polish cities gained as a result of the numerous study visits and developing case-study-based research. The photo material presented in the article is just a section of wider studies conducted over the years. Also, some of the research conclusions are based on an analysis of the available archival resources. The authors conducted numerous studies in many archives during the past years, especially in Gdańsk and Warsaw (but also in Wrocław and Olsztyn). The most recent study has been conducted as a part of the project "ODBUDOWANE" (which translates to "RECONSTRUCTED") in 2022, financed by the Polish Ministry of Culture and National Heritage. During this study, a query has been made in the archive of the Institute of Art of the Polish Academy of Science in Warsaw, as well as an archive of the Royal Castle in Warsaw and the archive of the Museum of Architecture in Wrocław. However, this article should be seen as an overview rather than basic research.

The research methodology includes the presentation of the evolution of post-war reconstruction of historic city doctrine and practice in the context of the interplay between both evolutions of politics and architectural and urban design paradigms. In addition, the analysis of different types of structures—due to their location within the context of the given city—allowed the definition of the main lines of evolution of the reconstruction doctrine. Although, due to limitations regarding the length of this article, the authors decided to focus only on the structures referred to as old towns—meaning the

historical hearts of cities—as they are the conveyors of their identity. This allowed the definition of the current paradigm of reconstruction of the structures which are still in need of recreation.

The literature on the post-war reconstruction should be divided into three basic categories: (a) those published by people directly involved in the discussed process, (b) those published by people not related to the discussed process but prepared based on information from the first category, and (c) those published from a further research perspective and based on reliable source studies (Friedrich, 2015). The legitimacy of such a division seems to be shared by Andrzej Tomaszewski, admitting that a clear:

> Weakness of the current state of research is its largely dilettante nature. The witnesses and participants are usually architects and art historians, trusting their increasingly faded, scientifically unverified memory and succumbing to nostalgic delusions. The second group, which did not experience the analysed period, relying solely on a random insight into available sources, falls into anachronisms, criticising and condemning from the point of view of the present state of art history and architecture the actions of participants in those events. (Majewski, 2009)

In this context, he appreciates the efforts of a new generation of researchers who support their arguments primarily with an in-depth analysis of the source material.

In this article, the authors are consciously reaching all three categories. At the same time, one must highlight that—at least in the identified literature—there is no publication providing a similar study on the interplay between politics and paradigms of the post-WWII reconstruction of Polish historical cities. Of course, one can find many presentations of single case studies as well as elaborations on the conservation doctrine (including the discussions on Athens' Venice Charters; Kadłuczka, 2019). Regarding the situation in Poland after WWII, there is an interesting body of research attempting to present a more general systematisation of the topic in Polish (Bugalski, 2014; Fiuk, 2017; Kalinowski, 1986; Lewicki, 2017, 2018, 2020; Lubocka-Hoffmann, 2004; Ostrowski, 1980), English (Jeleński, 2018; Johnson, 2000; Karsten, 2017), and other languages (Popiołek-Roßkamp, 2021). However, it seems that only recently have some researchers tried to investigate the controversy around the post-war reconstruction movement more deeply in the context of certain political aspects (Racoń-Leja, 2019; Torbus, 2019). Of course, these works are embedded in the analysis of the evolution of planning systems and urban development practice (Kodym-Kozaczko, 2017; Nowakowski, 2010). Concurrently, it is necessary to take into account a wide body of research associated with the identity of cities and how they are reshaped, with a special focus on changes occurring within recent decades (Bogdanowski, 2002; Fałkowski, 2001; Hajdamowicz, 2020; Kochanowski, 2001; Nyka, 2002; Pawłowski, 2001; Piccinato, 2001; Pluta, 2002).

3. The Interplay Between Politics and Paradigms in the Case of Cities Rebuilt After the Second World War

3.1. The Post-Great War Reconstruction: The Roots of Post-Second World War Efforts

The post-Great War reconstruction of Polish and East-Prussian cities was characterised by early modern architectural forms. It was rather a kind of stylised rebuilding than accurate reconstruction. However, as a result, whole historic city centres have been restored. It is especially worth mentioning here a reconstruction of cities in Eastern Prussia like Allenberg (Druzhba in Russia), Bischofsburg (Biskupiec in Poland), Goldap (Gołdap in Poland), and finally Soldau (Działdowo in Poland, the only one which survived the destruction of WWII; Salm, 2006). Another interesting case study is the rebuilding of the Polish city of Kalisz which should be related to the very beginning of urban planning in Poland (Omilanowska, 2016; Popiołek, 2016; Zarębska, 1981, 1998). Also, some other cases have to be mentioned (i.e., the cities of Ostrołęka, Gorlice, and Kazimierz Dolny), but their scale and character are not similar to Kalisz. These experiences were embedded in the architectural and urban design contexts of the newly reborn Polish state (which gained independence in 1918), albeit—at the same time—based on the neo-classical traditions of the late 19th century (Frycz, 1975).

In the late 1930s—just before the outbreak of WWII—new ideas emerged in the Polish conservation movement. A good example of urban practice, the extension of which was to be the post-WWII "Polish School of Conservation," was the works commenced in 1936 to uncover and partially reconstruct the section of the old city walls in Warsaw (Kuzma, 1947; Zachwatowicz, 1937). The official commissioning of the first part of this work took place on October 10, 1938, and was widely echoed in pre-war Poland. It can therefore be presumed that the experience gained from this undertaking became the starting point for reconstruction projects in historical forms, not only of the Old Town in Warsaw (Popiołek-Roßkamp, 2021) but also of the border areas of the historic old town complexes of other cities.

It also has to be noted that pre-war architectural and urban design practices (embedded in the modern movement) have become a point of reference for the immediate post-war rebuilding initiatives. However, this practice lasted for only a few years and did not have much influence on the mode of reconstructing destroyed cities.

3.2. The So-Called "Polish School of Conservation"

The post-WWII reconstruction of Warsaw was used as an opportunity to carry out a careful architectural restoration combined with sanitation of the entire

historic Old Town complex together with New Town (north-northwest) and Krakowskie Przedmieście (south-southeast; Tatarczuk-Gliniańska, 1982). This contrasted with the redevelopment plans defined for the remaining part of the city (Fudala, 2016; Getka-Kenig, 2021; Guranowska-Gruszecka, 2013; Perlińska-Kobierzyńska, 2016), which was supposed to be recreated in the socialist realism style (Bierut, 1950; Majewski, 2009). The concern for authentic historical tissue (restoration) has been linked with architectural creativity (creation) to design a consistent urban landscape with an idealised image that could be inspired based on countless sources. Indeed, the Old Town was recreated with great reverence—A huge source material was used for this purpose, containing primarily inventory and measurement materials of Warsaw's monuments made before the war at the Department of Polish Architecture of the Warsaw University of Technology on the initiative of Oskar Sosnowski (Majewski, 2009). Thanks to this, it was possible to implement one of the basic assumptions of the Polish School of Conservation: The entire area of the Old Town complex was treated as one great monument—an object of conservation—the matter of which was to be a combination of two basic functions that were included in the programme assumptions, namely the functions of a residential district and the function of a cultural centre (Biegański, 1956; Zachwatowicz, 1956).

In fact, as Wacław Ostrowski emphasised later, not everyone realises that the complex of streets, squares, and buildings they admire nowadays is much more beautiful today than it was before the war damages (Ostrowski, 1980). Interestingly, years later, on September 2, 1980, this project was inscribed on the UNESCO World Heritage List as an example of a "successful, faithful reconstruction" (Majewski, 2009, p. 27) of a city destroyed by the war. The reconstruction of the Old Town in Warsaw can be regarded as the most important and only realisation fully in line with the spirit of the Polish School of Conservation, which is also often referred to as the "Warsaw School." In fact, the main figure related to this phenomenon, Jan Zachwatowicz, the author of its theoretical approach and the highest monument protection officer between 1945–1951 (Generalny Konserwator Zabytków), refuses to distinct conducted actions on the basis of the mainstream conservation theory, specifying them as the accepted exception within them (Zachwatowicz, 1981).

Although, paradoxically, this specific concept of post-war reconstruction—defined as a means of restoration of the centre of national identity, the Old Town of the Polish capital—was also used to recreate the centres of former German cities such as Wrocław (Czerner, 1976; Małachowicz, 1985) and many others, including Gdańsk (Massalski & Stankiewicz, 1969; Stankiewicz & Szermer, 1959; Szermer, 1971; Figure 2), it was applied to very

(a) Warszawa: Old Town Market

(b) Warszawa: View of the Old Town and Royal Castle Square

(c) Gdańsk: Piwna Street

(d) Gdańsk: Mariacka Street

Figure 2. Selected examples of the structures rebuilt according to the rules of the Polish School of Conservation.

few large cities. In these cases, the political reasons were slightly different—It was expected that the reconstruction process would lead to the de-Germanisation (Gruszkowski, 2002; Makała, 2002; Omilanowska, 2009) of these cities and the creation of the idealised urban landscapes of some elusive Polish heritage. In addition, the urban and architectural forms refer to the pre-19th century typologies, which were justified by the need to recreate the pre-capitalist city (Torbus, 2019).

3.3. Socialist Modernism

Since the mid-1950s, social and political interest in the reconstruction of historic Polish old towns gradually decreased. This was accompanied by the decrease in the dominance of socialist realism as the prevailing artistic style. The post-Stalinist era (starting in 1956) introduced new architectural forms, building on the modern movement and mass production of housing. This was spurred by the great housing shortage and attempts toward rapid industrialisation of the country. In addition, the immediate post-WWII traumas and the drive to recover the "lost identities" were diminished. But still, more than 100 historic city centres, including medium-sized ones like Słupsk or Elbląg, were in ruins (Rymaszewski, 1984). To finally solve the problem of ruined cities, Resolution No. 666 of the Presidium of the Government of August 20, 1955, was adopted on the planned action to remove the remains of war damage in cities and settlements (Gierlasiński, 2011). The main purpose of this act was to accelerate and complete the process of removing rubble from the areas destroyed during the war that ended 10 years earlier. In this way, secondary destruction was carried out, supported by the belief that there was no real prospect of reconstruction according to the principles of the Polish School of Conservation.

Since the late-1950s, on many such sites, new districts have been erected in the style of *socialist modernism*, increasingly departing from the traditional model of the European city. What also made this period different from the Stalinist era was the fact that rebuilding processes were undertaken in the case of many cities, including numerous small and medium-sized ones. In these cases, new housing districts have been developed with the usage of industrialised technology on a large scale (Skolimowska, 2013). One such realisation is Malbork's Old Town—as well as Braniewo, Kwidzyn, Kołobrzeg, Nysa, Legnica, Lwówek Śląski, and secondary old towns in larger cities, such as Stare Przedmieście in Gdańsk or Nowe Miasto in Wrocław (Bugalski, 2014; Figure 3). The author of the rebuilding concept for Malbork, Szczepan Baum, argued that there can be no compromise or intermediate phases between a strict historical reconstruction and the contemporary shaping of space (Baum, 1961). Indeed, although Malbork's Old Town layer loosely refers to the historical city plan, it is almost impossible to identify former public spaces of the city with its main compositional axis of the elongated

(a) Malbork: Old Town Hall within the rebuilt structures of the Old Town

(b) Braniewo: Kościuszki Street

(c) Słupsk: Old Town as seen from Jagiełły Street

(d) Gdańsk: Rzeźnicka Street

Figure 3. Selected examples of the structures rebuilt according to the rules of "socialist modernism."

square running through the entire estate (Massalski, 1966). Therefore, this project has been extensively criticised shortly after its completion, especially from the conservation point of view. Because of the weak relationship between new and old architecture, Malbork's Old Town became a simply modern housing estate that is only well suited to the few relics of the past (Massalski, 1966).

3.4. The Postmodern "Retroversion"

The third major stage in rebuilding historic urban centres started in the 1980s when the ideas of postmodernism based on the negation of modernist assumptions also reached communist Poland. As a result, it became possible to return to the abandoned ideas of urban reconstruction (Skolimowska, 2013). The new concept of *postmodern* "*retroversion*" was forged in Elbląg (Lorens, 2012; Lubocka-Hoffmann, 1998). Its principles strongly oppose reconstruction, ordering tenement houses to be designed in modernised forms but retaining the atmosphere and character of the historic city (Lorens, 2012). It adopted the principle of building a new, completely modern form inspired by the spirit of the past of these places, which, according to the architects of the Elbląg redevelopment plan, was "the only correct method" (Baum, 2002, p. 157). This concept was also based on the fundamental criterion of postmodern architecture—the formula of "double coding," which requires "using at least two languages simultaneously, for example, to combine traditional and modern, elite and popular, international and regional codes" (Welsh, 1998, pp. 28–29).

This idea clearly indicates the need to return to the foundations of the European city model in its scale and structure. The concept of "retroversion"—conceptualised by Maria Lubocka-Hoffman—was developed in parallel to the European discussion on reinstating the urban identities of historic cities through the creation of neo-traditional urban and architectural forms (Lubocka-Hoffmann, 2008). Leon Krier, one of the main proponents of this approach, noted that the manner in which German cities were built after the war led to the destruction of their regional identity to a much greater extent (leaving only 15% of the historic tissue) than the "bombs during the war" (after which it was supposed to survive up to 60% of the historic fabric; Krier, 1984). In this context, also in Poland, instead of building new cities on a human scale, architects and city planners once again faced the problem of recreating historic cities. Following the Elbląg experience, other cities also started to play with this concept, i.e., Głogów and Szczecin (Figure 4; Fiuk, 2017). And unlike the case of the two preceding periods, there were no strong political or economic reasons associated with introducing this mode of rebuilding old towns (Skolimowska, 2013). The main driver of this wave of reconstruction was, therefore, twofold: The local communities wanted the hearts of their cities restored, and, at the same time, local authorities realised the absurdity

(a) Elbląg: Old Town as seen from the Granary Island

(b) Elbląg: Stary Rynek Street

(c) Głogów: Słodowa Street

(d) Głogów: Grodzka Street

Figure 4. Selected examples of the structures rebuilt according to the rules of retroversion.

of locating all new investments on the outskirts of the city while its hearts were becoming "a desert area among vibrant city organisms" (Pawłowski, 1986, p. 61).

Just as the reconstruction related to the Polish School of Conservation bore the hallmarks of a stylised space, the new design principles of retroversion can be described as "thematisation," intended to recreate the character of the lost space of a medieval city (Lorens, 2012). Despite the clear distortion of authenticity on the scale of the place and the threat of its loss in the entire urban structure, the recreation of the city centre contributes to the continuity of the tradition of the place and thus strengthens the local identity of its inhabitants, who find it easier to take root in the reconstructed material culture of the city, different from the historical one. The danger of reconstruction concerns the erection of pastiches or the so-called "fasadism," falsifying the historic old town complexes and often signifying their domination over authentic monuments (Zarębska, 2002).

3.5. The Contemporary Projects: Theming

After the collapse of the Iron Curtain and the consequent changing of political and socio-economic conditions, the reconstruction of the Polish cities—and especially those of Recovered Territories—have continued for the last three decades. It is crucial to firmly highlight that still—after more than 75 years—the majority of cities destroyed during WWII are still awaiting smaller or greater intervention. Sometimes it is just a matter of small supplementation, sometimes it is even a case of redevelopment of the whole area of the historic city. This comes from the fact that within the realities of the centrally planned economy—during the communist period—the authorities did not care about the land value, and it was much easier to erect new districts than recreate old ones. At the same time, the communist authorities assumed that the reconstruction of destroyed cities might succeed one day, which also contributed to the decision to leave destroyed urban quarters vacant. As a result, the concept of retroversion is still in place, although it evolves and leads to developments that are more chaotic and devoid of original principles. And as such, it has become a new, universal language of contemporary architecture introduced to many of the nearly 300 historic old towns in Western and Northern Poland. However, this slightly altered approach is rather the answer to the need of the market to create a commercial area of themed character than to society's needs related to local identity and heritage management issues. There is still a need to wait for a more comprehensive study of this phenomenon. Without it, only the limited and fragmented character of those enterprises that, in general, are deprived of a coherent spatial plan covering the entire Old Town's complexes is noticeable. In addition to new creations, within this period, it is possible

(a) Gdańsk: Granary Island

(b) Gdańsk: Long embankment

(c) Malbork: New complex in the forefront of the Old Town

(d) Braniewo: New complex in the vicinity of the Cathedral Church

Figure 5. Selected examples of the structures rebuilt according to the concept of "theming."

to identify also transformations of the housing structures created within previous periods (i.e., Old Towns in Polkowice, Słupsk, and Chojnice).

Aside from this lack of a comprehensive approach, these new developments are characterised by two major features: a focus on rapidly ongoing touristification (Bugalski, 2020) and the utilisation of historic architectural templates (Januszajtis, 2002). This leads to the *theming of the urban landscapes* and the creation of new urban structures (see Figure 5). This contributes to the creation and/or reinforcement of the local identities but—at the same time—leads to the falsification of the architectural authenticity of the given site (Cielątkowska, 2001; Fałkowski, 2001; Gruszkowski, 2001; Lorens, 2012).

4. Discussion

The interplay between politics and paradigms in the case of the post-war reconstruction of historic towns in Poland led to constant change in the redevelopment paradigm. This was a result of ongoing changes in

Table 1. The interplay between political and socio-economic priorities, dominant architectural styles, and redevelopment doctrines and practices.

Years (approximate)	Political and socio-economic priorities	Dominant architectural style	Redevelopment doctrine and practice concerning the hearts of the historic cities; cases mentioned in this article	Redevelopment doctrine and practice concerning other destroyed parts of historic cities; cases mentioned in this article
1945–1956	**Reinstating the national identity and de-Germanisation of the Recovered Territories** Focus on shaping the landscape of cities proving the Polish origin and their identity	**Socialist realism** Stalinist origin focused on shaping structures monumental in character	**Polish School of Conservation** (based on pre-WWII attempts) Warszawa (Old Town) and Gdańsk (Main Town)	**Socialist realism** Warszawa (Marszałkowska Dzielnica Mieszkaniowa [Marszałkowska Housing District] and Plac Konstytucji)
1956–1980	**Providing housing for the working class** Focus on mass production of housing	**Socialist modernism** Late modernism, simplified and adapted to the needs of mass production	**Socialist modernism** Malbork (Old Town), Słupsk (Old Town), and Braniewo (Old Town)	**Socialist modernism** Gdańsk (Old Town, Old Suburb) and Wrocław (New Town)
1980–2004	**Providing higher-quality housing** Focus on shaping the complete urban structures	**Early postmodernism** A simplified version of the postmodern approach focused on reinstating the traditional architectural forms	**Retroversion** Elbląg (Old Town) and Głogów (Old Town)	**Late modern and early postmodern structures** Szczecin (Podzamcze)
From 2004 onwards	**Shaping the local identities and reinforcing the economies** Focus on the creation of touristically attractive and community-reinforcing undertakings	**Late postmodernism** Theming, adoption, and modernisation of historic templates	**Theming** Malbork (Old Town) and Braniewo (Old Town)	**Late postmodern** Gdańsk (Granary Island)

political and socio-economic priorities and preferences. Therefore, based on the evolution of the doctrine and practice presented in the previous chapter of this article, it is possible to discuss the influence of these on the redevelopment paradigm and practice. Such an attempt was presented in Table 1. Within this study, a further analysis was presented of the interrelations between political and socio-economic priorities, dominant architectural style, and redevelopment doctrine in relation both to old towns perceived as hearts of the historic cities and to other destroyed areas.

Of course, the momentum of transition from one paradigm to another cannot be clearly defined. However, it is possible to easily reason the differences in circumstances that occurred in its relation. Consequently, the difference can be observed due to the outcome of diverse paradigms behind the specific post-war reconstruction of a historic city.

As can be derived from the table above, the evolution of the redevelopment doctrine was heavily dependent on the changes in political and socio-economic priorities as well as on the evolution of the dominant architectural style. In addition, this doctrine was not applied to all urban areas. In fact, two parallel tracks of its evolution can be indicated. These tracks are associated with the specific location of the redevelopment sites.

Another interesting conclusion is that the reconstruction of "bombed cities" is still being continued (Deurer, 2002). After the political changes of 1989 and joining the European Union in 2004, the reconstruction processes of destroyed urban structures in Poland resemble similar practices in other parts of the continent—especially Germany, which is the most similar example. New projects are mostly deprived of political meaning; nowadays, economic issues prevail. Urban heritage and identity are more likely to be understood as a resource that could bring income than as a need of inhabitants. Therefore, nowadays, it is possible to witness the commercialised version of the post-war reconstruction of our cities.

5. Conclusions

Based on the presented cases, it is possible to conclude that the redevelopment of "bombed cities" can be regarded as similar to any other type of urban development process. What makes them unique is the strong focus on the restoration of historic landscapes. At the same time, it is possible to state that these processes occurring in Poland were under the very strong influence of political and socio-economic issues as well as reflecting the changes in architectural styles. This process continues, as nowadays, many of the local communities and authorities are still struggling with reinstating the Old Towns. Such projects can be presented both in cases of large cities and very small towns. In addition, in many cases, the structures built in the post-war times are now being redeveloped (or sometimes just redecorated) to resemble the "historic landscape." What is interesting is that this process can be also observed in other post-communist countries like Russia (i.e., Kaliningrad) or Kazakhstan (Almaty).

Also, this constant evolution led to the creation of a new phenomenon, "theming urban spaces" (Lorens, 2012). In recent years, its negative impact on the development of the uncontrolled touristification process can be observed (Bugalski, 2020; Nasser, 2003). At the same time, this "delayed reconstruction" shall be regarded as closer to the "disneylandisation" of the city (Sorkin, 1992) and making cities—and especially their Old Towns—the "economic engines" of the communities. Therefore, these creations have gone very far from the initial ideas and concepts that were created by architects, planners, conservators, and historians shortly after the end of WWII.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

From Reconstruction to Urban Preservation: Negotiating Built Heritage After the Second World War

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Abstract
Designating parts of the city's protected areas that are worthy of preservation has been part of urban-planning practice in Europe since at least the 1970s. Such efforts drew on post-war reconstruction planning, which had already addressed questions of which parts of historic city centers were worth preserving or rebuilding. However, the influence of reconstruction planning on the will to preserve historical city centers has so far been under-researched. The central concern of this article is to understand the reconstruction process not only as a moment of planning but also as an instance of inheritance and preservation. Close consideration of Vienna shows that the reconstruction period offered new opportunities, including some for the preservation movement. By designating buildings and entire *Altstadt-Inseln* ("old town islands") as worth preserving, an attempt was made to influence the planning process. A review of historic maps and written documents shows how early cartographic and written heritage records guided not only the reconstruction process but also the longer-term development of the city. By exploring the discourse on preservation and repair that was carried out as part of reconstruction planning in Vienna, this article illustrates the consequences of this negotiation process and the ascription of value to monuments and ensembles, which formed the basis for the preservation of "Old Vienna" in the 1960s and 1970s and can still be traced today.

Keywords
heritage negotiation; monument values; protection zones; reconstruction planning; townscape protection; urban preservation; Vienna

Issue
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1. Introduction

In many European cities, the introduction of ensemble and townscape protection has been an ongoing aspect of urban planning practice since at least the 1970s. It has been frequently observed (see, e.g., Schnell, 2015, p. 63) that in the 1960s interest in heritage conservation increasingly shifted from the preservation of individual monuments to the protection of townscapes and ensembles. The first Old Town Preservation Act in Austria was passed in 1967, for the historic city center of Salzburg, in the same year as the Civic Amenities Act for the "preservation of character of areas of special architectural or historic interest" (Larkham, 2003, p. 296) in the United Kingdom. The 1975 European Year of Monuments and Sites, inaugurated by the Council of Europe with the titular agenda of ensuring "a future for our past," marked the peak of this intensified interest in the preservation of historic urban areas. The idea of a transnational campaign had been proposed by the Council of Europe as early as 1962. Thirteen years later, this initiative—ultimately supported by 23 European countries—was finally implemented (Falser & Lipp, 2015, p. 18).

Such urban preservation initiatives had important precursors throughout the first half of the 20th century. Conservation efforts increased from the turn of the century in response to several incisive experiences of loss, including the effects of rapid structural development,

the destruction of war, armed conflict, and political and social upheavals. Misguided urban-planning decisions during post-war reconstruction also led to the loss of monuments of historical value and historic urban areas, and this gave further impetus to efforts to preserve historic city centers (Klaar, 1980, p. 6.). The importance of historic urban areas for identity, cityscape, and tourism became increasingly apparent.

The quite crucial moment in this paradigm shift was the period of reconstruction planning after the Second World War: In the aftermath of the war's destruction (Figure 1) there was also an opportunity—indeed a necessity—to discuss aspects of urban preservation. The experience of loss during the war years led many cities to create inventories of surviving structures and record their state of preservation, sharpening a sense of what was worth preserving and recording it in maps and lists (see especially Larkham, 2003). In Vienna, concrete urban preservation efforts were first formulated and discussed in 1945–1946—and not only by conservationists. As early as 1946, the Bundesdenkmalamt (Federal Monuments Authority Austria) explicitly demanded the preservation of *Altstadt-Inseln* (Hoppe, 1946, p. 115) and *Denkmalschutzgebiete* (monument protection areas; Demus, 1946b, p. 1)—almost three decades before the introduction of *Ensembleschutz* (protection of ensembles). Reconstruction was therefore understood as an "opportunity" not only for redesign but also for preservation, and in this discussion and planning process, the Federal Monuments Authority played an important role.

1.1. Research Focus

This article builds primarily on Pendlebury's (2003, p. 371) recognition that thinking about the design and conservation of the historic city and single buildings as part of reconstruction planning influenced the systematic designation of conservation areas in England from the late 1960s onwards. Larkham (2003, p. 295) also emphasizes that "the bomb damage had given substantial impetus to the concept of urban conservation," evoking efforts to record damage and document built heritage. He further notes that urban conservation plans were preconceived during reconstruction and that a number had already been developed in the early 1940s, especially by Thomas Sharp and Patrick Abercrombie (Larkham, 2003, pp. 316–317). Most recently, Larkham related reconstruction after the Second World War to the radical "non-plan" strategy of the 1960s, which he sees as a reaction to the failed modernist concepts of the

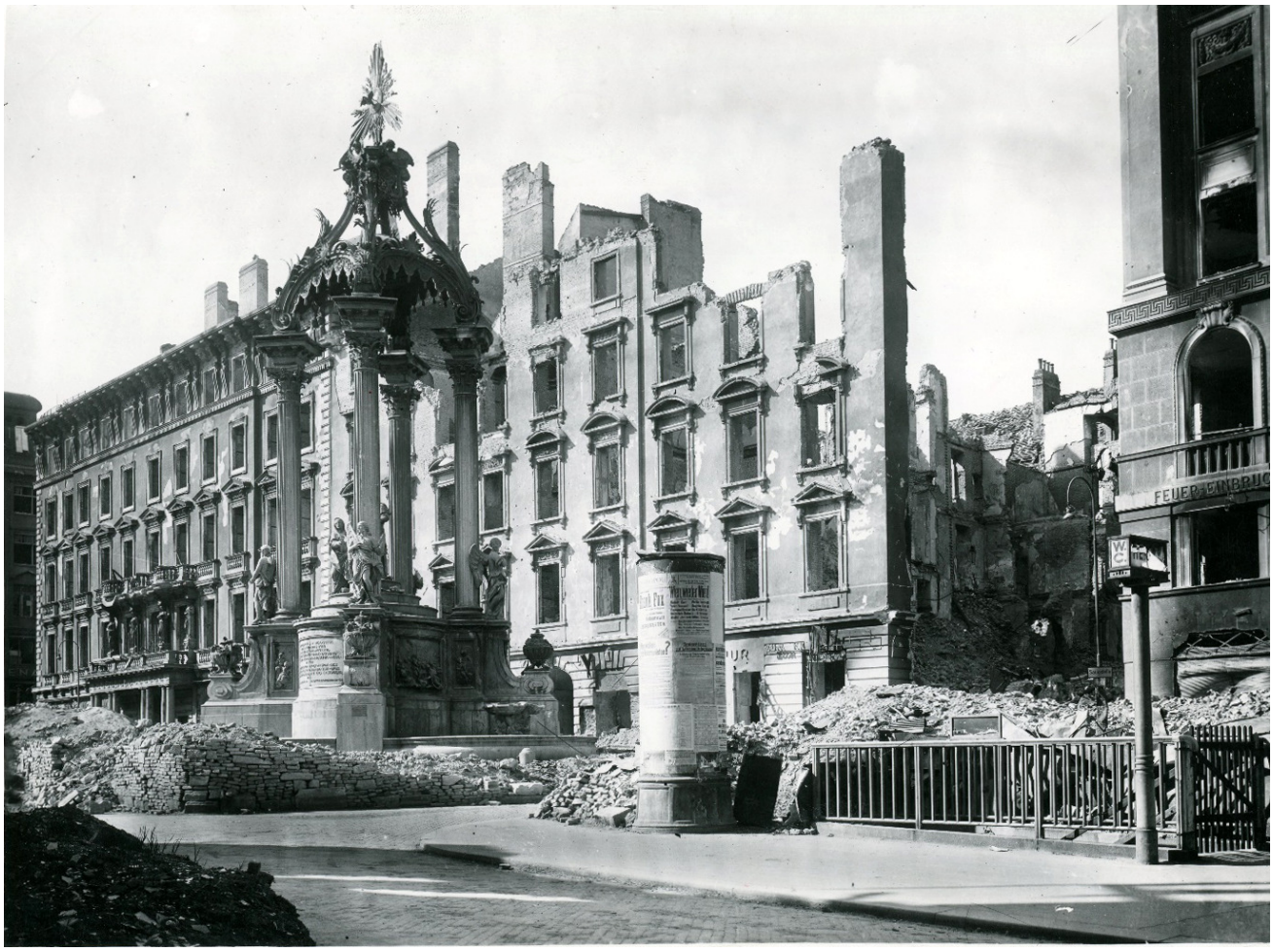

Figure 1. Hoher Markt 8–10, taken on 14th July 1945. Source: Reiffenstein (1945).

1940s (Larkham, 2020, p. 30). However, Larkham does not trace how conservation strategies from the 1940s to the 1970s were consolidated in the establishment of townscape conservation.

This study, therefore, pursues the hitherto missing analysis of the genesis of these conservation areas and the accompanying discourses. It aims to show that, in Austria, considerations for the designation of protected areas were already mature in the early post-war years and that reconstruction planning already took account not only of the preservation of individual buildings but also of the large-scale urban area and the preservation of the historic city. This long-term analysis makes clear that reconstruction planning was not only a crucial phase of thinking about, discussing, and negotiating built heritage but that it also decisively influenced the further development of urban planning and urban preservation strategies in the 1970s.

Vienna lends itself as a fitting example for a case study not only because of the rich source material (e.g., the archives of the Federal Monuments Authority and city archives) but also because of the legislation that introduced what are known as *Schutzzonen* (protection zones) as early as 1972. The thesis can be formulated that the ascription of value, selection procedures, and definitions of protected areas made soon after the end of the war had a lasting impact on the preservation of historic buildings and ensembles in Vienna.

1.2. State of Research and Research Gap

Various studies on the reconstruction of English, German, and Polish cities have already shown the impact of preservation and heritage issues on reconstruction planning—for English cities see especially Larkham (2003) and Pendlebury (2003); for Germany see, e.g., Enss (2016) on Munich; and, on Warsaw, see the detailed study by Popiołek-Roßkamp (2021). Debates over conservation issues and the heritage process during these years, which involved recording, evaluating, and determining which buildings and structures were worth preserving, have recently also been studied for German cities (see e.g., Enss & Knauer, 2023). The discourse on the preservation of historic city centers in the course of reconstruction planning in Austria has hardly been explored. A first in-depth study by Brückler (2004) showed a promising field of research but was primarily concerned with the restoration of outstanding monuments and less with questions of urban conservation. A short essay by Brandt (2012) on the reconstruction of Salzburg highlighted the changes made to the city's layout and townscape in the course of reconstruction, focusing on the design of individual reconstructed buildings. The links between the discourses in the immediate post-war period and the passing of Austria's first Old Town Preservation Act in Salzburg in 1967 are not explained in detail here.

The long-term consequences of reconstruction planning and its connections with the development of strategies for urban conservation and townscape protection are therefore under-researched. To fill this research gap, this article traces the path from reconstruction planning to the introduction of the *Schutzzonen* up to 1972. The question arises as to what extent reconstruction planning and discourse on urban conservation paved the way for the ensemble and townscape protection enshrined in Viennese building regulations in the early 1970s. When and why did streets, squares, and architectural ensembles actually begin to be considered "worth preserving" and "worth protecting"? Which areas and ensembles were finally declared *Schutzzonen* in the 1970s, and were earlier ascriptions of value adopted?

1.3. Methodology and Structure

The connections between reconstruction planning and heritage discourses in the 1970s can be analyzed over the long term. This reveals not only the increasing importance of questions of ensemble and site protection in Austria between 1900 and 1970 but also the key role of the discourse of reconstruction. Evidence for the analysis is found in written statements of the Federal Monuments Authority, in journals, and in lists of architecturally or historically valuable buildings and structures contained in archives. Historical maps and contemporary publications and documentation on built heritage also provide information on earlier assessment patterns. Summarizing and comparing various sources from several decades allow an analysis of the development of debates on conservation and the identification of complex, long-term development strands. Within the framework of this analysis, it is essential to consider the authorship of the sources and the biographies, professional affiliations, and political orientations of these authors.

To understand the influence of reconstruction planning on the development of urban conservation strategies, it is necessary to briefly outline the historical development of townscape preservation in Austria in the first half of the 20th century. The article then turns to the discourse on urban conservation in the context of reconstruction planning. Finally, it specifically addresses two case studies, tracing the development of two present-day *Schutzzonen*: the Ringstraße and the former Viennese suburb of Spittelberg.

2. Mapping Heritage as a Basis for (Urban) Preservation

In Vienna, the question of how to preserve the cityscape and historical urban ensembles was raised very early on. There were several triggers for the formation of the will to preserve urban heritage in the 20th century. A major driving force behind the growing interest in the historic city was certainly the urban redevelopment of the late 19th century. Perceptions of the city changed at the turn of the 20th century, and the desire for preservation germinated, spawning heritage

movements and old-town preservation societies. Early evidence of the desire to preserve the historic city can be seen, for example, in Hugo Hassinger's art-historical maps (Figure 2), which the cultural geographer drew up for Vienna starting in 1912 and which were published in 1916 in the 15th volume of the art-historical inventory *Österreichische Kunsttopographie*. They visualized in a hitherto unknown way all buildings considered historical—from the Middle Ages to the 1840s—within the layout of the city. These buildings were ipso facto deemed worthy of preservation, and not only were historic buildings clearly marked but also historic ensembles and "old town islands" (Knauer, 2023).

The First World War was followed by the *Assanierung* (urban renewal) of the interwar period, which for many cities—including Vienna—again saw drastic structural

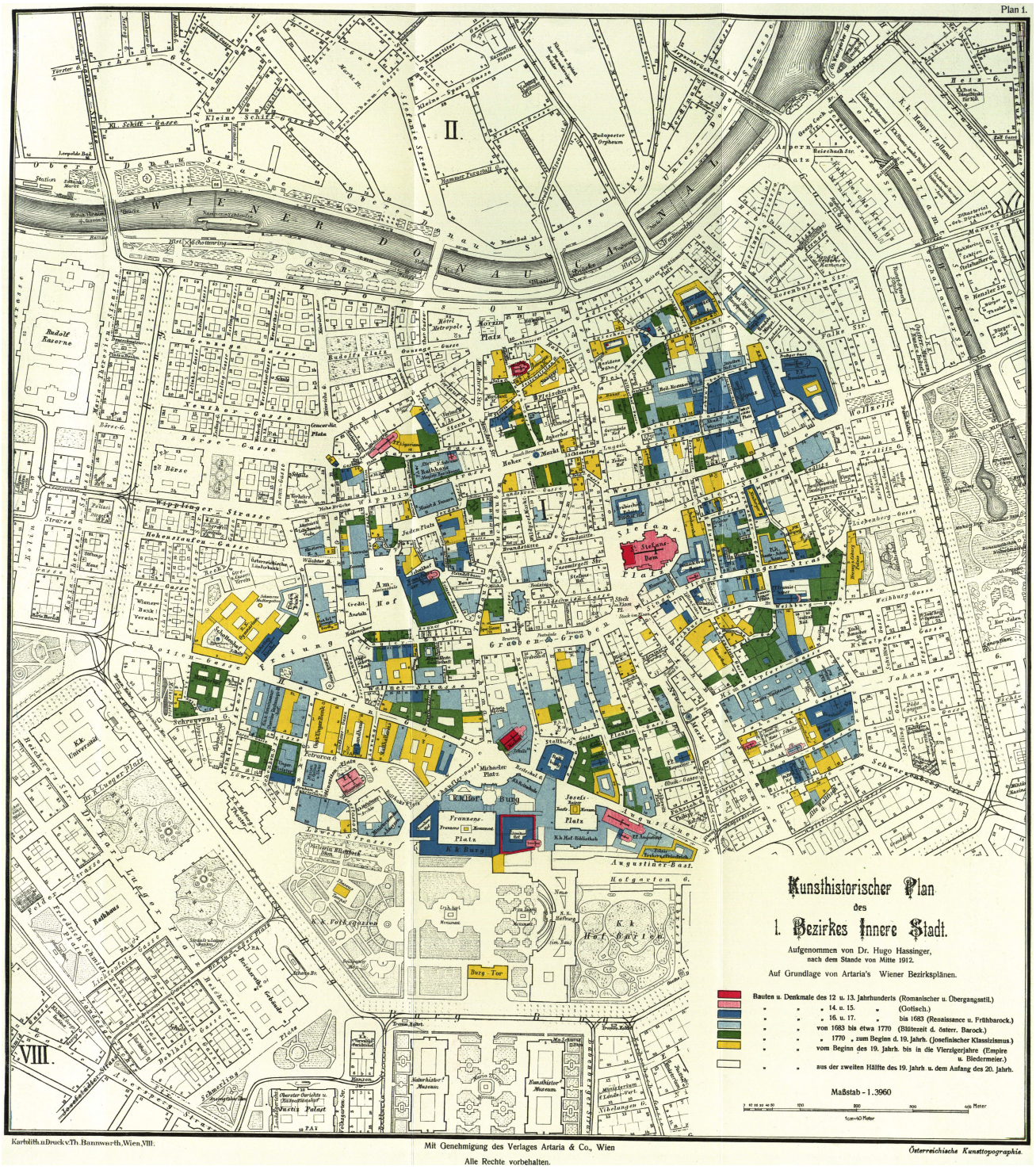

Figure 2. Hugo Hassinger's "Kunsthistorischer Plan des 1. Bezirkes Innere Stadt": The map shows the area in 1912 and was published in 1916. Source: K. K. Zentral-Kommission für Kunst- und Historische Denkmale (1916).

changes and the demolition of numerous historical buildings. From 1934 to 1938, progressive urban renewal in Vienna was motivated by state and municipal subsidies. But this was increasingly criticized by preservationists and by the public, who called for the establishment of conservation zones (Knauer, 2022, pp. 104–105). After the "Anschluss" to National Socialist Germany in 1938, the institutional preservation movement became sharply critical of the urban redevelopment of the foregoing decades. Using scheduled protection procedures, numerous buildings were listed, and special attention was clearly paid in this to architectural ensembles (Knauer, 2022, p. 195).

3. Reconstruction as an "Opportunity" for Redesign and Preservation

Between September 1944 and April 1945, Vienna was bombed 52 times. Roughly 21% of buildings were heavily damaged or worse, and 86,875 apartments were no longer deemed suitable for habitation (Ziak, 1965, p. 13). The political situation in Austria immediately after the Second World War was extremely unusual, as the country as a whole, as well as the city of Vienna itself, was divided into four occupation zones. As the records of the Federal Monuments Authority show, the occupying powers also became involved in questions concerning the reconstruction of individual buildings, and the organization and transport of materials needed for restoration.

As a result of the destruction of the war, and as the reconstruction process began, the issue of preservation took on renewed and decisive importance. An expert commission was convened in July 1945, the *Enquête zum Wiederaufbau der Stadt Wien*, to solve key questions of reconstruction planning. This group of 170 experts, whose task was to deal with issues of urban planning, building regulations, traffic planning, as well as the preservation of the townscape, included representatives of the Federal Monuments Authority (Maetz, 1946a, pp. 17–18). The desire to preserve the historic street pattern and to rebuild the war-damaged city center prevailed—a decision that was not self-evident at that time. Austria's adoption of the role of victim after the war made it easier to think about historical reconstruction without a guilty conscience (Mahringer, 2013, p. 64).

The *Fachkomitee für Architektur und Stadtbild* (Expert Committee for Architecture and Townscape), which included leading architects and employees of the Federal Monuments Authority (Magistrat der Stadt Wien, 1946, pp. 84–91), called for certain parts of the city center to be designated as *Historische Schutzgebiete* (historic protection areas; Maetz, 1946b, p. 132). In 1946, the Expert Committee's calls for the "preservation or rehabilitation of the old town centers and old townscapes" (Stadtbauamt Wien, 1946, p. 276; this and all additional citations from German-language sources have been translated by the author) also found its way into the reconstruction program.

The Monuments Authority attempted to influence the planning process by identifying significant streets, squares, and ensembles worthy of preservation. An initial list of buildings, streets, and entire "old town islands" was presented as early as January 1946 (Hoppe, 1946, pp. 114–117). The Monuments Authority listed all areas where they "wished to exert a decisive influence" (Hainisch, 1945, p. 39). For these areas, certain additional guidelines were to be established, based on the collection of photographs and plans the authority had compiled in previous years: For example, the design of façades was to be carried out "with respect for the old surroundings and in line with their character" (Hoppe, 1946, pp. 115–117), while roofs and roof coverings were to be restored in their original form and materials. According to Demus (1946a), the list included city districts worthy of preservation, which the office intended to "deal with in particular, and partly work out building proposals itself."

Thus, the Monument Authority was not only concerned with protection but was also seeking to actively shape reconstruction. Dagobert Frey, who is a problematic figure in the history of Austrian heritage conservation, among other things because of his approving statements regarding the German occupation of Poland during the National Socialist era (Brückler & Nimeth, 2001, p. 73), emphasized the possibility—indeed, the necessity—of changing, improving, and embellishing the townscape during reconstruction: "One would have to demand not only preservation, but also the elimination of later changes that disturb the original, and even an artistically sensitive redesign" (Frey, 1947, p. 17). In his view, a "far-sighted preservation movement" should not only deal with the preservation of the artistically and historically significant architectural monuments but had to "always keep in mind the historic townscape as a whole in its special character and its structure, which had grown organically." According to Frey (1947, p. 7), "the city as a whole is [a] 'monument.' " Frey (1947, p. 10) thus called for the preservation of the characteristic urban structure and the historic street pattern and—as far as was possible and could be justified—the protection of historic ensembles as a whole.

The growing interest in the preservation of ensembles and townscapes also becomes clear in historic maps of that period. In the post-war years, the Federal Monuments Authority tried to visualize heritage worth preserving in maps—analogous to Hassinger's art-historical maps. During the Second World War, the idea of documenting Austria's historic city centers had already arisen due to the destruction caused by bombing and concern about the loss of valuable historic building fabric. But it was only after the war that this idea was taken up again, in response to the perception that urban developments of the post-war period were similarly threatening to the urban heritage (Klaar, 1980, p. 6). Between 1946 and 1957, detailed and informative building age plans (Figure 3) were drawn up for

Figure 3. Adalbert Klaar's building age plan for Vienna's Inner City (1948), with details and legends. Source: Klaar (1948).

190 historic towns and villages (Klaar, 1959, pp. 55–61) under the direction of Adalbert Klaar. These maps not only show the ages of the buildings but also make a statement regarding the desirability of protecting them. These "Klaar plans" were thus simultaneously monument maps that assessed the value of the buildings and visualizations of entire heritage areas. In some cases, Klaar also recorded *beachtbare Blickpunkte* (interesting views) in his plans, which were intended to serve as aids for future urban planning (Klaar, 1980, p. 6); his consideration of important views also shows growing interest in urban conservation.

4. From Conservation Discourse to Conservation Zones

But what effect did reconstruction actually have on the formulation of ensemble and townscape preservation in Austria in the 1970s? What was the decisive influence of reconstruction planning on the perception of architectural heritage and its preservation? There are numerous statements from those involved in both heritage conservation and urban planning that provide information about the evaluations made of the historic city districts and ensembles. One can find them in the minutes of the *Enquête*, in journal articles, and in the archives of the Federal Monuments Authority. Taken together, they suitably illustrate the depth of discourse at that time.

As early as 1945, the selection of the "old town islands" was framed to take into account not only ensembles of particular historical architectural interest found in the inner districts but also those in the former suburbs (Hainisch, 1945, p. 40). The latter were important mainly because of their historical and cultural value, as well as their significance for the history of forms of settlement

typical of the region. As early as 1947, Frey (1947, p. 17) tied the preservation of "urban spatial units with significant heritage values" to the creation of historic conservation areas. A look at a list of urban areas worthy of preservation (*denkmalwürdige Stadtgebiete*) compiled in 1946, which is kept in the archive of the Federal Monuments Authority, shows that features related to the history of human settlement in the area were already receiving significant attention 20 years before the introduction of the *Schutzzonen*. It was not only areas of art-historical interest that were to be designated conservation zones at that time, but also all forms of settlement from previous centuries that were characteristic of the townscape, including the core settlements of the outer districts:

> It is a cultural demand of our will to rebuild, to restore to the city its venerable, time-tested structure that accords with the form of the landscape, to renew it in keeping with the times, but not to fundamentally change it. ("Vierjahresplan des Wiederaufbaus von Wien," 1946, p. 1)

Discussions of reconstruction are therefore also to be understood as reflections on the preservation of Old Vienna. Not only individual buildings but ensembles and entire city districts deemed worthy of protection were recorded in lists of the Federal Monuments Authority to prevent excessive changes or even the destruction of the city's characteristic townscape as a whole.

Comparing the lists of the post-war years with those of the 1970s reveals numerous similarities. Many street names and city areas can be found in lists from both periods, and the reasons given for an interest in the preservation of certain ensembles in the late 1940s resemble those later adduced for the designation of *Schutzzonen*. Furthermore, the buildings and ensembles of the second half of the 19th century were already understood as a legacy worth preserving by the Federal Monuments Authority. As statements in journals and archival documents of the early post-war years show, the value of the Ringstraße and the outstanding individual buildings of the *Gründerzeit*, such as the State Opera House or the Parliament, were already recognized at that time. In the opinion of Frey (1947, p. 20), the Ringstraße was "one of the greatest urban planning and architectural achievements of the [19th] century."

5. Call for Laws and Plans for the Protection of Historic Areas in the 1970s

In the 1960s, preservationists became more ambitious and preliminary work on the designation of conservation zones was intensifying on several sides: Questions related to the cityscape were the responsibility of the Kulturamt (Department for Culture) of the City of Vienna. The Federal Monuments Authority was on good terms with the Kulturamt—they may even be considered to have been allies—and they had similar views on the conservation and configuration of the cityscape (Brückler, 2004, p. 397). In 1964, Walter Frodl, then president of the Federal Monuments Authority, called for a systematic examination of the city's building stock, not only of single buildings but also of ensembles and the townscape as a whole (Frodl, 1964, pp. 121–131). Finally, starting in the late 1960s, preparations were made by the city administration to introduce an *Altstadterhaltungsgesetz* (Vienna Old Town Preservation Act). In 1968, a photographic archive and a map index were created (Foltinek, 1970, p. 3) and, a year later, a systematic inspection of all Viennese districts was carried out by the Federal Monuments Authority (Bundesdenkmalamt & Kulturamt der Stadt Wien, 1981, p. 11). Both the Federal Monuments Authority and the Kulturamt were reacting to a wave of demolitions that reached its peak at that time. The passing of the Salzburg Old Town Preservation Act, which had already taken place in 1967, probably acted as a catalyst for these efforts. Instead of a separate law, however, Vienna chose the path of amending and supplementing its existing building regulations (Bundesdenkmalamt & Kulturamt der Stadt Wien, 1981, p. 69).

Finally, the Federal Monuments Authority and the Kulturamt decided to merge the preliminary work each had performed. The Kulturamt proposed designating various areas of the city as *Schutzzonen* to prevent major alterations (Kapner, 1973, p. 162). However, the intention was to go beyond just regulating building activity by also covering, on a case-by-case basis, "*Entschandelung*" (literally "demutilation"; i.e., the removal of undesirable decoration and shop windows), as well as to consider street furniture (Foltinek, 1970, p. 3). This first version was based on the existing preliminary work described above, on the building age plans of Hugo Hassinger and Adalbert Klaar, on suggestions from the city museums, and on the documents and findings of the Federal Monuments Authority (Foltinek, 1970, p. 1; Kapner, 1973, p. 162). It can therefore be said that the planners and heritage conservationists working in the 1970s relied on the preliminary work of the immediate post-war period and probably also on the lists of street names and entire city areas that had been compiled by the Federal Monuments Authority since 1945–1946.

In June 1970, an initial list of possible *Schutzzonen* was presented to the public by the city administration (Foltinek, 1970, p. 1). According to the Kulturamt, the proposals of the Federal Monuments Authority mainly covered areas of art-historical interest, while the city administration added primarily "groups of buildings that determine the character of various districts," as well as districts that had "maintained their original function," i.e., had retained their economic and social use (Foltinek, 1970, p. 1). However, several lists made by the Monuments Authority show that not only ensembles of art-historical interest were intended as conservation zones, but also areas important in terms of the history of human settlement.

In October 1970, a second version of the list was presented (Magistratsabteilung 7, 1970), including several more zones added by the Federal Monuments Authority, especially of areas dating back to the 19th century (Bundesdenkmalamt & Kulturamt der Stadt Wien, 1981, p. 12). These included the Ringstraße and the areas of urban expansion around the *Innere Stadt* (city center, First District). The second version was also supplemented by a list of valuable views to be considered for protection (the term used is *Blickschutz*, "view protection"), as had already been indicated by Adalbert Klaar in his building age plans using small arrows. In May 1971, the third and final version was then submitted for decision to the City Council by the Vienna City Planning Office (Kapner, 1973, p. 162). For the first time, the catalogue included the "building stock significant for the townscape, namely the characteristic streets and squares with their buildings of artistic and cultural historical value, including buildings and groups of buildings of economic, technical and settlement historical value" (Bundesdenkmalamt & Kulturamt der Stadt Wien, 1981, p. 69).

With the amendment of the Viennese building regulations in 1972 (*Altstadterhaltungsnovelle*), the possibility of defining *Schutzzonen* was finally enshrined in law. It was now possible to protect "areas worthy of preservation because their external appearance contributes to the character of the cityscape" (Wiener Landtag, 2023, §7, para. 1), ensembles of uniform building types or stylistic forms, ensembles from earlier epochs consisting of characteristic buildings from different periods, or structural units resulting from a characteristic interplay of buildings and surrounding open spaces. With the introduction of the ensemble into the Austrian Monument Protection Act in 1978, finally, a nationwide legal instrument was also created (Lehne, 2014) and this long process, which this article has traced, reached a certain conclusion.

Numerous historic areas in Vienna's inner districts as well as in the former suburbs were declared *Schutzzonen* from 1973 onwards (Figure 4). The Vienna City Council began to select zones from the list submitted by the Kulturamt (Kapner, 1973, p. 162). The first two protection

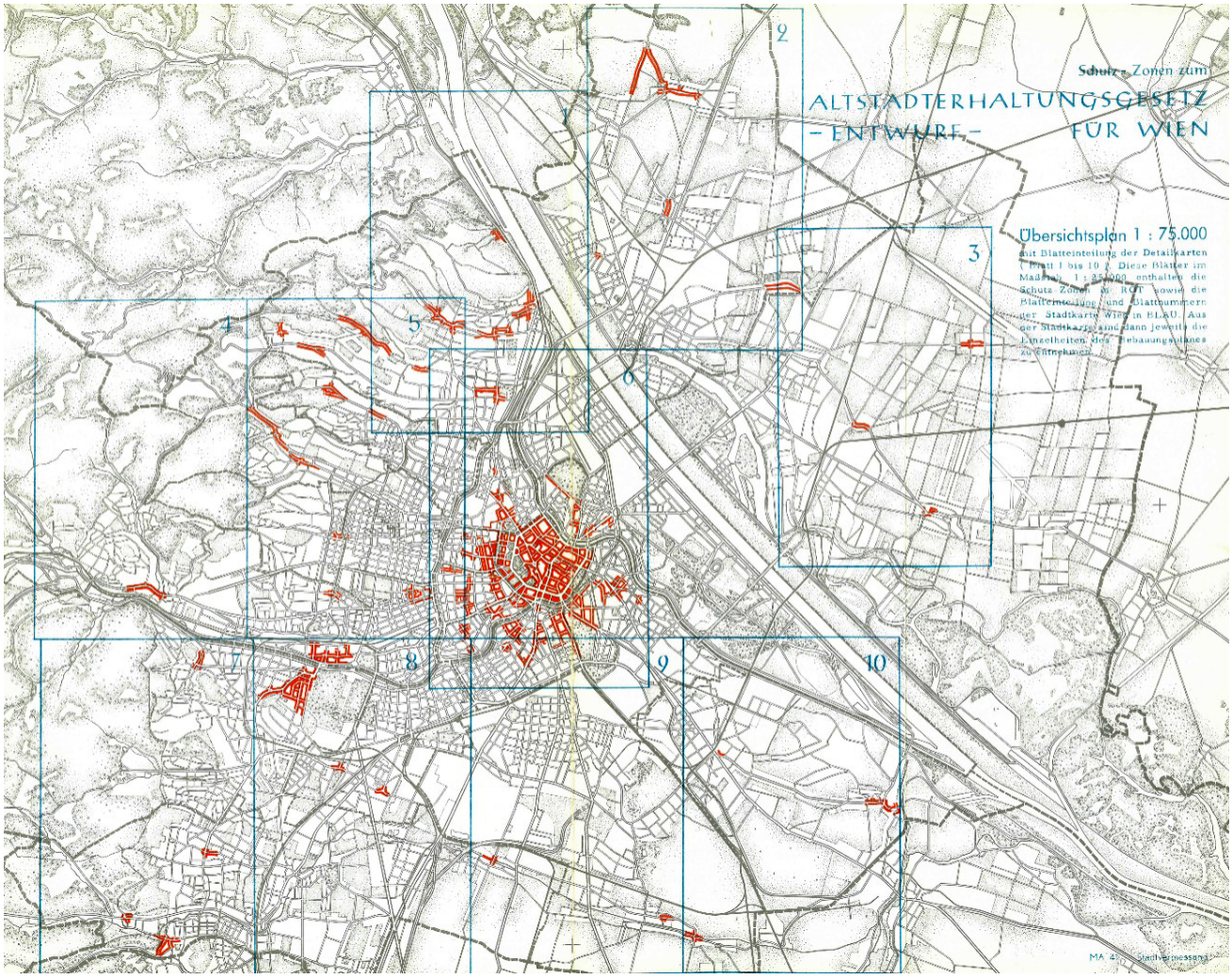

Figure 4. *Schutzzonen* (protection zones) in a draft map used in preparing the Old Town Preservation Act for Vienna. Source: Magistratsabteilung 7 (1970).

zones were established in 1973: The ensemble in the area known as Spittelberg and the core settlement of Altmannsdorf, which is located in an outer district. The main reason for the choice of these two urban areas was the acute threat posed to the cityscape by alterations and demolition (Bundesdenkmalamt & Kulturamt der Stadt Wien, 1981, p. 69). Between 1973 and the present day, many core settlements in former suburbs, areas with characteristic development from one or more architectural epochs or larger complexes built in context (e.g., Steinhof, Werkbundsiedlung) have been declared protection zones. The zoning and development plan for Vienna provides information on the applicable boundaries of the zones, which have changed several times since the 1970s (City of Vienna, n.d.-a).

The number of *Schutzzonen* has increased over the years, and the system continues to evolve. Not only have new zones been added, but existing conservation zones are also being expanded and properties and open spaces have at times been excluded from the zones. In some cases, several zones have been merged into one. To make the connections even clearer, the relevance of the discussions of the reconstruction years for the formation of the protection zones will now be shown by means of two case studies.

6. Formation of *Schutzzonen*: Two Case Studies

6.1. The Ringstraße: From Radical Urban Redevelopment to World Heritage Site

After the demolition of the city walls and following an international design competition, the Ringstraße was laid out in 1857 on the former *Glacis* (green areas adjacent to the former walls) as a single urban development project. Today, the City of Vienna justifies the *Schutzzone* Ringstraße (Figure 5), in the following terms: "The Ringstraße has been preserved as a largely uniform ensemble despite some new buildings, mostly due to war damage, which in itself illustrates the development from Romantic Historicism to Art Nouveau" (City of Vienna, n.d.-b).

Many archival sources and publications make it surprisingly clear that the Federal Monuments Authority was already aware of the importance of the Ringstraße in the early 1940s and had called for the protection

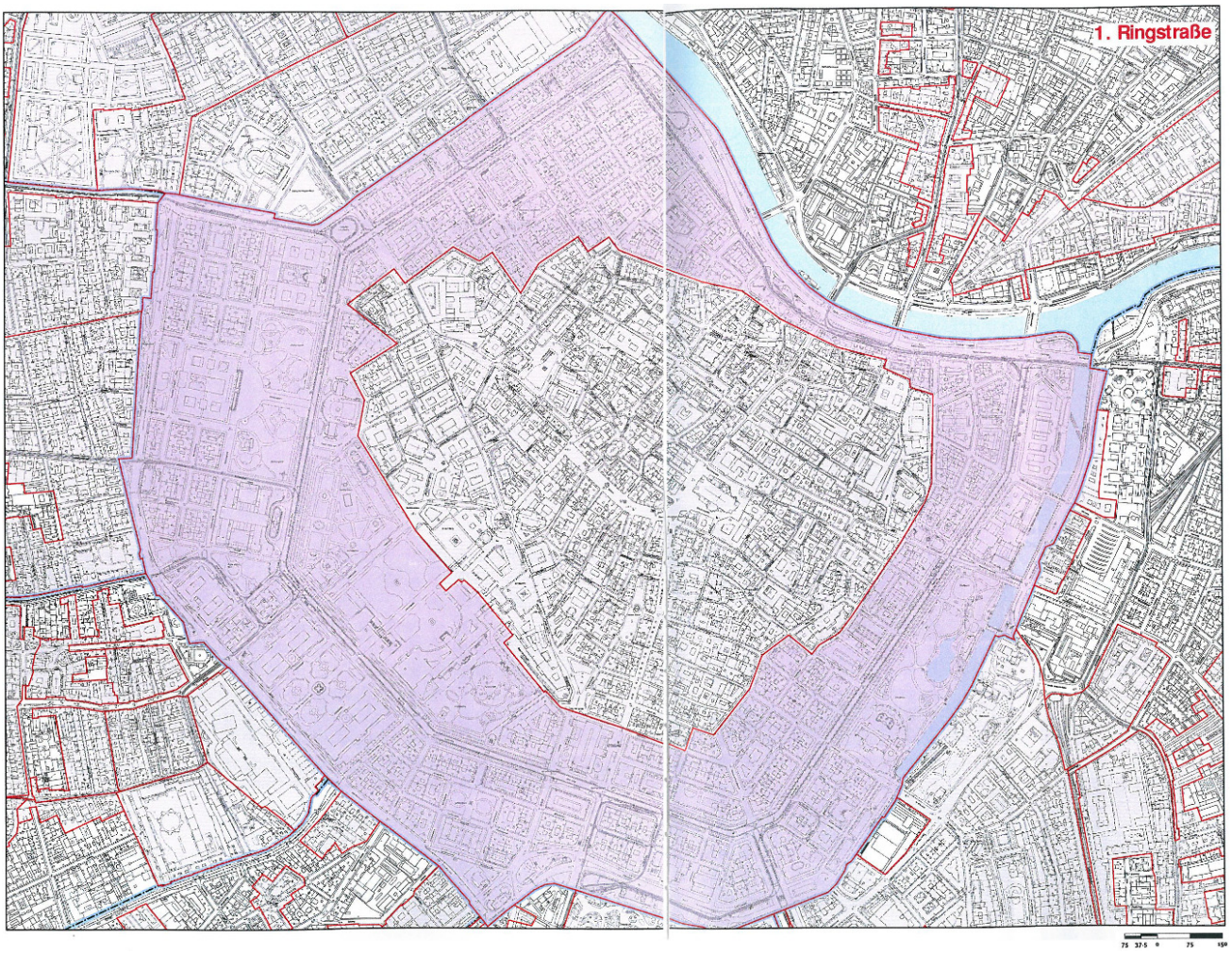

Figure 5. *Schutzzone* Ringstraße: Map showing the situation in 2004. Source: Stadtplanung Wien (2005, pp. 12–13).

of this street, together with its plazas, monumental buildings, and the adjacent blocks of buildings, most of which were from the second half of the 19th century. The belief that the appreciation of historicism and corresponding art-historical research only began in the 1960s must therefore, to some extent, be laid to rest. Even under National Socialism (1938–1945), the Monuments Authority appreciated the Ringstraße as a *Gesamtkunstwerk*, although historicist architecture was generally considered too pompous and obtrusive for the Viennese cityscape at that time. There is evidence of conservationists arguing as early as 1940, before the destruction of the war, that this monumental street should not be destroyed, but rather preserved as an architectural ensemble of great significance, as, for instance, Karl Ginhart did in 1940: For Ginhart, the recent "re-façading'' of some buildings along the Ringstraße, which involved removing all decorative elements and fitting the windows with "rough frames," would destroy this urban ensemble. Not only the "harmony of the building" would be considerably disturbed, but the overall effect and the "original uniformity…of the greatest and artistically most valuable urbanistic achievement of the 19th century" (Ginhart, 1940). In a letter to the local government of the Reichsgau, the Federal Monuments Authority expressed similar concerns about the "modern, sober [*sachlich*] design" that would increasingly alter the appearance and "artistic effect" of the Ringstraße and result in the monumental buildings being "stylistically out of harmony" with their surroundings (Seiberl, 1940).

Thus, in the early 1940s, the Federal Monuments Authority already recognized the great importance of the Ringstraße and its adjacent buildings as an ensemble worthy of protection. During reconstruction planning, this demand was made again. In a statement, the Ringstraße and its 19th-century squares are listed among the building complexes worthy of preservation, which also include Votivplatz and Schwarzenbergplatz (Hoppe, 1946, p. 111). In 1964, Frodl (1964, p. 130) again emphasized the importance of the Ringstraße as an "urban site of high rank," as a "historical and artistic unit" that had to be preserved as completely as possible. The area of the Ringstraße was once more included in the official lists of streets worthy of protection, and in 1973 the entire *Innere Stadt*, and thus also the Ringstraße and its surrounding area, was declared a protection zone.

The importance of the Ringstraße is ultimately reflected in the "Historic Centre of Vienna" UNESCO World Heritage Site, this title being granted in 2001. The core zone includes not only the historic city center located within the ring but also the area of the Ringstraße since the urban expansion of this period is one of the justifications for inscribing Vienna's historic center in the UNESCO World Heritage list. The good state of preservation of the Ringstraße in its urban setting, despite numerous new buildings erected after the Second World War, is certainly also due to the early recognition of its importance by the Federal Monuments Authority.

6.2. The Spittelberg: Revitalization of a Former Viennese Suburb

In the 1970s, the Spittelberg, with its baroque and Biedermeier building stock, was a completely neglected urban area, and therefore particularly endangered. With the establishment of the *Schutzzone* in 1973, the city government expressed its will to preserve and repair the buildings, most of which were owned by the city itself. As early as the 1940s, lists of urban areas worthy of preservation included Spittelberg as one of the most important historic areas. Vienna's shrinking baroque building stock was preserved particularly well there, with many buildings exemplifying that style and period (Kapner, 1973, p. 162). At that time, the area worthy of protection was defined as a few blocks between Burggasse, Siebensterngasse, Breitegasse, and Stiftgasse ("Vierjahresplan des Wiederaufbaus von Wien," 1946).

The perimeter of the protection zone changed several times following early considerations during reconstruction planning. In 1973, sections of other streets were additionally selected because they were considered particularly characteristic for this part of the city, and the area was also somewhat enlarged. The zone thus shifted by one block of houses, and the development along Breitegasse was not included for the time being (Figure 6). Between then and now, the boundaries have changed again. According to the current zoning plan, Breitegasse is within the protected zone, which now also extends over Burggasse, which once bordered it on one side (Figure 7). Other streets, however, have at times been assigned to adjacent protection zones.

The example of Spittelberg shows that the state of conservation had no influence on the selection of protected areas. It also demonstrates that the selection was not only based on their historical architectural relevance but in some cases also on the urgency and the threat posed to the ensembles by building measures and demolition plans. This also explains the decision to declare the core settlement of Altmannsdorf a protected zone as early as 1973 (Figure 8). Even the lists of the initial post-war years included suburban core settlements of that kind. The characteristic triangular Khleslplatz (Figure 9) with its two-story buildings is today located in the middle of an urban area that was growing rapidly in the early 1970s. Just as in the case of Spittelberg, the development of this square area would probably have fallen victim to even greater deformation or demolition had it not been declared a protection zone. As early as 1947, Dagobert Frey referred to the urgent need for action in the case of Khleslplatz. In his view, the implementation of the existing *Regulierungsplan* (development plan; Figure 10) and the planned widening of the streets would have "torn up the peaceful enclosed church square and made the modest little church in a senseless way the focal point of a long wide avenue" (Frey, 1947, p. 17). In this case, too, the preliminary work of the 1940s thus probably also played a role in implementation in the 1970s.

Figure 6. *Schutzzone* Spittelberg: Plan from 1973 overlayed by a colored layer marking the area classified as "characteristic" and to be protected by the Federal Monuments Authority in 1946. Source: Koller (1973, p. 157); colored layer by Birgit Knauer.

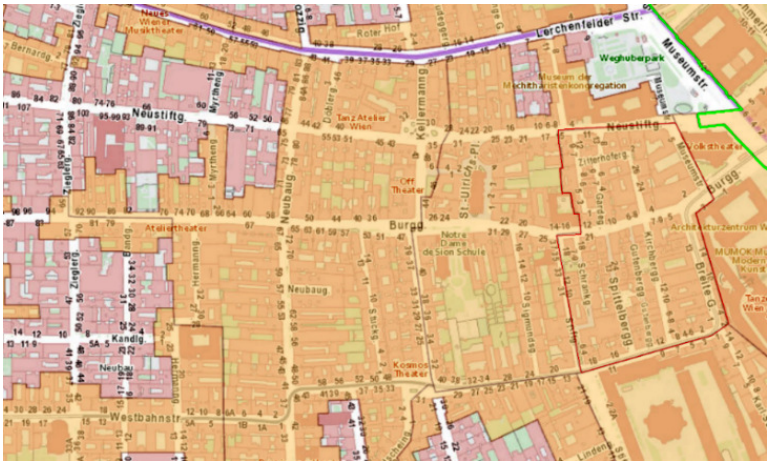

Figure 7. *Schutzzone* Spittelberg (red marking) and various other protected areas: Plan from 2022. Source: City of Vienna (n.d.-a).

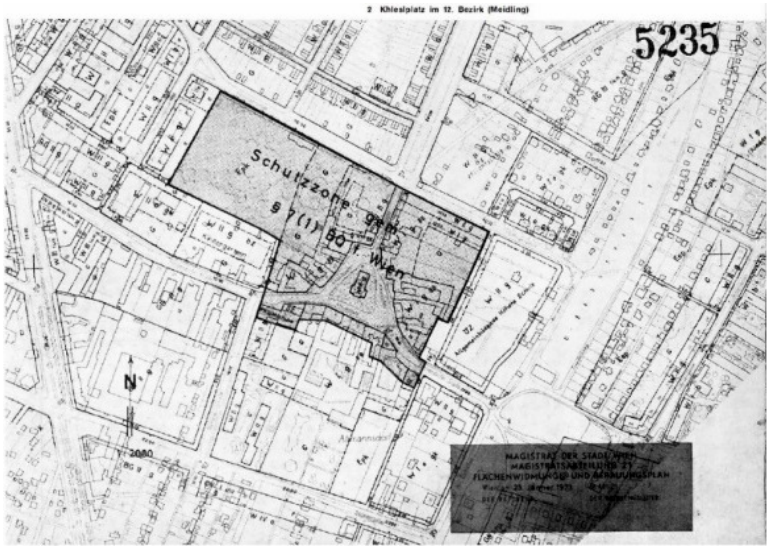

Figure 8. *Schutzzone* Khleslplatz (1120 Wien): Core settlement Altmannsdorf, *Schutzzone* since 1973. Source: Koller (1973, p. 157).

Figure 9. Khleslplatz with the church of Altmannsdorf: Postcard, 1909. Source: Ledermann (1909).

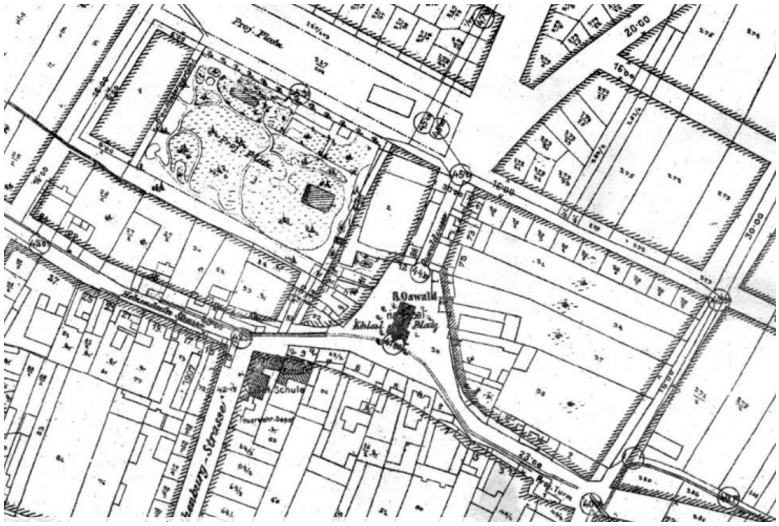

Figure 10. Development plan, 1912: Section Khleslplatz. Source: City of Vienna (n.d.-b).

7. Results

For the Federal Monuments Authority—as for numerous other experts—post-war reconstruction was seen as a chance to revise outdated development plans and an opportunity to ensure the long-term preservation of selected historic urban areas. The negotiation of built heritage in the course of reconstruction planning, which is reflected in numerous official and unofficial statements and lists of monuments and city areas worthy of preservation, formed the basis for the urban preservation that began in the 1960s and emerged to prominence in the 1970s. Most of the *Schutzzonen* designated later are already mentioned in the lists of the 1940s. In most cases, the lists already contain explanations of the characteristics of the urban areas and reasons for their significance, such as their importance for architectural or settlement history. Reconstruction planning and execution must therefore be considered a decisive period in the negotiation and discussion of architectural heritage, one that has had a significant influence on the preservation of historic urban areas up to the present day.

When historic buildings are threatened by destruction and loss, examination of the built heritage intensifies, as observation of post-war reconstruction makes clear. The step from recognizing the importance of ensembles to actual protection and implementation in legislation turns out to be a multi-layered process that extends over several stages and a considerable length of time. In fact, some 60 years lay between the first professional discourse on the value of preserving historic ensembles at the beginning of the 20th century to the first Old Town Preservation Act and the effective protection of entire urban areas in the 1970s.

8. Conclusion

The findings presented here highlight the existing knowledge gap concerning reconstruction planning, which not only reacted to destruction but actively intervened in

issues of urban preservation. Later preservation goals were already shaped by the debates of the time, and a more detailed exploration of the discourses and strategies of reconstruction practice is still a major research desideratum. New findings in that area will also contribute to heritage studies and planning history.

The findings of this article also raise new questions, such as how current discourses may influence practice, and what we can learn from looking back at historical reconstruction processes for today's urban planning and—especially—heritage conservation practice. In England, regeneration areas themselves have already become subjects of urban conservation measures. Calls for the protection of Plymouth's town center, which was rebuilt based on a 1943 plan by Patrick Abercrombie and James Paton Watson, can be traced back about 10 years (Essex & Brayshay, 2013, p. 163). In 2019, the city center was designated a conservation area (Plymouth City Council, n.d.). The value of areas reconstructed after the war should be considered analogously in the case of Vienna, too. The basis for this will have to be a detailed analysis of the reconstruction process and its long-term consequences, which remains to be performed.

Reconstruction planning after the Second World War was not only a question of urban design but also of preserving historic city centers. This article has examined the discourse on urban preservation in the context of reconstruction in Vienna after the Second World War and has also analyzed the long-term consequences of the first explicit deliberations on the definition and delimitation of protected areas, which were only to find legal expression some 30 years later. Reconstruction planning and its long-term consequences for urban planning and preservation still need to be researched more thoroughly. Looking back at historical processes shows that heritage discussions certainly have a lasting effect, albeit with a time lag. In recording and selecting the old town areas to be protected, the Federal Monuments Authority fell back on the extensive and methodologically sound preliminary work of state monument preservation in Austria, whose institutional consolidation began around 1900. In discussions of reconstruction, the Federal Monuments Authority referred specifically to the preparatory work of the pre-war period, while in the 1970s, the maps and lists of the 1940s were consulted, in particular. Current surveys of maps, documentation, and research, which always represent contemporary values and specific authors' perspectives, will probably play a similar role in the future.

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Conflict of Interests

The author declares no conflict of interests.

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Article

"Reconstructionism": A Strategy to Improve Outdated Attempts of Modernist Post-War Planning?

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Abstract
Recently, Germany has seen a series of inner-city projects that tend to reconstruct pre-war buildings or ensembles lost in the Second World War after demolishing earlier attempts to redefine the place in which they had been located with the means of modernist architecture. While those modernist buildings are often seen as "eyesores" by ordinary citizens advocating their demolition, the newer reconstructionist projects are criticized heavily by architects and planners not only because they often bring along revisionist political attitudes but also lack a profound examination of the achievements of their predecessors and do without the creative possibilities new designs may offer. The article discusses the trend in its historical context starting in the early 1980s and flourishing after the German reunification by presenting four major types of reconstructionism and related case studies, and debates that accompany them. This allows an interpretation of the current trend and places it in the wider German debates about post-modern planning and urban design. It shows that beyond the most prominent examples of reconstructionism such as the reconstructed Frauenkirche church in Dresden and the Palace in the center of Berlin, there are certain parameters that loosely determine the trend. The article ends with recommendations for the ongoing debates on future reconstructions of bombed cities.

Keywords
post-modern urban design; reconstructionism; retro style; urban repair

Issue
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1. Introduction

The reconstruction of cities destroyed by disasters has always played a role in urban planning and architecture. Particularly due to the emergence of aerial bombing and the destruction it caused, the issue of urban reconstruction has gained additional importance since the beginning of the 20th century. With the emergence of modern monument protection, questions of urban identity, and the role of outstanding, and historically significant built structures have become very important for the self-image of cities in this context. Especially in Germany after Second World War (WWII), the topic of reconstruction of war-damaged cities played an enormous role in the discussion about urban planning and urban development, which partly continues until today. Notwithstanding a large number of proxy wars during the "Cold War" period and the destruction they caused, however, international attention to war destruction and the issue of possible reconstruction measures has continued to grow in the context of the armed conflicts following the end of the "Cold War." Not least, this has to do with "urbicides" (Coward, 2008), the complex destruction not only of material but also of socio-cultural and economic heritage in cities and thus their identity by means of an exchange of elites or large parts of their population and a weakening of the institutional fabric of urban life. The recent wars and armed conflicts in Lebanon, Yugoslavia, Syria, Iraq, Yemen, and most recently Ukraine, and the endangerment of UNESCO World Heritage sites

in cities have also brought the responsibility for a possible reconstruction and its conception and implementation into the focus of professional attention.

The involved challenges are manifold and far from over. Some of them are discussed in the other articles in this thematic issue. Using the example of Germany—a country with considerable wartime destruction in WWII as well as extensive and urbanistically complex reconstruction activities in the decades thereafter—this article aims to show how long the topic of reconstruction can be under discussion in an affected country and which related questions arise even after decades, despite basically restored functionality of destroyed city districts (for details see the end of this introductory section). Several developments come into play here. First, a change in the guiding principles of urban planning, which very critically questions the legacies of post-WWII reconstruction, has led to calls for "urban repair" after a "second destruction" through complementary modernist interventions. Second, as a result of aging, buildings of the reconstruction period are entering a phase in which fundamental questions are being raised about their future viability, particularly related to energy, building services, and infrastructural requirements, in conjunction with changed demands for housing, office work, and retail. Third, in the wake of a postmodern critique of post-war architecture and urban development in many places, the question of cities' built identity has been increasingly raised.

These tendencies have spurred a multi-layered debate on reconstructionism in conjunction with prominent individual projects, in which broad segments of the population participate. The disputes between and among experts and non-experts are sometimes highly controversial and involve diverse arguments from the fields of historic preservation, architectural theory, urban planning, politics, and cultural, social, and historical studies, among others. Advocates of historically motivated reconstructions of war-damaged buildings clash with opponents, who brand such reconstruction measures as falsifications of history. However, due to the broad interest outside the professional world, debates are characterized by both profoundly reflective and very simple arguments. Often, groups of reconstruction-friendly citizens and rejection-minded architects confront each other.

The term "reconstructionism" was chosen as it is occasionally used in the German debate (spelled *Rekonstruktionismus* in German). It is to denote a tendency of "delayed" reconstructions that are attempting to recreate buildings long after their destruction with an appearance as close as possible to the lost original. This article focuses on the occurrence and characteristics of this tendency, and the pejorative tone occasionally attached to the term when it is used in the German debate cannot be traced in detail. A reconstructionist tendency can be observed in many places after the end of the "actual" reconstruction phase from around the 1970s onward, taking into account the main groups of actors and their positions. Central argumentation figures and the strategies associated with them explain which types of solutions were found and how they are to be assessed in the context of current destruction and reconstruction measures.

The analysis is based on two research projects commissioned by the German Federal Government, which dealt with the social background of the second wave of reconstruction (Altrock, et al., 2010). A comprehensive web-based inventory of implemented and planned reconstruction projects in German cities after 1975 was carried out and these were further monitored after the projects were completed. To build the inventory, the projects scanned thematic websites related to reconstruction projects and urban regeneration, conference reports, and newspaper articles. A web-based analysis of planning documents, press releases, self-representations of proponents and opponents of reconstruction, and expert interviews with planning participants was conducted to gain more profound knowledge of important cases. For this article, the original inventory was reassessed, limiting focus on completed reconstruction projects that can be traced back to destruction in WWII or its aftermath and that cannot be understood as comprehensive repairs due to still largely existing ruinous enclosing walls. In view of the fact that, in the discussion about reconstruction projects that are as true to the original as possible, proponents from social groups and opponents from the fields of architecture and monument preservation usually confront each other and passionately advocate their position, design, and functional solutions that are difficult to predict prevail in the public discourse according to the local framework conditions and the balance of power between the participants. Moreover, the following factors play an important role: the symbolic significance of the building to be restored, considerations about its meaningful use, the existence of detailed documents about its condition before destruction, the availability of funds for an elaborate restoration of details, and the existence of historical craftsmanship techniques. As a result, four types could be identified according to descending degree of closeness to a faithful reconstruction, which is explained in more detail below. They form the core of the analysis of this article.

2. Post-War Reconstruction in Germany in the Context of International Debates on Heritage Conservation

The discourse on delayed reconstruction projects can only be understood against the background of the development of historic preservation in Germany since the beginning of the 20th century. The professional principles developed at that time, which have remained stable to this day, ultimately caused an informal "ban on reconstruction." In contrast, the handling of wartime destruction during WWII was understood as a special exceptional situation.

2.1. The Rejection of Reconstructions as a Constituent Element of the Discipline of Monument Preservation

Modern monument preservation, which emerged in the 19th century, was extremely critical of the restoration practices of the time. In an attempt to restore the construction of a building as perfectly as possible, but often without sufficient knowledge about its history, Viollet-le-Duc (1866) went for the restoration of ideal conditions of buildings that required the destruction of their actual state. Building on Ruskin's (1849) call for the truth to materials and an honest display of the construction of buildings, the foundation had been laid for a widespread demand for "honest" architecture emphasizing contemporary constructive and structural conditions. A rejection of reconstructions or restorations is already derived from this.

In Germany, a similar controversy about appropriate ways of preservation evolved when the reconstruction of medieval manor houses since the 1830s was debated, and the issue of how much "creative" inventions should be allowed in this context (Fuhr, 2002). At the center of the debate was the restoration of Heidelberg Castle, lying in ruins after having been destroyed at the end of the 17th century. In 1905, Georg Dehio's famous position *konservieren, nicht restaurieren* (conserve but do not reconstruct; cf. Hellbrügge, 1991), based on Ruskin, finally prevailed, shaping the scientific preservation of monuments to this day (Hanselmann, 2005).

Since then, the concept of "authenticity" has become central, which:

> Refers, however, not only to the authentic materials processed in an authentic technique—the historical substance—but equally to the form and shape as well as to the function of the monument, and this regardless of whether it is an 'original' or an 'evolved' state. (Petzet, 1994, p. 1)

This understanding of authenticity is in line with the international development in the preservation community, especially considering the strengthened role of intangible heritage (ICOMOS National Committees of the Americas, 1996; UNESCO et al., 1994), while the German understanding has a particular focus on the physical substance of objects. If an object is historically proven to be original, it is particularly appreciated. In the field of monument preservation, this leads to values attributed to the intentions of the creator as well as the condition in which a monument is found (cf. Seidenspinner, 2007, p. 1).

2.2. Post-WWII Reconstruction: Debate and Practice

Wartime destruction has affected European regions to very different degrees (Düwel & Gutschow, 2013). Post-WWII reconstruction generally took place in the context of prevailing auto mobilization and urban architectural modernism and was used in many places as an opportunity to thoroughly modernize outdated urban structures (Diefendorf, 1990). Nevertheless, it has produced a wide variety of national, regional, and local traditions. They are due to the confluence of factors such as local traditions, path dependencies in cultural engagement with historical heritage, the role of cities as part of national identity, the economically constrained availability of necessary resources, and the political influences of local elites (Blom et al., 2016; Bullock, 2002; Clout, 1999; Couperus, 2015; Dale, 2015; Demshuk, 2021; Diefendorf, 1993; Goldman, 2005; Greenhalgh, 2018; Kopp et al., 1982; McCarthy, 1998; Nasr, 1997; Pendlebury et al., 2015; Silverman, 2013; Tiratsoo, 1990). For example, a more modernist rebuilding practice emerged in the United Kingdom, while in Italy, small-scale contextual additions were made to the existing stock that could unobtrusively integrate modern design elements into traditional urban layouts. In Poland, on the other hand, despite limited economic resources, strongly historicizing reconstructions were carried out over decades, yet mainly related to the detailed restoration of façades, while the inner areas of the blocks were modernized.

2.3. Post-War Reconstruction in Germany: Reconstruction as Exception or Common Practice?

This diversity can also be rudimentarily traced in the variety of heavily destroyed German cities and their reconstruction after WWII (see Durth & Sigel, 2016, for an overview for further reading). Two essentially different approaches competed with each other. One was the planning of "new cities on old ground" (Lüken-Isberner, 1992, p. 251), in which only a few significant historic buildings were reconstructed. The other was the extensive orientation to the historical model, preserving the urban fabric, but with adaptations to technical developments such as street widening, as well as the use of contemporary building types and the use of new materials. Different assessments are available regarding the dominance of the two approaches or intermediate forms, although stronger deviations from the historic street layout were rare because of the preserved underground infrastructure (Huse, 1984). Even where historicizing reconstruction measures took place, such as in Münster or Nuremberg, façades were significantly simplified. Town halls and parish churches were the most likely to be rebuilt. All in all, more building fabric was destroyed in the first three post-war decades than as a result of the effects of war. This applied not least to stately representative buildings and, in eastern Germany, also to churches. Even the restoration of severely damaged individual buildings with symbolic value, such as the Goethe House or the Paulskirche in Frankfurt/Main, triggered a considerable debate about if those buildings should be reconstructed at all (Falser, 2008). Overall, a wide range of reconstruction approaches were employed, from exact replicas to simplifications with an emphasis on additions and preservation of ruins as memorials

to decidedly counter solutions (Hagen, 2005). Thus, the destruction in WWII put the rejection of reconstruction to a severe test. When they took place, it was necessary to decide which point in the history of the building should be relevant, the lack of documents often being a challenge (Hanselmann, 2005).

2.4. Reconstruction as a Permanent State?

After reconstruction had already been largely completed by the end of the 1950s for infrastructure as well as residential quarters and city centers, a few more complex representative buildings were only tackled in the 1960s, when a stronger emphasis was put on the rehabilitation of city centers (Hanselmann, 2005; von Beyme et al., 1992). Some were only completed in the 1980s. Nevertheless, they were generally accepted by preservation institutions as comprehensive repair of ruined but still existing substance.

At the same time, preservationists again made greater efforts to end the post-war "state of emergency" in which there was a need to rebuild cities quickly and a variety of approaches prevailed, some of them contradicting Dehio's (1901) call for a "ban on reconstruction." The international agreement on the rules of the Venice Charter of 1964 played a significant role, adopting a self-commitment of preservation for the future handling of monuments, especially in Europe, in the sense of principles derived from Dehio. Statements on tasks and requirements for restoration (Article 9, Article 11, Article 12) represent a central basis for the architectural treatment of surviving building fabric. The focus is on preserving the values of the monument and respecting the existing features of different eras. Reconstructions or "creative preservation" of older traditions were mostly excluded. When the new wave of reconstructions finally gained momentum, it was echoed by the majority of architects and preservationists in fierce resistance in conferences, book publications, and press articles building on those traditions (von Buttlar et al., 2010).

3. "Delayed Reconstructions": Complex Strategies for Identity Formation and City Repair in German Cities

Post-war reconstruction was completed almost everywhere in West Germany in the 1960s. In East Germany, outstanding historical areas were still characterized by ruins until the 1980s, for example in (East) Berlin (*Unter den Linden*, *Gendarmenmarkt*) or Dresden (Palace ruins, *Neumarkt*). Starting in the 1960s with the student movement and the oil crisis shortly thereafter, a lasting change in urban development principles took place in West Germany, criticizing modernist architecture and urbanism. It provided a breeding ground for citizens' initiatives that emerged in the 1970s to address urban planning issues (Falser, 2008, p. 307) and, in individual cases, directly advocated the reconstruction of war-damaged buildings (Wagner-Kyora, 2004). A political commitment to "saving the cities" in the European Year of Monument Protection as well as urban development funding brought a significant boost to the revaluation of historic inner cities from the 1970s onward, finally reflected in a focus on existing buildings. Historic city centers were now increasingly seen as shaping the identity of cities and used for city marketing and tourism. For this purpose, a supposedly "intact" cityscape played an important role. This development has been discussed extensively under the term "festivalization" in the context of strategies to cope with the economic transformations of German cities in times of de-industrialization and neoliberalism (Häußermann & Siebel, 1993). Walter Wallmann, the conservative mayor of Frankfurt/Main in the 1980s, initiating a facelift for the inner-city waterfront with the help of a series of new museums, is seen as one of the forerunners of this trend, crucially being also responsible for one of the paradigmatic postmodern reconstruction projects, the so-called Römerberg Ostzeile (Ronneberger & Keil, 1993). In East Germany, the beginnings of such a change could also be observed, despite mass housing playing a more prominent role until 1990.

Against this background, I will limit myself in the following to the time since 1975 as a period in which reconstruction projects no longer served the immediate restoration of destroyed urban spaces but rather were conceived with a due temporal distance. It is striking that the detailed reconstruction of lost buildings and urban structures was now increasingly demanded in places whose spatial configuration had already been redefined, and in some cases was even implemented after controversial social debates.

I, therefore, refer to projects as "delayed reconstructive rebuilding" that are characterized by the following features:

- They refer to a predecessor building that was destroyed in the war and design a new building and use it on the same site.
- Conceptually, this new building and use explicitly refer to the war-destroyed predecessor building.
- However, the site had already been reused once in the first decades after the war. This resulted in either re-development or a deliberate choice for another use. Such other uses included open spaces, transportation areas, or memorials referring to the destruction.
- Through the new building, the legacies of that "first reconstruction" are called into question or destroyed anew.

Looking at the reconstruction projects realized or planned in Germany since 1975 (see Figure 1), a spatial focus in eastern Germany (Berlin, Dresden) is contrasted by two clusters around Hanover and Frankfurt am Main. In terms of time, the focus is on the period after 1990, with the majority of the projects consisting of stately buildings, followed by bourgeois buildings,

strongly represented in the west, and churches in the east, as well as public cultural buildings.

Delayed reconstructive rebuilding often takes place in historic city centers or after partial destruction. Since the centers represent essential places of urban identity, reconstruction projects usually enjoy a very high level of attention. This is all the more true when the reconstruction erases an earlier post-war building layer. Advocates for its preservation can usually be found. Debates on delayed reconstruction are complex, multi-layered, and highly controversial. Proponents depend on political and societal allies over an extended period of time, shaping

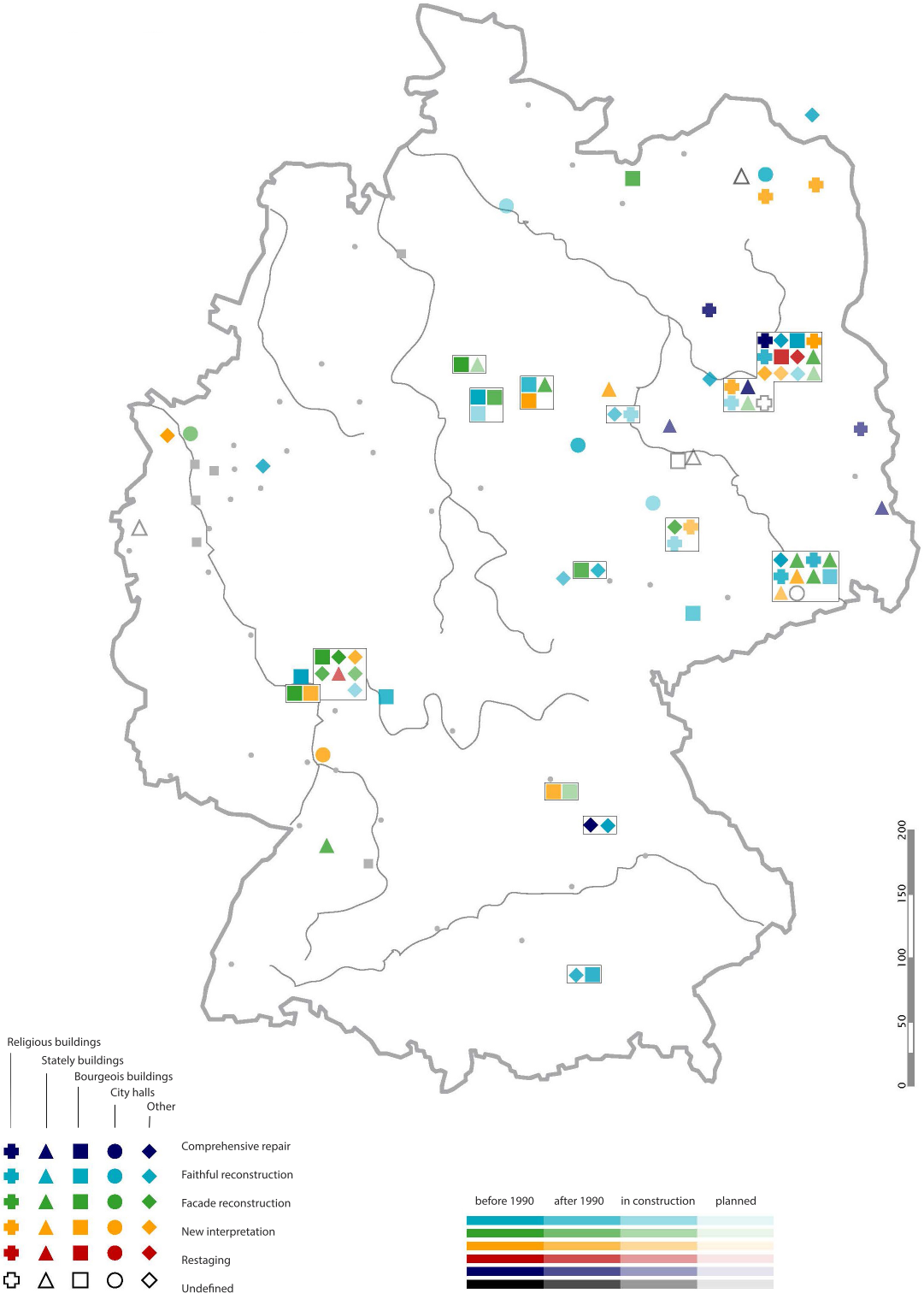


Figure 1. Spatial and temporal distribution of reconstruction projects in Germany, 1975–2009. Source: Map by G. Bertram, published in Altrock et al. (2010, p. 27), and translated by U. Altrock.

the controversial discourse to ultimately convince key decision-makers that projects are feasible and favorable. Advocates use different strategies depending on the case in question, and the degrees of reference to historical predecessors differ. In the following, the basic types occurring in this context are discussed (see also Table 1), including short case studies of critical cases that are particularly significant and played a relevant role in the German debate. In addition to restorations, in which a considerable part of the original substance is still present and which, as comprehensive repairs, do not fall within the scope of the above definition, the following basic types are found: (a) reconstructions intended to be true to the original, (b) façade reconstructions, (c) reinterpretations, and (d) restagings—although the transitions between the types are sometimes fluid.

Table 1. Overview of completed reconstructions in the recent "wave."

Location	Object	Completed	Type	Important non-state actors	Local initiative since
Aschaffenburg	Löwenapotheke	1995	Faithful reconstruction	Citizens' initiative	
Berlin	Hotel Adlon	1997	Restaging	Investor	1989
Berlin	Kommandantur	2003	Façade reconstruction	Private company	
Berlin	Palace	2013	Façade reconstruction	Citizens' initiative	1992
Berlin	Haus Liebermann	1998	Façade reconstruction	Private company	1993
Berlin	Haus Sommer	1998	Façade reconstruction	Private company	1993
Berlin	New Museum	2009	Façade reconstruction		1999
Braunschweig	Alte Waage	1994	Faithful reconstruction		
Braunschweig	Residenzschloss	2007	Façade reconstruction	Investor	
Demmin	City hall	1998	Faithful reconstruction		1990
Dessau	Meisterhäuser	2014	New interpretation		1970
Dortmund	Adlerturm	1992	Faithful reconstruction	Citizens' initiative	1983
Dresden	Coselpalais	2006	Façade reconstruction	Citizens' initiative	
Dresden	Frauenkirche church	2005	Faithful reconstruction	Citizens' initiative	1989
Dresden	Kurländer Palais	2008	Façade reconstruction	Investor	2000
Dresden	Neumarkt		Restaging	Citizens' initiative	
Dresden	Quartier VIII	2012	Façade reconstruction	Investor	
Erfurt	Collegium Maius	2010	Faithful reconstruction		1987
Frankfurt	Old library	2005	Façade reconstruction	Citizens' initiative	2000
Frankfurt	New old town		Restaging	Citizens' initiative	
Frankfurt	Römerberg east row	1984	Restaging		1978
Frankfurt	Thurn- und Taxis-Palais	2009	Restaging	Investor	
Halberstadt	Ratslaube	2004	Faithful reconstruction	Citizens' initiative	1993
Hannover	Herrenhausen palace	2012	Façade reconstruction	Philanthropist	
Hannover	Leibnizhaus	1983	Façade reconstruction		
Hildesheim	Kaiserhaus	1997	Façade reconstruction		
Hildesheim	Knochenhaueramtshaus	1989	Faithful reconstruction	Citizens' initiative	1970
Hildesheim	Umgestülpter Zuckerhut	2010	Faithful reconstruction	Citizens' initiative	2002
Hildesheim	Wedekindhaus	1986	Façade reconstruction		—
Leipzig	University church	2009	New interpretation	Citizens' initiative	1968
Mainz	Market, eastern section	2003	Façade reconstruction		
Mainz	Market, northern section	1991	Façade reconstruction		
Mannheim	Stadthaus	1991	New interpretation		1945
München	Thomas-Mann-Villa	2006	Faithful reconstruction	Citizens' initiative	2001
Nürnberg	Pellerhof	2018	Façade reconstruction	Citizens' initiative	2005
Pforzheim	Einnehmerei	2003	Façade reconstruction	Philanthropist	
Potsdam	Palais Barberini	2016	Façade reconstruction	Philanthropist	—
Potsdam	Old market		Restaging		
Potsdam	Palace	2010	Façade reconstruction	Philanthropist	
Weimar	Market, northern part	1991	Façade reconstruction		
Wesel	Old city hall	2010	Façade reconstruction	Citizens' initiative	1986
Wiesbaden	Biebrich palace, east wing	1982	Faithful reconstruction		
Xanten	Middle gate	1978	Façade reconstruction		

4. Faithful Reconstruction

Reconstructions as close to the original as possible are discussed in relation to the loss of key buildings. This applies, for example, to castles, town halls, or historic guild houses. In the first wave of reconstruction, their outstanding sites were often rebuilt differently. The focus was on modernist designs de-densifying the urban space. Those came under criticism later, being vehemently attacked as inappropriate to the site in the context of the critique of modernist architecture and urban design. Influential non-specialists in emerging local debates about townscape and urban repair spoke up against their plain architectural language and open space design. Critics of the earlier reconstructions deliberately made use of an affinity among non-specialists for "beautiful" historic buildings and selectively employed seductive images. Given the common counter-arguments against reconstruction, rejecting true-to-the-original reconstructions as falsifying history, backward-looking, negating contemporary creativity, ignoring the values of the newly erected buildings on site, hardly feasible and excessively expensive in view of long-lost craft techniques and not even possible with any precision, proponents of the new projects, most often citizens' initiatives or influential conservative individuals, put forward a number of recurring arguments. They argued that only a few buildings of particular relevance to the city identity would be involved, and that an evaluation of historical photographs and building files would allow for faithful reconstruction. They also launched fundraising campaigns using their local networks and founded associations working persistently and collected considerable amounts of donations over several years made available for reconstruction. In conjunction with sustained lobbying, they put pressure on local politicians and, through events, journalistic activity, and graphic simulations of the potential impact of reconstructions in the urban space, communicated opportunities for improving the cityscape. Their political alliances involved influential local figures, often very conservative, and gradually won local decision-makers over to public participation and cost-sharing.

4.1. Case Study 1: Knochenhaueramtshaus Hildesheim

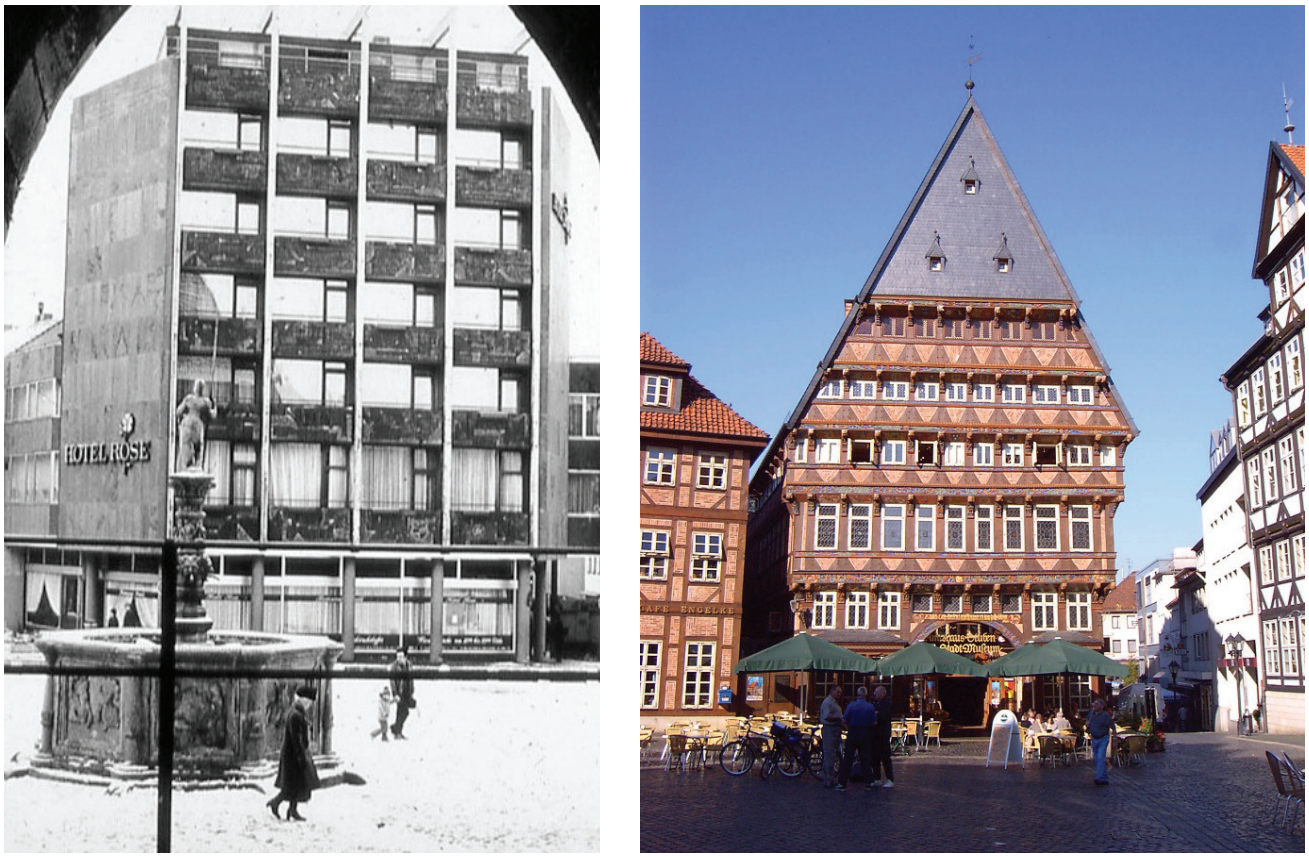
Built in 1529 and rebuilt several times later, the half-timbered house on the market square burned down completely in 1945, along with large parts of the city center, after an air raid. The early controversial discussion about a possible reconstruction finally took an unusual turn when proponents were given the property by the city but failed to raise the necessary funds (Al-Alawi, 2022; Paul, 1979). In the course of the enlargement of the marketplace, a seven-story modern hotel was built in 1962 (Figure 2a), which went bankrupt in the 1980s. In view of the reconstruction and rebuilding of half-timbered houses by the local savings bank in the early 1980s, further discussed in public from 1970 onwards by a television editor, plans were finally made to restore the entire façades of the market square to their historical condition. However, fundraising campaigns still proved unsuccessful. It was not until 1985, when the state government of Lower Saxony provided funds, that the significant Knochenhaueramtshaus and its neighbor could be rebuilt in traditional style by 1989, including elaborate carvings on the exposed façades (Figure 2b). Today it houses the city museum. After extensive debate among preservationists (Hubel, 1993; Rüsch, 2018), the two buildings were finally registered as monuments in 2018.

5. Façade Reconstructions

If the goal is to produce an original appearance with similar motivations as above, a façade reconstruction can also be the consequence, primarily when there has been no broader movement toward reconstruction, but an opportunity for it to take place. In certain cases, façade reconstructions are used by investors for a commercially used new building to eliminate possible resistance to their projects in an image-enhancing way as a contribution to the improvement of the cityscape. These were threatened, for example, by the creation of new retail space in competition with an existing center. Façade reconstructions integrate functionally optimized building complexes into a historic environment without risking incompatibility for the cityscape, and avoid the difficult search for sufficiently adapted contemporary architectural solutions accepted locally. They seem to allow for innovative architecture behind the reconstructed façade and, with this linking of "old" and "new," avoid the reproach of preventing a contemporary design solution with the historicizing approach.

5.1. Case Study 2: Braunschweig Palace

Built in the early 18th century on the edge of the historic old town and rebuilt after a fire, the residential palace of the dukes of Brunswick was severely damaged in WWII. Despite voices in favor of reconstruction, the ruin was finally demolished with a narrow majority in the city council against public protests in 1960 due to a lack of funds. In its place, the palace park was extended. The surrounding area, separated from the old town core by the "Bohlweg" thoroughfare, also housed a department store. Stronger transformations of the inner city reduced commercial demand and pedestrian flow in this area in the 1990s, and the park became a meeting place for socially disadvantaged groups. In the early 2000s, ECE, the biggest German operator of shopping centers, considered building an inner-city shopping center there. The city decided to commission an expert examination of the suitability of the site. The controversial result indicated that a deconstruction of the Bohlweg could make the downtown area more interconnected and thus more attractive for pedestrians. Moreover, the reorganization



(a) (b)

Figure 2. Hotel, 1962 (a) and reconstructed Knochenhaueramtshaus (b). Sources: (a) Förderverein Berliner Schloss e.V. (n.d.) and (b) Wikimedia Commons (2005).

of moving traffic allowed for a better urban integration of the parking garages concentrated on site. ECE offered to integrate parts of the palace salvaged during demolition into an elaborate copy of the historic palace façade (Figure 3). Despite opposition from retailers fearing new competition, a citizens' initiative campaigning for the preservation of the palace park, and national criticism of the associated "Disneyfication," that is, the physical simulation of a glorious past by rebuilding a spectacular building despite the loss of its original content, the city sold the property after a narrow council decision, and the shopping center finally opened in 2007, housing a palace museum in one wing since 2011 (Altrock et al., 2010).

6. Reinterpretations

When local activists advocate reconstruction strongly, this does not always shake the convictions of local

Figure 3. Reconstructed Braunschweig Palace. Source: Kudalla (2007).

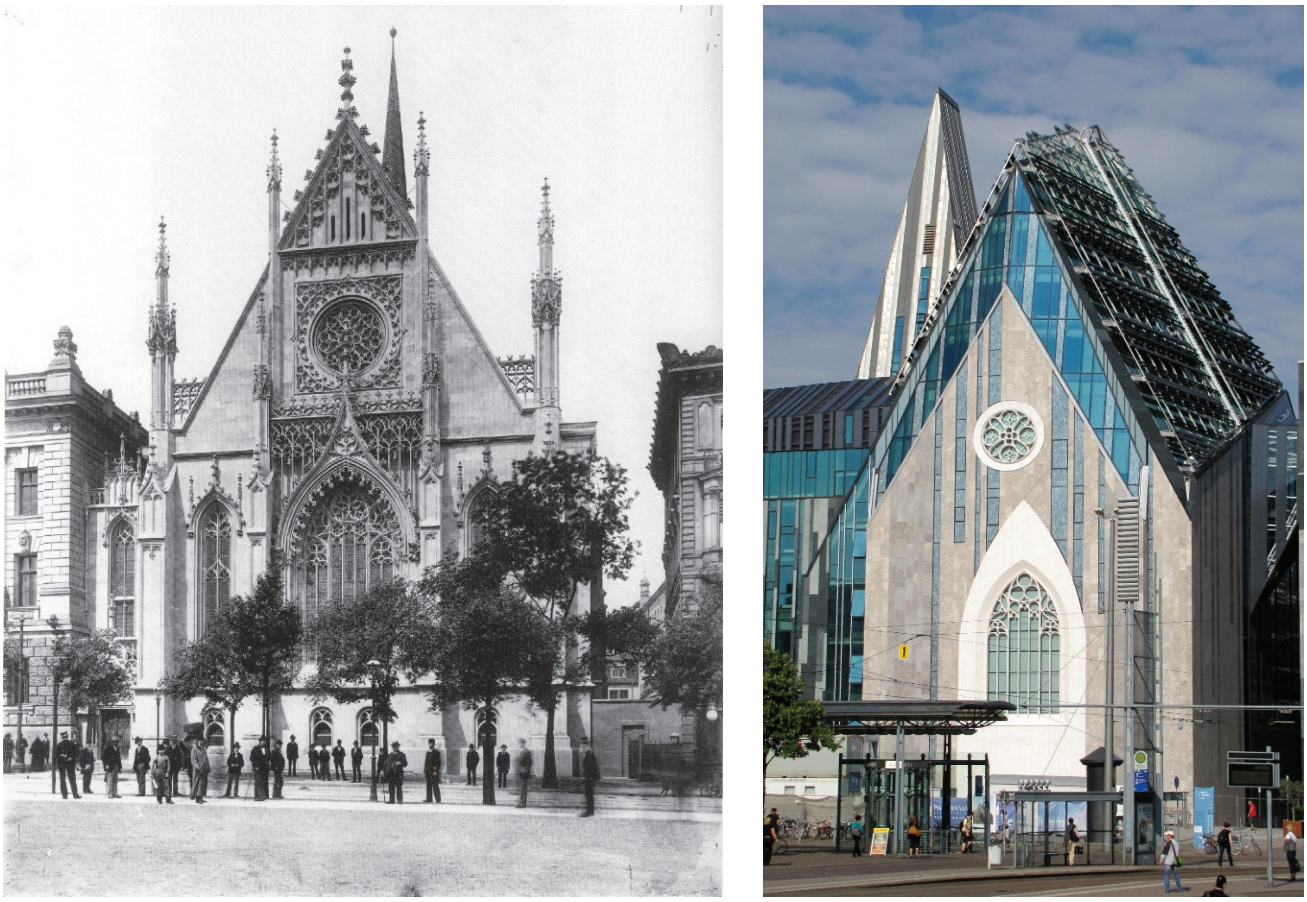
coalitions that reject historicizing reconstruction in line with architects' and preservationists' rather skeptical views. Reinterpretations only roughly based on the structural design of the original building significant for the urban identity can be the result of the related controversial debates on a significant lost building. This form of pacification of local conflicts over reconstruction projects dampens initiatives for historicizing solutions that fail to provide the necessary resources and alliances. It is a symbolic reconstruction in the broader sense.

6.1. Case Study 3: Leipzig University Church

Leipzig's Paulinerkirche, which has existed since the 13th century, was rebuilt several times and integrated into the local university as a multi-purpose space (Figure 4a). It was demolished in 1968 as part of the reorganization of the war-damaged Augustusplatz for the university, which had been planned since the early 1960s. After reunification, plans for a redesign of the campus ruled out a reconstruction. The so-called Paulinerverein founded in 1992 based on similar activities around the Frauenkirche in Dresden, campaigned for a reconstruction supported by New York-based Nobel Prize winner Günter Blobel in the face of unconvincing competition designs from 2002, but without committing itself to a strictly original reconstruction and without a clearly approving echo in the secularly oriented city. The association met with the university interested in functionally usable spaces, and the city, led by politicians skeptical about reconstruction. In 2003, the new Saxon state government, owner of the university, was more responsive to the reconstruction efforts and took a position that was in conflict with the one taken by the more reconstruction-critical city. In subsequent arbitration proceedings, accompanied by media campaigns, a compromise was reached with the help of a revision of the competition designs available up to that point: The now preferred design by the Dutch van Egeraat combined contemporary material with the silhouette and Gothic style elements of the lost church, executed in 2008–2017 (Figure 4b), taking into consideration the space demands of the university (Altrock et al., 2010; Mayer, 2016; Topfstedt, 2000).

7. Restaging

In restagings, the effect or symbolic meaning dominates reconstruction considerations. No exactness is consciously pursued, but in contrast to reinterpretations,



(a) (b)

Figure 4. Paulinerkirche (a) and reinterpreted university church (b). Sources: (a) Wikimedia Commons (n.d.) and Wikimedia Commons (2012).

the appearance of originality is maintained. The situation is similar to the delayed reconstructive rebuilding of larger ensembles or entire streets. If a faithful reconstruction of an individual building is already rejected, the restoration of larger structural contexts raises additional critical questions in professional discourses around the projects. For reasons of practicability, it can often only be realized at great expense, for example, if public spaces and plot structure have been significantly altered in the first reconstruction phase due to changed use requirements and as a result of reallocation procedures. Only in selected individual cases does the opportunity for "urban repair" arise later on when larger post-war buildings are no longer considered suitable for refurbishment, or when a re-densification of less densely built-up structures from the post-war period is sought. Redefining the urban context, those projects are discussed controversially and with great attention. At times, architects seeking a contemporary reinterpretation and laypersons advocating reconstruction are at odds. For these contexts, the so-called *Leitbautenstrategie* (I will refer to it as "guiding buildings strategy" in the following) had emerged in Dresden after the 1970s, in which a few very distinctive or urbanistically striking individual buildings were to be reconstructed as faithfully as possible and were to determine the structure of the neighborhood (Marek, 2009). The remaining buildings were then integrated into the urban context in more or less contemporary architecture. In this way, a lack of detailed documentation of the less significant lost buildings could be dealt with, avoiding speculative reconstructions. In this context, it is controversial how many of the buildings in an ensemble should actually be faithfully restored. Lengthy public discussions and detailed planning procedures lead to a struggle among stakeholders to determine the appropriate number, and proponents of historicizing reconstructions use this to push through as many as possible.

7.1. Case Study 4: New Old Town Frankfurt/Main

Restaging has been implemented most spectacularly near Frauenkirche ruins at Neumarkt in Dresden, at the Old Market in Potsdam, and in the old town of Frankfurt/Main. There, the opportunity arose to restage an important part of the identity-forming old town to overcome low density and unattractiveness of post-war reconstruction. A guiding buildings strategy played a special role in the implementation, and the orientation to the historical city layout to be restored required a fundamental redefinition of the use and ownership structure in order to make the expenditures for the reconstructions feasible. In Frankfurt, the controversies of the German debate on reconstruction culminated as perhaps in no other case. The war-damaged old town was already the subject of intensive consideration for reconstruction in the early post-war period (Rose, 2016). In addition, a heterogeneous conglomerate of buildings in a wide variety of styles emerged, with residential rows and administrative buildings, a modernist Technical City Hall (Figure 5a), the Römerberg East Row with reconstructed half-timbered houses, and a new postmodern art hall. The need to renovate the Technical City Hall spurred the idea to demolish it and to rebuild the northern part

(a)

(b)

Figure 5. Technical City Hall (a) and part of the reconstructed old town (b). Sources: (a) König (2008) and Simsalabimbam (2018).

of the Old Town more densely in continuation of the Römerberg reconstruction. The winning design in the 2005 competition, unconvincing in terms of design and not respecting the original layout of the city, met with resistance from the urban community. The Old Town Friends association and parts of the city council then proposed a referendum. As a result, a wide range of planning considerations were put forward by professionals and the citizenry. In the disputes, the position of reconstructing outstanding historic individual buildings true to the original won great support, right up to the Mayor, while designs offered a wide range of styles for about 35 individual buildings to be reconstructed. In further planning workshops, the orientation to the historic city layout prevailed, and the reconstruction of four "lead buildings" was decided. By the end of the 2000s, their number gradually increased when private investors were willing to fund reconstruction. In 2010, the city passed a design statute and secured the reconstruction of eight buildings, and after several competitions for the individual sites, another seven reconstructions were awarded to private investors. The appearance of historic squares gained considerably in importance, and in retrospect, the idea of "guiding buildings" appears only as a temporary legitimation strategy to overcome opposition (Figure 5b). Although the result achieved in the late 2010s ultimately achieved broad approval, critics point to the considerable cost of the project and the exclusivity of the resulting residential buildings (Guratzsch, 2015; Hansen, 2008; Kurth, 2022; Oswalt, 2018).

8. Explaining the Origin and Success of Reconstructionist Initiatives

In the context of the wave of reconstruction that has been observed in Germany since 1990, positions that tend to contradict the architectural and monument preservation debate are being advocated in public discourse in many places. In this context, non-experts not infrequently advocate the restoration of lost buildings and, in particular, their historical appearance. This is rejected by preservationists as falsifying history, and architects also insist that design solutions should be developed on the basis of contemporary considerations rather than historical ones. Thus, the new wave of reconstruction in Germany sometime gives the impression that a retro trend driven by amateurs is undermining expert principles on a broad front. Such an assessment fails to recognize, though, how small the share of reconstructions is in German inner cities. These are limited to a few projects outstanding for the townscape. In view of the elaborate processes, some of which take decades, and the diversity of the results, the implementation of reconstructions is extremely demanding. Influential factors are discussed in the following.

The desire for reconstruction has a long history in experiences of loss, perceived painfully when reconstruction has significantly changed the historical identity of a city, even more so when key buildings were demolished after the war against local resistance (Altrock et al., 2010; Bertram & Fischer, 2014). In the initial reconstruction phase, reconstruction plans met limited resources and planning principles of car-oriented modernism. The fact that proponents of reconstruction can sometimes dominate the discourse and convince decision-makers in unfavorable environments despite the reconstruction-critical interpretation of the Venice Charter speaking against them can be explained to some extent by the multiple streams approach (Kingdon, 1984). Thus, there have been different visions for the recovery of historical sites over a long period of time, but it takes a window of opportunity for the idea advocated by proponents to take hold. Occasions such as the commercial, cultural, or technical questioning of buildings from the initial reconstruction phase trigger a perception of the problem in urban politics in the first place. In addition, conservative key figures sometimes act from the outside in favor of reconstruction, drawing on excellent networks. In view of the historical environment of identity-forming buildings, reconstructions do not promise easy economic profit. Nevertheless, the symbolic significance promises a strong image gain for philanthropists or private companies. In other cases, broadly based fundraising campaigns elaborately demonstrate the overriding importance of a building to city politicians over a longer period of time. In the case of large buildings such as castles, the success of such an approach depends on the development of a sensible functional concept. Here, political (parliament, public administration) or cultural (museum or similar) initiatives play an essential role, but are limited to a few outstanding buildings. A key to the occurrence of a delayed reconstruction project is thus the coincidence of a number of factors. It can be observed particularly if a certain occasion for "repairing" an area rebuilt in the first reconstruction wave, but strongly criticized towards the end of the 20th century, is met with local initiatives able to mobilize a public debate on the significance of a lost building even against a widespread "professional reconstruction taboo," thereby convincing skeptical politicians that it is worth the effort and that the expected costs can be borne thanks, for instance, to donations or endowments.

The diversity of the resulting forms of reconstruction reflects the local constellations of actors and the tension between the call for contemporaneity and the affiliation with local identity. Both a contemporary and harmonious expression of an old town is difficult to imagine for non-experts given their experience with modern architecture. In this dilemma, they refer to the "quality'' of reconstructions they can measure in terms of the degree of fidelity to the original. This makes reconstructions tempting but also improbable due to the high costs and the necessary documentation of the original state. It is striking that the political convictions of decision-makers are not fixed from the outset, but are shaped by the "framing" of discourse and the climate for a

decision; "undecided" debates can be strategically occupied. Proponents frame discourses in open proceedings and, under favorable circumstances, organize majorities all the way into politics. They benefit from the negative stigmatization of (modern) buildings of the first reconstruction phase and the perceived arbitrariness of ideas presented by architects, which do not constitute convincing "projects" for the reoccupation of historic spaces.

A closer look at the realized delayed reconstructions reveals that façade reconstructions dominate and reinterpretations are rare. The former prevail because faithful reconstructions entail a high level of effort in the revival of historic craft techniques, and new utilization concepts and technical regulations permit a close orientation to the original only to a certain extent. In contrast, reinterpretations are more often found in connection with the repair and addition of heavily destroyed buildings or ruins, where, in the spirit of the Venice Charter, newly added components are deliberately set off from the surviving building parts or ruins, representing the results of intense debates about an "appropriate'' design.

Façade reconstructions and restagings are realized by investors, philanthropists, or citizens' initiatives, sometimes used in a romanticizing, touristic manner, or to cultivate one's own "image," criticized as history-falsifying, *kitsch* in the experience society (Falser, 2008; Schulze, 1992; von Buttlar et al., 2010). This also includes attempts by conservative-minded sections of society to hark back to a supposedly heroic past and thus materially anchor a patriotic, idealized image of history, directed against the German tradition of critical *Vergangenheitsbewältigung* (coming to terms with the past) and meeting massive criticism (Oswalt, 2018).

9. Conclusions

The reconstruction wave makes national headlines and gives the impression of a revisionist-minded redefinition of urban policy. This is the case only to a limited extent—local "friends of the old town" have been acting for decades. The emergence of the reconstruction wave requires the coincidence of a wide variety of conditions. Causes can be found in alienation and the search for identification and home in a globalized society marked by uncertainties, a cultural devaluation of the products of modernity, but also the postmodern play with outdated forms, and a retro trend in the experience society. Where spatial concepts of late architectural-urban modernism are trusted only to a limited extent, a social group that argues outside the professional discourse gains in importance, and assumes the right to interfere. It can rely on the dissemination of images through local newspapers as well as initiatives through the Internet in the fight against expert solutions that are no longer recognized. The aim is usually to create an identity through important individual accents that have a plausible memory function. Whether these are historical "fakes" does not seem important at first. They promise a particular "fit" in historic city centers.

The path of outright reconstruction is sought by social group movements choosing key sites, feeling helpless against commercial architecture and contemporary architecture elsewhere. The high symbolic significance of reconstruction projects allows populists to propagate reconstructions for external presentation and tourist marketing. Important prerequisites for the success of social group alliances are rapid and semi-professional mobilization and self-presentation via the Internet and the acceptance by politicians. Funds from private companies, foundations, and donations can significantly influence them.

With a view to the upcoming deliberations on the reconstruction of cities that have only recently been destroyed, further conclusions can be drawn. First of all, the persistence of activists' fights even under adverse conditions, is remarkable, even when historic buildings have long been lost. Strikingly, belated reconstruction approaches criticized as distorting history are rare in cities whose first wave of reconstruction efforts after WWII sensitively referred to, and rather carefully modernized, the historic urban fabric. From this can be derived both an appeal to develop future reconstruction strategies of destroyed cities from the outset with sensitive inclusion of important structural-spatial identity bearers and in a broad dialogue with diverse social forces. However, it is also important to appreciate the architectural values of most diverse periods as legitimate parts of the complex history of our cities and not to lightly sacrifice them for an uncritical retro-style urban repair.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Intelligibility of Post-War Reconstruction in French Bombed Cities

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Abstract
In the aftermath of the WWII, many French cities faced a great need for reconstruction in response to the heavy destruction caused by the bombardments. Reconstruction plans were developed and implemented at relatively short notice in response to a critical and urgent situation. However, not all cities adopted the same approach: (a) some proposed and implemented a new layout; (b) others tried to recreate the old street layout but with some updates such as widening and alignment; and finally, (c) some have preferred to resort to more targeted interventions. The choice of approach was motivated by various factors associated with the level of destruction, the futuristic vision of the architect or urbanist in charge, or the historic value of the place destroyed. This article assesses the impact of these approaches on the urban tissue by measuring changes in the overall morphology and intelligibility of multiple city centres before and after the reconstruction based on their cadastral maps. Intelligibility is first measured as a configurational property of the street layout and then as a result of public participation in a navigation task using these maps and digital technology that records the speed of movement and trajectories. This allows a comparison between the original street layout and the new one, as well as across the different cities. Drawing on indicators of spatial cognition, this interdisciplinary research approach provides a means to measure and better understand the impact of the reconstruction on the intelligibility of urban environments.

Keywords
bombed cities; intelligibility; skeleton; spatial cognition

Issue
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1. Introduction

The destruction of cities due to conflicts and wars generates the question of how to rebuild them. Any reconstruction of an urban space must position itself in the face of its past, think about the history of the place that is no longer and how to respond to its destruction. Faced with destruction, several choices are possible: (a) to rebuild identically, (b) to preserve the ruins, (c) to restore the traditional character, or (d) to use this opportunity to innovate (Bullock & Verpoest, 2011). In France, in the wake of the WWII, the level of destruction resulting from the bombardments wiped out large parts of town centres—some were destroyed by up to 80%. Once the rubble was removed, this large-scale destruction produced vast areas of empty land where once had been dense urban fabric, contrasting with the remaining surroundings. These large voids within the urban fabric were seen at the time to present the perfect conditions for implementing Tabula Rasa planning, as advocated by some modernists. They presented opportunities to build a new future liberated from the constraints of the past. This view conflicted with the notion of continuity and identity found in the familiarity of the inhabitants with the structure of their streets. Part of the debate was focused on the importance given to the preservation and reinstatement of the character of the past city to ensure continuity for its inhabitants, and to which extent this opportunity could be used to implement the long-awaited upgrades of the urban fabric with a more airy, rational, and hygienic urbanism, already a primary concern of the first reconstruction. This dual concern

is reflected in a letter addressed to the architects of the reconstruction plan of Orléans by its mayor Pierre Chevallier on January 16, 1945:

> Modern installations should be built, some public buildings should be modernised; existing roads should be upgraded and ventilated and open spaces should be provided, etc.…At the same time, the historical character of the city, of which we are rightly proud, should be preserved. (Chevallier, 1945, para. 2–3)

Part of the character of a town is related to the way it is experienced and by where people tend to naturally congregate, which forms the identity core of a town. From an experiential perspective, an urban grid with its clear orthogonal structure engages its visitors very differently compared to the irregular streets of a medieval town. The former has a clarity built into its geometry that provides a Cartesian structure in which to navigate, while the latter, with its less predictable layout, is more conducive to exploratory behaviour or Flânerie (Sansot, 1973). The morphological character of the medieval or historical fabric which results from micro-adaptations over time (Noizet & Clémençon, 2020) cannot be easily replicated or emulated in a planned proposal due to their incremental nature. Although they can also evolve over time, the geometry of grid layouts can be more easily reproduced by comparison. As such, all destroyed cities are not equal in their reconstruction and their ability to be replicated to provide continuity. Preservation of character is partially embedded and expressed in the physical characteristics of the urban tissue that includes street, plot, and building patterns (Kropf, 1996). Changes in the relationships of these three elements impact the character of a city through the configurations of buildings on the urban blocks and the pattern of urban blocks that forms the street structure.

The relationship between the morphological and structural characteristics of cities and how they are experienced is embedded in what Lynch (1960) calls mental maps and their legibility. The legibility of complex urban environments is based on the identification of their different parts and the ability to structure them into a coherent pattern. The work of Hillier et al. (1987) goes further and proposes the notion of intelligibility mainly embedded in the structure of the street network and arising from their configuration. A street network is syntactically intelligible when it is possible to get a sense of the whole network based on local information (Hillier et al., 1987). Levels of syntactic intelligibility are measured by the relationship between local connectivity, how many spaces are directly available, and global integration—how each space is positioned concerning all the other spaces of the system. Syntactic intelligibility supports two types of navigation with different purposes: exploration and wayfinding (Peponis, 2016). Exploration is associated with the ability of the street network to offer opportunities without necessarily having a particular destination in mind, while wayfinding requires finding a route to reach a specific destination. Intelligible cities should be able to support both types.

The decision-making during the navigation process is associated with cognitive abilities linked to the formation of mental spatial representations and how they guide motor decisions. Cognitive mapping, a map-like mental representation of space (Tolman, 1948), is one of the processes used to store and interpret spatial information in the mind (Kitchin, 1994; O'Keefe & Nadel, 1978). Cognitive maps, by organising spatial information found in the environment, imply a hierarchy of spatial knowledge (Hirtle, 2003). This map-based strategy is associated with exploratory behaviour. The other type of cognitive strategy involved in the navigation process is the route-based strategy linked to motor function. It is linked to sequential information such as speed, direction, and turns and relates more to goal-oriented navigation and wayfinding (Lafon et al., 2009). It has been suggested that cognitive maps concur with the production of a cognitive "skeleton" formed by the major paths identified by an individual, which serves as a spatial reference to guide decisions (Kuipers et al., 2003). This skeleton includes the preferred routes that tend to correspond to the primary street network. The primary network, in turn, tends to include the most syntactically integrated streets (Peponis, 2016). The relationship between the exploration of city maps and motor skills has shown that different street configurations are associated with different decision times, with shorter time for street layouts that have longer and straighter streets (Christova et al., 2012; Sakellaridi et al., 2015), highlighting a lower degree of cognitive effort. Using a goal-oriented task and recording hand movement, previous research has shown that Haussmannian urban transformations have greatly increased the syntactic intelligibility of French towns by bringing more hierarchy in the historical fabric with the implementation of wider and straighter streets (Vialard, 2022). Furthermore, Yaski et al. (2011) found that grid-like layouts are more permeable and tend to be easier to cognitively navigate than more irregular patterns.

Building on this work and within the context of bombed cities, this research looks at the impact of design decisions on the syntactic intelligibility of the street structure and wayfinding. It asks to what extent the reconstruction plans changed how the city is experienced through the assessment of their intelligibility as a configurational property of the street layout, impacting the ease of their navigation. The comparison between pre- and post-WWII urban layouts shows the impact of the changes on the intelligibility of public space. The intelligibility of the urban form is assessed from two points of view: as defined by the geometrical properties presented by the reconstruction plans but also as a function of navigating map-like representations of urban environments. The first part highlights the role of maps and plans

in shaping the reconstruction of the bombed cities as a key tool to rethink cities for the architects and state officials. It discusses the different approaches taken and how the pre-WWII original layouts influenced the proposed new layouts. The methodology section presents the setting of the experiment and the different measures associated with the morphological properties of the maps and the cognitive and motor functions of the participants when tracing routes on these maps. To reflect the two types of measures, the results section is organised in two parts looking first at the morphological changes of the public space of the maps and their impact on configurational intelligibility, and second, at the routes selected by the participants with their associated motor and cognitive metrics and their impact on the skeleton of the urban structures. Finally, the skeletons of primary drawn routes are compared between the pre- and post-war maps to identify the continuities and changes in their structure.

2. Context

2.1. Map, A Tool for Change

In 19th-century France, maps became a means for the state to control and shape public space, as well as for planning changes. The systematic survey of France to produce the Napoleonic cadastre, started in 1806, consolidated the importance of plot boundaries and solidified its distinction from public space. In the same year, the required production of alignment plans for cities above 2,000 inhabitants aimed at bringing some rationalisation to the public space by identifying possible street alignments, and widening, the creation of new streets, and squares. Building on these precedents, the use of plans in the two World Wars became a complementary tool to laws and policies that tended to be directed to the individual and helped to shift the approach to a more global vision. This shift from an individual to a collective approach is what distinguishes the two periods of reconstruction. While both post-war periods are accompanied by a set of laws that recommends establishing reconstruction plans, they have had very different impacts. The destruction at the end of WWI was for the most part in the countryside. Fewer cities were destroyed and to a lesser extent than after WWII. On March 14, 1919, Cornudet's law established the Development, Embellishment and Extension Plan (PAEE—Plan d'Aménagement, d'Embellissement et d'Extension) first aimed at cities with more than 10,000 inhabitants destroyed during the war. They intended to adapt these cities to the industrial era by improving aesthetics, hygiene, and circulation (Renaud, 2016). However, they had a limited impact with only 10% implemented by the start of WWII. One of the reasons was the lack of connection with the law of April 17, 1919, establishing the grounds for war compensation which was paid to individuals without any constraints on how to use the money (Voldman, 2011), making a collective vision difficult.

For WWII, the reconstruction process started before the end of the war, during the Vichy government, with the creation in November 1944 of the Ministry of Reconstruction and Urbanism (MRU) by Raoul Dautry (Voldman, 1989). This was followed by the establishment of Development and Reconstruction Plans (PAR—Plan d'Aménagement et de Reconstruction) by the Ordinance of April 21, 1945, which required the approval of the newly created MRU. The compensation law of October 28, 1946, was more tuned towards the public interest rather than individuals (Vayssière, 2009). Owners were required to join a state-managed or independent reconstruction association or cooperative to benefit from the compensation (Clout, 1999). This was a more state-driven and collective approach, which brought the possibility to think more holistically. One of the main tools was land or plot consolidation (*remembrement urbain*). Land consolidation helped in reducing the number of plots and allowed for the creation of larger plots and consequently larger building footprints (Chabrol, 2010; Clout, 1999). With their medieval fabric, both Amiens and Caen saw their number of plots divided by three. The process of land consolidation involved a zone whose perimeter included both the space of the street and the individual plots. The amalgamation into a single space erased boundaries allowing for easier changes in the perimeters of urban blocks and the definition of new street configurations (Chabrol, 2010). It meant that more space, therefore, could be allocated to public space. This increase facilitated the widening and alignment started in the past century and the creation of public squares and new streets. In exchange for their lost individual property, owners were offered a co-ownership share of a larger building or a spatial transfer of the cadastral base. The decisions were made during meetings of the reconstruction associations. The presence of the architects of the reconstruction plan (Table 1) played an essential role in these negotiations and the application of their plan (George, 1960).

The reconstruction plans for the future street layout tended to show the outline of urban blocks (*plan masse*). There were no directives or specifications for what should be included in such a plan. Some showed the new street layout with the boundaries of the urban blocks, some the building footprints, and other, more abstract, zones. Their scale ranged from 1–500 to 1–50,000 but the high-level plans at 1–2,000 and 1–5,000 were mostly used (Table 1). Although these plans were only two-dimensional representations of space, they were essential in the discussion between the different stakeholders (MRU, inhabitants, council and architects) to communicate the broader vision for the city. This justifies to some extent the use of figure-ground plans to understand the impact of change, as they play an important role in driving changes and in shaping public space.

Table 1. Dates and authors for the PAEE, the PAR, and the scale of the plans.

Cities	Type	PAEE *	Architect	PAR	Architect/Urbanist	Scale 1 **
Amiens	Historical	1919	Duthoit	1942	Dufau	2,000; 5,000
Caen	Historical	1938	Danger	1947	Brillaud de Laujardière	2,000; 10,000
Dunkirk	Historical/17thC	1911	Agache	1949	Leveau & Niermans	2,000
Le Havre	16thC/18–19thC	*1786*	Lamandé	1945	Perret	2,000; 50,000
Lisieux	Historical	*1898*	Bailleul	1946	Camelot	5,000
Lorient	18thC	1929	Parenty	1943	Danger & Toury	2,000
Orléans	Historical/18–19thC	*1751*	Hupeau	1945	Royer & Abraham	500; 2,000; 10,000
St-Nazaire	19thC	*1858*	Leferme	1947	Le Maresquier & Guillou	5,000
Tours	Historical	1933	Agache & Saunier	1946	Lefèvre & Patout	5,000

Notes: * and other significant plans in the absence of PAEE, in italics; ** as listed in the repertory of the national archives by the Direction de l'aménagement foncier et de l'urbanisme (1990).

2.2. Bombed Cities: Before and After

Bombed cities have in common the disappearance of their urban fabric, however, the size of the area affected by the destruction and their past urbanism play an important role in the mode of rebuilding undertaken. The nine cities selected represent different types of urban forms and are located in the northern and western regions of France, which were the most affected. They range from historic towns with a predominant medieval fabric (Lisieux, Amiens, and Caen), to established cities restructured around new major axes (*percées*) implemented during the 18th century (Orléans and Tours), or by a new grid extension in the 17th century (Dunkirk), to relatively new ports that emerged during the 18th and 19th century (Lorient) following a grid plan (Saint-Nazaire and Le Havre). The overlay of pre- and post-war block boundaries in Figure 1 illustrates the different levels of destruction for each city and the subsequent modifications: where street boundaries were aligned or widened, where new streets and squares were created, and where block consolidation or subdivision occurred. Figure 1 also helps visualise any orientation changes.

The reconstruction plans shared a common aim which was to update the cities to higher hygienic standards. In the historical towns, the new plans proposed a more open city centre and wider circulation axes with a rationalisation of spatial structure. This was achieved by the introduction of a new major axis (Caen and Amiens) or public square (Orléans and Tours), alignment and widening of existing major axes (Orléans, Tours, Dunkirk, Amiens, Caen, and Lisieux). The historical cities tended to have vernacular fabric made of a very dense system of small plots which were systematically re-modelled by the post-war proposals. In Caen, the street grid was realigned to connect more directly with the docks, wide streets were created in both directions, and elongated east-west blocks were subdivided to create more accessibility north-south (Clout, 1999). It is important to note that Orléans and Tours were only partially destroyed and are examples of targeted and contained intervention. In more recent cities planned on grids, the aims are similar, the widening of streets is also systematically applied but the tendency is towards the aggregation of blocks. In Lorient and Saint-Nazaire, the centre was moved away from the docks (Dieudonné, 2001). In Lorient, based on the PAEE, the radial plan was adjusted to become more rectilinear, preserving the main central square. The adjustment of the grid in Saint-Nazaire was made through the consolidation of urban blocks into larger ones (Sicard, 1994) while the main orientation was preserved. Le Havre also consolidated its smaller blocks into larger ones but the previous colliding grids—inherited from successive extensions—were consolidated into a single grid with wide streets and larger blocks. One historical street was preserved due to pressure from the inhabitants (Jacono & Arnould, 2000).

3. Methodology

The methodology for testing degrees of syntactic intelligibility is centred on the properties of maps as they relate to the plans used by the architects and urbanists of the reconstruction to convey the new street layout. The proposed method combines the configurational properties of maps and some of the motor functions associated with map navigation to assess the impact of post-war reconstruction in bombed cities. A wayfinding task is implemented that links the role of maps with the experience related to their navigation. It makes it possible to link the measures associated with the geometric properties of maps to the metrics associated with the cognitive and motor efforts of the participants when selecting and drawing a path between two locations.

3.1. Setup

Twenty participants were asked to draw what they perceived to be the shortest path between two pairs of diametrically opposed points on a circular map. Asking

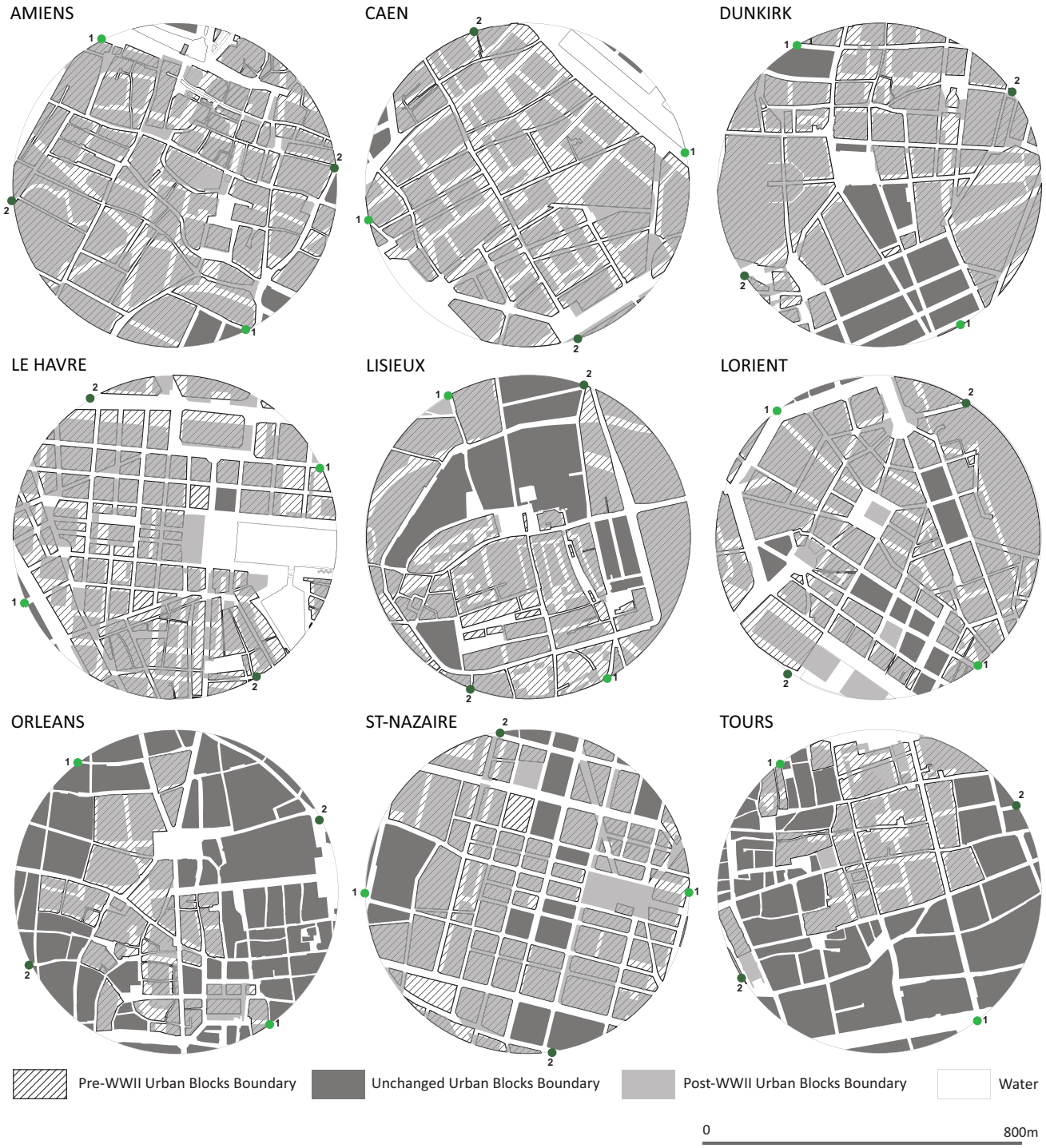

Figure 1. Maps showing the urban blocks boundaries of the nine cities highlighting urban blocks only present in the pre-WWII (hatch) layout, the unchanged blocks (dark grey), and the new urban blocks (light grey).

about the shortest path entails a goal-oriented task which may differ from an exploratory attitude—it suggests efficiency. For each of the nine cities, the circular map covered most of the urban zone destroyed by the bombs within a quarter-mile radius, which is roughly equivalent to a five-minute walk. The base maps used the current cadastral maps, which were then updated manually using the reconstruction plans to reflect the situation pre-WWII. The navigation task used two map representations: a city block map (Figure 2a) and a building footprint map (Figure 2b). The first one focuses on the public space as the space that is not contained within plots and therefore uses a figure-ground representation differentiating the urban blocks from the public space. The notion of public space in this case encompasses everything that is not contained within plot boundaries, which includes for example the space of the street. Block maps were used to compare pre-WWII and post-WWII street layouts.

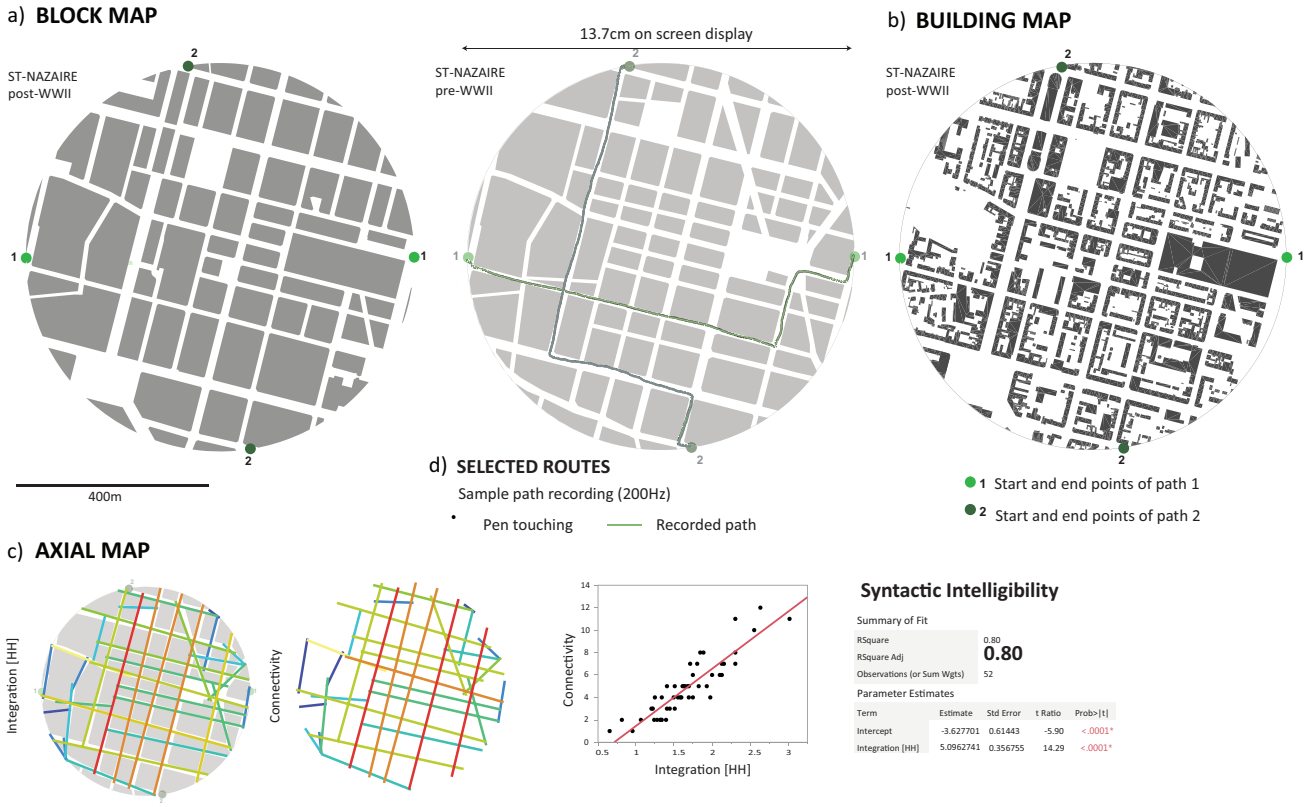

Figure 2. Different types of maps—Block map a) and Building map b)—were used for the cognitive task, and for measuring some of the configurational properties—Axial map c)—such as syntactic intelligibility, and an example of two recorded paths d).

Another set of maps showing the footprints of buildings rather than blocks was used to assess the impact of building configuration on the legibility of the open space in post-WWII layouts. Overall, each participant was asked to draw a total of 54 routes: two routes for 27 maps representing nine cities before and after.

The routes are recorded using a digital tablet and the NeuroMotor pen, a biomedical device used primarily to detect tremor patterns while performing graphical tasks (Tolonen et al., 2015). The NeuroMotor system measures fine motor skills, capturing minute changes in motions through the recording of x-y positions of the pen at a sampling rate of 200Hz.

3.2. Data

The intelligibility of the urban fabric is measured as the configurational properties of the urban form and participates to some extent in the constitution of the cognitive map. Intelligibility is also assessed through the choice of routes and their characteristics, which are more related to motor function, measured by the speed of tracing. The set of data reflects this dual approach by providing measures linked to the urban form and street configuration represented in the map, and measures linked to the choice of routes by the participants.

3.2.1. Morphological Measures: Map Properties

From the figure-ground maps, some morphological features are extracted such as the number of blocks as a measure of density, their area and perimeter. The perimeter of the urban blocks gives an overview of the amount of frontage available. The percentage of public space in the block map is based on the area not included within the plot boundaries, while in the building map, it is based on all the space that is accessible between building footprints regardless of plot boundaries.

Syntactic intelligibility is a topological property of the street configuration measured through axial representation (Hillier et al., 1987). An axial map translates the open spaces of figure-ground maps into a series of axial lines representing all convex spaces and can be likened to lines of sight (Bafna, 2003). It implies that the spaces traversed by the axial line are visually connected. Long axial lines, therefore, tend to represent wider or longer straight streets, which are often more recognisable as they tend to structure the street network (Peponis, 2016). In turn, axial maps are converted into graphs, where each node of the graph represents an axial line. Two values are computed for each axial line: integration, how far that line is from all the other lines of the system; and connectivity, how many other lines are directly connected to it. These are computed using the specialised software Depthmap

(Turner, 2001). Axial intelligibility represents the relationship between the local connectivity of a line and its global integration (Figure 2c). A strong correlation between the two properties suggests that it is easier to infer the position of a space globally based on its local connections (Peponis, 2016). Cities with a high degree of correlation between the two measures are found to be cognitively easier to understand and, therefore, easier to navigate.

3.2.2. Cognitive and Motor Metrics: Route Properties

The navigation is recorded through a series of drawn routes which provide information regarding the ability of participants to process spatial information. Completion time in graphical tasks is a traditional measure of cognitive and motor function—it encompasses the time taken by a participant to solve a task. In this instance, it entails finding the shortest route between two given points on a map. Velocity, or speed of tracing, considers completion time concerning distance and also reflects the cognitive and motor skills of participants in terms of making sense of and drawing on figure-ground maps of unfamiliar cities.

The overlapping of drawn routes from all the participants on each map is used to show the emergence of a skeleton made of the primary choice of routes. The degree of overlaps reveals the presence, or absence, of a core structure that can be made of the main axis and centrality. If the same routes are selected by the participants, the presence of a clear skeleton will suggest a street layout with an established core structure. If routes are multiple, it will suggest a layout with a less defined central core that may, however, offer alternative routes. The changes in the skeleton between the two periods provide information on how the reconstruction has preserved, or not, the continuity of the urban form by conserving a similar structure, changing it, clarifying it, or weakening it.

4. Results

4.1. Properties of Maps

4.1.1. Morphologic Change

One of the main morphological changes taking place in post-war layouts is the increase in the surface area of towns given over to public space (Figure 3a) which confirms the systematic use of land consolidation to liberate public space. While on average, before the war, public space represented a little more than a quarter of the total area (27.5%), it amounts to just over a third today (34.6%). The increase in public space is not necessarily due solely to an increase in the length of streets. The overall linear frontage remains relatively unchanged, even slightly reduced (Figure 3b). Rather, it is through the systematic widening of streets and the creation of large public squares to accommodate a more generous and therefore more hygienic public space already promoted in the PAEE extension plans.

4.1.2. Syntactic Intelligibility of Street Configurations

The surface given to public space transforms the syntactic intelligibility of their layout. Based on its configuration, each layout has been assigned an intelligibility value that represents the strength of the relationship between the local connections of a street with its surrounding, and

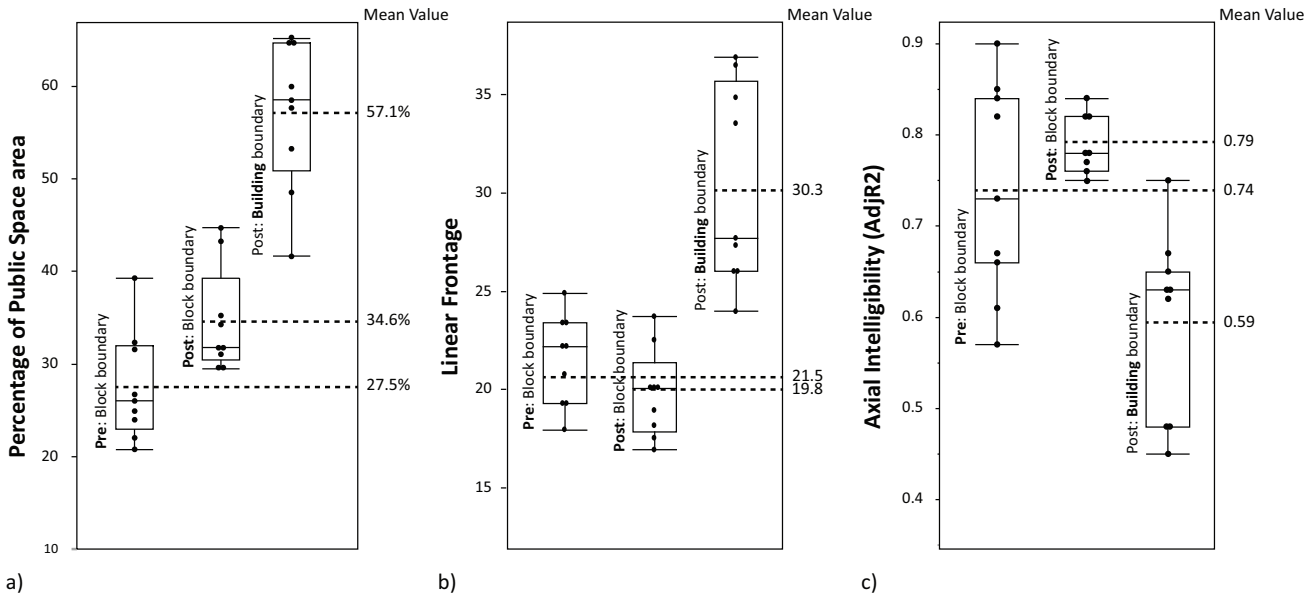

Figure 3. Graphs show the distribution of mean values of each town in the three different maps (pre-war and post-war urban block layouts and post-war building layout) for the percentage of public space a), street linear frontage b), and axial intelligibility c).

how that street is centrally located and globally accessible from all the other spaces. Layouts with high syntactic intelligibility values tend to be layouts that support more efficient navigation (Barton et al., 2014). They are usually supported by the presence of long straight streets that provide continuity. Based on these values, pre-war layouts can be categorised into three types: the highly intelligible grids (Saint-Nazaire: 0.9, Le Havre: 0.85, and Lorient: 0.84), cities that went through 19th-century transformation (Dunkirk: 0.82, Lisieux: 0.71, Tours: 0.67, and Orléans: 0.66) and layouts which retain some of their medieval fabric with the lowest syntactic intelligibility (Caen: 0.61 and Amiens: 0.57). This seems to confirm the role played by long and straight streets present in the grid-like layout and less in the medieval fabric.

Pre-war layouts represent a wide range of levels of intelligibility (0.57–0.9). It suggests that, before the reconstruction, cities carried different characters and would offer different experiences based on the variation in their street structures, potentially allowing efficient or looser navigation. The reconstruction plans seem to homogenise the layouts with values comprised within a much smaller range but higher overall (0.75–0.84; Figure 3c). When comparing the pre- and post-war intelligibility values for each city, the layouts with the highest intelligibility values tend to lose intelligibility while the opposite happens for layouts with previously lower intelligibility. Saint-Nazaire has a layout that loses the most intelligibility but remains still high (0.76). In this case, a grid layout is replaced by another grid layout, accompanied by a change of scale in the street width or block size. Amiens (0.75) and Caen (0.84) are the two layouts that gain the most in terms of intelligibility due to the complete re-modelling of their medieval fabric into a rational layout. Overall, the impact of the reconstruction brings more intelligibility to the street structure and seems to be more beneficial to the updating of historical fabric towards a more efficient structure. The question then is to what extent the character of these medieval towns is preserved and whether the new layout provides any continuity for its inhabitants. Looking at the intelligibility values of the building maps, this homogenisation effect is counterbalanced by the choice of building configurations, which reduces the intelligibility of the layouts overall but re-introduces stronger variations in values, possibly indicating different characters for the cities.

The relationship between the increased amount of space given to the public space and the overall increase of intelligibility values in post-war layouts is confirmed by the statistical correlation between the two sets of values (Figure 4a). In block maps, the relationship shows that as more public space is provided, the intelligibility of a place is increased (AdjR^2 = 0.34, n = 18, 0.0066). In building maps (Figure 4b), the intelligibility values decrease as the space is more fragmented by a higher number of aggregated building footprints (AdjR^2 = 0.38, n = 9, 0.0448). From an urban design perspective, the intelligibility of a street layout can be impacted by the type of building configurations within urban blocks. Orléans and Lisieux are both cities that have implemented very different building configurations: one remains quite historical and opted for a more traditional building configuration, while Lisieux opted for more freestanding building patterns. As a result, the intelligibility of the building map in Lisieux drops drastically compared to the block map but only lower slightly in Orléans.

4.2. Routes

4.2.1. Intelligibility and Ease of Navigation

The following set of results concerns the intelligibility characterised by the configurational properties of the map and how they impact the speed of tracing and the

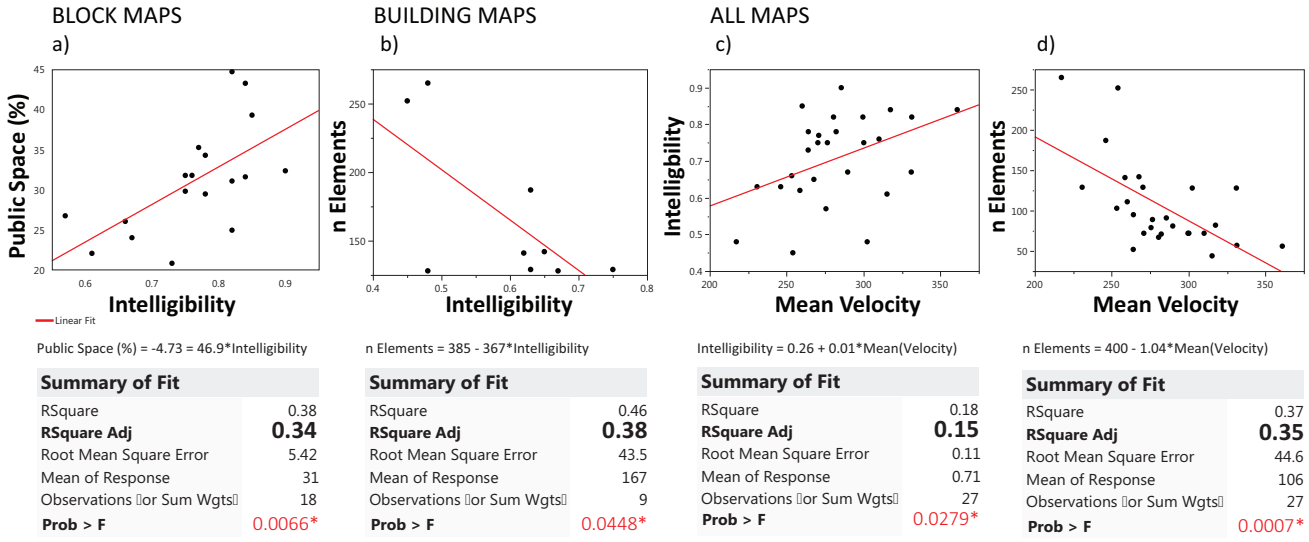

Figure 4. Linear regression between intelligibility, percentage of public space, number of elements (blocks and buildings), and mean velocity for different sets of maps.

ease to navigate them. A low but statistically significant link exists between the level of intelligibility of the urban form and the speed of tracing ($AdjR^2$ = 0.15, n = 27, 0.0279; Figure 4c). It indicates that the more intelligible the layout, the easier is it to find a route and complete it. That relationship exists to a lesser extent than previously found in historical French towns (Vialard, 2022), which is explained by the greater variety of street layouts included in this study, particularly the grid-like plans. Navigation speed is also highly correlated to the number of elements present in the maps ($AdjR^2$ = 0.35, n = 27, 0.0007; Figure 4d). The elements are either the urban blocks or the aggregated building footprints depending on the types of maps. Finer-grain urban fabrics do not necessarily impact the level of intelligibility (no significant association) but slow down the process of navigating their layout. As mentioned previously, the level of fragmentation of building configurations—increased for example by the use of open block configurations—impacts intelligibility. More fragmentation lowers intelligibility and slows down the speed of navigation.

4.2.2. "Cognitive" Structures: Skeletons

As participants select similar or different routes, the preferred routes form a skeleton of pre- and post-war block map navigation (Figure 5). First, the level of definition of these skeletons provides information on the structure of towns. It indicates whether layouts are leading to consolidate routes—similar behaviour from all participants—or offering multiple routes—absent of clear choice. Second, the skeletons depending on their alignment or misalignment with existing and new central squares and main streets clarify the importance of their presence from a cognitive and motor perspective. The superposition of the two skeletons, pre- and post-war, highlights the continuity of the urban form or the changes that occurred in the way space is navigated. Continuity and rupture can be seen in terms of full, partial, or absence of retention of the shape of the skeleton. It can then be compared and related to changes in cognitive and motor functions as measured by the gain or loss of intelligibility and speed of navigation.

Comparing the velocity in the pre-war and post-war block maps, the latter is overall easier to navigate with an average increase of velocity by 7%. Loss of velocity is generally observed when the new layout provides a finer-grain fabric than previously. The subdivision of large blocks to produce a finer grain fabric increases its permeability and therefore offers more choices, which slows down the decision-making process, which translates into slower navigation. In Lorient, this translates into the loss of a clear skeleton in the new layout, while Tours preserves most of its primary structure. Conversely, this multiplication of routes can enrich navigation by creating more opportunities.

Continuity or rupture can be seen in the preservation of the main routes and public squares. They are central elements that can challenge or reinforce the sense of continuity or rupture with the past form. They are often part of the most integrated core structure, strengthening their role as the active centre. This can be challenged by the creation of a new thoroughfare (Amiens) or the doubling of an existing one (Caen and Orléans) that can lessen the role of the historical main street by making it less cognitively present. Similarly, the creation of a new square (Orléans, Amiens, Lisieux, and Caen) can shift the centrality of the layout or lessen its presence, creating a rupture with the past. In one instance (Tours), the new square is placed on a nested grid rather than in alignment with major streets, which lessens its presence and fails to bring some centrality to the layout.

Table 2 summarises the changes that occur between the pre- and post-war skeletons to assess the level of continuity or rupture, highlighting the new, retention, or loss of centrality and main axis. Continuity, the resilience of the pre-war skeleton, is achieved in three cities. Tours was only partially destroyed and retains most of its skeleton. Dunkirk and Le Havre, despite their high level of destruction, retain both their centrality and skeleton with a slight alteration of the main routes. Dunkirk has a more consolidated skeleton. On the opposite spectrum, Lorient and Amiens are both cities that show the biggest changes of their past structure. In Amiens, both centrality and the main street are changed and moved towards the south. In Lorient, while the centrality remains, the change in the orientation of the grid multiplies the routes and weakens the new skeleton.

5. Conclusions

In a study of the reconstruction of Caen written in 1960, the author ponders on the uncertainty that remains on how the new street layout will function and potentially modify the character of the city and its uses: "The reconstruction is not complete yet….We don't know yet which will be the most important commercial axis and the crystallization points of urban life" (Bruté de Rémur, 1960, p. 160). This highlights the challenges associated with the scale of changes and their implications, and how these new layouts will function. The main question was whether the reconstruction plans preserved continuity or created a rupture with the lost urban form and structure. This question has been approached from a planning, morphological, and cognitive perspective to understand how the post-war reconstruction impacted the character of the pre-war cities.

From the planning perspective, two related aspects played an essential role in shaping post-war cities. The role during the reconstruction period of associations of war victims, architects, and their teams on the one hand, and reconstruction plans and land consolidation on the other cannot be understated. The use of plans for implementing changes alongside legislation has allowed the actors of the reconstruction to think more holistically and implement a collective vision. This approach

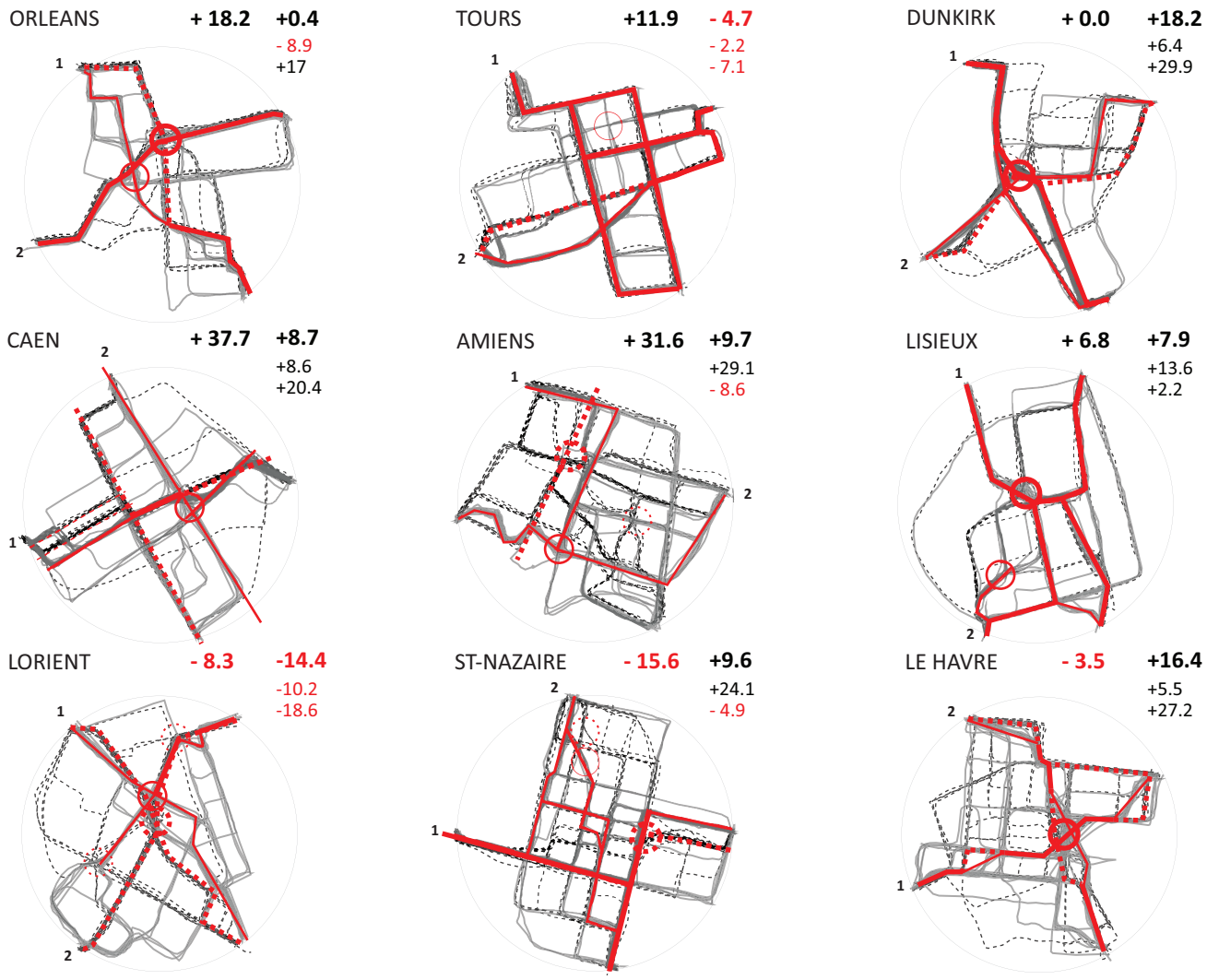

Figure 5. All selected routes per city and map type: Mean velocity values and the percentage of increase of mean velocity values between the pre-war and post-war maps. The skeleton formed by the most navigated routes is highlighted in red.

Table 2. Skeleton classified in terms of continuity or rupture, and in terms of retention or loss of centrality and main axis.

	Continuity			Centrality			Main Axis		
Cities	Strong	Partial	Little	New	Retained	Lost	New	Retained	Lost
Amiens			x	x		x	x		x
Caen		x		x			x		x
Dunkirk	x				x		x	x	
Le Havre	x				x			x	
Lisieux		x		x	x			x	
Lorient		x	x		x		x		x
Orléans		x		x	x		x	x	x
St-Nazaire		x				x		x	
Tours	x						x	x	

has produced overall more intelligible street layouts to varying degrees, however, depending on the type of urban form. What was the aspiration that could not be fully achieved in the first reconstruction is finally implemented during the second reconstruction. While the PAEE were not necessarily implemented, it served as a basis for the more systematic implementation of the PAR which was more strongly supported, with better supervision from the state and their architects.

The creation of cooperatives and associations and land consolidation have been the key to this collective approach. Land consolidation by erasing individual ownerships embedded in the boundaries of plots and by consolidating them into a single space made it possible to fully rethink these boundaries and gave more flexibility to the architect. Full or partial re-orientation is made possible as well as consolidation or fragmentation of blocks. The creation of new streets, the alignment and widening of existing ones, and the creation of new squares are more easily achievable. They can be thought of holistically and carried out in a compressed time frame. Through the associations, the inhabitants have also sometimes been able to push back and fight to preserve a certain continuity by preserving a main street or by minimising the extent of land consolidation.

From a morphological and configurational perspective, the main changes in the layout from pre- to post-war plans are a general increase of open space and syntactic intelligibility. A statistical relationship exists between the two that shows that the proportion of space in these cities is associated with a certain level of intelligibility: The more space is dedicated to the public, the higher the intelligibility. By unpacking where the increase of intelligibility occurs, it has been shown that the organic fabrics were the ones that had the largest increase. The introduction of new long and straight streets, already present in the grid-like layouts, creates clear thoroughfares and long vistas, making the layout cognitively more intelligible and facilitating navigation.

These new vistas result either from the alignment and widening of a series of existing streets or the creation of a new connection. While they syntactically increase intelligibility and facilitate navigation, they have a very different impact on the sense of continuity. In the first instance, widening and alignment reinforce and consolidate the presence of formerly familiar streets, while the creation of new connections has sometimes shifted the centrality of a layout and created a disconnect from the past. Although different strategies are chosen and applied, overall, the tendency has been towards the homogenisation of city fabrics. More diversity of urban forms existed in pre-war layouts. Regardless of the amount of destruction, either partial or complete, the new layout of historical towns has brought more Cartesian order, as shown by the reduced gaps between the values of syntactic intelligibility. If the rationalisation process that occurred during the reconstruction had a greater impact on the historical fabrics and brought more efficiency to their circulation, it is important to question the potential loss of character of a city carried by its irregular streets.

The reaction to this new Cartesian order and the loss of organicity in cities need to be acknowledged and discussed, however briefly. A parallel and comparison can be drawn with the transformations of French towns in the 19th century, exemplified in the work of Haussmann in Paris, driven by similar hygienic concerns. They transformed the landscape by introducing wide and long streets imposed on an organic existing fabric that changed the structure of towns and their character. While some, like Giedion (1967), have admired the efficiency of Haussmann's cuts through the urban fabric, others, like Benjamin, have deplored the disappearance of the character of "picturesque" and "old Paris" documented by the photographs of Atget (ca. 1900–1910) and the loss of identity linked to the introduction of new rational boulevards and avenues:

> The quartiers of Paris in this way lose their distinctive physiognomy….Meanwhile, he [Haussmann] estranges the Parisians from their city. They no longer feel at home there, and start to become conscious of the inhumane character of the metropolis. (Benjamin & Tiedemann, 1999, p. 12)

The experience of the city promoted by Benjamin is that of the flâneur and the labyrinth, which contrasts with the public space offered by the efficient boulevards. Following Benjamin's footsteps, the situationists reacted to the rational order of the cities of the reconstruction and criticised these new "sterile" cities. They criticised the loss of playfulness that can be associated with the pleasure of getting lost in the city and proposed the *dérive* as a means of re-introducing meaning into this rational urban environment. The emphasis of the reconstruction plan has been indeed on facilitating wayfinding to the detriment of exploration. However, the presence of multiple routes in some layouts could be an indication of possible *dérive* and it would be beneficial to study them further. Some of the answers could be found in approaching the city as supporting both wayfinding and exploration.

Finally, some limitations exist, mainly linked to the use of two-dimensional abstract maps which cannot recreate the actual experience of navigating these environments and all the elements that contribute to the character of a city, such as landmarks and land use, which can influence the choice of one route over another. It is acknowledged that tracing a route on a map is not equivalent to walking the streets of a city. Furthermore, the cropping of the area on the maps might not necessarily represent the true structure of the city centre, and the locations of destination points bring biased choices for some routes. However, while limited in the amount of urban space analysed and its two-dimensionality, this research can provide some insights into the geometry of

the street layout, which is often how new developments are designed, through the means of plans. It offers potentially new ways to bring together the design decisions as represented in maps and their potential impact on how the city is structurally experienced. It can help to clarify the intelligibility of an urban environment by linking the configurational properties of maps and the cognitive skeleton of the routes.

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Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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About the Author

Alice Vialard is a senior lecturer in urban design at the School of Architecture, Design and Planning at The University of Sydney. Her research sits at the intersection of the fields of space syntax, urban morphology, and spatial cognition. One of her concerns has been the cognitive mechanisms that underlie the process of exploration and decision-making when navigating urban environments, mostly in two-dimensional representations.

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Article

A Spatio-Temporal Analysis of the Urban Fabric of Nuremberg From the 1940s Onwards Using Historical Maps

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Abstract
As one of the most heavily bomb-damaged cities in Germany, with around 90% of its historic city centre destroyed, Nuremberg (*Nürnberg*) provides an excellent example to investigate the urban transformation of a post-war city. In this article, we bring together heterogeneous and under-researched data sets and archival material from the post-war period and convert urban features depicted in historic maps and scanned documents into digital geospatial data that is analyzed with a geographical information system. We combine morphological variables of townscape analysis to present three different transformations over time. First, using a damage map of Nuremberg from the Second World War, we examine the varying extent of bomb damage across the city at the detailed district level. Secondly, we focus on land-use units, comparing the pre-war spatial land-use distribution from 1940 with historical maps of land use/cover from 1956 and more recent land uses in 1969. Finally, using selected characteristics of urban form, we categorize pre-war and present-day urban block typologies to examine urban morphological change. In doing so, we contribute methodologically and substantively towards a new framework for the analysis of post-war cities. We demonstrate how geographical information systems can be utilized for historical research and the study of change in urban environments, presenting a map-based interpretation of the planning strategies to have guided post-war urban development in Nuremberg. Providing an alternative appraisal of post-war city transformation, our diachronic research offers insight into Nuremberg's under-researched past, which is also of interest to planners and policymakers seeking to improve future cities.

Keywords
city transformation; damage maps; geographical information science; post-war planning; urban morphology

Issue
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1. Introduction

Cities are in a constant state of flux and the different epochs in which they have grown have always left their mark. Territorial expansions, as well as internal change, have shaped their evolution and continuity. Some of the most significant and rapid urban changes in the last century have been caused, or at least accelerated, by the destruction of war. At the time of writing, the Russian invasion of Ukraine has brought war to Europe again, destroying homes, shopping centres, hospitals, and other urban infrastructure. The World Bank, the Ukrainian government, and European Commission estimate a cost of nearly $540 billion to rebuild the country (Letzing, 2023). Against this backdrop, it has become increasingly important to study post-war transformation and reflect on the post-war planning strategies of bombed cities. While war destruction, post-war city

planning, and reconstruction across Europe have been studied extensively in the past (Diefendorf, 1993; Durth & Gutschow, 1993; Hohn, 1991; Pendlebury et al., 2015), surprisingly few studies have quantitatively explored how bomb destruction affected the long-term physical and social development of cities. Archival research can uncover post-war maps/plans and documented planning intentions, but studies measuring in what way these transformed the city have rarely been conducted. This article contributes to this research gap by employing geographical data science methods to explore how the Second World War bombing of Nuremberg transformed the city's physical fabric. In doing so, we provide a map-based interpretation of the planning strategies to have guided city reconstruction by addressing the following research question: To what extent has the level of destruction caused by the Second World War bombing influenced the land-use mix (LUM) and urban morphology of Nuremberg over time? The research is set within the context of post-war planning strategies, which have influenced the redevelopment of bomb-damaged cities, and it is underpinned by research and methodological developments in the field of urban morphology.

2. Background and Study Area

2.1. Diachronic Morphological Studies

In the late 19th century, a particular logic or urban planning strategy was already dictating the organization of the urban fabric in some places (Howard, 1898), and planning strategies continued to shape urban change during the interwar and post-war years (Pendlebury et al., 2015). To help us to better understand the physical transformation of cities, diachronic morphological studies are useful (Levy, 1999). We draw particularly on ideas developed originally by Conzen (1960), who set out a form of townscape analysis which included a combination of the town plan, the pattern of building forms, and land use. The town plan comprises three plan elements: the arrangement of the street system, plots and their aggregation in street blocks, and building block plans. Understanding the spatial patterns and relationships between these elements enables the identification of morphological regions which share unifying characteristics (Conzen, 1960). Many studies have utilised this approach, classifying plot typologies, streets, constructed spaces, or open spaces, urban spaces and squares (Levy, 1999). They tend to focus on either (a) the "constants" in the urban environment ("historically persistent elements") or (b) the relationship between these elements over time (Levy, 1999, p. 81). They help to reveal more about a city's past and explain development interventions over time. Moreover, an understanding of morphological evolution can answer questions about the physical integration of new developments into the existing urban environment, as well as assisting the historical conservation of cities and guiding their future development.

Several studies have applied quantitative techniques to the analysis of townscape and urban environments (Fleischmann et al., 2022; Mohamed et al., 2022; Venerandi et al., 2018). These articles present different ways to classify, measure, and combine metrics of urban form, with a view to modelling complex relationships or using the results as a diagnostic tool to identify areas of the city in need of enhancement. Few studies, however, explicitly explore post-war transformation through the lens of morphological change, with the exception of Hanson (2000). Using space syntax, Hanson summarizes the characteristics of post-war urban transformation in London. She recognizes a shift from a flexible, density-maximising, continuous street space with an outward-facing morphology, to more inflexible, density-minimizing development forms, characterized by fragmented, bounded estate space, with an inward-facing morphology (Hanson, 2000). This observation reflects the findings of Levy (1999, p. 81) that over time "cities that were dense, compact and continuous" became "diffuse, loose and discontinuous." Hanson describes what she terms the "modernist urban genotype," which she observed in the post-war period (Hanson, 2000, p. 112). She finds that the early and immediate post-war estates which belong to this genotype tend to be resistant to change, often repetitive, and "reduce physical contact among close neighbours" (Hanson, 2000, p. 113), thus making a connection between urban morphology and socioeconomic profile, also implied by Jacobs (1969), Whyte (1980), and Gehl (1987). More recently, attempts have been made to measure such dependencies quantitatively using a range of newly developed geographical data science methods (Fleischmann et al., 2022; Mohamed et al., 2022; Venerandi et al., 2018). Scholars have, however, rarely used war damage maps as sources for the study of change in urban environments.

2.2. Mapping Bomb-Damaged Cities

There is a growing body of research in critical cartography that examines war damage and thematic maps as an interdisciplinary historical source (Black, 2018; Elżanowski & Enss, 2021). These maps were drawn up during and after the Second World War by a range of actors (city administrations, specialised authorities, private individuals) for a variety of purposes: to provide a record of bomb damage, rubble displacement, information about the structural stability of buildings, or an inventory of the post-war building stock. In addition to this, they were sometimes used to make planning decisions, inform city reconstruction, make a case for funding, or as commemorative devices. For researchers and historians in the fields of architectural history, historical geography, planning, and heritage conservation these maps offer a visual source of information about post-war cities, which can be critically analyzed. Such commentators question the ways in which the maps were created, their intentions, use, as well as how they were perceived

and reinterpreted. The research presented in this article extends this growing body of research on post-war damage cartography beyond the scope of simple visual analysis. We convert the urban features depicted in such maps into digitized geospatial data (raster and vector form) that is analyzed with a geographical information system (GIS). With the application of GIS, we build on the notion of "spatial history" and "historical GIS," which emerged as a subfield that seeks to merge the study of time and place (Campbell, 2016). The use of GIS beyond a visualization and analysis tool enables us to overcome the traditional notion of a map and to operate directly with geospatial models, enriched with data extracted from historical cartography. This not only allows new questions to be asked of the maps but also allows us to operate with their information in novel ways. In doing so, we create new insights into the geographies of the past and the transformation of the city. We have drawn on the theoretical framework set out above, together with the approaches tested in the aforementioned quantitative morphological studies to develop a research approach, which commences with war damage maps from the heavily bomb-damaged city of Nuremberg.

2.3. The Destruction of Nuremberg

With a population of around 520,000 individuals, Nuremberg is the second-largest city in Bavaria and one of the 15 largest cities in Germany. Nuremberg suffered heavy bombing during the Second World War with the main destruction taking place on January 2, 1945. In 1939, according to the official census, there were 125,074 normal dwellings in Nuremberg and a population of 423,838 inhabitants. In May 1945 only 63,753 dwellings were left (52.5% of the pre-war housing stock). Of these, 7,238 were completely uninhabitable because of severe damage. Only 14,517 had been spared from the destruction of the war (Durth & Gutschow, 1993). The remaining dwellings were either severely, moderately, or slightly damaged.

Historical maps of Nuremberg record bomb damage in a variety of ways, depending on the purpose and year of interest. In some cases, the damage is recorded with broad brushes for large areas and enhanced with additional information such as graphs and pie charts indicating the level of destruction. In their most detailed form, the historical maps record damage for individual buildings with different colours and hatching, in some cases differentiating the level of damage between the façade and the main building (Enss & Knauer, 2023). The 1950 damage map used for this article was purchased from the Nuremberg City Archive ("Stadtplan nach 1945 mit Kennzeichnung der Zerstörungen des II Weltkrieges," 1950) and selected amongst many other maps for three reasons (Figure 1). Firstly, it covers the whole city, including the areas surrounding the historical centre and the outskirts, rather than only selected areas of interest. Secondly, the bomb damage has been drawn on top of an official base map from 1945, depicting the outline of every single building in acceptable detail. Thirdly, a clear attempt was made by the cartographers to classify and record damage consistently, including a map legend depicting the correspondence of map colours to the severity of building damage.

In addition to the damage map, archival evidence found in other post-war maps and documents was collected: *Die bevorstehende Wirtschaftsplanung in Nürnberg* (The Upcoming Economic Planning in Nuremberg) written by professor of Economics, Dr. Sven Helander (Hindenburg Hochschule, Nuremberg) in 1945, *10 Jahre Wohnungsbau in Nürnberg* (10 Years of Housing Construction in Nuremberg) written by Nuremberg City Councillor (*Berufsm Stadtrat*) Dr. Urschlechter (1956), and the *Nürnberg Grossbebaungsplan 1940* ("Grossbebauungsplan von Nürnberg und Umgegend," 1940), *Wirtschaftsplan 1956* ("Wirtschaftsplan der Stadt Nürnberg," 1956) and *Flächennutzungsplan* 1969 ("Flächennutzungsplan der Stadt Nürnberg," 1969). Together with academic literature, these have enabled an understanding of the documented spatial distribution of wartime destruction across Nuremberg, as well as the post-war planning intentions and subsequent development activity. These documents form the secondary data used in this article and inform the interpretation of our analysis and extensive discussion that follows.

3. Methodology

3.1. Data Sources

The main sources of data for this article are historical maps from the pre-war and post-war periods; the importance of historical maps for urban planning research has been highlighted by various scholars, for example in Gregory et al.'s (2018) seminal companion to spatial history. Of particular interest here is the use of bomb damage maps created after the bombing of major German cities. The case for using historical war damage maps in researching urban histories has been made by Elżanowski and Enss (2021), comparing cities in Poland and Germany. In addition, historical maps of land use/cover were used from 1940 and 1956 for comparisons with more recent maps from 1969. Thirdly, broad building blocks (built-up areas surrounded by main streets) were digitized on historical and contemporary maps in order to assess their typologies based on Conzen (1960). The datasets discussed here were subsequently georeferenced at the city district level (*Distrikte*, hereafter "districts"), which are the smallest areal units that allow for analysis of the built environment and socioeconomic characteristics over time. The georeferenced boundaries of the 316 districts were provided by the Nuremberg local authority and constitute the smallest areal units used by their statistical office (Amt für Stadtforschung und Statistik) for disseminating socioeconomic data.

Figure 1. Damage map of Nuremberg (1950) drawn on a base map from 1945. Source: "Stadtplan nach 1945 mit Kennzeichnung der Zerstörungen des II Weltkrieges" (1950).

3.2. Bomb Damage/Destruction Index

Given the diversity of the geographical data used in the overall project, it was important to establish a unit of observation that would facilitate comparisons and analysis of pre- and post-war data recorded at different scales. The unit of analysis should also be realistic in terms of the time and effort required to record the various observations and as much as possible replicable across different cities, depending on the context of data availability. For example, recording bomb damage at the individual building level or even at the building block level was not feasible and would almost certainly provide accuracy that would be superfluous for subsequent analysis. On the other hand, larger areas such as *Stadtteile* (10 areas) or even *Stadtbezirke* (87 areas) would provide a very high level of aggregation and within-area variability for performing meaningful statistical analysis, thus making the districts the most appropriate level of analysis for Nuremberg. We also experimented with automated methods of image recognition, such as machine learning algorithms applied to remotely sensed images. However, due to the very specific nature of the cartographic colouring and hatching, it was not possible to complete the process automatically, at least for the specific historical map shown in more detail in Figure 2a. Therefore,

the district-level bomb damage was estimated from the different levels of destruction shown on the georeferenced historical map by superimposing the boundaries of the 316 districts (white lines in Figure 2a) and interpreting the five levels of damage shown in the map legend (Figure 2b). The map legend translates from top to bottom: *completely damaged* (yellow), *up to 60% damaged* in two colours (brown for *heavy* and orange for *medium* damage), *reconstruction* implying *light* damage (red), and *undamaged* implying intact (black). It may be counter-intuitive to use yellow for a negative impact such as bomb damage and solid black for intact buildings, but this is a convention we observed relatively consistently with other historical maps of bomb damage in Germany. For example, the use of yellow or bright red (in other cities) for heavily bombed buildings and the depiction of undamaged buildings and structures in solid black imply that they are to remain unchanged.

Two individual research assistants recorded the percentage of each of the five damage categories-colours independently and then averaged classification differences up to 5%, while for larger deviations there was

(a)

(b)

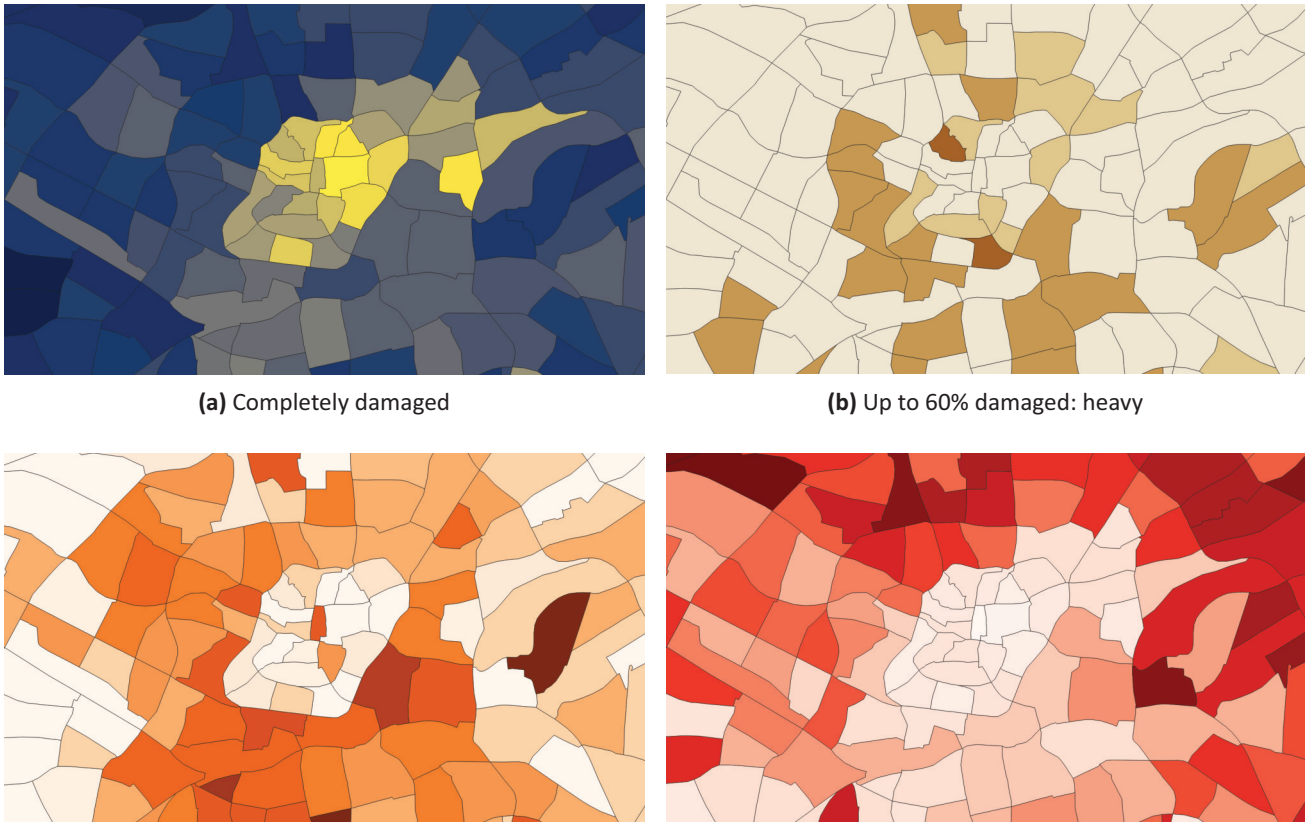
Figure 2. (a) The damage map of Nuremberg (1950, detail) with superimposed district boundaries (in white) for city quarters (in blue). **(b)** The map legend shows the five levels from completely damaged to intact buildings. Source: "Stadtplan nach 1945 mit Kennzeichnung der Zerstörungen des II Weltkrieges" (1950).

moderation and agreement. The damage was recorded for the built-up area covering each of the 316 districts so that large, open areas and public spaces were not taken into account in the assessment. This is because the historical map itself recorded building-level damage depicting the open spaces as a neutral background. In addition, there was no information regarding the number of storeys or the height of buildings, so the damage was recorded at the footprint level, as shown in the historical map. The resulting categories from the damage assessment and digitization are shown in Figure 3, with colours reflecting the different levels of damage/destruction shown in the original map of Figure 2. For clarity, Figure 3a highlights the old city (*Altstadt*) areas of complete damage in bright yellow, while the darker shaded areas (brown, orange, red) of the other three maps reflect the level of damage for the specific legend categories. For example, Figure 3d highlights in dark red the peripheral districts with lower damage (also shown in Figure 2 in red), because the completely damaged buildings (in yellow) have already been highlighted in Figure 3a.

The overall pattern of these maps shows the destruction of the historical centre and the damage to the area in the northeast and for further analysis, a bomb damage/destruction index (BDI) was created to consolidate this information. For every district, the five recorded levels of damage were given a weighting value, with 1 reflecting the *undamaged* (i.e., intact buildings) category, 10 the *completely damaged* category and weights 3, 5, and 7 reflecting *light*, *medium*, *and heavy damage* respectively. The percentages of damage for every district were weighted and averaged resulting in a continuous numerical BDI value for every district, ranging from one to 10. Out of the 316 districts for the whole city, 114 were outside the mapped area (null values for damage/BDI), while 202 districts recorded damage with BDI values between 1.20 (light damage) and 9.68 (heavy damage). The resulting map with the BDI categories in Figure 4 clearly demonstrates how the districts shaded bright yellow and light orange capture the level of damage shown in yellow in the historical map (Figure 2), while the areas with light damage are depicted in red (also reflecting the patterns in Figure 4) and the open spaces and non-damaged areas are shown in black.

3.3. Land-Use Mix Index

Historical maps with land use or land cover (depending on context) have been identified at the various archives. Those selected for this analysis cover the pre-war period of 1940, the reconstruction period of 1956–1958, and



(a) Completely damaged

(b) Up to 60% damaged: heavy

(c) Up to 60% damaged: medium

(d) Reconstruction: light damage

Figure 3. The four damage categories (excluding undamaged buildings) were recorded at the district level to reflect the damage shown on the historical map detail from Figure 2. Note: Lighter colours show higher levels of complete damage **(a)**; darker shades show higher levels of damage for each legend category **(b)**, **(c)**, **(d)**.

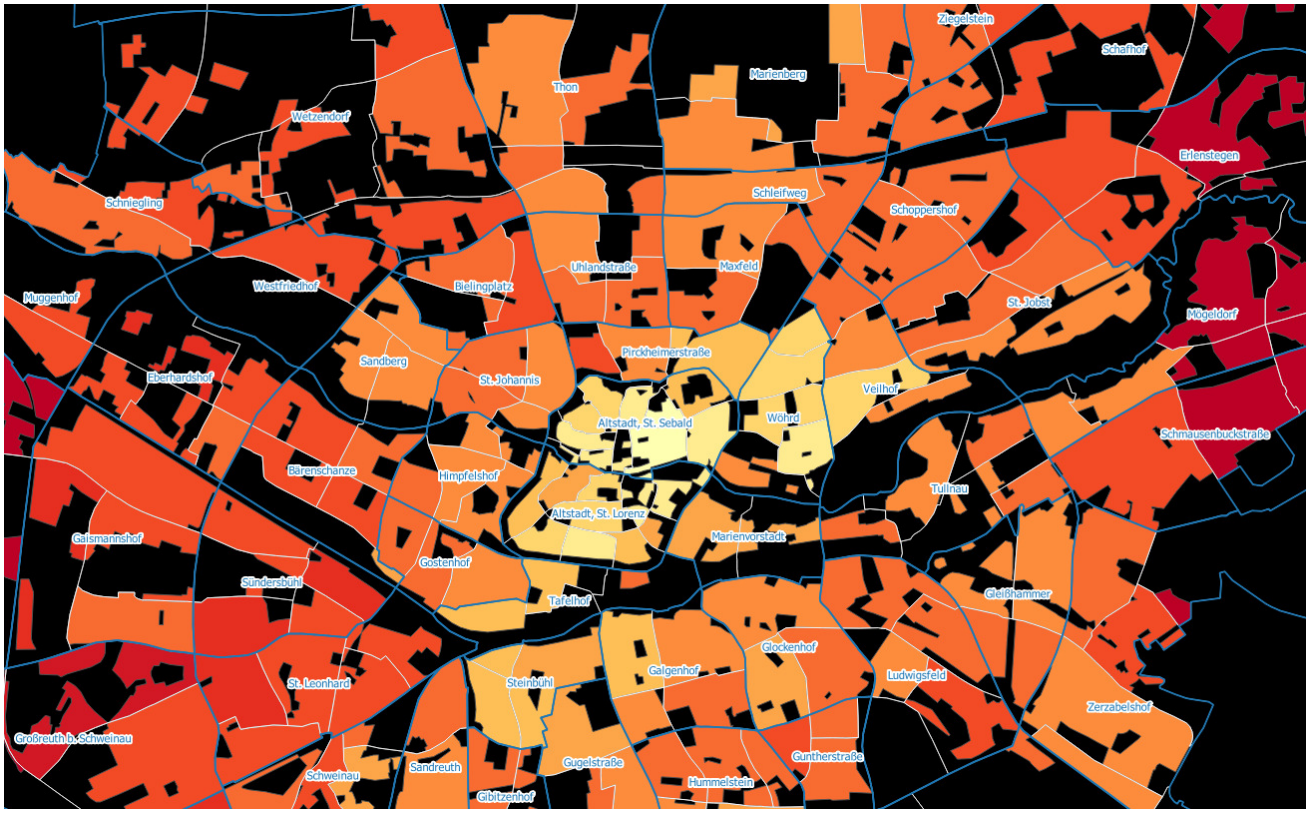


Figure 4. The BDI at the district level reflects the colours of the historical map. Note: Bright yellow highlighting the highest values of damage; dark red indicating the lowest values; black for open spaces and districts with no damage.

the later period of 1969 for comparative purposes. In general, historical maps tend to depict land cover, rather than land use, and they come in different scales, making temporal comparisons quite challenging. In addition, the various colours used are inconsistent and specific to each map, while hatching is extensively used, which means that automated methods of image recognition cannot be used for the digitization of these maps. Therefore, a similar method to the bomb damage map was applied for estimating land cover percentages at the district level from the three historical maps shown in Figure 5. In the same figure, we show the 114 districts that were outside the bomb damage map (with null values for BDI) but were depicted in the land cover maps (with values for land use by district).

Similar to building damage at the district level from the bomb damage map, the various types of land cover were recorded visually by research assistants for every district of the three maps shown in Figure 5. Due to changes in the recording of the various land-use categories, over the years, the different number of categories were recorded, but we ensured comparability between different years through careful consideration. Table 1 shows the various categories recorded for the three historical maps in those years. The output of this digitization exercise was three tables recording the percentage of land cover/use for every district and for each of the three years. It was also confirmed that the total percentage of land for each district adds up to 100%.

From Table 1, the 1940 map had fewer categories by not depicting mixed/other land uses, while the 1956–1958 map depicted bomb clearance sites not existing in 1940 or 1969. These changes can pose challenges for comparative analysis of land cover change over the years, especially when land uses are considered individually. Therefore, we decided to summarise the within-area variation in land use by using a LUM index. Having considered reviews of various indices in the literature we concluded that an "entropy" type index offers the best balance in our case between research scale, precision, and validity, as confirmed by Jiao et al. (2021).

There have been many descriptions and applications of the LUM index, but the most comprehensive is by Mavoa et al. (2018, p. 686), "where LUM is the land-use mix score, pi is the proportion of the neighbourhood covered by the land-use *i* against the summed area for land-use categories of interest, and *n* is the number of land-use categories of interest." To account for the temporal differences in Table 1, we developed a revised LUM index (LUM*a*) that takes into account all the possible land-use types *K* in the wider study area *A*, calculated for each district (*a*) based on the three historical maps from 1940, 1956, 1969 and allowing for a more realistic temporal comparison:

$$\mathrm{LUM}a = -\frac{1}{\ln(K)} \sum_{i=1}^{K \in A} Pi \times \ln(Pi)$$

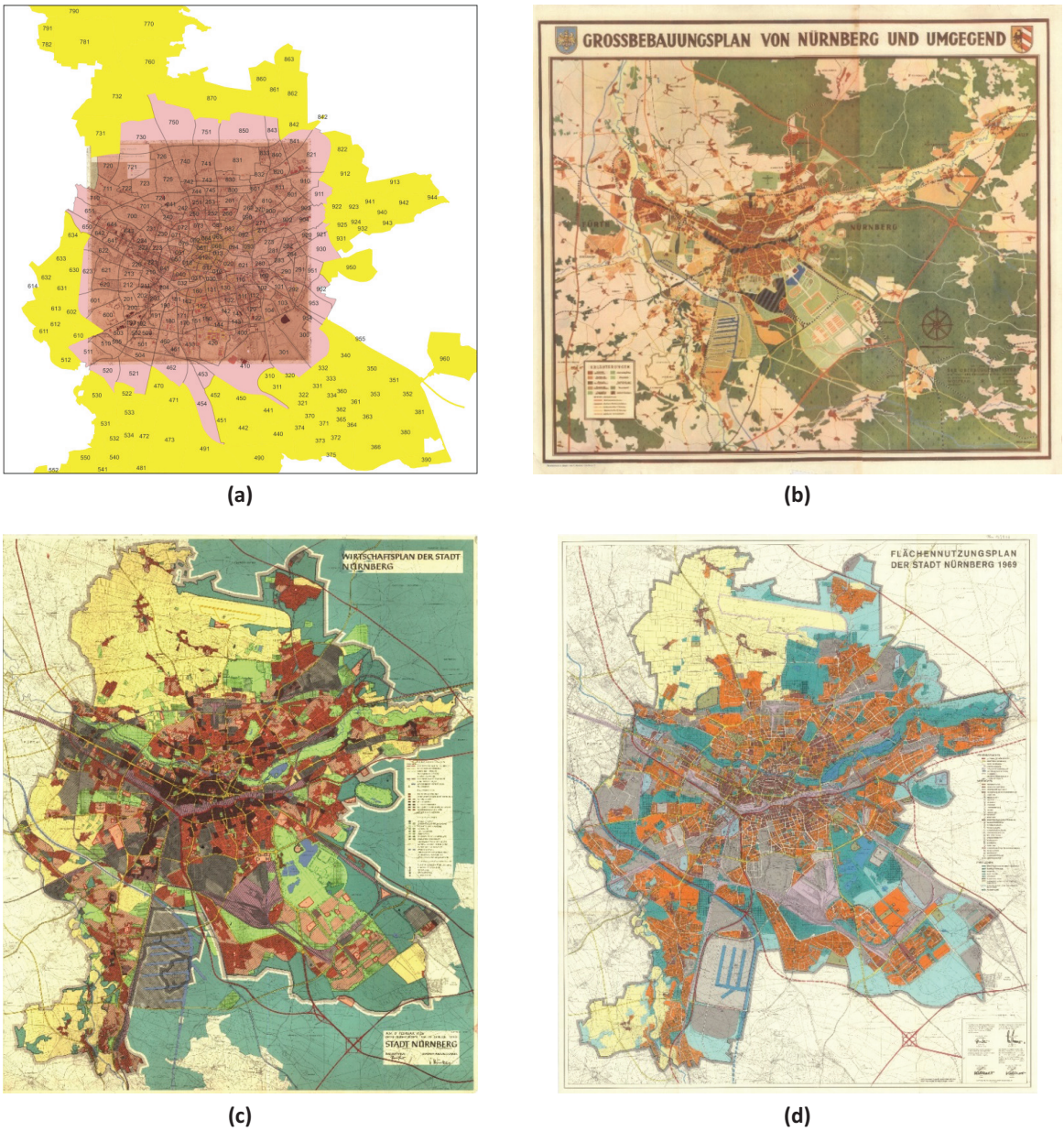


Figure 5. The three historical land cover/use maps, alongside the area covered by the bomb damage map and Districts. **(a)** Districts within (202 in pink) and beyond (114 in yellow) the bomb damage map of Figure 1. **(b)** 1940 map. **(c)** 1956 map. **(d)** 1969 map. Sources: **(a)** produced by the author; **(b)** "Grossbebauungsplan von Nürnberg und Umgegend" (1940); **(c)** "Wirtschaftsplan der Stadt Nürnberg" (1956); **(d)** "Flächennutzungsplan der Stadt Nürnberg" (1969).

Table 1. Land cover/use categories for the three historical maps.

1940: Six categories	1956–1958: Nine categories	1969: Eight categories
Residential	Residential	Residential
Industrial	Industrial	Industrial
Open space	Open space	Open space
Water	Water	Water
Transport	Transport	Transport
Agriculture	Agriculture	Agriculture
	Mixed	Mixed
	Bomb clearance site	Other
	Other	

The output values range theoretically from zero (0), where a single land use category covers the whole area, to one (1), where all categories are equally represented within an area. The LUM index was calculated at the district level for each of the three historical maps (1940, 1956–1958, 1969) and all the categories are shown in Table 1.

3.4. Typologies of Building Blocks

To capture and compare urban morphological change over time, pre-war and present-day urban block typologies were categorized. The form of categorization drew on the methodologies developed by Conzen (1960) based on recurring morphological characteristics: streets, plots/buildings, buildings/block plans; Hanson's (2000) description of urban genotypes, and Ferm et al.'s (2021) classification of typologies into small vs. large scale and street-based (tighter) vs. estate-based (looser). The resulting categorization is shown in detail in Figure 6.

To capture pre-war urban block typologies, the georeferenced City Plan (*Stadtplan nach 1945*) utilized for the level of bomb damage in the city (Figure 1), was reused. This map shows the pre-war city of Nuremberg with its historic block layout and street network. The historic blocks were then digitized in QGIS, creating polygons corresponding to their footprints, and then categorised according to their typology, following the categorization explained in Figure 6. This task was then repeated for present-day Nuremberg, with the help of OpenStreetMap and satellite imagery. This enabled a comparison between historic and present block typologies and also exposed blocks where their typology has changed and those where their typology has remained consistent over time, as shown in Figure 7.

As bomb damage was recorded at the district level, it was deemed necessary to also capture the block typology data at the district level to enable meaningful analysis and comparison with the bomb-damage data. Therefore, the boundaries of the 316 districts were superimposed on the georeferenced historic city map and a map overlay was performed to enable a calculation of the percentage of the total block area in a specific district with a specific block typology. This calculation was performed for all typologies and all districts, at both time periods (pre-war and present).

4. Analysis

4.1. Bomb Damage and Land-Use Change

The first set of results concerns the relationship between bomb damage and land cover/use change at the district level. As discussed in the methodology, we focus on the

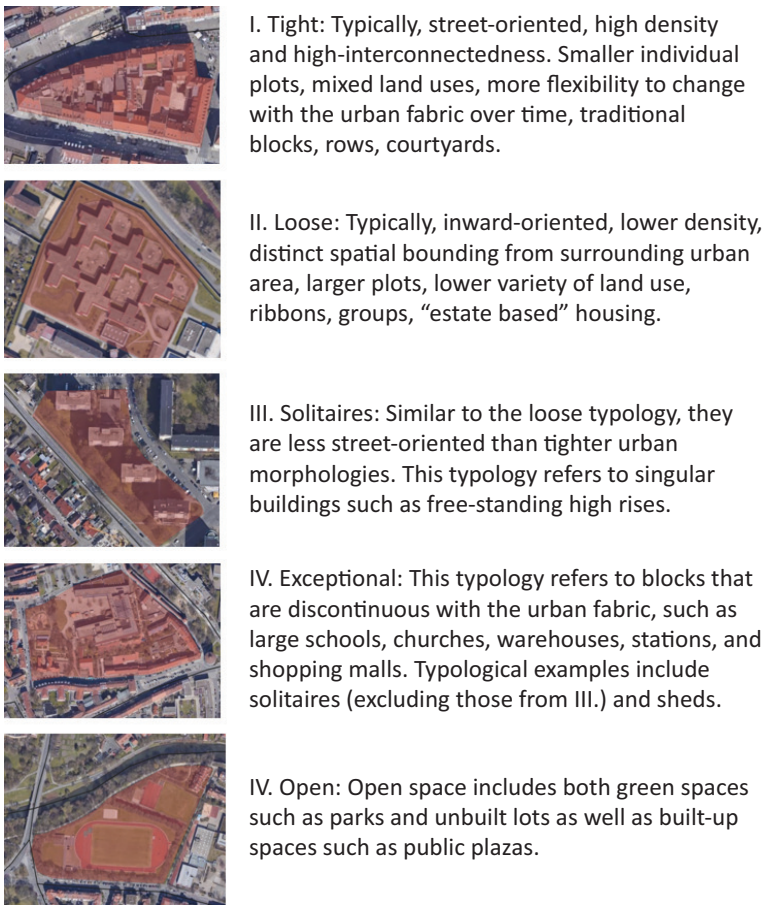


Figure 6. Block typology categorization.

Figure 7. Digitized blocks existing historically (in black) and newly created blocks (in green) with district boundaries superimposed (in red) for the central area of Nuremberg.

changes in the LUM*a* index at the district level, which includes all land-use categories for each of the three years under study.

Overall, there was an increase in the average LUM*a* index for the whole study area from 1940 to 1956 and again from 1956 to 1969, implying more land use/cover mix in the post-war years for the whole of Nuremberg. However, this analysis of LUM*a* for the whole city conceals differences between the bomb-damaged and unaffected areas. A more detailed analysis can be achieved by investigating the LUM*a* distributions for three different categories of districts. Out of 316 districts for the study area, 114 recorded no damage (*Null*), while 202 Districts recorded BDI values between 1.20 (*light damage*) and 9.68 (*very heavy damage*), mean = 4.56, median = 4.22. Based on the median value, these 202 districts were further split into two damage levels of 101 each, resulting in three categories, with *High*, *Low*, *Null*, bomb damage. The LUM*a* distributions for these damage levels and for the three different years are shown in Figure 8, for the different categories and over time. Starting with cross-sectional observations, there are very visible differences between the three categories for the same year of observation. For example, in 1940 (blue plots) the LUM*a* was generally lower and concentrated around 0.45 for the high damage areas compared to the low and null damage areas, reflecting the lower mix of land uses in the central part of the city. This changed dramatically in the post-war years (1956, pink plots) with a wider spread of LUM for both levels of bombed areas and a much lower distribution of LUM for the null outer city areas. The more recent map of 1969 (green plots) shows similar distributions, but an even higher concentration of LUM for the low-damage areas and a significantly different bimodal distribution for the null outer city areas.

Comparing the LUM*a* distribution change over time (the different coloured plots for each of the three categories), there is an evident change in the high damage category from the more concentrated and lower LUM*a* 1940 to 1956 with higher LUM*a* values, but less change towards 1969. The opposite is the case with the low damage category, where the 1940 and 1956 plots show very

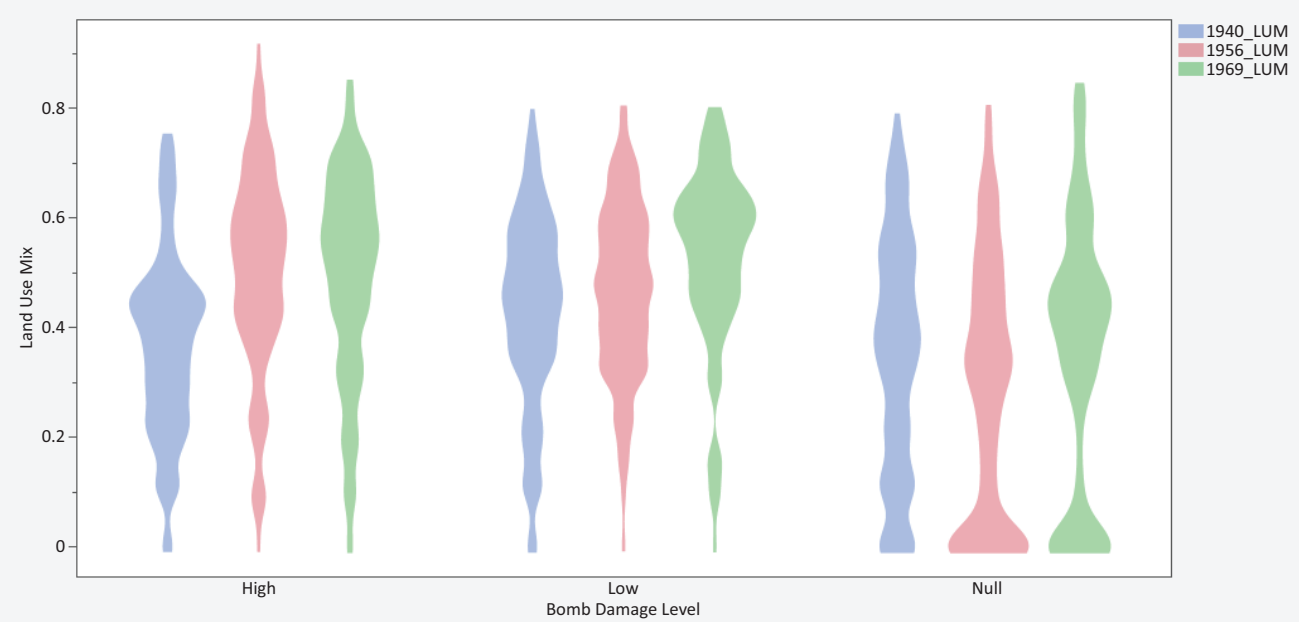


Figure 8. Violin plots of LUM: LUM*a* index for three bomb damage levels for three years: 1940, 1956, 1969.

similar distributions, but there is an evident change in the 1969 plot with LUM*a* values increasing and the distribution peaking at around 0.6. For the third category, which involves the districts outside the bomb damage map (i.e., yellow in Figure 5a), the LUM*a* distribution becomes increasingly bimodal from 1940 to 1969, implying that a considerable number of districts have ended up with extremely low and a significant number with middling LUM*a*, while the distribution extends all the way to values above 0.8.

4.2. Bomb Damage and Typologies

Each digitized block was classified following the typologies shown in Figure 6 and the differences at the block level between pre-war and modern typologies were calculated. The results confirm that Nuremberg's reconstruction largely followed the old ground plan, avoiding a radical breakaway from the historical morphology of the city, and avoiding a schematic or grid-like new development. Figure 9 shows that a high proportion of blocks remained in the same typology, representing continuity in the morphological grain of the historic city. The main changes to the historic block typologies can be seen on the periphery of the city.

In addition, the level of bomb damage appears to have had little influence on the continuity of historic block typologies in Nuremberg, as shown in Figure 10, where the blocks have been classified on the basis of higher/lower bomb damage. This is because of the conservative and more traditionalist approach to post-war planning adopted by the city, which was clearly underpinned by a historical consciousness that favoured the continuity of the historic character of the city and its centre (old town) in particular.

The following section discusses how the results of our analysis can add value to existing debates and theories on the reconstruction of cities that have been damaged by war.

5. Discussion

5.1. Post-War Planning Strategies

Bomb damage created an unprecedented opportunity for comprehensive development of the built environment. This period saw the (re)intensification of an international discussion about planning strategies, which were to guide future physical planning and city reconstruction. These strategies would leave a lasting impression on cities all over the world. In several cases the strategies used to guide post-war reconstruction can be traced back to well before the first bombs were ever dropped, giving continuity to existing 19th-century planning visions. In such cases, the war destruction was the catalyst, which enabled the progression of the existing plans. These pre-war strategies were largely developed as a reaction to the rapid industrialization of cities in the late 19th century and the consequent poor and unhygienic living conditions associated with extreme overcrowding, although they were also oriented towards urban control (of its functioning and growth). Indeed, in the 19th and early 20th centuries, infrastructure, growth, services, and zoning were all much more deeply reflected upon. As part of this, strategies were developed to create an ideal urban structure/spatial arrangement of urban forms and land uses. One example of this is the garden city model, conceived by Howard (1898) in his book *To-morrow: A Peaceful Path to Real Reform*. Intended to counteract the migration of the rural population to urban

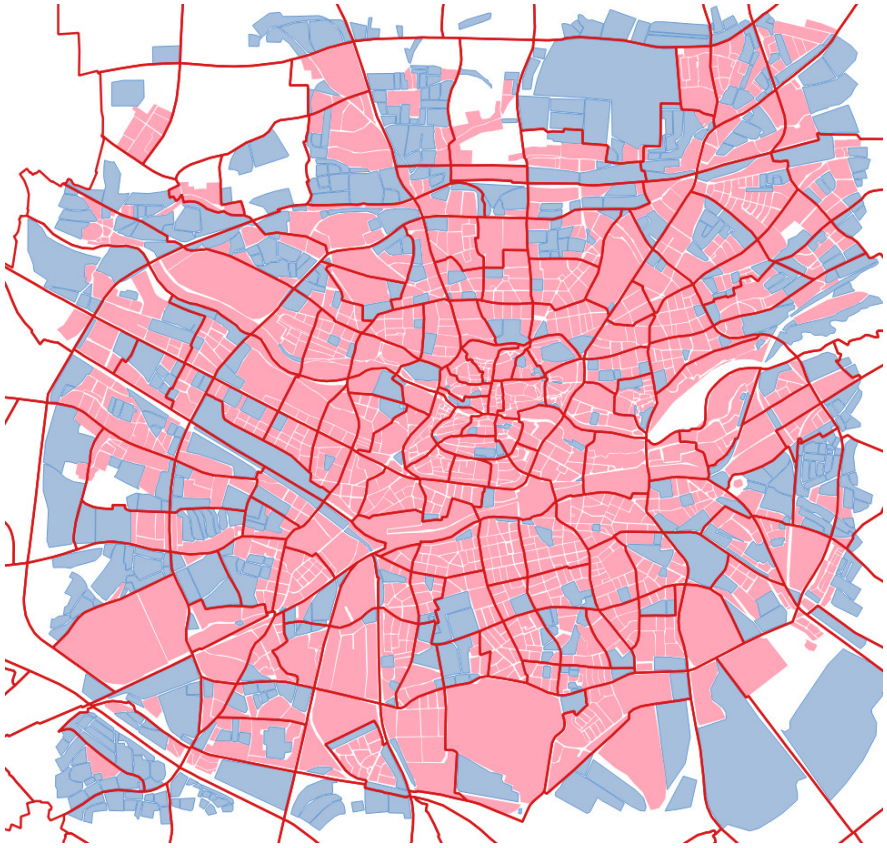


Figure 9. Blocks with consistent pre-war and modern typology (in pink) and with altered typology (in blue) with district boundaries (in red) for the central area of Nuremberg.

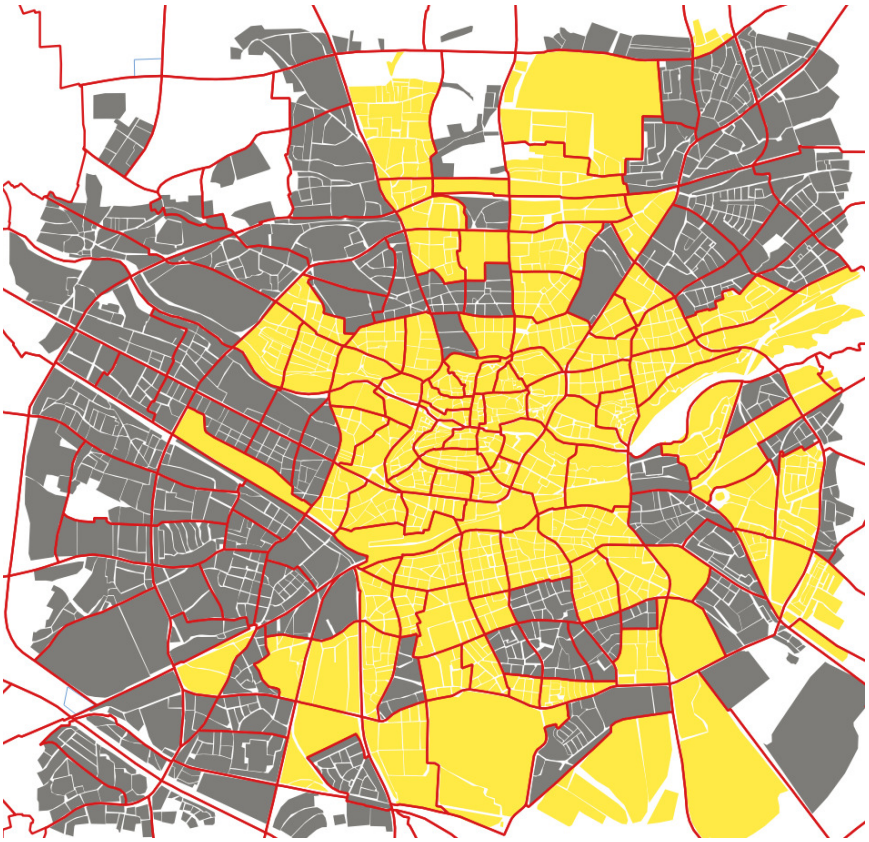


Figure 10. Level of damage for building blocks for the central area of Nuremberg, reflecting the district-level BDI from Figure 4. Note: Higher levels of damage in yellow and lower levels of damage in grey.

areas and thus prevent the unhygienic conditions caused by over-crowding, garden cities were to be attractive new cities of a limited size (32,000 people), surrounded by agricultural land. Already very influential before the First World War and during the interwar period, Howard's (1898) garden city model formed the basis of many plans for post-war settlements and new towns and played an influential role in post-war reconstruction planning worldwide (Durth & Gutschow, 1993). Below, we summarize two opposing schools of thought, which heavily influenced the post-war development of bomb-damaged cities. This is a necessary simplification of planning strategies which dominated the debate on post-war planning in Europe, particularly in non-Eastern Bloc states.

5.1.1. Modernism

The interwar period was significantly influenced by the Americanism of the 1920s, and the ideas of modern architect Le Corbusier. As well as the architectural design of individual buildings, Le Corbusier was also concerned with entire cities and ways of life. The emergence in 1922 of his *Plan of a Contemporary City for Three Million Inhabitants* was a vision of a city of high-rise administrative towers on a cruciform ground plan. Around the city, with its wide traffic lanes and open spaces, would lie residential areas in a rational order, placed strictly according to function and building type in the grid of the city plan (Le Corbusier, 1925). Networks of underground railways and long-distance motorways would make the centre easily accessible (Durth & Gutschow, 1993, p. 278). Along with architects Mies van der Rohe and Walter Gropius, Le Corbusier was instrumental in the creation of what was coined the "International Style." This movement involved a group of leading modern architects in Germany organizing themselves into "The Ring," later associating themselves more with another international community of architects that had been meeting since 1928, the Congrès Internationaux d'Architecture Moderne (CIAM), and the spiritus rector of this group was Le Corbusier (Durth & Gutschow, 1993, p. 276). In 1930 Le Corbusier drew up his model for the "Radiant City," with an even stricter separation of functions, designating areas for business, housing, factories, warehouses, and heavy industry (Durth & Gutschow, 1993, p. 280). These plans formed the basis of the Athens Charter (1933), which formed the indisputable basis of modern urban planning.

This structured and dispersed city, known as "the functional city," became the ideology of the CIAM (Kohlrausch, 2007). Not only did this strategy divide cities into different functions of living, working, recreation, and transport, but it also reflected the impact of new mass technologies like the private car. The principles of the functional city represented a further break from the historical arrangement of the urban fabric of cities. While Le Corbusier was acclaimed for the sculptural qualities of his free-form living spaces, he was later criticized for setting the stage for concrete social housing blocks and monofunctional, bounded housing estates, built in the decades following the war. There were, of course, counter-arguments to the functional city. One notable critic was Jane Jacobs, who, in referring to American cities, believed that to thrive, a city requires diversity of uses and users. Mixed areas, comprising small city blocks and a sufficient built density, she argued, create a close-grained community, and give the city life (Jacobs, 1961, 1969). Other planning and urban design theorists, such as Whyte (1980) and Gehl (1987), also argued that the traditional, compact, pedestrian-friendly city with mixed-use areas promotes the most economic and social well-being of its inhabitants (Montgomery, 1998). These claims, however, were largely based on personal views, experiences and observations, rather than any form of quantitative measurement. Despite these critiques, the guiding principles of the functional city were implemented in many cities after the Second World War and are responsible for the spatial arrangement of many constructed spaces and land-use patterns in cities today.

5.1.2. Traditionalism

Not every city, however, followed such a path. Reconstruction plans in Münster, Freiburg, Rothenburg, and Nuremberg were exceptions (Durth & Gutschow, 1993). As a counterpoint to "The Ring," a group of German architects including Paul Bonatz, Paul Schultze-Naumburg, and Paul Schmitthenner, set up their own group, "The Block," which strongly opposed modernism, promoting traditionalism instead (Diefendorf, 1993). Traditionalists favoured a more conservative planning strategy for reconstructing bomb-damaged cities. This included minimal intervention, the use of local building materials and handcrafted (rather than prefabricated) construction. Traditional strategies favoured protecting and restoring existing monuments, rather than rebuilding copies, and maintaining the historical street network, which they argued formed a key part of the historical character of the city. While promoting historic preservation and traditionalism rather than modern architecture or radical morphological change, they did not oppose modern buildings per se; modern buildings could be constructed provided they resulted in minimal impact on the traditional urban silhouette and historic urban landscape (Diefendorf, 1993).

5.2. The Reconstruction and Development of Nuremberg

In terms of planning strategies, Nuremberg followed a more traditionalist approach when planning its reconstruction (Durth & Gutschow, 1993). According to the Economic Plan (1945), the housing shortage was the most urgent problem, and the resettlement of the population was the top priority (Helander, 1945). This required restoring existing living space from further decay, creating shelter, and finding provisional solutions,

like patching-up dwellings. It also required the construction of new houses where this could be carried out most quickly, for example on free-building land where no collapsed houses must be removed first (Urschlechter, 1956). This was one reason why it was accepted that the heavily damaged old town will be less suitable as a residential area in post-war Nuremberg and will become a much more distinctive commercial centre. After discussing various alternatives, the city was reportedly rebuilt on an approximately old ground plan in an adapted modern form (Rosner, 2007). Important decisions were made to loosen up the building style, abandon the principle of barren tenements and backyards, and if blocks were built (which they were for financial reasons), they were to be embedded in green space so that younger inhabitants had a place to play away from the street. An important planning goal was to enable hygienic and healthy living (Helander, 1945).

In 1946 a competition was announced for the reconstruction of the Old Town and in February 1948, the jury awarded first prize to the Nuremberg architects Heinz Schmeißner and Wilhelm Schlegtendal. The Plan proposed extensive preservation of the urban layout, but with substantial traffic improvements and a loosening of the once excessively narrow and dense residential development. Instead, apartments were designed to capture more light, air, and sun than those destroyed by the war. Proposals to radically break up the block structure were unsuccessful. As Bavaria lacked a reconstruction law that would have facilitated the reorganization of land and thus economically viable new development, every street widening, and property reorganization involved difficult negotiations between the city and landowners. The advantage of this constraint was that a radical, purely schematic or grid-like new development was not possible (Rosner, 2007). The guiding principles for the reconstruction of the Old Town, were as follows:

> The characteristic townscape with the towers of the castle, the churches and the city wall should be preserved and not be impaired by high-rise buildings. The town layout is to be preserved as far as possible….New buildings must be subordinate to and blend in with the restored monuments in terms of scale, roof shape, material and colouring. What has been lost should not be reconstructed. The genuine new should be placed next to the genuine old. The old town should be kept free of traffic. To improve the necessary traffic, however, road bottlenecks are to be removed….Residential development, especially on the Sebald side, should take into account the demands of modern urban planning for "light, air and sun." Unfavourable property conditions are to be rearranged. (Rosner, 2007, p. 76)

New housing developments were also required on the outskirts of Nuremberg, to compensate for the principles of lower building density in the inner city. To avoid fragmentation of settlements, however, the city council decided to direct new development primarily to the southeast of the city to develop the largest settlement project there, the "Trabantenstadt Langwasser." Since 1957, a new city district for 40,000 inhabitants was built in this area, representing a major peripheral post-war development in Nuremberg.

5.3. Destruction and Nuremberg's Changing Urban Fabric

Like all bombed cities, decisions had to be made in Nuremberg about how the city should be rebuilt. With the choice to implement more modern planning principles or a more traditional planning approach, Nuremberg opted for the latter, building on the old ground plan. Due to the severe level of destruction in Nuremberg and the sheer extent of redevelopment required, the bombing had a significant physical impact on the city. This high level of destruction, however, influenced the subsequent LUM and the urban morphology of Nuremberg in distinct and more subtle ways. Contrary to the modern planning principles of the functional city with its emphasis on subdivision and zoning (Durth & Gutschow, 1993), the post-war LUM in Nuremberg increased, but at different rates and at different times. For example, it increased more quickly in highly bomb-damaged areas between 1940 and 1956, and later in non-bomb-damaged areas (1969), as a result of the war-induced development priorities at the time. This strongly points to a post-war planning strategy that rejected the strict separation of functions integral to the principles of modernism and the functional city, in favour of a more mixed-use development approach. The observed increase in LUM also captures the introduction of more commercial development in central Nuremberg, which previously was dominated by high-density residential accommodation, already foreseen in the Economic Plan of 1945. The increase in lower levels of LUM in peripheral districts may be a result of residential, mono-use developments, as the city expanded (Hanson, 2000).

Both the LUM and urban morphological results suggest that Nuremberg's post-war planning strategy did not follow the ideology of the CIAM and the principles of the functional city. The high degree of urban morphological integration, evident in the overall continuity of the urban block typologies (especially towards the centre and inner city of Nuremberg) represents the continuity of tradition (Otto, 1983), rather than a radical break with the historical arrangement of the urban fabric of the city. This suggests that a historical consciousness, together with a favouring of traditionalism and a mixed-use planning strategy appears to have played a key role in the post-war reconstruction of Nuremberg. This planning strategy, observed through the three transformations analyzed in this article, has led to the continuity of Nuremberg's historic character evident in the city today.

6. Conclusion

Much has been written about destruction, post-war city planning, and reconstruction across Europe (Diefendorf, 1993; Durth & Gutschow, 1993; Pendlebury et al., 2015), yet surprisingly few studies have quantitatively explored how bomb destruction affected the long-term physical development of cities. While there is a growing body of research in critical cartography that examines war damage and thematic maps as an interdisciplinary historical source, war damage maps have rarely been used as sources for the study of change in urban environments (Elżanowski & Enss, 2021). Our research has contributed to this research gap by employing geographical information science to war-time maps to explore how the Second World War bombing of Nuremberg transformed the city's physical fabric.

In this article, we have demonstrated how GIS can be applied to historical research and the study of change in urban environments. In doing so, this article provides a contribution towards a new framework for the analysis of post-war cities. It demonstrates how under-researched post-war data sources can be used in new ways to visualize and quantify physical transformations over time, in particular the level of destruction caused by Second World War bombing and its effect on the LUM and urban morphology of cities. It illustrates ways in which historic maps from the post-war period can be analyzed, beyond the limited scope of visual inspection. Against the backdrop of the ongoing war raging in Ukraine, and the country's future reconstruction, the study of post-war urban change, planning strategies and morphological integration is of contemporary importance. In this context, we believe our research points to an important emerging research agenda, for which we are currently developing our methodological framework further. Our next steps are to: (a) apply this analysis to other cities, whose reconstruction was guided by different post-war planning strategies; and (b) combine results with other variables of analysis, such as socioeconomic data, to evaluate the effects of post-war transformation on selected cities. Providing an alternative appraisal of post-war city transformation, this diachronic research has offered insight into Nuremberg's under-researched past, which will be of interest to planners and policymakers seeking to reconstruct, improve, or conserve future cities.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Dockers in Poplar: The Legacy of the London County Council's Replanning of Poplar, East London

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Abstract
Using Sydney Harpley's sculpture, *The Dockers*, installed in Trinity Gardens on the Lansbury Estate in Poplar, this article will examine the London County Council's reimagining of a key centre in London's East End. Installed in September 1962, these *Dockers* sit within the post-war planned vision of the capital and are, as Frank Mort describes, "cultural visions" of a new London. For hundreds of years, Poplar served as part of the Port of London's industrial heartland. After the Second World War, the London County Council assumed the River Thames would continue to be the heartbeat of Britain's industry. The Port of London was the country's largest and busiest port. The London County Council recognised that, in London, the most depressed and congested areas with bad housing housed working people. However, by referencing one part of the culture of this part of London, the London County Council was relying on a homogeneity of experience, difficult to defend in 1960s London. Using the initial reception of *The Dockers*, as well as the sculpture's subsequent vandalism and destruction, this article shall analyse how the London County Council's vision for post-war Poplar changed through the rapid deindustrialisation of the 1980s, through to the rapid gentrification of the area in the 21st century.

Keywords
deindustrialisation; Docklands; East London; gentrification; housing; Poplar; Sydney Harpley

Issue
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1. Introduction

This article uses the sculpture of two dockers by Royal Academician Sydney Harpley (1927–1992) to examine the London County Council's (LCC) vision for post-war Poplar, asserting that this sculpture of Londoners be read alongside the LCC's actual planning policies and realisation of a rebuilt post-war Poplar (Figure 1). No longer in situ, these *Dockers* were part of the LCC's "wide range of cultural visions" for post-war London (Mort, 2004, p. 123). This area of London, dependent on the docks and associated industries for centuries, was an important area for the Port of London's trade and commerce coming in and out of the docks. The docker was a familiar figure in Poplar and sat alongside a collection of other human-figurative sculptures on housing estates in London such as neighbours and family groups. The LCC harnessed the bodies of ordinary dockers, in sculptural form, to communicate its policies on housing and community.

This article uses Harpley's *Dockers* to examine the changes in Poplar from the post-war era to the present. Much of this change is linked to the collapse of industry on the docks and Poplar's proximity to the financial district of Canary Wharf, constructed on derelict dockland. The vandalising of *The Dockers* represents the changing role of the docker in Poplar from its installation in 1962 through the subsequent decades of deindustrialisation, regeneration of nearby Canary Wharf and 21st-century gentrification.

2. The London County Council's Replanning of Poplar

Poplar is a district in East London, within the old County of London (which existed between 1889 and 1965), what

Figure 1. Sydney Harpley's *The Dockers*, Lansbury Estate, installed in 1962. Source: Photograph of Sydney Harpley, *The Dockers* (1962).

is now referred to as Inner London. It remains part of Greater London and is within the London Borough of Tower Hamlets, both created in 1965. Pre-war Poplar was a working-class, relatively poor area, with much of its employment reliant on the docks and associated industries, described as "practically unrelieved depression, so pitiful was the poverty, so inescapable the drabness" (Tinton, 1938, p. 929). The 1943 County of London Plan clearly set out the defects of modern London and served as the template for post-war reconstruction not just in London, but across the country. Within the plan, the "defects of modern London" were listed as inadequate housing, lack of open space, traffic congestion, and mixed development—all present in Poplar (Forshaw & Abercrombie, 1943, p. 3). Subsequent to the County of London Plan, Poplar's Lansbury Estate—the location of *The Dockers*—formed one of 11 neighbourhoods of the Stepney and Poplar Area of Comprehensive Development identified in the *Administrative County of London Development Plan 1951 Analysis* (LCC, 1951a). Lansbury became neighbourhood number nine (Dunnett, 1951, p. 28). This represented a reimagining of the three neighbourhoods of Stepney, Bow, and Poplar; "the overcrowded, insanitary and obsolete buildings, with their drab, monotonous and cramped surroundings were to be swept away" (Dunnett, 1951, p. 6).

After the Second World War, London's economic power and industry were compromised due to bomb damage. An additional threat to this was the depopulation of London: Between 1919 and 1939, the County of London's population fell by 502,000 (Abercrombie, 1945, p. 27). Though it was essential that the LCC rebuilt London to attract and maintain young, fit working people to work in its industries, such as the docks, the LCC also aimed to thin out the population of London to ease overcrowding. Its aim was to take control of depopulation to ensure London did not lose too many young families and people of working age; "the time has come to capitalise this gradual decline, and to produce such conditions as shall induce the young married people to remain and bring up families in what should be attractive urban surroundings" (Forshaw & Abercrombie, 1943, p. 33). Using human-figurative sculptures, the LCC attempted to reassert a London identity in a city depopulating and bomb-scarred, reassuring the "borough's best elements" (Forshaw & Abercrombie, 1943, p. 8) that London was a desirable place to remain and bring up a family. Sculptures such as *The Dockers* existed alongside images in films and publications on London's planning distributed by the LCC, and offered a "rich fantasy life, in that they dramatized elaborate and highly inventive images of the city, as much as actual policies for the rebuilding of London" (Mort, 2004, p. 124). In reality, post-war rebuilding was slow, leaving many families to take the active decision to move away from London, for which a few sculptures, slow rehousing, and living amongst building sites for years would not reverse. Hatherley (2020, p. 86) suggests this depopulation did not succeed as the LCC intended, describing how the LCC's post-war programme of depopulation went even further in practice as the New Towns absorbed a large amount of London's skilled working class, leading to the population of London falling to 6.8 million in 1981 from 8.6 million in 1939.

The LCC's post-war replanning of Poplar was dominated by the Lansbury Estate, "a monument to the London County Council" (Allen, 1994, p. 122), in terms of its size as well as featuring in the national Festival of Britain Live Architecture Exhibition in 1951 (Dunnett, 1951). The Lansbury Estate offered a vision of future planning and a marked departure from the mainly 19th-century housing stock. Lansbury represented a deliberate improvement in the housing of the working-class people of Poplar and "the elevation of low-income housing" (Liscombe, 2006, p. 322). The Lansbury Estate was planned in four stages, the first being for the 1951 exhibition. Atypically of much of the LCC's planning, the Lansbury Estate was designed by different private firms. The housing of the east site was designed by Geoffrey Jellicoe, the shopping centre and marketplace by Frederick Gibberd, Ricardo Street nursery and primary schools by Yorke, Rosenberg, and Mardall, and the Roman Catholic Church by Adrian Gilbert Scott (Dunnett, 1951, pp. 13–21). Much of the Lansbury is relatively low-rise, reflecting a post-war modernism sympathetic to a soft, vernacular appearance:

> The social housing at Lansbury achieved its aim of being an intimate village by setting housing in leafy areas, much with their own gardens or else immediate access to green space, predominantly low rise and small scale. Access between different groups of houses was through a succession of green, landscape spaces, which were closely integrated and acted like village greens. (Atkinson, 2008, p. 31)

3. The London County Council's Patronage of the Arts Programme

Sydney Harpley's *The Dockers* was installed by the LCC in Trinity Gardens, adjacent to Trinity Church on the Lansbury Estate in 1962 as part of the LCC's patronage of the arts scheme. The scheme formalised the LCC's practise of installing sculptures and murals on housing estates (as well as schools, further education colleges, and parks), a process that had already begun in the immediate post-war years (Pereira, 2009). In the financial year 1956–1957, the LCC devoted £20,000 a year to the patronage of artworks (Jackson, 1965, p. 224). This figure was arrived at as a proportion of the total rebuilding costs: "The approximate value of new architectural work and open-space development in 1954–55 was £20,000,000; we think that £20,000 a year would be a reasonable sum for the council to set aside for the purposes we have in mind" (LCC, 1956, p. 205).

The 1948 Local Government Act enabled local authorities to finance cultural endeavours such as drama, music, and the visual arts (Pereira, 2015). Thus, the LCC began installing works on housing estates with early examples being Peter Laszlo Peri's Lambeth sculptural reliefs, *Following the Leader (Memorial to the Children Killed in the Blitz)*, *Boys Playing Football*, and *Mother and Children Playing* (installed between 1949 and 1952 on the South Lambeth Estate and Vauxhall Gardens Estate). The conditions of the welfare state introduced new housing, schools, and hospitals and enabled artworks to be shown in a new variety of settings, with contemporary art reaching a wider audience than ever before. In 1953, the New Town of Harlow established the first permanently sited outdoor collection of sculptures (Pereira, 2015). The LCC also held open-air sculpture exhibitions every three years from 1948 to 1963, allowing the public to walk amongst and touch the sculptures (LCC, 1948, 1951b, 1954, 1957, 1960, 1963). The South Bank exhibition of the 1951 Festival of Britain also played a key role in establishing outdoor contemporary sculpture as part of the post-war landscape of London. Sculptures were installed as part of the exhibition's external design by sculptors, including Siegfried Charoux, Henry Moore, Mitzi Cunliffe, and Barbara Hepworth (Cox, 1951, p. 90).

The LCC called on the Arts Council to assist in the patronage of the arts scheme, namely the director of art and members of the Arts Panel (LCC Advisory Body on Art Acquisition, 1964). Acknowledging its lack of artistic expertise, the LCC felt:

> The council could not responsibly carry out a sustained programme of expenditure of £20,000 a year without advice which (a) embraced a comprehensive and expert knowledge of the world of art and (b) was able to provide a substitute for the exercise of personal taste which is not possible in a corporate body….The council has two things at stake, its reputation and a considerable amount of invested money. It will suffer in both respects if it is found in a year or two to have made unsatisfactory purchases through pursuing bad policies. (LCC Advisory Body on Art Acquisition, n.d.)

The LCC and the Arts Council often disagreed over what artists to use, resulting in a "war of taste" (Garlake, 1993). Each artwork considered had to go through the relevant LCC department, then the General Purposes Committee, and then finally the Arts Council sub-committee (Garlake, 1998, p. 53). "Differences arose from the incompatibility of social and aesthetic criteria; for the Arts Council 'standards' were the pre-eminent value, while for the LCC the interests of the 'man in the street' remained supreme" (Garlake, 1998, p. 55). Harpley's *The Dockers* represented a compromise between these two agendas. Harpley was an established figurative artist, having first displayed his work *Seated Girl* at the Royal Academy in 1954 (Buckman, 1998, p. 542). Already a member of the Royal Society of Sculptors, he became a fellow the year after *The Dockers* was installed, in 1963 (Art UK, n.d.). By depicting two typical working-class figures, the LCC's desire to install art for the "man in the street" was fulfilled.

This "war of taste," and the adoption of the Arts Council in the LCC's patronage of the arts scheme offer the question of whether *The Dockers* and other artworks

installed by the LCC were "good art." Whether or not works of art are good is highly subjective. However, by consulting the Arts Council and working with artists that were royal academicians, members of professional societies such as the Royal Society of Sculptors, and had established careers before working with the LCC, the LCC was clearly engaging with questions of quality and taste. The art and housing of the LCC was a top-down activity. Confident in its "expert paternalism" (Matless, 1993, pp. 167–178), the LCC used artists who were from outside these communities. Though some of the artists the LCC used were working or lower-middle class and from London such as William Mitchell and Sydney Harpley, the LCC's activities differed greatly from the collaborative community work of the later Greater London Council and associated organisations such as Greenwich Mural Workshop and the Whitechapel Gallery's Education Department in the 1970s and 1980s (Crook & Steedman, 2013, pp. 8–9). Harpley was the son of a cabinet maker and electrician, born in Fulham and raised in Dagenham. Through his professional status gained through his art school training at Hammersmith School of Art and then the Royal College of Art (Chris Beetles Gallery, 2022), Harpley would have been deemed a relative outsider in Poplar.

The LCC installed human-figurative sculptures including dockers in Poplar, mother and child figures such as Franta Belsky's *The Lesson* on the Avebury Estate in 1959, and neighbours as in Siegfried Charoux's *The Neighbours* on Highbury Quadrant Estate in 1959 and Uli Nimptsch's *Neighbourly Encounter* on the Silwood Estate in 1964. These depictions of "types" of citizens, posed within the landscape of their housing scheme, are caricatures of Londoners. As Jolivette (2009, p. 22) describes, regarding the works in the Lion and Unicorn Pavilion in the South Bank exhibition of the Festival of Britain, "national character is replaced by national caricature." Thus, with *The Dockers*, London's character is replaced by a London caricature—the LCC's idea of Londoners. By depicting dockers in Poplar, the LCC was appealing to a specific section of the community. Typical of much of the country's post-war planning and appeals to citizenship, "justifications for the proposed community-based, post-war reconstruction were based around appeals to a shared national history and national identity" (Allen, 1994, p. 231). This is problematic to modern eyes as it excludes those who do not share that common heritage and culture. This commonality of experience in a city as diverse and varied as London, even in Poplar with the predominance of the docks, is hard to defend: In 1944, it was estimated that around 60% of Greater London's population were born elsewhere (Abercrombie, 1945, p. 27).

4. Sydney Harpley's *The Dockers*

The Dockers stood larger than life-size, at 8'6" tall, and depicted two dockers bearing a heavy weight, manoeuvred from a crane. The bodies of the two men merge with the joint effort, standing as a monument to the strength of the docker, showing the hard, physical work involved in manually unloading cargo from ships. It is difficult to judge how readable the sculpture was to the people of Poplar as the sculpture no longer exists and so I have never walked around it, viewing it from all angles. However, in Figure 2, it is possible to see the left arm and face of the docker on the left. His arm melts into the load, his face is pressed against it, showing a strained expression. Although not a realistic portrayal of two men performing this particular task, initially it would have had a plaque on the plinth with the title of the artwork. Thus, although the piece appeared visually ambiguous and confusing with its heavy, unclear forms, it would have been clear to those who stopped to consider the work that this was a pair of dockers.

It would be a mistake to deem the residents of this traditional, industrial area as incapable of appreciating or understanding art. Indeed, some dockers were also artists. Port of London Authority docker A. V. Conn was an artist who died in 1973 aged 76, and that year saw an exhibition of his paintings at London Dock House, Wapping. He used both the countryside and his life working on the river as his subject. Conn was also a regular contributor to the Port of London Authority's staff arts and crafts exhibitions ("Exhibition is tribute to docker," 1974). Docker and artist Terry Scales was employed mainly at the Surrey Commercial Docks after the Second World War and, like Conn, took inspiration from his working environment. Scales produced work for the newsletter of the Surrey Commercial Docks including portraits of dockers as they retired (White, 2016).

The Dockers stood upon a plinth—still visible today—on a slightly raised part of Trinity Gardens, near the newly-built Trinity Church (Figure 2). A V1 flying bomb had destroyed the original Trinity Church (Ward, 2016, p. 100). Also, just to the west of the site where *The Dockers* was installed, a V2 bomb hit the houses at the corner of Upper North Street and East India Dock Road (Ward, 2016, p. 100). Thus, *The Dockers* was surrounded by newly built housing and a church with a community hall attached, setting these traditional dockers against their contemporary architectural surroundings.

The Dockers was unveiled in September 1962 at a cost of £1,200, out of the LCC's annual budget of £20,000 (LCC, 1956, p. 576). Trinity Gardens was a newly created green space on the corner of East India Dock Road and Upper North Street. *The Dockers* was made of glass-fibre reinforced resin with a concrete centre, a material typical of many of the LCC's artworks, the use of expensive bronze being an exception. Despite the aforementioned tension, *The Dockers* was one of the most dynamic of the LCC's housing estates' human-figurative sculptures, with its "exciting cantilevered form" ("The dockers come to dockland," 1962).

Situated northeast of the industrial Isle of Dogs in East London, and thus near to the West India, East India, Millwall, and Poplar docks, the figure of the docker

Figure 2. Empty plinth of Sydney Harpley's *The Dockers*, Lansbury Estate.

was an obvious choice for Poplar. Though Harpley was commissioned by the LCC to produce a piece for Trinity Gardens, it seems the choice of subject was his own ("The dockers come to dockland," 1962). The LCC emphasised the appropriateness of the subject to this area:

> Mr. Harpley's choice of subject—"the dockers"—is particularly appropriate as Trinity Garden is situated only a short distance from the West India Docks and less than a mile from the East India Docks. Mr. Harpley spent many hours sketching in and around the docks before finally arriving at his design of two dockers manoeuvring a load suspended from a crane. (LCC Parks Department Press Office, 1962)

It seems the work was not based on any particular sketch, but, according to Harpley, was "an interpretation based on the atmosphere I felt" ("Untitled newspaper clipping," 1962). Harpley was well known for sculptures of young girls such as dancers, acrobats, and girls on swings, all works suggesting movement (Chris Beetles Gallery, 2022), such as the aforementioned *Seated Girl*. Looking back on Harpley's career from 1987, Chris Beetles (Chris Beetles Gallery represents the estate of Sydney Harpley) remarked, "the balletic beauty of youth and fitness continue to concern [Harpley] as he translates the vigour and delicacy of the female body into the acceptably tangible solid bronze" (Beetles, 1987). Harpley did sculpt male figures, such as a portrait memorial to Jan Christian Smuts and busts of Edward Heath, Lee Kuan Yew, and Prince Albert of Monaco (Buckman, 1998, p. 542). The movement and dynamism Harpley favoured for young girls is, with *The Dockers*, deployed rather less successfully as the heavy, awkward movement suggestive of the toil of the dockworker. This adds poignancy to *The Dockers,* as:

> The difficult moment when a movement fails, adapts or changes direction is increasingly explored. So it is imperfection as well as perfection that interests [Harpley] more and more and this gives the figures a tension, an added reality to which the eye and heart can relate. (Beetles, 1987)

The awkwardness of *The Dockers*—at once valorising the figure of the docker and also showing his awkward, heavy toil—reflected the nature of this commission, common to other LCC commissions. On the one hand, the LCC commissioned or purchased a work to highlight a new housing estate that had resonance with the local population. On the other, the artist exercised their skill and imagination which, in this case (perhaps with hindsight), reflected tension and vulnerability. The two men are shown completely consumed and anonymised by their work. Perhaps Harley formed an impression of dock workers when he sat sketching amongst them and expressed it through the work.

Dockers "took a pride in their strength and skill and bred their sons to the same calling" (Turnbull & Wass,

1994, p. 491). These industrious dockers, completely absorbed by their toil, represented the ideal, docile worker. This sculpture gives no voice to the real figure of the docker, at this time, unionised, vocal, and proud. Instead, the LCC was "privileging a heightened moral or ethical idea of how London would function in the future" (Mort, 2004, p. 123).

Local paper the *Stratford Express* featured contemporary local feelings and opinions. Despite press often featuring the more vocal, often negative, observer, press articles provide an interesting insight into *The Docker*'s reception. The *Stratford Express* of 14 September 1962 gives a rather underwhelmed report of the unveiling: "The rain-soaked curtains slid away and unveiled two 'unwanted' dockers" ("Untitled newspaper clipping," 1962). The Minister of Trinity Congregational Church (the church adjacent to the sculpture), Reverend Jack Andrews, is quoted in the newspaper: "It's too near the church—People might think it's got something to do with us. Still, the schoolboys and pigeons will soon make short work of it" ("Untitled newspaper clipping," 1962). Docker Bill Wilson said, "The general feeling is of disgusted amusement. Lots of the boys can't believe it" ("Untitled newspaper clipping," 1962). Jack Dash, a figure well-known on the docks for his trade union activity, diplomatically said, "It's nice to know there's a tribute to our physical labours. I'm pleased our services to the community are being recognised" ("Untitled newspaper clipping," 1962).

5. Dockers and the London County Council's Planning and Reconstruction Message

Harpley's sculptural depiction of dockers was a key part of the LCC's planning and reconstruction message. Dockers, as well as being relevant and important to this part of London, were seen, even as late as the 1970s, as "among the elite of the British work force, with restricted (family) entry into an occupation which was well paid, relatively secure and for the most part interesting and enjoyable" (Turnbull & Wass, 1994, pp. 492–493). Depictions of workers and industry were prominent in the post-war period: In 1950, the Artists International Association held the exhibition "Coalmining" dedicated to depictions of coalminers (Lindey, 2018, p. 137). The LCC installed Siegfried Charoux's *The Neighbours* on the Highbury Quadrant Estate in 1959 in front of one of the estate's housing blocks. These neighbourly figures were workers, like Harpley's *Dockers*—Charoux "certainly got a feeling for men who work with their hands at dirty jobs" ("Savouries and sweets," 1959).

The theme of the docks and the figure of the docker complemented the LCC's emphasis on working people in London. Such paternal romanticism sat alongside the wider cultural "valorisation" of working people in this period (Garlake, 2001, p. 3). Much of the replanning of London set out in the *County of London Plan* concentrated on the more industrial and working-class areas of London, including areas in East London such as Poplar. These are the areas that much of the four defects (Forshaw & Abercrombie, 1943, pp. 3–7) of London outlined in the *County of London Plan* applied to: "Constructed as the ultimate urban nightmare, badly bombed during the War, yet inhabited by self-sacrificing, working-class families, the East End had potent and ready symbolism for LCC reconstruction plans" (Allen, 1994, p. 182). Both *The Dockers* and the Lansbury Estate communicated the LCC's ethos.

Across the road from, and contemporary to, *The Dockers*, the LCC installed another artwork inspired by the docks on the Birchfield Estate. In an underpass in the housing block, Gorsefield House, is a black and white tiled mural showing the boats and cranes of the docks—again, emphasising the industrial nature of this area (Figure 3). This was also installed by the LCC but produced under the LCC's Design Consultant Scheme, which involved the LCC employing two design consultants, William Mitchell and Anthony Hollaway, to produce artwork for LCC sites (Pereira, 2009). LCC design consultant Anthony Hollaway collaborated with architect Oliver Cox on the mural (Pereira, 2009, p. 112). Architect Walter Bor discussed the docks and dock workers when working on the Lansbury Estate in the 1950s in an interview from 1992, explaining the special and specific considerations of post-war planning and reconstruction in the East End:

> The docks at that time were still thriving. The London docks [were] among the most important in the world still. And the dockers made up a very high percentage of the population. So they had their jobs there, and they wanted to live nearby and so on…we tried to bear in mind the kind of people who would be living there. (Allen, 1994, pp. 184–185)

The *County of London Plan* discussed industry throughout, revealing the importance of London as an industrial city in the post-war years (Forshaw & Abercrombie, 1943, pp. 84–98, 126–135, 177). Indeed, the *County of London Plan* described, "In nothing is London more itself than in its industry" (Forshaw & Abercrombie, 1943, p. 5). The LCC recognised that in London the most depressed and congested areas with bad housing housed working people, such as Poplar:

> There is the more deep-rooted social evil that so much of London's industry has been dependant on the existence near at hand of low-income wage earners. The demands for casual dock labour, for low-wage cleaners, in offices, or for low-wage railway workers have forced the development of areas in which the houses were as cheap as the labour. An old and decayed labourer dies and is buried, the house lives on. (Carter & Goldfinger, 1945, p. 22)

The docker, so familiar in Poplar, was used to communicate the outrage about bad housing as well as the LCC's plans to improve housing. Harpley's *Dockers*

Figure 3. Anthony Hollaway with Oliver Cox's Docklands mural, Gorsefield House, Birchfield Estate, 1960s.

communicated this message on the Lansbury Estate by emphasising the LCC's new housing at Lansbury. By providing housing near to the docks, the LCC recognised the casual nature of dock labour, acknowledging that dock workers had to be near their place of work both morning and afternoon to attend the "call-on" (Dash, 1995, pp. 54–56). By providing good quality council housing, as at the Lansbury Estate, the LCC tried to contribute to the quality of life for these workers so essential to the economy of London.

6. Post-Industrial Poplar

With the establishment of the National Dock Labour Scheme in 1947 and the results of the Devlin Committee in 1965 (Turnbull & Wass, 1994, p. 491), the once casualised nature of dock work became more secure and lucrative. In the words of an ex-docker, "It was never just a job—It was always much more than that. Being a docker was a way of life. It was the greatest game in the world" (Turnbull & Wass, 1994, p. 487). Indeed, two years after *The Dockers* was installed, the London docks saw their best year, when trade exceeded 61 million tonnes (Port of London Authority, 2022).

However, between 1978 and 1981, over a quarter of the area's 37,000 jobs were lost (Foster, 1992, p. 172). Containerisation meant that ships could no longer come upstream as far as the London docks, where the river is narrow and winding, and the docks were neither deep nor wide enough for container ships. In the 1960s, deep water births were built at Tilbury, further downstream, shifting focus away from London. Containerisation required fewer workers and the need for warehouses disappeared, causing a significant change in the infrastructure, location, and working patterns of the docks (Port of London Authority, 2022).

Following years of different, competing ideas for the increasingly derelict Docklands area, the London Dockland Development Corporation (LDDC) was formed in 1981 to manage the regeneration of the area. The LDDC's aim was to re-brand the Docklands, attract investment and a wealthier clientele, and "project an image of a future in which the squalor of Docklands is transformed into an alluring environment" (Ball, 1996, p. 99). The wealthier incomers often termed "yuppies" (young, upwardly mobile professionals) were in stark contrast to the longer-term, dockland residents, "incoming yuppies compose images of status, of pioneering, and of the 'Venice of the North'" (Massey, 1993, p. 145), a reference to the early LDDC's desire for the Docklands to have the feel of Venice with its waterways. With the deregulation of the financial markets in The City in 1986 and the need for office space coinciding with the opening up of industrial land in the London Docklands, the nearby Isle of Dogs underwent intense regeneration, creating office space (Ball, 1996, p. 97).

The collapse of the docks and associated industries and the subsequent actions of the LDDC impacted

people in areas like Poplar and the nearby Isle of Dogs. People had "seen their whole world changed before them" (Foster, 1992, p. 170). Whereas the LCC planned for local people, the "borough's best elements" (Forshaw & Abercrombie, 1943, p. 8), to make inner London attractive enough for working-class people to stay and not leave for a better standard of living in the New Towns, the LDDC and Thatcher government of the 1980s certainly did not:

> The government has favoured a "demand-led" approach with the emphasis on creating a new local economy attractive to firms and prospective resident from outside the area. In terms of employment strategy the Docklands UDC [Urban Development Corporation] has switched emphasis from attempting to provide manufacturing jobs towards office and warehousing schemes and retail complexes. In the housing field, UDC efforts have focused on the private sector construction of owner-occupied dwellings while waiting lists for council housing have risen. (Pacione, 1990, p. 197)

The housing policies of the LDDC created community tension and reflected the LDDC's desire to change the demographic of the Docklands area: "In the LDDC's housing policy the private sector dominates. This reflects the LDDC's redevelopment philosophy which aims at changing the social character of the region through the attraction of young professional groups" (Page, 1987, pp. 61–63).

Whilst the LDDC was interested in retaining some of the dock infrastructures, such as cranes, warehouses, and dock basins, to sell the area on its history and waterfront location as well as maintaining "key environmental resources of the area" (Ball, 1996, p. 99), less concession was given to the people and culture of the area that Sydney Harpley's *Dockers* represented. The loss of jobs in the area covered by the LDDC was devastating. The replacement of dock-related jobs with jobs in the finance sector, attracting huge wealth to the developments at nearby Isle of Dogs, was supposed to benefit areas like Poplar with a "trickle-down" effect (Foster, 1992, p. 172). This is not to say that dock work was unskilled, rather the contrary, but it required a different set of skills to ones required in the finance sector:

> The job was also highly skilled and specialised according to the cargo to be handled or the equipment to be used, contrary to the assumption made by many observers that brute force was the essential and exclusive requisite for dock work. (Turnbull & Wass, 1994, p. 490)

Ex-dockers found it hard to transfer their skills so specific to dock work to the finance and service sector jobs created at Canary Wharf. "Moreover, high unemployment locally, and the 'stigma' of being a former docker, produced a redundant population who found it very difficult to secure alternative employment" (Turnbull & Wass, 1994, p. 488). A chasm opened between long-term residents and the aims and aspirations of the LDDC. The LDDC, unlike an elected body such as a local council, was not democratically controlled—a criticism often aimed at the LDDC (Page, 1987, p. 63). Reg Ward, the chief executive of the LDDC, said of local people's anxieties that the changes were not benefitting them:

> Sadly, it would have been hopeless to assume that we could have persuaded local people that their future did not lie with a continuation or recreation of the past, but in an entirely new range of economic activities that they simply could not see themselves as suited for and that had nothing to do with their aspirations. (Foster, 1992, pp. 173–174)

Much of the building work on the Isle of Dogs, including the Docklands Light Railway and the Limehouse Link Road tunnel affected people in areas like Poplar with noise from the construction. People in Poplar and nearby Limehouse took proceedings against the LDDC and Olympia & Yorke for the nuisance and, in some cases, ill health caused by the building works (Foster, 1992, pp. 175–176; see also Dyer, 1991, p. 602). In 1990, residents formed a pressure group, South Poplar and Limehouse Action for Secure Housing (SPLASH), to fight the negative effects of construction work in their area (Philo, 1993, p. 195).

7. The Vandalism of Sydney Harpley's *The Dockers*

In September 1981, the *East London Advertiser* showed *The Dockers* being hosed down by two firemen. The corresponding article explained that, for the last 10 years or so, people had been making holes in the sculpture using chisels and drills. Vandals had stuffed kindling into the holes and set it alight, hence the firemen. A Tower Hamlets Council spokesman said that since the council took over the sculpture in 1965, it had been damaged three times ("Fireman damp down all that remains of *The Dockers*," 1981). The sculpture was pictured in John Boughton's blog in 2015 with its legs remaining shortly before the sculpture was removed; in 2016 when I searched for it, it was gone (Boughton, 2015). Thus, the sculpture was vandalised from the early 1970s to the 21st century, reflecting the period of Poplar's deindustrialisation (with the nearby East India Docks closing in 1967) and recent changes relating to its proximity to Canary Wharf. Common to many public works installed by the LCC and other bodies, *The Dockers* reception was "not one of unmixed and immediate adulation" (Pereira, 2015). Similarly, Henry Moore's *Family Group* installed in Harlow in 1956 was vandalised resulting in Moore having to repair it (Pereira, 2015).

The Dockers' vandalism and attack are of particular interest as dockers were so specific to that area and

by reinforcing Poplar's relationship to the docks through building the Lansbury Estate and installing *The Dockers*, the LCC unwittingly bound that area's future with the collapse of industry on the docks. For many local people, the docks had shaped their lives over a period of 200 years: "It was something with which they identified, and in which their hard physical labour had played an important part" (Foster, 1992, p. 174). The destruction and attack of Sydney Harpley's *Dockers* sit within wider protests from residents about the changing nature both of their area and the type of employment on offer: "It would appear that the cherished hope of urban revitalisation through 'capitalism with a social conscience' is a chimera" (Pacione, 1990, p. 197).

Even as the docks were closing, dock work was being undermined in the Thatcherite era through the dismantling of the National Dock Labour Scheme and the deregulation of dock work, undermining the long-fought for employment rights and protections of dock work (Turnbull & Wass, 1994). The continued vandalism of the sculpture perhaps typified the much-reviled "yuffie" (young, urban failures, failing to get a job, a contrast to the yuppie), "a group of youths denied access to the fruits of economic growth" (Short, 1989, pp. 174–175). Community tensions arose with the obvious division of wealthy incomers living cheek-by-jowl with residents disenfranchised by the area's deindustrialisation. For instance, the Isle of Dogs Neighbourhood Committee pointed out that the average local household income was £8,500, but a two-bedroom property in the area was £185,000, making the new, private housing in the area unaffordable to local people (Short, 1989, p. 185). Tensions and protest were reflected in acts such as the spray-painting of incomer's expensive cars (Massey, 1993, p. 145). The 10 September 1988 was even declared "National Anti-Yuppie Day" (Short, 1989, pp. 185–186). The sculpture's ongoing vandalism embodied the experience of living within the shadow of rapid deindustrialisation and "one of the most important and controversial urban redevelopment schemes in Western Europe" (Page, 1987, p. 63).

The destruction of *The Dockers* coincided with the interruption of the LCC's vision of Poplar and Poplar people. No longer the "planners' visions as complex social fantasies about the city" (Mort, 2004, p. 150), *The Dockers* became out of date and a source of frustration—or irrelevance. Indeed, similar acts of vandalism were encouraged to discourage "yuppies" from moving into the Docklands area. In 1987, a letter in the *East London Advertiser* observed:

> I was delighted the other day when sitting with my younger sister on the Isle of Dogs and saw some youngsters ripping up newly planted trees and using them to attack yuppie homes. Hopefully some young people locally will still have some fight in them and will repel these new Eastenders by making life unbearable for them. (Short, 1989, p. 187)

8. Poplar Today

Poplar, despite being less than a mile from the finance and banks of Canary Wharf has, for the past few decades, seemed a world away from that wealth. However, "Canary Wharf is coming for Poplar at last" (Burrows, 2019). Controversially, Poplar has seen recent attention and focus on some of its housing: post-war council housing built for the local, working-class population by some of the most famous architects of the day. Poplar's Balfron Tower was designed by Ernő Goldfinger and opened in 1968, and Robin Hood Gardens was designed by Alison and Peter Smithson and finished in 1972. Tensions have arisen between regenerating the housing stock for local, existing residents and selling the housing of Poplar on its fashionable, brutalist aesthetic and proximity to Canary Wharf (Burrows, 2019). Much of this change has been down to the organisation, Poplar Housing and Regeneration Community Association (better known as Poplar HARCA). Poplar HARCA has been accused of gentrifying Poplar through selling off assets such as Balfron tower: "Where once Balfron looked out over declining docks, it now winks at the towers of Canary Wharf, whose bankers are a target audience for the new flats" (Wainwright, 2022).

9. Conclusion

The destruction of *The Dockers*, their physical attack, occurred alongside the decimation of industry in Poplar, and the anger and community tensions that arose from that rapid change. The LCC isolated these sculptural dockers in a world that fell away around them as, unbeknownst to the post-war LCC, the docks in London would quickly become redundant. Indeed, council housing historian John Boughton describes the Lansbury Estate and the impending closure of the docks in the area around Poplar as "less the first breath of a new world than the dying gasp of the old" (Boughton, 2018, p. 101). This joining of the Poplar docker to the Lansbury Estate, with the hindsight of a deindustrialised London, shows how Sydney Harpley's *Dockers* were "at best ill at ease in the present, and doomed in the future" (Stedman Jones, 2017, p. 277). East India Dock, near the Lansbury Estate and Sydney Harpley's *Dockers*, was the first of the London docks to close, in 1967. The rest of the London docks followed, culminating in the closure of the Royal Docks in 1982, leaving 22 km^2 of land derelict (Keith & Pile, 1993, p. 12). Perhaps Harpley's *Dockers*, like the 1980s "yuppies" and "yuffies," became just an irrelevant "contemporary urban folk-tale" (Short, 1989, p. 174).

Poplar, traditionally working-class and industrial, has become expensive and desirable to live in due to its proximity to Canary Wharf and the financial jobs based there. *The Docker*'s empty plinth (Figure 2) serves as a poignant reminder of the industry and community in Poplar and the changes that were forced upon it. The absent

sculptural dockers now bear witness to the increasing unaffordability of Poplar, exemplified by the commodification of Poplar's council housing stock. In July 2022, the newly refurbished apartments in Poplar's Balfron Tower went on sale. Whereas the LCC built the Lansbury Estate and Balfron Tower for local, working-class people to provide affordable council housing for people working in the nearby docks and associated industries, now Balfron Tower is sold on its proximity to Canary Wharf, City Airport, and Central London. Prices start at £375,000 (Londonewcastle, 2022).

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Conflict of Interests

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Article

Post-War Architecture and Urban Planning as Means of Reinventing Opole's Past and Identity

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Abstract
In 1945, Opole experienced a disruption in its history—a formerly German city had been incorporated into southwestern Poland during the change of European borders. In this new geopolitical situation Opole, along with other pre-war Eastern outskirts of Germany, became a part of so-called Recovered Territories. The name itself implied that those lands were perceived as not only incorporated into the country but brought back as undeniably Polish. The process of establishing (or "regaining") the Polish identity of those cities, among them Opole, was intended to omit some elements of the recent German past and emphasize others deemed inherently Polish at that time. This occurrence was also tied to the issue of rewriting and reinventing the city's history, during which architecture and urban planning were used as one of the most powerful tools. The article presents how architecture and urban planning were used in the process of establishing Opole's new, Polish identity since 1945. The attempts to rewrite and reinvent Opole's history are exemplified by the restoration of the historic city centre, as well as by new, post-war architecture and urban development. The legacy of that process still lingers in the city's urban fabric. The strive to emphasise "Polish" elements of the city while omitting or repurposing the German ones makes one pose questions about the role of architecture (both historic and new), urban planning, and the narratives created around them in the process of rewriting and reinventing a city's past and identity.

Keywords
architecture; monuments; Opole; Poland; post-war period; Recovered Territories; urban planning

Issue
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1. Introduction

The end of World War II brought about significant changes in regard to Poland's borders. The organizers of the Potsdam conference decided that the country's borderline would be redrawn: Poland simultaneously lost territories east of the Curzon Line (as they became incorporated into the Soviet Union) and gained those located east of the Odra and Nysa rivers (which, before 1945, were borderlands between Poland and Germany; Polak-Springer, 2015, pp. 183–184). The latter, comprised of pre-war East Prussia, Pomerania, eastern Brandenburg, Lower Silesia, and the western part of Upper Silesia (or Opole Silesia), post-1945 became known as the so-called Recovered Territories (Ziemie Odzyskane) or western and northern territories (Ziemie Zachodnie i Północne, see Figure 1). Until 1970, when the authorities confirmed the Polish–German border on the Odra and Nysa rivers, the fate and future of the so-called Recovered Territories remained unknown, which facilitated a sense of temporariness (Thum, 2011, p. 187). This was contrasted with the actions of the authorities, through expulsions and migrations of the inhabitants, as well as restoration and development of the cities (Polak-Springer, 2015, p. 184).

In this article, the name "Recovered Territories" is used with the prefix "so-called" to indicate that the designation itself was politically and ideologically charged.

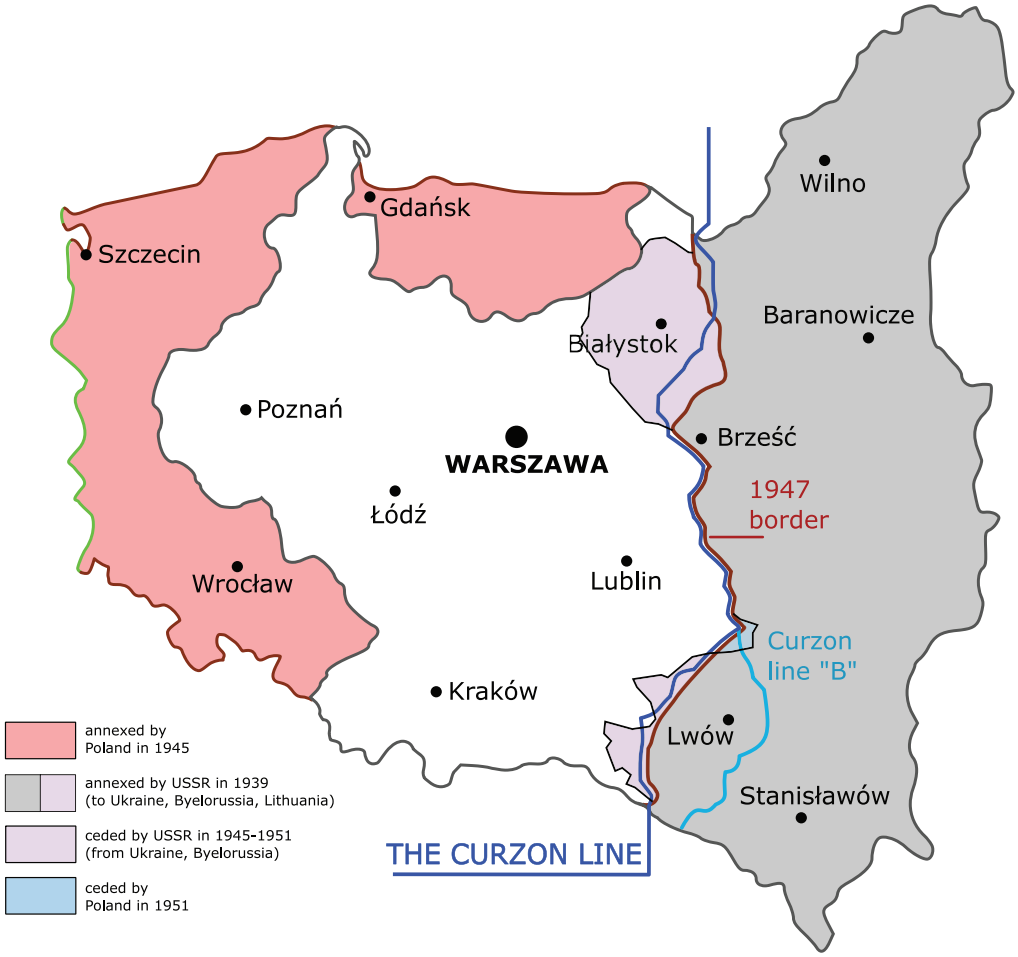

Figure 1. Map of the so-called Recovered Territories. Source: Wikimedia Commons (2007).

The processes of "recovering" those lands took place not only in the material realm. They were also apparent in new narratives created around those territories and cities, which were meant to undeniably prove that those lands were not incorporated into Poland, but "brought back" to the country as ethnically and historically Polish. In reality, those territories and cities, such as Wrocław (Breslau), Gdańsk (Danzig), Szczecin (Stettin), and Olsztyn (Allenstein), which were annexed into Poland after World War II, had been a part of Prussia or Germany for many centuries. Among the pre-war German cities, incorporated into Poland after 1945, was Opole (Oppeln)—a city now located in south-western Poland, approximately in the middle of the road between Wrocław and Katowice.

On the morning of March 24, 1945, a 71-person operational group from Katowice arrived in Opole. Their goal was to take over the power and administer the official tasks. Władysław Gliwiński, one of its members, recalled this moment as follows: "The city made a depressing impression. It looked as one pile of rubble around us" (Dziewulski & Hawranek, 1975, p. 414). Opole, whose streets were traversed by the operational group, was deserted and devastated. The destruction of the city in the first post-war years was estimated at more than 60% and tremendous damage covered the area of the city's historical centre.

After the seizure of power in Opole, the new representatives of the Polish administration faced the arduous task of rebuilding the city. The devastated city had to be rebuilt from the war damage to enable its daily functioning and for the new residents to settle. However, it was also crucial to create a narrative about Opole (and other cities of the so-called Recovered Territories) that explained why the city was incorporated into Poland. The break in the historical continuity and the exchange of power and population meant that the city's identity had to be recreated. As shown by the post-war history of Opole, this process was often associated with attempts to reinterpret the city's history or rewrite it.

The research on post-war architectural and urban development of so-called Recovered Territories has been centred mainly on bigger cities, such as Wrocław (e.g., Gabiś, 2019; Thum, 2011), Gdańsk (e.g., Friedrich, 2015), or Szczecin (e.g., Musekamp, 2013). Therefore, Opole was chosen as a case study in order to present those issues in the context of a smaller city and complement existing research concerning the post-war history of formerly German cities. Using an example of a smaller city offers a valuable perspective that has the

potential of enriching the discourse concerning so-called Recovered Territories with new examples of how architecture, urban planning, and built environment were used as political and ideological tools.

Opole can serve as an interesting case study also due to the fact that it presents both similarities and differences to other cities of so-called Recovered Territories. Firstly, it differs from other cities of those lands on the basis of its ethnic background. The region of Opole Silesia, similarly to the eastern part of Upper Silesia, is inhabited by the Silesians—an ethnic group indigenous to those lands. Thus, post-1945, the exchange of inhabitants in Opole and the region was not as extensive as in, say, Lower Silesia or Pomerania—many pre-war inhabitants remained in the city after its incorporation into Poland. Moreover, Opole's and the region's 20th-century history also differs from other parts of so-called Recovered Territories. After 1918, the Upper Silesia was the arena of the Silesian Uprisings—a series of three insurrections (in 1919, 1920, and 1921) which broke out as an effort to incorporate Upper Silesia into newly founded Poland. In a plebiscite, which took place in 1921, the inhabitants were to decide whether those lands would remain in Germany or be annexed into Poland. As a result, the Upper Silesia was divided between two countries: the eastern part (with Katowice) was incorporated into Poland, while the western part (with Opole) remained in Germany. Therefore, in that regard, Opole's 20th-century history bears similarities with both Upper Silesia (as the region was affected by the Silesian Uprisings) and Lower Silesia (as it remained German until 1945).

This article aims to present how the process of rewriting and reinventing Opole's history post-World War II was reflected in the architecture and urban fabric as it traces the relationship between the built environment and ideological and political discourses (Czepczyński, 2016, p. 8). Architecture and urban planning are analysed as a framework which materializes and stimulates certain social, political, and cultural processes (Czepczyński, 2016, p. 2). Opole can be analysed as a cultural landscape, consisting not only of buildings and spaces, but also representations of power, behaviours, narratives, and discourses (Czepczyński, 2016, p. 9). The notion of the city as a cultural landscape conveys the idea of a city as an entity: consisting of physical components (such as buildings, spaces, and places), relations between them and narratives about them which, altogether, emerge, disappear, and mutate over time. It also traces how certain events or processes—in this case, the reinvention of Opole's identity and history post-1945—are visualized and embodied in the spatial structure of the city, interwoven in its urban and architectural fabric (Czepczyński, 2016, p. 29). Changes in the urban fabric are inextricably connected to changes present in an immaterial realm: ideology, politics, and society. The biggest ones usually follow major evolutions or revolutions (Czepczyński, 2016, p. 3). That was also the case of Opole and both its post-war and post-German transformation. Analysing the city as a landscape allows us to see it as a multi-layered process, consisting of many different factors and occurring over a period of time. If the city is also analysed as a text, or a complex narrative (Kisiel, 2018, p. 7), then the issue of rewriting its history through the means of a built environment becomes much more apparent. In that way, post-war Opole can be interpreted as a sort of urban palimpsest in which certain elements (such as buildings or monuments) have been removed and overwritten by new ones.

Architecture, urban planning, and changes in the urban fabric participated in the post-war process of redefining the Opole's identity and rewriting its history. This issue is presented on the basis of four examples: the Market Square, Ostrówek area, the new centre of Opole, and the issue of destruction and creation of monuments. Selected examples of the existing architecture and places, such as the tenement houses of the Market Square or the archaeological site in Ostrówek, were reinterpreted as evidence of the city's eternal Polishness. Completely new architectural realizations also facilitated the creation of a new identity of the city, examples of which are the projects of the development of the Central Square, the new centre of Opole, as well as the Millennium Amphitheatre. Those were to create the image of metropolitan Opole, an administrative and cultural centre that, after 1945, flourished and developed. The shifts in identities and history of Opole are also materialized in the shape of monuments, which testify to the changes in the narrative about the city and region post-1945.

The topic of Opole's post-war architecture and urban planning have been presented in historical monographs (Dziewulski & Hawranek, 1975; Linek et al., 2011), scientific articles (e.g., Filipczyk, 2018; Szczepańska, 2021), and press articles. However, most of the aforementioned entries do not analyse and interpret post-1945 architecture and urban planning in relation to ideology, politics, and historical processes. In this article, the aforementioned literature is accompanied by source and archival materials that communicate certain narratives and demonstrate the complexity of the issue of rewriting Opole's history in regard to architecture, city development, and heritage. Those materials are represented by press articles (both pre- and post-war) and archival materials stored in state archives in Opole and Katowice.

2. Restoration of the Market Square

The post-war restoration of the Market Square in Opole serves as one of the best examples of how architecture was used to rewrite the city's history after 1945, in this case, through omitting or removing certain elements from it and adding or accentuating other features. As a result of the war, the Market Square is estimated to have been about 80% destroyed; hence it was classified as one of the most damaged areas in the whole city

and was described, among others, as "terrible rubble" with only a few surviving buildings jutting out from the debris ("Kronika miasta Opola," [ca., 1952–1955], p. 16). The post-war restoration of the Market Square was significant, not only in terms of its infrastructural and functional aspects but also in terms of semantic aspects as the historical centre plays a vital representative and symbolic role (see Figure 2).

The project of rebuilding the Market Square was made in Miastoprojekt-Południe by Stanisław Kramarczyk, Jan Olpiński, Czesław Thullie, and Marian Skałkowski (Łowiński, 1957, p. 170). The other institutions, such as the Department of Conservation and Protection of Immovable Monuments at the Ministry of Culture, the local conservation authorities, the Directorate for the Construction of Labour's Housing Estates (Dyrekcja Budowy Osiedli Robotniczych), and the group of historians supervised by the Ministry of Culture, were also involved in these undertakings ("Gdy ożyją plany i makiety," 1953, p. 3). The restoration of the Market Square took place between 1951 and 1955. At first, the southern frontage was completed in 1953 ("Kronika miasta Opola," [ca., 1952–1955], p. 39), followed by the northern and eastern frontages, which were completed the following year ("Kronika miasta Opola," [ca., 1952–1955], p. 64). At the end of 1955, the western frontage was the last to be brought back into operation ("Z realizacji programów wyborczych," 1955, p. 1).

The rebuilt tenement houses were intended to offer a modern layout of apartments (Petrus, 2009, pp. 146–149), with adequate sunlight and ventilation ("Gdy ożyją plany i makiety," 1953, p. 3), a sewage system, together with gas and electricity installations ("Opole z każdym dniem piękniejsze," 1953, p. 4). The emphasis on reconstructing historical façades with the aspiration to modernize the interiors, thus creating a dissonance between the interior and the exterior part, was a phenomenon typical of post-war reconstruction in other European cities. Most often, the historical buildings did not meet the modern requirements for insulation, ventilation, plumbing, and electricity (Diefendorf, 1993, p. 69). In the case of Opole Market Square, the modifications encompassed not only the interiors of tenement houses but also their façades. As shown in the archival materials, the pre-war housing structure in the Market Square was heterogeneous (see Figure 3). The tenement houses were distinguished by their size and stylistic forms. They were either largely historicized or built in a neo-classical style. As a result of the post-war reconstruction, these varied structures were replaced by unified neo-baroque forms. Therefore, the façades of many tenement houses lost their pre-war appearance (see Figure 4). It is worth mentioning that the façades which were most faithfully rebuilt were those of the pre-war baroque style. The exception to the discussed process of neo-baroque unification of the Market Square are three tenement houses on the western frontage (houses no. 1, 2, and 3), which were not destroyed during the war and retained their neo-style façades.

During the preparation of the reconstruction projects of the Opole Market Square, architects from Miastoprojekt-Południe could use the information on the history of its architecture from several sources: preserved buildings or their fragments, historical iconographic materials (engravings and photographs), and the expertise of art historians or an inventory of historic architecture, which was carried out in Opole at the end of the 1940s. Despite the wealth of resources and materials that could be used while designing the projects, the decision to reconstruct the architectural style and

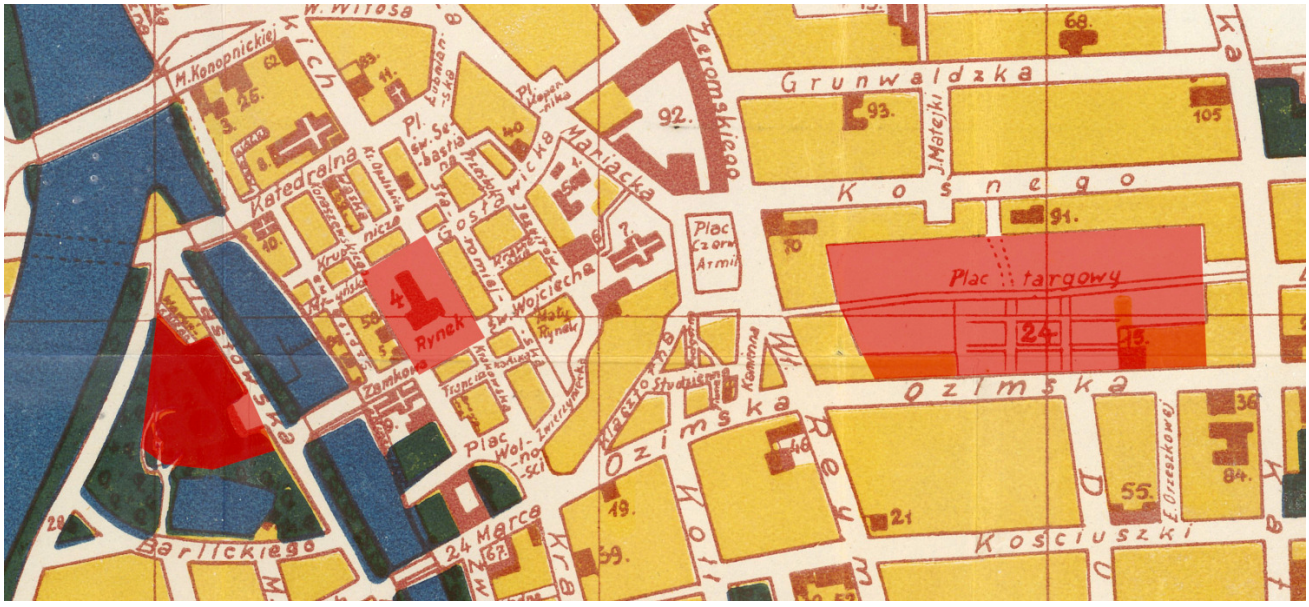

Figure 2. Plan of Opole from 1948 with highlighted areas of Ostrówek (left), Market Square (centre) and Central Square (right). Source: Streer (1948), highlighted areas by the author.

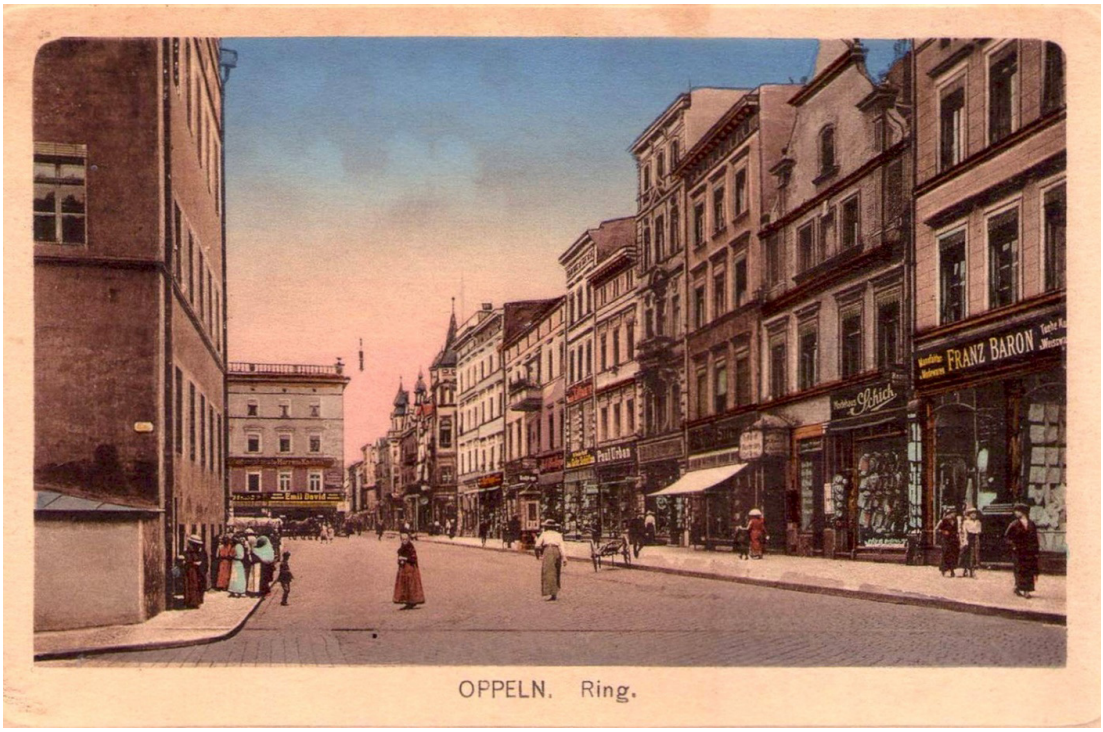

Figure 3. Eastern frontage of the Market Square in Opole before 1945. Source: Wikimedia Commons (2021).

Figure 4. Eastern frontage of the Market Square in Opole post-restoration.

forms from before their destruction had not been made. Instead, the decision was made to create a sort of architectural fantasy about the Market Square under the guise of bringing back its "old, historical appearance" ("Opole z każdym dniem piękniejsze," 1953, p. 4).

As explained in the local press, the primary pursuit during the design process was to bring back the "historical beauty of Polish as well as Renaissance and Baroque style of Opole" ("Na naszych starówkach," 1954, p. 6). Simultaneously there appeared to be a strong need to remove "foreign Prussian influences grounded in Berlin's pseudoclassicism from the Schinkel and Langhans' schools of architecture" ("Na naszych starówkach," 1954, p. 6); the ones that were considered as elements that "started to obscure the distinctive native Polish baroque style of a particular hue found in Opole" ("Na naszych starówkach," 1954, p. 6). It should be noted that the negative attitude towards the 19th and 20th-century alterations of the Old Town area in Opole was not an isolated phenomenon. Similar proposals to remove historicizing elements, considered "Germanic," were also voiced about the reconstruction of the Old Towns in other former German cities, such as Poznań, Olsztyn, and Gdańsk (Rymaszewski, 1984, p. 105).

The narrative created around the architecture of the Opole Market Square and its post-war reconstruction was, in fact, an attempt to rewrite the city's history, as the proclaimed "Polish" character of the baroque architecture in Opole did not align with historical realities. The baroque reconstruction of the Market Square, which, according to the underlying narrative, testified to the Polishness of its architecture, took place after 1739. At that time, Opole passed from the rule of the Habsburgs (up to 1742) to the rule of Prussia. Hence, historically it coincided with the times when the city did not belong to Poland (Dziewulski & Hawranek, 1975, p. 163). Because of the shift in borders and population exchanges after World War II, much of the city's pre-1945 history became foreign and difficult to identify with. Therefore, it was necessary to find a new point of reference, one which could testify that the city was "brought back" to Poland, expressing the conviction that these areas had long been Polish (identity and history wise) and that the change of borders in 1945 only testified to this fact. After World War II, the baroque architecture of the Market Square was reinterpreted as material proof of Opole's Polish identity, which predated the city's incorporation into Poland in 1945.

Post-war reconstruction of the Market Square in Opole served to create an entirely new vision of the city's past, in the light of which this area became a material part of the "Polish" baroque heritage, untouched by the German overhauls from the 19th and 20th centuries. This attempt to re-write the history of Opole through the post-war reconstruction of the Market Square can be regarded as successful because nowadays, most residents are not aware of how much the pre-war and post-war Market Square differ from each other, and the tenement houses themselves are considered to be of "historic" origin.

3. Ostrówek: Medieval Past and New Investments

Ostrówek is another historical area of Opole, in which the post-war process of reinterpreting history was carried out in order to create a new identity of the city. This area lies within Pasieka Island, located to the west of the Old Town (see Figure 2). Ostrówek, in terms of history, topography, and identity, is perhaps the most crucial part of Opole. In Ostrówek is where the first early medieval settlement and seat of the dukes from the Piast Dynasty were located. The importance of this area was also recognised in the interwar period. When the city became the capital of the Upper Silesian province, the authorities decided to erect an edifice of the new regency (*Neue Regierung*) in Ostrówek (Adamska, 2015, p. 9). Its construction was inextricably linked with the destruction of the Piast Castle, which was replaced by the new regency edifice. However, its modernist form, designed by architect Konrad Lehmann, conveyed a dialogue between the old and the new: a monumental complex, consisting of varied cubic components, incorporated, and presented the medieval Piast Tower as an important heritage monument (Störtkuhl, 2018, p. 320).

During the demolition of the castle in 1928, a discovery was made. The excavations revealed the foundations of the settlement that had existed in Ostrówek in the early medieval times (Sekcja Wydawnicza Towarzystwa Przyjaciół Nauki i Sztuki w Opolu, 1948, p. 10). Archaeological excavations following this discovery were used as a reason to search for the source of the city's identity and to investigate its origins. While at the turn of the 1920s and 1930s, the archaeological excavations were reported in the press in an enthusiastic but serious tone (the site was described, among other things, as an "archaeological sensation of Upper Silesia" and "Upper Silesian Troy"; "Das oberschlesischer Troja," 1930, p. 3), after the Nazis came to power one could notice significant changes in the narrative carried in press. At that time, one could read about "a rediscovered Germanic Opole" ("Auf den Spüren unseren Vorväter," 1935, p. 3), a place in which "Goths and Vandals once lived" or about the fact that "Opole stands on an ancient German settlement" ("Wo einst Vandalen und Goten wohnten," 1934, p. 5). Therefore, the press's role was to create a purposeful vision of the city's past, which would confirm the Opole's and Upper Silesia's German identity.

Archaeological excavations in Ostrówek were stopped in 1931 and resumed in 1948 when Opole had been a part of Poland for three years. The main goal behind the resumption of archaeological research was to prove the Polishness of the early medieval settlement, which was to directly condition the Polish identity of the entire city—the statements read: "We are in Opole, in one of the cities where the origins of the Polish nation lie" ("Sprawozdania z prac wykopaliskowych w Opolu,"

[ca., 1950–1951], p. 57). The need for impartial investigations justified the reason for Polish archaeological excavations as it was assumed that the pre-war excavations had been carried out in a biased manner and had distorted the actual image of Opole's past. In the opinion of Polish decision-makers, the artefacts found at the archaeological site suggested the Slavic (not Germanic) origin of the settlement. The pre-war argument about the Germanic origin of Ostrówek was, therefore, considered fabricated. According to this narrative, finding the remains of an early medieval settlement during the demolition of the Piast Castle was interpreted as another act of historical justice. This event, perceived in the post-war period as an act of violence towards a building considered to be a memento of the city's medieval Polish past, unexpectedly unveiled the settlement, which proved the historical Polishness of Opole even more clearly (Świejkowski, 1962, p. 13). The early medieval settlement in Ostrówek had become an extremely useful tool for creating and nourishing the idea that Opole had always been Polish. In post-war historiography, ethnic Slavs represented Polish pre-statehood, the reason why they were described, among other things, as "pre-Polish" (Urbańczyk, 2010, p. 203). Since the Slavs (treated in this narrative as the forefathers of Poles) founded the city, then "bringing it back" to Poland in 1945 had been the only correct solution from the historical and identity perspective.

In regard to Ostrówek, we can also see attempts to create the city's post-war identity through means of entirely new architecture; namely, the Millennium Amphitheatre, designed by Florian Jesionowski and Karol Róża. Notwithstanding, its full name is not accidental: this investment was a part of the broad celebrations programme of the millennium of the Polish state in the 1960s. In this context, the very act of calling this investment "the Millennium Amphitheatre" can be interpreted as an initiative aimed at, on the symbolic level, "bonding" the city with the rest of Poland by making the building a sort of offering of gratitude for the thousand-year Polish statehood. This can be well illustrated by the words of the Chairman of the Presidium of the City National Council, Karol Musioł, who announced that the partaking in the building of the amphitheatre by the inhabitants themselves would be "the most telling evidence of the attachment of the population of the Opolskie Voivodeship to their old Piast lands" and serve as "the best celebration of the millennium of our statehood" ("Budowa Amfiteatru 1000-lecia rozpoczęta," 1958, p. 2). The Millennium Amphitheatre created a new foundation of Opole's post-war identity that remains important even today. On its stage, the National Festival of Polish Song has been held almost every year since 1963. After the success of the festival's first edition, Opole has become known as "the capital of Polish song," which, to this day, serves as an advertising slogan promoting the city.

In the case of Ostrówek, the same events, places, and buildings were interpreted in contrasting ways. Archaeological excavations, which, in the 1930s, had been to prove Opole's unquestionable German character, after 1945 were meant to testify to Opole's Polishness ("Sprawozdania z działalności Komitetu Badań Naukowych," [ca., 1947–1955], p. 10). During the pre-war period, the demolition of the Piast Castle had been motivated by pragmatism. After the war, this event was interpreted as an act of violence committed against the architecture demonstrating the medieval Polishness of the city. New buildings, serving as physical representations of particular aspirations and convictions, also appeared in Ostrówek. It can be argued that those were, in a sense, commemorative in nature. The new regency served as a remembrance of Opole's promotion to the rank of the capital of the Upper Silesian Province, whereas the Millennium Amphitheatre was to commemorate the millennium of Polish statehood. At the same time, both before and after the war, Ostrówek was perceived as a source of Opole's urban and national identity. The very act of determining its Polishness after the war had far-reaching implications. The alleged Polishness of Ostrówek conditioned the Polishness of the entire city, which was crucial in establishing its post-war identity.

4. The Central Square and the New Centre of Opole: Competition With History and Aspiration to Become a Prominent Urban Place

The issues related to the process of recreating Opole's identity after 1945 can also be represented by new architectural investments and urban planning. One of the places subject to such undertakings was the Central Square, an area located to the east of the historic old town (see Figure 2), currently divided into Plac Teatralny (Theatre Square) and Plac Jana Pawła II (John-Paul II Square). In the 1960s, attempts were made to establish the new centre of Opole—a cohesive architectural complex located within the borders of the Central Square. As the name suggests, "the new centre of Opole" can be interpreted as a pursuit to create an entirely new architectural complex, functioning in some respects in opposition to the "old"—historical—centre of Opole. It can also be interpreted as another component of Opole's post-war identity as the actual capital of the region, a metropolitan and significant centre.

The first plans for the area's development appeared shortly after Opole's promotion (in 1950) to the rank of the capital of a separate voivodeship. At that time, this area was tentatively called the Central Square, which expressed the expected position of this place in the spatial structure of Opole (Filipczyk, 2018, p. 211). The main axis of this urban planning scheme was on Ozimska street—one of the city's longest arteries. The aspired plans for Ozimska street were overtly expressed in the local press. One could read that the artery was to topographically and symbolically link "Opole of the feudal, capitalist and socialist epochs" (Jassem, 1952, p. 3). At that time, the Central Square comprised facilities

such as a hotel, residential buildings, a university building, and the seat of the City Committee of the Polish United Workers' Party—the only finished building from the 1950s. Putting this building as a core of aesthetics signified an interdependence between urban planning and political issues. It was not the seat of municipal authorities (which resided in the Town Hall) or regional authorities (located in the new regency building) but the seat of the party's authorities that became the most crucial element of the Central Square.

After the thaw in 1956, the authorities returned to the idea of the Central Square as a representative area, this time with the help of modernist architecture. At that time, the complex was to include public utility buildings, such as a boarding music school, a department store, and an auditorium, all surrounded by residential buildings. The second dominant feature of the square, situated opposite the seat of the City Committee of the Polish United Workers' Party, was to become the edifice of the municipal theatre, which was planned to be erected in place of an unfinished pre-war building. At the beginning of the 1960s, the third attempt was made to yet again establish the Central Square complex. At that time, it was already assigned the name of the new centre of Opole, thus signalling the importance of this undertaking and its oppositional location to the old historical centre of the city. The project for this area, made by Zenon Prętczyński, Roman Tunikowski, and Ewa Cieszyńska (see Figure 5), was chosen as the one to be implemented (Filipczyk, 2018, p. 208). According to their designs, the area of the new centre of Opole was to consist of low-rise modernist pavilions and a group of skyscrapers, which were to be the dominant aspects of the vista. It can be argued that their height was supposed to compete with the church towers or the Piast Tower, thus expressing the tension between the new and old centre of Opole. The concept also planned to incorporate the previously designed new theatre building (by Julian Duchowicz and Zygmunt Majerski). The theatre itself was said to commemorate "the times of the Slavic Ostrówek, the dukes from the Piast Dynasty of Opole, the humanism of the Polish Renaissance, the longevity of the Polish language, the struggle of Polish patriots in Silesian uprisings" (Filipczyk, 2018, pp. 210–211). These words confirm the need to present the history of Opole only in the context of its ties with Poland—whether real or fictional.

Figure 5. New centre of Opole. Model of the area by Zenon Prętczyński, Roman Tunikowski, and Ewa Cieszyńska. Source: "New centre of Opole" [ca. 1962].

Post-war designs of the Central Square and the new centre of Opole area demonstrate the need to create a cohesive architectural complex, which, through its size, importance, and representative significance, could constitute a spatial and semantic counterbalance to the historic centre of Opole. The constant return to this idea in various guises and under different names reveals how important it was for authorities of the post-war Opole. At the same time, the new centre of Opole, unlike the "old" historical one, was not "burdened" by pre-war history, the problematic aspects of which had to be eliminated or reinterpreted. The strive for Opole to be a metropolitan centre can also be interpreted as a competition with the pre-war authorities, whose achievements were to be not only "followed up but even surpassed" ("Komitet Odbudowy Opola," [ca., 1948–1949], p. 13). In the context of the abovementioned undertakings, post-war Opole was to be an important administrative, cultural, and political centre, whose spatial development and architecture expressed the ambitions of local authorities.

5. Opole's Monuments After 1945

The shift in Opole's national affiliation in 1945 was also connected to the issue of modification or removal of the old monuments, and the construction of new ones. In Opole, this process can be traced back to 1945 and continues until the present day. The early post-war period was associated with wide-ranging undertakings linked with the so-called "de-Germanization" of the city—that is, the removal of German heritage. The demolition of the pre-war monuments is an example of these changes. German monuments were called "Prussian–Nazi," which signified the negative attitude of the new residents and authorities towards Opole's pre-war history and identity ("Sprawozdania okresowe o sytuacji miasta," 1945, p. 25). After World War II, of more than 10 pre-war monuments in Opole, only three were preserved; namely, the sculptural fountain on the Daszyński Square, the postal workers memorial of those who died in World War I, and

a Monument to Troops of the 63rd Infantry Regiment (Linek et al., 2011, p. 233). The last two, however, were subject to modifications—their original inscriptions were chiselled off. In this respect, their "de-Germanization" did not materialize in the actual disappearance of the monuments from the urban space but in the removal of the German language or obliteration of the primary meaning of the given monument.

Pre-war monument to Frederick the Great was considered the most important symbol of the German rule in Opole. After 1945, the ruler was named "the fierce Germanizer of Silesia" ("Kronika miasta Opola," 1958, p. 52). This term shows that, according to this narrative, pre-1945 Silesia was not a German region but essentially Polish and subject to gradual but planned Germanization by its authorities. On April 6, 1945, the monument was dismantled, and its subsequent fate remains unknown (Bogdoł, 2019). Another important monument that testified to the recent German rule was the sculpture of the Prussian eagle, which had crowned the top of the Piast Tower since the 1930s ("Kronika miasta Opola," 1958, p. 39). During that time, the spire of the tower itself was lowered, which enhanced the sculpture's visibility in the city skyline. After 1945, this act was interpreted as a deliberate action aimed at blurring the original character of the Piast Tower, regarded as a material testimony to Opole's medieval Polish past. Thus, the decision to throw the eagle off the top of the tower, on a symbolic level, freed the monument from German power. Ryszard Hajduk, a journalist and historian, who witnessed this sculpture being thrown off, recalled that he was standing over "the fallen symbol of Teutonic pride," adding that "historical justice has been done" (Sylwester, 1962, p. 5).

The destruction and removal of monuments from the public space of Opole was an expression of a rupture of historical continuity, marking the break between the city's recent past and its present. People or events commemorated on the demolished monuments shaped the identity of the Opole's pre-war inhabitants but were unknown or foreign to the post-war city dwellers. After "de-Germanization," the city's urban fabric, devoid of unwanted references to the German past, had to be filled with new symbols in order to create a new identity of the city and its inhabitants.

The history of the unrealized monument of Liberation–Friendship serves as an example of how monuments took part in the process of redefining the city's history. The monument's purpose was to commemorate the "liberation of the Opole region from an age-old national and social oppression" ("Komitet budowy pomnika Wyzwolenia–Przyjaźni w Opolu," [ca., 1953–1955], p. 12). One of the versions of the monument, developed by Marian Wujek, Józef Niedźwiedzki, and Tadeusz Wencel, was to consist of a central figure adorned by bas-reliefs representing selected historical events—the 18th-century uprising in Opole, the Silesian Uprisings, the liberation of Opole in 1945, and the Six-Year Plan, among others ("Komitet budowy pomnika Wyzwolenia–Przyjaźni w Opolu," [ca., 1953–1955], p. 13). The events chosen to be portrayed on the monument illustrate the reformulation of the region's history. In light of this re-contextualization, the history of the city and region had become the history of the struggle for Polishness, existing since early modernity and manifesting in regular uprisings against German authorities.

The monument to the Opole Silesian fighters for freedom is another example of how the post-war narratives rewrote the region's past. The monument designed by Jan Borowczak was unveiled on May 9, 1970—on the 35th anniversary of the end of World War II (Filipczyk, 2015, p. 176). The sculpture, located in a central point of Wolności Square, depicted the Roman goddess of victory, Nike, sitting on an auroch or bison, which, according to the author himself, was supposed to symbolize "power, courage, and the nobility of the Slavic people'' (Filipczyk, 2015, p. 178; see Figure 6). Borowczak also said that the monument was dedicated to people who contributed to the "preservation of Polishness" of the region. The sculpture was meant to portray,

Figure 6. Monument to the Opole Silesian fighters for freedom.

in a symbolic way, "the history of Silesian Opole and its struggle for liberation;" hence, the dates of the Polish fights against the "Germanic invader" were placed (Filipczyk, 2015, p. 178). This vision of Opole's history, similar to the concepts of the Liberation–Friendship monument from the 1950s, was meant to present the history of the city and the region as a struggle for Polishness, which culminated in a victory in 1945 (described repeatedly as "the fulfilment of historical justice").

It is vital to point out that the attempts to re-create the history and identity of Opole through the use of monuments can be traced to the present day. Examples of this process can be two monuments devoted to the princes of the Piast dynasty. The first one is dedicated to Casimir I of Opole (the initiator of the city's location and the construction of the Piast Castle in Ostrówek), and the second one to Vladislaus II of Opole (the initiator of the construction of the Upper Castle). It is important to mention that the equestrian monument of Casimir I of Opole was placed in front of the southern façade of the Town Hall—precisely in the same place where, in 1936, the monument of Frederick the Great was unveiled (see Figures 7 and 8). In a way, both monuments perpetuate a post-war narrative, presenting the history of the city and the region as the history of Polishness. However, the unequivocally anti-German motifs depicted in the monuments created during the Polish People's Republic era were replaced by the affirmation of the medieval past of the city, still perceived by default as a synonym of Polishness.

6. Conclusions

The issue of reinventing or rewriting past and identity, presented in this article, was not only limited to post-war Opole—it was a widespread process that occurred across so-called Recovered Territories. The core argument of post-war identity of those lands was based on the conviction that they had always been Polish but "Germanized" over the centuries. The authorities, therefore, set themselves the task of extracting this Polishness from under the layers of "German traces" to reach the actual image and identity of the cities of those territories. New narratives, created in this process, were inextricably linked to changes on a material level. They found fertile ground as the change of borders, combined with the exchange of inhabitants, caused a break in historical and cultural continuity. Thus, the post-war vision of those cities' past, in

Figure 7. Monument of Casimir I of Opole.

Figure 8. Monument of Frederick the Great. Source: Wikimedia Commons (2012).

which one can find true, exaggerated, or completely false elements, has become the only valid one.

The "de-Germanization" process, exemplified by the destruction or modification of monuments and architecture, as well as the eradication of the German language from urban spaces, was meant to purify cities of so-called Recovered Territories of material references to its pre-war history and identity (Musekamp, 2013, p. 204; Thum, 2011, p. 277). In the case of Opole, the "de-Germanization" was represented by the destruction of monuments, dedicated to German rulers (such as Frederick the Great) and important events (such as World War I). It also encompassed the removal of German language from public spaces and monuments, which is exemplified by the removal of German inscriptions from postal workers memorial of those who died in World War I and a Monument to Troops of the 63rd Infantry Regiment. It is important to note that, because Opole was overtaken by the Polish administration as early as in March of 1945, those processes of "de-Germanization" of the urban space occurred much earlier and were carried out faster than in, for example, Wrocław (Thum, 2011, p. 267).

The conviction that the identity of so-called Recovered Territories had always been Polish required finding historical references that would support this claim. Thus, selected examples of existing architecture, places, and spaces were reinterpreted and assigned new meanings in order to emphasise new narratives about the Polishness of those cities. In the context of Recovered Territories, relics of material cultures of the Slavic peoples (such as settlements) or the Piast dynasty (such as churches or castles) were perceived and presented as undeniable proofs of those lands' Polish identity that can be traced back to medieval times. The process of anchoring the city's Polish identity in its medieval history can also be found in Opole. Archaeological excavations, carried out in Ostrówek, were aimed at proving that the early medieval settlement was founded by Slavic peoples, recognized by the post-war propaganda as the direct ancestors of Poles. Medieval architecture, exemplified in Opole by the Piast Tower, was also considered a material memento of the city's old Polish past. In the context of Opole, the baroque architecture of the Market Square was also assumed to be purely Polish, which influenced the decision to rebuild this area in neo-baroque forms. It is important to emphasise that this process was based on the manipulation of Opole's history, as the baroque overhaul of the Market Square took place in the 18th century when Opole had no ties to Poland.

New geopolitical circumstances required new symbolic markers to be created and placed in cities in an attempt to support narratives surrounding the so-called Recovered Territories. This new pantheon of symbols across all of those lands included references to the Slavic peoples, as well as the Piast dynasty. They were complemented by references to regional history, heroes, and events, which differed from city to city (e.g., Musekamp, 2013, p. 180; Thum, 2011, p. 303). In the case of Opole, references to regional history were materialized in statues of local rulers from the Piast dynasty, such as Vladislaus II or Casimir I. Because of Opole's and the region's 20th-century history, the Silesian Uprisings became one of the events that were often referred to in order to emphasize the notion that the city's strive for Polishness preceded the changes of borders in 1945. Monuments, such as the unrealized Liberation–Friendship monument or the monument to the fighters for freedom of Opole Silesia, presenting events such as the 18th-century uprising in Opole, the Silesian Uprisings, the liberation of Opole in 1945 and the Six-Year Plan, were supposed to strengthen the narrative about the history of Opole as the history of Polish people defeating German oppression.

The process of reinventing Opole's past and identity is also visible in new architectural investments carried out in the city after 1945. Due to their location and representative value, the designs of the Central Square or the Millennium Amphitheatre were to serve as evidence of the city's dynamic development after its incorporation into Poland. The examples of brand-new architecture and urban planning can also be interpreted as elements that create a different identity of post-war Opole as a city with metropolitan ambitions. They illustrate not only the tensions between the past and the present, the desire to surpass the achievements of the pre-war city rulers, but also the attempt to prove the significant position of Opole in the structure of the region and the whole country. After all, Opole was to be portrayed not only as an ethnically Polish city but also as a political, administrative, and cultural centre.

Opole can serve as a unique case study in the sense that it was one of the cities in which, after the change of borders, the total exchange of inhabitants never happened. As opposed to cities, such as Wrocław, Szczecin, or Gdańsk, where almost all of the pre-war inhabitants were expelled, many pre-war inhabitants remained in Opole after it was incorporated into Poland. Therefore, they became both reservoirs of knowledge on the pre-war Opole, as well as witnesses to the process of rewriting the city's history after 1945.

It can be argued that architectural and urban planning decisions made during the post-war period influenced the city landscape and perception of it to the present day. The "de-Germanization" of Opole (which encompassed monuments, language, and architecture) eradicated references to its centuries-long German history. In that sense, it can be said that Opole, like many other cities of so-called Recovered Territories, found itself in a situation of "cultural amnesia" (Czepczyński, 2016, p. 42), in which the past is reflected in the urban space only through certain examples, chosen carefully to attest to the Polishness of the city. Nowadays, the cultural, architectural and urban landscape of the city is perceived as something natural and transparent in its meaning. However, it is important to emphasize that the

current city landscape is a result of many decisions, made not only for utilitarian and pragmatic reasons but also political and ideological ones. Moreover, some actions taken by current decision-makers, knowingly or not, continue the process of reinventing Opole's past and identity. Examples of that can be found in references to the Piast dynasty, the medieval history of the city, and the emphasis on the history of the Silesian Uprisings as a sign of the region's Polish identity preceding its incorporation into Poland in 1945.

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Conflict of Interests

The author declares no conflict of interests.

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