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Post-war Cities: Planning Recovery and Reconstruction

Editorial

Destroyed cities do not only need to rebuild their physical urban environment, they also need to (re)organise their social fabric, secure their economic future, and in many cases (re)construct their place identities. But where do they start in the process of planning recovery and reconstruction? What processes are implemented? Which actors are involved, and in what ways does the level of destruction and the subsequent planning/decision-making affect the future of these cities? In the midst of an ongoing destructive war in Europe, as well as in the context of more-frequent natural catastrophic events taking place around the world, planning recovery and reconstruction are research topics requiring renewed, urgent attention.

On the one hand, war causes major and highly complex disruptions for a city, ranging from its infrastructure to the livelihoods of its inhabitants. On the other hand, war appears to be a major catalyst for urban change. Hence, there is still much to be studied in the field of post-war planning, reconstruction, and recovery. Existing literature has investigated this topic through several lenses: architecture, urban archaeology, heritage, urban design, city planning, critical cartography, and social geography. Researchers have documented and quantified the number/type of bomb attacks on selected cities and the subsequent damage caused, examined reconstruction efforts, alternative planning visions and designs and their legacies, and more recently shifted the focus to the maps of war, critically delineating and 'reading' their production and purpose, as well as the information they represent and communicate. This double issue builds on this work, extending the existing knowledge base, widening the geographical focus, and advancing understanding of the disparate intentions, strategies, and logics of city reconstruction and post-war urban planning and their legacies on today's cities. In doing so, it provides a critical statement on urban planning and the rebuilding of cities/countries and their communities affected by the aftermath of war and disaster.

Using the case of post-war Britain and Ireland, **Congreve** discusses how, through the New Jerusalems project, a new evidence base is being developed and made available to researchers of the New Town movement, offering a significant new resource for researching, for example, the impact of housing and urban design on public health.

Sedlmeyer, similarly, explores how recent research in the field of Second World War damage maps has resulted in the discovery of a rich collection of unstudied archival material across Germany. He investigates the alternative interpretations and missing information, and critically questions the maps' backgrounds, intentions, and accuracy.

Mathortykh explores the representation of war destruction, and the planning of post-war reconstruction and recovery, via digital forms of mapping. Presenting several digital mapping projects, he shows how the destruction of Ukrainian cities and the general impact of contemporary wars on urban spaces can be tracked.

Using GIS and an urban analytics approach, **Alvanides** and **Ludwig** show how information can be extracted from past records of damage and can be converted into spatial data that can be visualised and analysed with a GIS. This method allows researchers to operate with the information found in maps in novel ways, providing new ways to analyse post-war cities.

Bertram explores the reconstruction process of Belfast, a city severely affected by the Northern Ireland conflict, and that is still segregated and fragmented in some parts. She evaluates and debates the ways in which the reconstruction efforts were designed to change the city's image, through a vision of 'normalisation'.

Building on the notion of city image, **Gierko** investigates how the geopolitical border changes affecting Popowice, in Wrocław, and the ensuing will to (re)construct a Polish identity, impacted the subsequent reconstruction efforts.

Examining Skopje's reconstruction after the earthquake in 1963, **Korolija** and **Pallini** explore the debates and alternative scenarios proposed for the future development of the city, and the nexus between the gigantism of planned architectural projects, the technicalities of town planning, and the basic demands of the present for emergency accommodation.

Using the example of conflict in Aleppo, Syria, **Laue** traces the emergence of formal and informal pre-conflict networks and collaborations, as well as their potential in post-conflict recovery efforts. She discusses the role of continuous international discourses and expert networks, and the need for a coordinated exchange between all involved stakeholders.

In the context of the long aftermath of the Arab Spring revolutions and associated armed conflict in Benghazi, Libya, **Serag** emphasises the need for a 'framework for intervention' and international engagement and collaboration, which he argues is vital for effective planning, investment/access to funding, and to build upon existing knowledge/past experience.

Finally, **Rizk** explores, through the lens of social capital, the governance of recovery and reconstruction using the examples of Beirut's post-war recovery in 1992 and the post-explosion recovery in 2020.

Carol Ludwig, Seraphim Alvanides & Franziska Laue

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Post-war Cities: Planning Recovery and Reconstruction

Editors: Carol Ludwig, Seraphim Alvanides and Franziska Laue

Table of contents

New Jerusalems: Post-war New Town Archives in Britain and Ireland

Alina Congreve

Housing was one of the three pillars of the 'New Jerusalem', the post-war welfare state. It had equal standing to the new National Health Service and pensions and sick pay. Moving to a home in a New Town was transformational for the early residents leaving behind overcrowded and bomb-damaged cities or insanitary mining communities. New Towns were designed to eradicate inner-city 'urban disease', providing residents with good-quality housing, solving overcrowding and benefiting wellbeing. New Towns had a social mission to equalise opportunity and remove the distinctions in existing towns between suburban villas for professionals and tenements for factory hands (Colenutt 2020). Thanks to the support of the Wellcome Trust, which has awarded a £415,000 (approx. €470,000) project grant, the New Jerusalems project is making the archives from eleven post-war New Towns in England, Wales and the Republic of Ireland, accessible to researchers for the first time. This will fundamentally change the evidence base currently available for researchers of the New Town movement, and offer a significant new resource for researching the impact of housing and urban design on public health. These archives are being catalogued and secured for the future through conservation and preservation work.

New Jerusalems: die Archive zu den Nachkriegs-„New Towns" der Nachkriegszeit in Großbritannien und Irland
Das Wohnungswesen war eine der drei Säulen des „Neuen Jerusalem", ein Begriff für die Idee eines Wohlfahrtsstaates der Nachkriegszeit in Großbritannien und Irland. Es stand gleichberechtigt neben dem neuen Nationalen Gesundheitsdienst (NHS), den Renten und der Krankengeldzahlung. Der Umzug in ein Haus in einer New Town (neu geplante Stadt) bedeutete für die ersten Bewohner eine Umstellung, da sie überfüllte und bombengeschädigte Städte oder unhygienische Bergbausiedlungen hinter sich ließen. Die New Towns sollten die „Stadtkrankheit" in den Innenstädten beseitigen, indem sie den Bewohner:innen qualitativ hochwertige Wohnungen zur Verfügung stellten, die Überbevölkerung beseitigten und das Wohlbefinden förderten. Die New Towns hatten den sozialen Auftrag, Chancengleichheit herzustellen und die Unterschiede zwischen Vorstadtvillen für Fachkräfte und Mietskasernen für Fabrikarbeiter:innen aufzuheben. Dank der Unterstützung des Wellcome Trust in Höhe von 415 000 Pfund (ca. 470 000 Euro), macht das Projekt „New Jerusalems" die Archive von elf New Towns der Nachkriegszeit in England, Wales und der Republik Irland zum ersten Mal für Forscher:innen zugänglich. Dies wird die derzeit verfügbare Datenbasis für Forscher:innen der New Town-Bewegung grundlegend verändern und eine bedeutende neue Ressource für die Erforschung der Auswirkungen von Wohnungsbau und Stadtgestaltung auf die öffentliche Gesundheit darstellen. Diese Archive werden derzeit katalogisiert und durch Konservierungs- und Schutzmaßnahmen für die Zukunft gesichert.

Introduction

The disruption caused by the global COVID-19 pandemic has led to a reconsideration of the design and purpose of buildings, neighbourhoods and cities (Chatterton 2020; Hambleton 2020; Martin et al 2020). The New Town movement in the UK emerged from another period of disruption to normal life, the one caused by the Second World War (Wakeman 2016). As the longer-term implications of COVID-19 for urban areas become apparent, valuable lessons can be drawn from post-war New Towns. Research suggests that post-war New Town centres perform well in the return of shoppers (Centre for Cities 2020), as their pedestrianised streets are adaptable to social distancing. Indeed, many historic town and city centres have rapidly retrofitted pedestrian measures. A key concept to regain prominence during the public health crisis has been the 15-20 minute neighbourhood (Baffoe 2020). Post-war New Towns were designed with the neighbourhood unit principle of having people's daily needs met within walking distance. Generous public green space is prominent in New Town designs and takes many forms, including green wedges, corridors and rings. In 2020, we saw a resurgence of interest in public green spaces, interacting with nature close to home, and accessing it through walking and cycling. Pedestrian and cycle routes that connect homes, amenities and green spaces, had been widely underused in New Towns (Reid 2017), but saw a surge of activity in 2020/21. New Towns have a strong public art tradition, and residents experience work by leading artists in their town parks or neighbourhood centres (Congreve 2020). Revisiting the urban design principles that underpin post-war New Town planning, and researching the New Town experience, has much to contribute to urban scholarship and urban practice. The New Town movement has important lessons for our existing urban areas and for 'new' new towns and other new communities in the UK, Ireland and internationally.

To date, engagement with lessons from the post-war New Town experience has been limited by the availability of research materials. New Towns that have accessible records have provided a rich resource for researchers; Milton Keynes in particular has been the subject of a number of studies (Nio 2020; Ortolano 2019; Piko 2019). As Saumarez Smith (2019: 316) notes in his review of Ortolano's research: 'The book is an advertisement for the richness of the Milton Keynes archive, and it ought to stimulate further work in other New Town archives,

which tend, in my experience, to be fuller than those of local authorities.' However, most of the New Town legacy is not accessible to researchers. The New Town development corporations were disbanded in the early 1980s, and the records deposited at the respective county archives. This transfer of thousands of documents, maps, plans and photographs was done rapidly and without resources to support the archives in managing so many documents. These records – the working documents of the New Town architects, planners and landscape architects – have remained largely un-catalogued and unread in the hundreds of boxes and files. As Larkham and Lilley (2014) note, the multiple plans that could be produced for the same location, possibly even within a short period of time, would provide a rich source of material to explore how urban areas are, or could have been, shaped at various periods. Due to the material's current state in county archive basements, it is virtually impossible for researchers to engage with it.

In July 2021, the Wellcome Trust generously provided financial support to make important New Town collections available to researchers for the first time (Newjerusalems.info).[1] Wellcome Trust funding supports the New Jerusalems project, which is making the archives from eleven post-war New Towns in England, Wales and Ireland accessible for researchers. The New Towns included are: Basildon, Bracknell, Crawley, Cwmbran, Newton Aycliffe, Peterlee, Redditch, Runcorn, Shannon, Stevenage and Warrington. Their locations are indicated on the map below.

The Wellcome Trust is widely known for its support to public health, including vital medical research.[2] In facilitating future research into New Towns, the Wellcome Trust is acknowledging the important links between the built environment and our physical and mental health. Working collaboratively, the archives in the New Jerusalems project are building momentum and generating fresh interest in the valuable insights that can be drawn from the post-war New Town movement.

New Towns' antecedence

The New Towns programme is widely regarded as one of the most ambitious projects of the post-war years (Cole et al. 2021). The post-war New Towns drew on ideas and policies created in the aftermath of the previous conflict, WW1. The Homes Fit for Heroes programme and the founding of Welwyn Garden City in 1919 were part of earlier attempts to rebuild in the aftermath of great social upheaval. A direct link between housing and health was established after WW1 with the creation of the Ministry of Health, under which social housing and slum clearance were managed. The private philanthropy of the Garden City movement and government-funded Homes for Heroes both failed in addressing the scale of the housing challenges. Shortages of skilled labour and building materials impacted both programmes. The unstable economic situation in the early 1920s led to the withdrawal of government funding in 1921, followed by the partial re-introduction in 1923. The idea that the state could intervene in housing at scale, however, was established. Further ideas were elaborated in *New Towns after the War*, written by Frederic Osborn and C.B. Purdom in 1918 (republished in 1942), while *The Building of Satellite Towns* was released in 1925. Both publications had substantial influence on New Towns built after WWII. In the inter-war period, the government was not involved in the development of New Towns, but local governments undertook large-scale urban extensions, including Wythenshawe near Manchester and Becontree in East London. These drew on the work of the US planner Clarence Perry for 'neighbourhood units'. In the 1920s and 1930s, the neighbourhood unit was essentially a design choice to integrate housing and amenities, with the social function to build community relations given little attention (Greenhalgh 2016). In 1937, the Prime Minister Neville Chamberlain established a royal commission to investigate the distribution of industrial locations and the populations working in such industries. There were widely different views within his government and the commission was a way to try and reconcile differing opinions. Its publication was interrupted by the outbreak of war, but the report, known as the *Barlow Report*, was published in early 1940. While the report clearly articulated the problems, there was less consensus on how they could be addressed. A minority report, with significant input from Osborn, advocated building new settlements on Garden City principles. War changed the attitudes of landowners and industrialists towards state intervention, as they became used to working with the government. The pre-war attitude, which viewed planning as an irritation or distraction, was replaced by widespread acceptance of planning (Ward 2016). Opposition to planning was marginalised, and subsequent conflicts in the 1950s and 1960s were about how planning should be operationalised rather than on contesting the principle of state regulation in the development of land. It is striking to think now that in the darkest points of the conflict, planners and architects were envisaging the society they

1
The award reference number is 223690/Z/21/Z.

2
The Wellcome Trust is a major funder of medical research. In 2021-22, it invested £1,366 million in research and charitable activities (https://wellcome.org/news-and-reports/reports).

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wished to build afterwards. Their work has interesting parallels with the initiatives during the COVID-19 crisis to imagine about how we can 'build back better'. By 1943, town planner Patrick Abercrombie and John Forshaw, chief architect of the London County Council, had published the *County of London Plan*. This envisaged moving half a million people out of London, away from overcrowded and poor quality housing, into post-war New Towns.

Planning for the New Towns

In May 1945, a special committee was established to address the legal, administrative and technical questions involved in building 'satellite and new towns'. An early decision was to place responsibility with government-appointed boards rather than local authorities. It was felt that local authorities already had significant challenges with their other post-war responsibilities (Ward 2016). The form of the government-appointed boards was strongly shaped by Lord Reith, former chair of the BBC. The first wave of New Towns was created by the New Towns Act 1946. They were a pillar in the construction of the 'New Jerusalem' – the prosperous and egalitarian society envisaged by the new government. New Towns were proposed to remove the 'urban disease' thought to have taken hold in many older neighbourhoods in larger cities, as well as the poor living conditions in smaller mining communities. In doing so, New Towns were to provide good-quality housing, solve overcrowding and improve wider public wellbeing. The Ministry of Health, led by Aneurin Bevan, was key in turning the New Town idea into action. The New Towns should not be regarded as social experiments separated from the rest of society; instead, they should be viewed as an expression of the welfare state delivered by the Attlee government. New Towns were the spatial dimension of the welfare state, and as such show the ambition and depth of the Attlee government (Ortolano 2019). In the New Towns, the government was able to bring forward the full range of policies together, from housing and planning to social insurance and through to industrial and employment policy (Colenutt 2020). The design of residential areas was shaped by the Housing Manual 1944, which advocated the design principle of the neighbourhood unit. The version of neighbourhood unit put forward therein is one that directly aims to promote community spirit and neighbourliness through urban design. In the US designs of Clarence Stein, neighbourhood units mainly comprise shops located on main roads on the edges of residential neighbourhoods to facilitate access by car. New Town neighbourhood units were located in the centre of residential neighbourhoods, with shops alongside a strong focus on social amenities: community centres, churches, schools and doctors' surgeries (Greenhalgh 2016).

Initial success of the first New Towns was followed by two further waves of designations in Britain. New Town influence spread from the UK to have significant international impact in Europe and beyond, including the Republic of Ireland (Forsyth 2019). In the early 1950s, visitors working in planning and architecture from Europe and the USA travelled to Stevenage to see the experiment for themselves. New Towns became sites of innovation, including: the first residential high-rise building in the UK (The Lawns in Harlow); innovative housing designs for older residents (The Brow, Runcorn), and the first pedestrianised town centre (Stevenage). As priorities changed, the towns began to reflect issues of environmental sustainability, changing patterns of transportation, and innovations in domestic architecture. Innovations in post-war planning have already been uncovered in the Milton Keynes archives. Guy Ortolano's (2019) study tracked the strong international flow of planning ideas, in particular with the US. His archival research into the Milton Keynes Development Corporation records has revealed a planning culture that evolved to address new challenges. This directly contradicts Jane Jacobs's account of planners and architects following a set of planning concepts that had become ossified during the 1930s. When the archives of Stevenage, Runcon and the other New Towns are catalogued, it will be possible to better understand their innovations in planning and their wider influence beyond the New Towns. Although all part of the same movement, each New Town has particular features that were shaped by: the prevailing planning thinking when it was developed; the regional economic and employment conditions; and the team of architects, planners and landscape architects working in that particular New Town. Below is a brief summary of the New Towns the archives of which are being made accessible to researchers through this project.

Archiving the New Towns

This section briefly reviews the current status of New Town archival material available to researchers, and the role of the New Jerusalems project within that. Material about New Towns held by the central government, including the Ministry of Housing and Cabinet Office papers, were treated in the same way as other government documents and transferred to the National Archives in Kew. Researchers interested in the national picture can look at the catalogue entries online and view the paper documents in person in Kew. These records can be combined with Hansard and contemporary press reports to give an overarching picture of New Town development from that national perspective. The Planning Exchange was an educational charity set up by the eminent planner Barry Cullingworth in 1972. In the late 1990s, the Planning Exchange undertook to create a New Towns resource available on CD-ROM. It relied on materials held nationally, including legislation, press articles and the annual reports of the New Town development corporations, which were submitted to national government. By 2002, shortly after creating the resource, the charity sold all of its intellectual assets to IDOX. For several years after this, the material created for the CD-ROM was available on the IDOX online catalogue as a subscription resource, available to universities, local authorities and consultancies that paid the annual fees. The subscription resource was taken down in 2016, as no funding was available to maintain it (IDOX 2023: pers. comm.). The only remaining resource on IDOX, also created as part of the CD-ROM in the 1990s, is the oral history interviews. The Planning Exchange and subsequent IDOX resource never contained the records of the development corporations. When the corporations were wound up, these were put into boxes and crates and hastily deposited in the county archives of the respective locality. In a few instances, notably Milton Keynes, internal funding from the archive service was

Name	Location	Proposed population	Date designated	Key features
Basildon	Essex, eastern England	80,000 revised to 140,000	1949	• Four existing villages integrated into the New Town. • Designed to low densities along garden city lines. • Early homes built in terraces with gardens. • Grants for business relocation from London.
Bracknell	Berkshire, southern England	25,000 revised to 60,000	1949	• Strongly planned on the neighbourhood unit principle. • All residents within a five-minute walk to key amenities. • Each neighbourhood with a small parade of shops, church, primary school, small businesses units, neighbourhood community centre and pub.
Crawley	West Sussex, southern England	70,000	1947	• Constructed as a self-contained industrial town. • Strong emphasis on green space for recreation. • Masterplanned around nine neighbourhoods, each with their own facilities. • Intention that this would create a sense of 'neighbourliness'.
Cwmbran	Gwent, South Wales, near Newport	55,000	1949	• Designed to provide housing for employees of new and proposed industries in Newport, and for seven existing mining villages in the locality with low-quality housing and economic deprivation. • Strong mandate to improve public health and remove malnutrition, diphtheria, tuberculosis.
Newton Aycliffe	Durham, northwest England	20,000	1947	• Developed around an ordnance factory with expanded industrial estates and associated housing for workers. • Direct involvement of Lord Beverage – proponent of the new welfare state. • Homes designed around 'village greens' to encourage children to play safely outdoors. • In 1963, the development corporation merged with Peterlee.
Peterlee	Durham, northwest England	30,000	1948	• Provided alternative employment for ex-miners and their wives in the Durham coalfields. • Provided a recreational and shopping centre for the district villages. • The artist Victor Pasmore contributed housing designs and the town park – his Apollo Pavilion in the park is an important experiment in the synthesis of art and architecture.
Runcorn	Cheshire, West Midlands, England	45,000 revised to 80,000	1964	• Created to provide new housing for residents of Liverpool and Manchester and to support existing employment. • Sought balance between public transport and the private car. • The 'figure of eight' busway provides a framework around which the housing areas, industrial and employment areas, and parkland are laid out.
Redditch	Worcester-shire, West Midlands, England	70,000 revised to 90,000	1964	• Planned to relieve overcrowded housing in Birmingham. • Many businesses relocated because of the high quality of life for their employees. • Planning concept was likened to a necklace: a series of linked district beads, each with its own community facilities, schools and local shopping, strung on a segregated public transport route.
Shannon	County Clare, Ireland	10,000	1959	• Opportunity to significantly improve the quality of life, in particular for two-thirds of rural homes without electricity. • Development company worked with the electricity board to plan 'homes of the future'. • Designed with wide streets and open spaces for children to play safely – most early residents were young families.
Stevenage	Hertfordshire, southern England	60,000 revised to 80,000	1946	• Designed around neighbourhood units with their own shops, community facilities and recreational space. • Running through the centre of the New Town, the valley of farmland became a large town park. • Network of cycle lanes to connect residential and commercial areas to the town centre. • Pedestrianised, traffic-free shopping centre opened in 1956 (at the time, the largest in Europe).
Warrington	Cheshire, West Midlands, England	210,000	1968	• Equidistant between Manchester and Liverpool, and already an industrial town of 120K, it was viewed as an ideal growth point for new housing and employment. • Shops and amenities organised around four larger neighbourhood centres and a town centre. • Distinctive approach to green spaces, named the Ecological Planning Approach, created large areas of mature woodland.

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Table 1: Summary of new towns in the New Jerusalems project.

made available to catalogue the records and make them available to researchers. In other cases, including Stevenage and Basildon, internal funds were allocated for partial cataloguing of the documents, but the maps, plans and drawings were not touched. The development corporation records for Harlow New Town were catalogued in 2021 with a grant from the National Archives' Archives Revealed programme. This helped inform the funding needed and timescales for the New Jerusalems application.

For most New Towns, this situation created a major challenge for any researchers wanting to use the materials. All a researcher could do was to visit the archive and order up one of the crates, with no idea what might be in it. The collection of Crawley Development Corporation is

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typical and gives an idea of the volume of material involved: it comprises 123 packing crates of documents containing over 700 individual files and an additional 200 volumes of minutes and papers. Furthermore, there many other kinds of documents, including publicity brochures, maps, plans, architectural drawings, and a rich collection of photographs. The photographs of the New Towns go beyond simple recording to provide rich visual insights. The Wellcome Trust has been a generous funder of the archive sector, making material accessible to researchers. It requires that the material is held in a setting where it is freely available to researchers, and will remain so in future. All of the partners in this project are county archives, which are open daily to researchers (with the exception of the University of Limerick, the research library that holds the Shannon records, which is open to visiting researchers).

Cataloguing of the development corporation records is being undertaken by qualified archivists, based in the county records offices. Catalogue descriptions will be created according to the International Standard of Archival Description, ISAD(G), with each item given a unique reference code and linked to other items within the archival collection. Data will be captured about content, format and covering dates, and will be input directly into each participating archives' cataloguing software. Catalogue information will be made available via each partner's online portal, and will also be submitted to Discovery, the National Archives' catalogue, so that each collection is searchable through one site. Limerick will share their cataloguing work with Discovery as well as the Irish Archives Portal. The project board will act as quality controller and also consider issues of standardised terminology. The board comprises the chief archivist of all the participating archives; an expert on postwar New Towns, Professor Steve Ward; and a senior archivist from the National Archives. To assist and encourage research use, each archive will produce a user guide about their New Town, as well as an overall resource for the whole project.

Conclusion

New Towns have influenced planning far beyond Britain and Ireland. The idea has been exported around the world, and has shaped thinking for new settlements in rapidly growing urban areas in Africa, Southeast Asia, and in particular China. The development of Shannon, with its associate airport and tax concessions, has provided an important influence on urban growth in China (Caprotti 2019). In Britain and beyond, there has been a resurgence of interest in many aspects of New Towns as plans are made for social recovery in the aftermath of COVID-19. One idea in particular that has undergone a resurgence is meeting daily needs within walking distance. New Towns experimented with different forms of the neighbourhood unit, and it is one topic that would benefit from closer examination of the newly available archives. What facilities should be planned into neighbourhood centres? Is it better to have many smaller centres or, as Warrington did, fewer larger ones? What is the relationship between local centres and the main town centre, and how are they connected through transport infrastructure? As well amenities, New Town planners sought to create community cohesion and a sense of local identity though the neighbourhood unit approach. Their efforts to shape new communities came at a time of rapid social change, as private transport (the car) and entertainment (TV in the home) replaced collective counterparts. We are now experiencing even more rapid societal change, influenced by technology and media platforms. Facebook groups, WhatsApp groups and the Nextdoor app are contemporary ways in which neighbours interact and organise. What can we learn from efforts to build community among new residents from the New Town experience? Could their models of community building, like the New Town artist-in-residence or hyper-local newspapers and radio, be re-imagined for our current times?

Integrating green space into new development has never been more important than today. We need it to support our health and wellbeing, mitigate high summer temperatures, reduce flooding, and support biodiversity. The diverse approaches to new green spaces in Warrington, Stevenage and Newton Aycliffe provide researchers with interesting insights into effective management in the longer-term. New Towns also allow us to see the implications when a masterplan and vision is watered down; when cycle routes are undermined by later developments that are not connected; and when public transport and town centres are hollowed out by out-of-town retail developments. We can learn much in terms of architecture, landscape architecture and urban planning from thoughtful cross-examination of the New Town experience. It will be relevant to researchers across a wide range of disciplines, including architecture, urban planning, public health, 20th-century history, and housing.

Those planning the New Towns began doing so at one of the darkest points in the 20th century, when the threat from fascism was immediate. They brought New Towns and the other pillars of the welfare state into being at a time of acute austerity. New Towns are often presented as a top-down movement, but ordinary working people were active agents of change – many worked to build the new homes and neighbourhoods they would live in. The impacts of climate change – from overheating to flooding and rising fuel costs – represent a challenge for our existing policy approaches. Perhaps the most important learnings from New Towns are not for planning or architecture, but for public policy and political science: the concept of New Towns as a political project rooted in optimism. Many researchers will be interested in the collections, and by working together, there is an opportunity to maximise the research potential around the newly available resources.

Conflict of Interests

The author is the project manager of the Wellcome Trust Project *New Jerusalems*. More information about the project can be found on www.newjerusalems.info. The author was also the lead writer of the funding application and brought the partner archives together to apply for funding.

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The Legacy of Second World War Bomb Damage on the Social Fabric of Essen

Seraphim Alvanides and Carol Ludwig

Given its status as one of the most heavily bomb-damaged cities in Germany, Essen provides an outstanding example to explore the urban and social transformation of a postwar city. Using an urban analytics approach, this article examines how the destruction caused by the Second World War relates to the later socioeconomic profile of Essen, focusing on spatial disparities between the City Districts. Archival material (a wartime damage map of Essen) and contemporary socioeconomic variables are brought together as geospatial data within an analytical framework. The extent and distribution of bomb damage per City District is captured digitally and visualized in a Geographical Information System (QGIS). Variables such as unemployment, foreign population, home ownership and senior population are used to generate socioeconomic clusters for analysis alongside the level of bomb damage in Essen. Our results show strong relationships between the social fabric patterning and the level of bomb damage, contributing methodologically and substantively towards a new framework for the analysis of postwar cities that should be of interest to city planners and policymakers.

Das Erbe der Bombenschäden des Zweiten Weltkriegs im sozialen Gefüge der Stadt Essen
Als eine der am stärksten durch Kriegsbomben zerstörten Städte in Deutschland ist Essen ein herausragendes Beispiel für Untersuchungen des urbanen und sozialen Wandels einer Nachkriegsstadt. Mit Hilfe eines stadtanalytischen Ansatzes wird in diesem Artikel untersucht, wie sich die durch den Zweiten Weltkrieg verursachten Zerstörungen auf das spätere sozioökonomische Profil Essens auswirken, wobei der Schwerpunkt auf den räumlichen Unterschieden zwischen den Stadtbezirken liegt. Archivmaterial (z.B. eine Karte der Kriegsschäden in Essen) und zeitgenössische sozioökonomische Variablen werden als Geodaten in einem analytischen Rahmen zusammengeführt. Das Ausmaß und die Verteilung der Bombenschäden pro Stadtbezirk wurden digital erfasst und in einem Geographischen Informationssystem (QGIS) visualisiert. Variablen wie Arbeitslosigkeit, ausländische Bevölkerung, Wohneigentum und ältere Bevölkerung wurden verwendet, um sozioökonomische Datensammlungen für die Analyse zusammen mit dem Ausmaß der Bombenschäden in Essen zu bilden. Unsere Ergebnisse zeigen starke Zusammenhänge zwischen der Struktur des Sozialgefüges und dem Ausmaß der Bombenschäden und tragen methodisch und inhaltlich zu einem neuen Rahmen für die Analyse von Städten in der Nachkriegszeit bei, welcher für Stadtplaner:innen und politische Entscheidungsträger:innen von Interesse sein dürfte.

1. Introduction

The history of postwar reconstruction has become an important field of research around the world, although it remains surprisingly understudied. While cities are constantly evolving, the catalyst for the most significant urban changes in the twentieth century was the unprecedented scale of destruction caused by war. The bombing of cities and the postwar planning that ensued played a significant role in the historical evolution of these cities, determining their urban fabric (arrangement and orientation of streets and blocks and block typologies); the distribution of landuses (proximation or separation via zoning), and their socioeconomic make-up (distribution of the population/wealth across the city). While postwar destruction has been comprehensively documented (Hohn 1991; Diefendorf 1993; Durth & Gutschow 1993; Beseler & Gutschow 2000; Pendlebury et al. 2009), together with critical statements about the planning and design of postwar cities, few studies have examined the legacy of this period on the social fabric of contemporary cities. Our research approach combines critical cartography, historical geography, urban planning, and socioeconomic analysis. This interdisciplinary approach is relatively novel and brings together different fields of study to explore the impact of historical events on modern cities.

While there has been research on postwar reconstruction and urban planning, there has been limited analysis connecting wartime destruction to contemporary socioeconomic profiles of cities. The analysis presented in this article contributes to this research gap, by examining how the bomb damage from the Second World War has been imprinted on the contemporary social fabric of the city of Essen. The combined use of historical damage maps, geospatial data, advanced analytical tools and socioeconomic variables adds a data-driven dimension to the study of postwar cities, contributing to the evolving field of spatial digital humanities. Moreover, understanding how historical events, such as wartime destruction, continue to affect the social and economic fabric of cities is relevant not only from a historical perspective but also for urban planning and policy considerations today. This article explores the relationship between a significant historical event and the later socioeconomic profile of Essen, focusing on spatial disparities between the City Districts (*Stadtteile*). The extent and distribution of bomb damage per City District is captured digitally from an archival damage map of Essen (1952) and visualized using a Geographical Information System. A number of socioeconomic variables are analysed separately, as well as in relation to the bomb damage at the City District level. In doing so, we expand our understanding of the contemporary socieconomic profile of Essen, taking into

consideration the destruction caused by Second World War bombing.

2. Research Context

2.1. War-torn Cities and Damage Maps

In recent years, interest in critical cartography and particularly in the interdisciplinary research opportunities offered by war damage and other wartime maps has increased (Black 2018; Elżanowski & Enss 2021; Knauer 2021, Enss & Knauer 2022; Alvanides & Ludwig 2023). Such scholars argue that these maps are an untapped data source for critical historical research in the fields of architectural history, historical geography, planning and heritage conservation. A large collection of maps from the Second World War period are stored in city archives. Usually hand-drawn, they may be in paper format or increasingly available as a digital scan. They were primarily prepared in the 1940s and early 1950s by a range of different institutions (Structural Engineering Office, Urban Planning Office, Police) and they were the basis for, among other things, the preparation of air-raid protection measures, for compensation payments, the clearing of rubble or immediate structural measures (Sedlmeyer 2020: 4). In addition to this, they were sometimes used to make planning decisions and inform city reconstruction, including decisions about architectural conservation (Knauer & Enss 2022). Since 2020, the international "UrbanMetaMapping" (UMM) research consortium has been undertaking further interdisciplinary research on damage maps, exploring the postwar transformation of cities in Germany, Poland, Austria, Belarus, Ukraine, Romania, and the Republic of Moldova. The research presented here forms part of this project, conducted within the subproject, "Sozialkartographie". It builds on the existing body of knowledge presented above, extends the work on bomb-damage analysis already undertaken by the authors for the city of Nürnberg (see Ludwig & Alvanides 2023), introducing socioeconomic analysis alongside bomb damage at the city district level.

2.2. Analysing Urban Change

Like the growing field of critical cartography, the analysis of urban change in cities has recently also received much academic interest. With the progression of geographical data science techniques within spatial digital humanities, cities can now be quantitatively studied using a range of advanced visual and analytical tools, operating directly with geospatial models. There is however a dearth of literature in the field of spatial digital humanities that explicitly examines postwar cities. One of the few studies in this area, conducted by Hanson (2000), used space syntax to identify different "genotypes" in the postwar urban transformation of London. She identified a change from a pre-war traditional high-density, continuous streetscape, with many doors facing directly on to the street, to a "modernist urban genotype", which she characterized as low density, repetitive larger plots with similar characteristics, all discontinuous with the surrounding urban fabric. The latter includes, for example, housing estates that are inward-facing, and unlike the living arrangements of the traditional historic city fabric, reduce opportunities for physical contact between people (Hanson 2000: 113). The disadvantages of the modern urban genotype, she argues, have the greatest impact on the weakest members of society, such as those belonging to particular age groups, ethnicities and social classes (Hanson, 2000: 116), while the ensuing segregation in space and society perpetuates social inequalities. Furthermore, a study carried out by Timo Hannay found that the towns and cities which had suffered the highest levels of wartime casualties and destruction, experience a consistent pattern of disadvantage over time and subsequently higher levels of child deprivation (Coughlan 2020).

The connection between urban morphology/town planning and socioeconomic profile was already acknowledged by Jane Jacobs (1969) in the mid twentieth century, as well as other planning and urban design theorists, such as Gehl (1987). Recent attempts have been made to measure the potential relationship between elements of urban form and socio-economic performance using a range of advanced urban analytic computing techniques (Venerandi et al. 2018; Ferm et al. 2021; Fleischmann et al. 2021, Mohamad et al. 2022). However, while the techniques for geospatial analysis are in rapid expansion, their application to postwar cities remains negligible. Given that the catalyst for the most significant urban changes in the twentieth century was the unprecedented scale of destruction caused by war, more research is required in these areas.

3. The Case of Essen

3.1 Historical context

While several key textbooks provide a detailed account of the destruction of German cities during the Second World War (Diefendorf 1993; Durth & Gutschow 1993; Hohn 1991; Beseler & Gutschow 2000), very few authors have focused specifically on the industrial city of Essen, exploring its architecture (Boucsein 2010) or the historical role of the Krupp steel works (Heistermann 2004). Essen was one of 10 cities in the new Federal Republic of Germany with the largest amount of rubble during the Second World War (almost 15 million cubic metres), in fifth place behind Berlin, Hamburg, Cologne and Dortmund (Diefendorf 1993: 15). Essen suffered severe bomb damage, primarily because it was a target of Allied strategic (precision) bombing. This war strategy led to accurate attacks on carefully chosen industrial targets, with the goal to destroy the enemy's military capacity. Following this policy, the British Royal Air Force (RAF) reportedly dropped 36,429 tons of bombs on Essen during the war. March 5, 1943, saw the first major bombing raid on Essen and as part of the campaign known as the 'Battle of the Ruhr' Essen was a repeated target, experiencing a total of 272 air raids (Beseler & Gutschow 2000: 468). The heaviest damage occurred on March 11, 1945, when a bomber fleet of 1070 aircraft dropped 5000 tons of bombs over the city. The old town was devastated; "half of all dwellings, 571 industrial buildings, 18 Catholic and 15 Protestant churches were destroyed" (Beseler & Gutschow 2000: 469). To understand the evolution of the urban fabric of Essen, it is necessary to unpack its strategic importance and the exceptional significance of the Krupp family to Essen's pre- and postwar city development.

At the onset of industrialisation, Essen became one of Germany's most important coal and steel centres (Beseler & Gutschow 2000). Indeed, Essen stands out as a rare example of a city that was dominated and shaped by a single company, Friedrich Krupp AG, which was Europe's largest enterprise at the beginning of the twentieth century. As

early as 1900 the Krupp company occupied a site seven times the size of the old city of Essen and its population grew tenfold between 1840 and 1900 (Boucsein 2010). In 1890, 20.2% of the total population of Essen was employed by Krupp; 37.6% of Essen's inhabitants were directly dependent on the Krupp family (Boucsein 2010: 40). To house its workers, Krupp built several workers' settlements (company apartments and housing estates), many of which still exist in Essen today. Especially the north of Holsterhausen on the border to Frohnhausen was completely dominated by "Kruppian" neighbourhoods (Stenglein 2015). From around 1890 onwards, Krupp favoured the principles of the garden city (Howard 1898). As such, his settlements consisted of several design characteristics such as "oriels, turrets, arbours, visible half-timbering and … gardens" (Stenglein 2014). The "idyllic living conditions" were intended to "cushion the hardships of life with and in industry" (ibid). The Brandenbusch estate at "Villa Hügel" (*Bredeney*) is a prime example of this, as is the almost completely preserved Altenhof II (*Stadtwald*) and probably Germany's best-known garden city, the Margarethenhöhe estate- Margarethenhof designed by Georg Metzendorf in 1909 (Durth & Gutschow 1993: 226). Alfredshof (*Holsterhausen*) was for a long time the largest of the factory housing estates in Essen (Stenglein 2015). Built between 1894 and 1899, it was greatly extended and redesigned from 1907 onwards (ibid). Other Krupp settlements included, for example, in Frohnhausen, Luisenhof I, built from 1910 onwards and the Luisenhof II, built a few years later, on the other side of Münchener Straße (Stenglein 2014). While workers' housing estates were generally located away from the city centre, the middle classes, spatially separated themselves, living in the south of the city (Boucsein 2010: 46).

3.2 Postwar Reconstruction

The rebuilding of Essen was generally based on plans from the 1920s, which had been updated during the war (Boucsein 2010: 115). This continuation was also eased by continuity in workforce with, for example, the Head of the *Essener Bauverwaltung*, Sturm Kegel (1892-1979) who had prepared the *Generalbebauungsplan* still in place (ibid). The new city centre was built following an ideas competition, the results of which were further developed by the city planning office with the assistance of an advisory board of freelance architects. The retention of the city layout was considered inevitable. It is important to point out, however, that already in the 1920s, "ambitious redevelopment projects had transformed Essen's old town into an administrative and commercial centre with a city centre character, following the American model that was expressly sought even then" (Beseler & Gutschow 2000: 468). Spacious complexes comprising "entire blocks of buildings (Deutschlandhaus, Baedekerhaus, Sparkasse, Stock Exchange) altered the traditional medieval layout of the city" (ibid). Postwar Essen saw more change. The opportunity arose to make changes to the cityscape that had long been on the horizon (Boucsein, 2010: 54). Beseler & Gutschow (2000: 469) describe these as follows:

> *The northern part of the old town, which had been almost completely destroyed, was rebuilt with new commercial and residential buildings. The old town was surrounded by peripheral tangents, some of which had six lanes, with wide traffic junctions.*

The floor plan of the city remained more or less the same as in prewar times (much of the foundations and infrastructure under the rubble had remained intact), but streets were widened to accommodate the expected increase in traffic (for example Viehofer Straße (Stadtkern) was widened by 4m (Boucsein 2010: 55), and new car parks were built. It was envisioned that people would live on the outskirts of the city and the inner city was to have a strong shopping focus. Reconstruction plans were also influenced by the scarcity of both materials and employees, and the need to build both economically and at speed. The main goal was to give the population "a roof over their heads" (Boucsein 2010: 60).

In terms of Krupp's land holdings, most of the Alfredshof's workers' settlement in Holsterhausen was destroyed during the war due to its proximity to the factory halls. Very few buildings survived the bombs (Stenglein 2015). When the Alfredshof was rebuilt in the 1950s, Krupp decided on a "radical, hypermodern new beginning" that has largely endured to this day. The courtyard principle, the closed block, the outwardly enclosed village-like settlement with small houses were no longer popular and the remains of the old Alfredshof were cleared away. Instead, the row typology replaced the closed block one, with staggered terraced houses built across green spaces, reflecting the ideals of new living in the 1950s (Stenglein 2015). The houses of the Alfredshof, however, were built very close to the A40 motorway, which severely detracts from the overall environmental quality of the housing.

4. Methodology and Analysis

4.1 Developing a Bomb Damage Index (BDI)

The areal units chosen for data capture and analysis in this paper are the 50 *Stadtteile* of Essen, hereafter "City Districts", given their administrative importance to the city of Essen. With the current diversity of geographical data, it is important to establish a unit of observation that facilitates comparisons and analysis of data recorded at different scales. The unit of analysis should also be realistic in terms of time effort required to record the various observations, while reflecting an administrative geography so that datasets can be matched and analysed together. A historical map of Essen showing level of destruction was scanned and georeferenced (Figure 1) indicating three categories of *Schadensgrad* (degree of damage) from top to bottom: 0-10% (black), 10-60% (blue), 60-100% (red), alongside new buildings 1945-1952 (with tight hatching). Within QGIS, the District boundaries were overlayed on top of the georeferenced map of Essen to estimate visually and record the different levels of destruction for each of the 50 City Districts.

Two research assistants recorded independently the percentage per City District of each of the 3 damage categories and then averaged classification differences up to 5%, while for larger deviations there was subsequent moderation and consensus. The damage was recorded for the built-up area covering each of the 50 City Districts, so that large open areas and public spaces were not considered in the assessment. This is because the historical map itself recorded building-level damage depicting the open spaces as white background. In addition, there was no

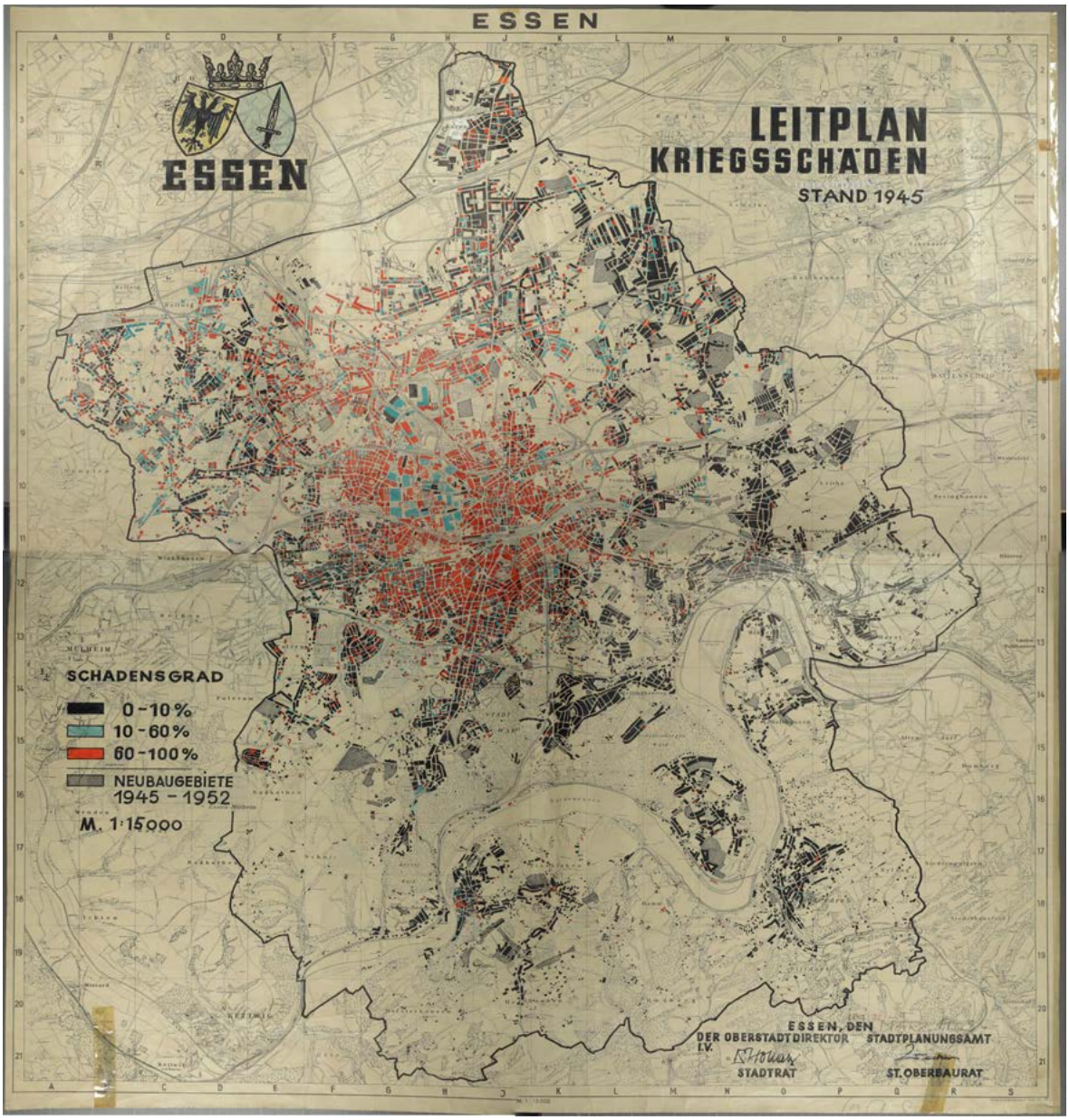


Figure 1: Georeferenced damage map of Essen (1952, drawn on 1945 basemap). The map legend shows the three levels of damage: 0-10% (black), 10-60% (blue), 60-100% (red) and newly builds 1945-1952 (gray). Source for map: Stadt Essen Bestand 901, Nr. 698.

information regarding the number of storeys or the height of buildings, so 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 2, with colours reflecting the different levels of damage/destruction shown in the original map of Figure 1. For clarity, Figure 2a highlights the peripheral areas of Essen with light damage (0-10%) in solid black, while 2c shows the areas around the city centre (*Stadtkern*) completely damaged (60-100%) in dark red, while the shades of blue in Figure 2a reflect medium damage (10-60%) as indicated in the three legend categories (Figure 1).

Figure 2d shows the overall level of damage from these three maps, illustrating the destruction of the City Districts surrounding the city centre and extending to the north and the south (in bright yellow). For further statistical analysis a bomb damage/destruction index (BDI) was calculated consolidating this information. For every City District, the three recorded levels of damage were given a weighting value: 1 reflecting the lightly damaged category, 5 the medium and 10 the heavily damaged categories. The percentages of damage for every City District were weighted and averaged resulting in a continuous numerical BDI value for every area, ranging from 1 to 10. Out of the 50 City Districts for the whole of Essen, two were outside the mapped area recording null values for damage/BDI (*Kettwig* and *Burgaltendorf*), while 48 recorded damage with BDI values between 1.0 (light damage) and 9.0 (heavy damage). The resulting map with 5 quintile BDI categories in Figure 3 clearly demonstrates how the City Districts shaded bright red capture the level of damage shown in red in the historical map (Figure 1), while the 20% lowest damaged City Districts are shown in black.

4.2 Socioeconomic patterns of Essen

A number of socioeconomic variables were obtained by the Municipality, Stadt Essen (Amt für Statistik, Stadtforschung und Wahlen) for each of the 50 City Districts. We selected 6 variables that could be consistently traced over time from the postwar period to today: home ownership, migrant background (i.e., non-German citizens, usually referred to as "foreign population"), unemployment, two population groups (senior above 65 and young below 18 years old) and density (number of people per hectare). The density variable was subsequently disregarded because it exhibited limited variation with 75% of the City

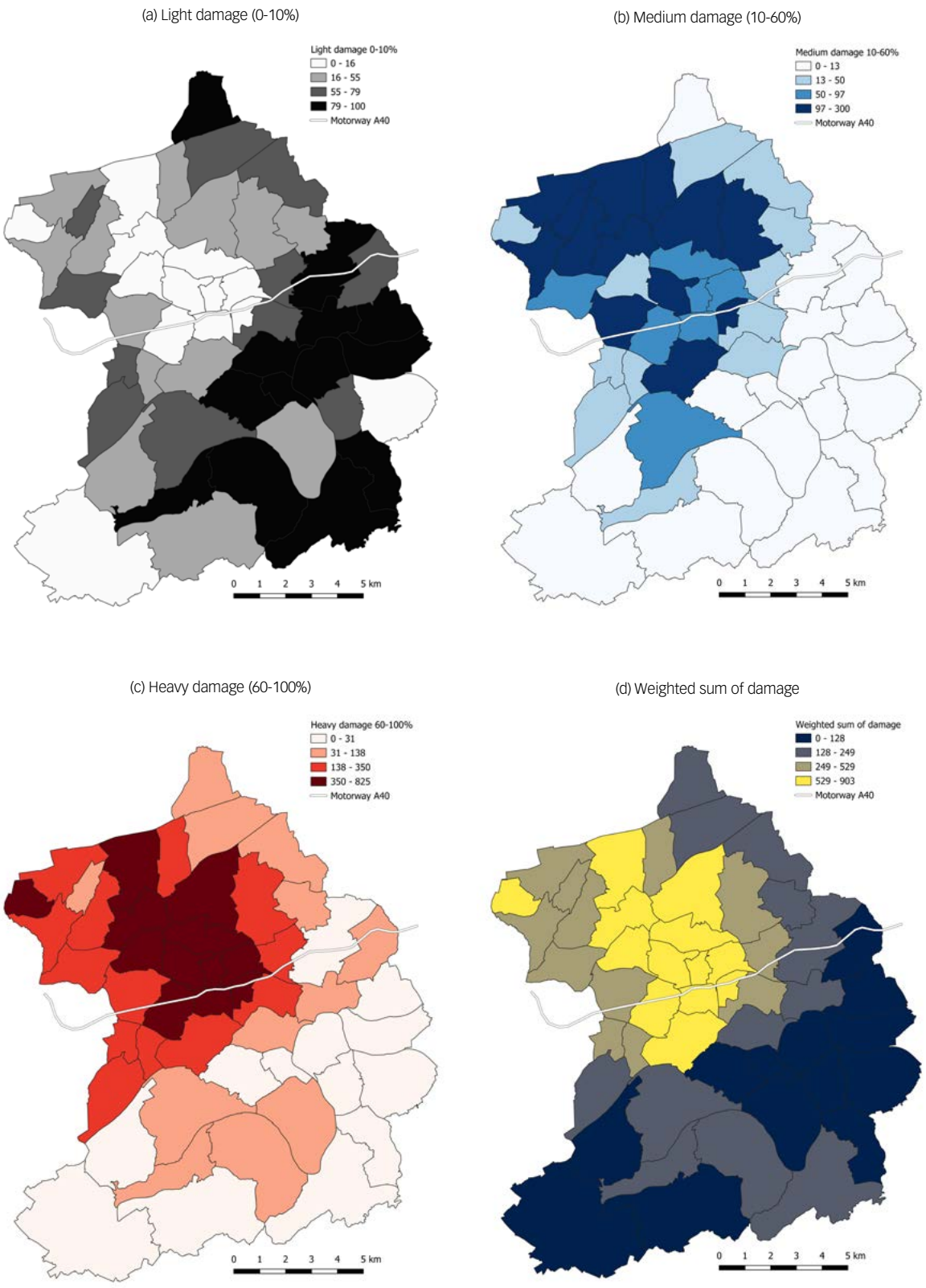


Figure 2: The three damage categories recorded at the *Stadtteil* level to reflect the damage shown on the historical map from Figure 1. (a),(b),(c) darker shades indicate higher concentration of the respective colour (black, blue, red), (d) yellow shades indicate higher levels of damage. Source: District boundaries from *Amt für Stadtforschung und Statistik* (2022).

Districts having up to 100 people per hectare (50% with 50-100 people per hectare). The remaining variables were converted to percentages and correlated against the BDI (Table 1) with the young population exhibiting the weakest relationship with BDI (0.1097) compared to the other four variables. This is also shown in Figure 4 where the 6 variables are plotted against BDI and the very weak correlation (with wide confidence intervals) for density and young population (Figure 4b) can be compared to the other 4 variables. Namely, home ownership and senior population show strong positive correlations against BDI (Figure 4a), while unemployment and foreign population show a strong negative correlation (Figure 4c). The four selected variables were also correlated against each other (Figure 5) indicating a strong relationship between them, in particular, the strong negative relationship between foreign population and senior population and the strong positive relationship between unemployment and foreign population, indicating social stratification processes at the City District level.

The statistical relationships observed for the four socio-economic variables, can also be mapped so that we can understand the social geography of Essen. Figure 6

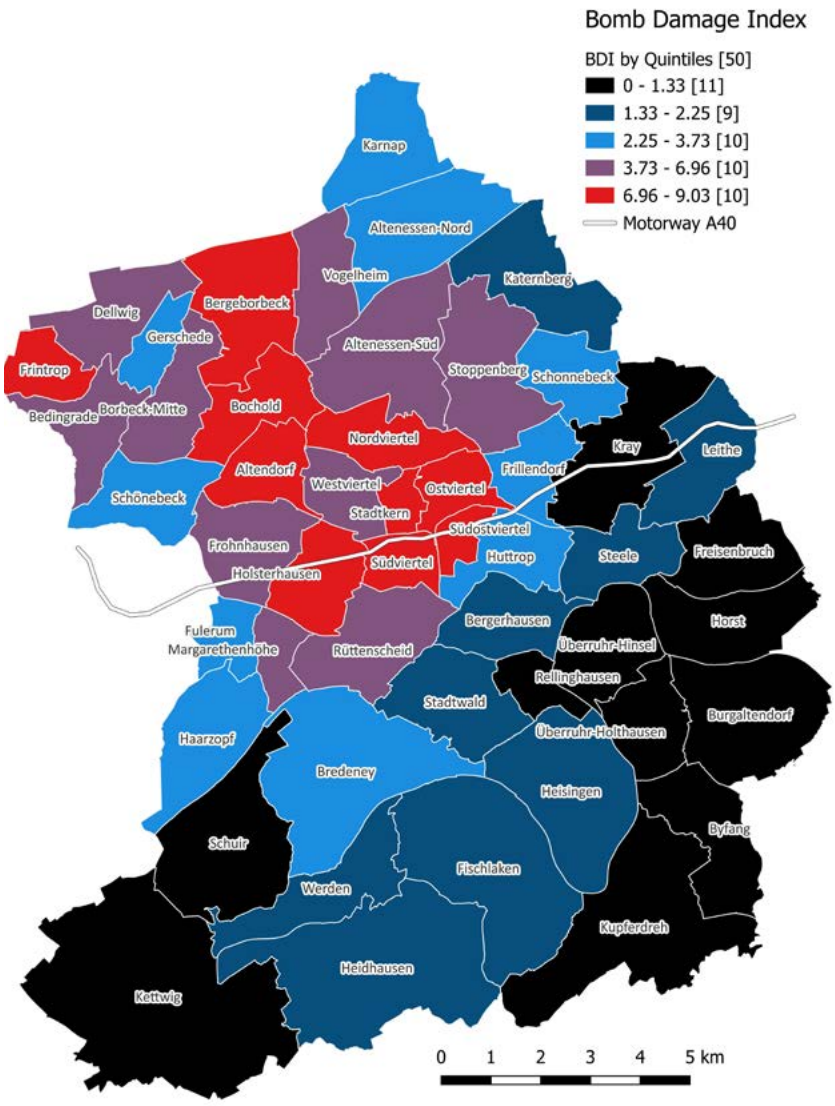


Figure 3: The bomb damage/destruction index (BDI) at the *Stadtteil* level, reflecting the colours of the historical map in quintiles (20% in each category): Red highlighting the highest values of damage; Purple, Light/Dark Blue indicating the medium values; Black the lowest values and no damage. Source: District boundaries from *Amt für Stadtforschung und Statistik* (2022).

Table 1: Correlation of socio-economic variables with the Bomb Damage Index (BDI)

Owner occupied (%)	-0.7717
Senior population >65 years old (%)	-0.7066
Foreign population (%)	+0.7111
Unemployed (%)	+0.5552
Young population <18 years old (%)	*+0.1097*
Density (pop/hectar)	*+0.4022*

illustrates the four variables for quintiles with the lighter shades depicting the lower quintiles (lowest 20%) and the darker shades depicting the higher quintiles (highest 20%). The patterns from the scatterplot matrix of Figure 5 can also be observed here: home ownership (Figure 6a) and senior population (Figure 6c) are higher in the southern districts of Essen, while unemployment (Figure 6b) and foreign population (Figure 6d) are higher around the city centre and extending to the northern districts of Essen. These patterns reflect to some extent the so called "socio-economic equator" that follows the motorway A40 crossing Essen (and the Metropolitan Region Ruhr) from west to east, indicated with a white line in the four maps of Figure 6.

4.3 Analytical approach

To explore further the combined effect of these four variables, we applied the k-means clustering algorithm seeking to group observations (the four variables for each District) into groups of Districts with similar characteristics. This is achieved by minimising the multidimensional distance between the four values associated with each District and a notional cluster "centroid" calculated from all the observations within the cluster. The k-means cluster analysis identified 3 distinctive socioeconomic groups of City Districts, as shown in Figure 7, notwithstanding three Districts that are quite "far" from the clusters, indicated as outliers: Schuir, Margarethenhöhe and Katenberg.

The characteristics of the Districts within the three clusters are clearly visible in the parallel coordinate plot of Figure 8. Cluster 1 (red) consists of 6 Districts with low home ownership and senior population, but high unemployment and foreign population. Cluster 2 (green) consists of 19 districts with roughly the opposite characteristics, hence the diametrically opposite position in Figure 7 and can be characterised as a more "affluent" cluster. Finally, cluster 3 (blue) consists of the remaining half Districts that exhibit roughly "average" values for all four variables, as shown in Figures 7 and 8, as well as in the cluster 3 mean values (blue line in Figure 8, Cluster Means).

4.4 Spatial patterning

To understand the spatial patterning of the clusters, we map the City Districts with the respective cluster colours

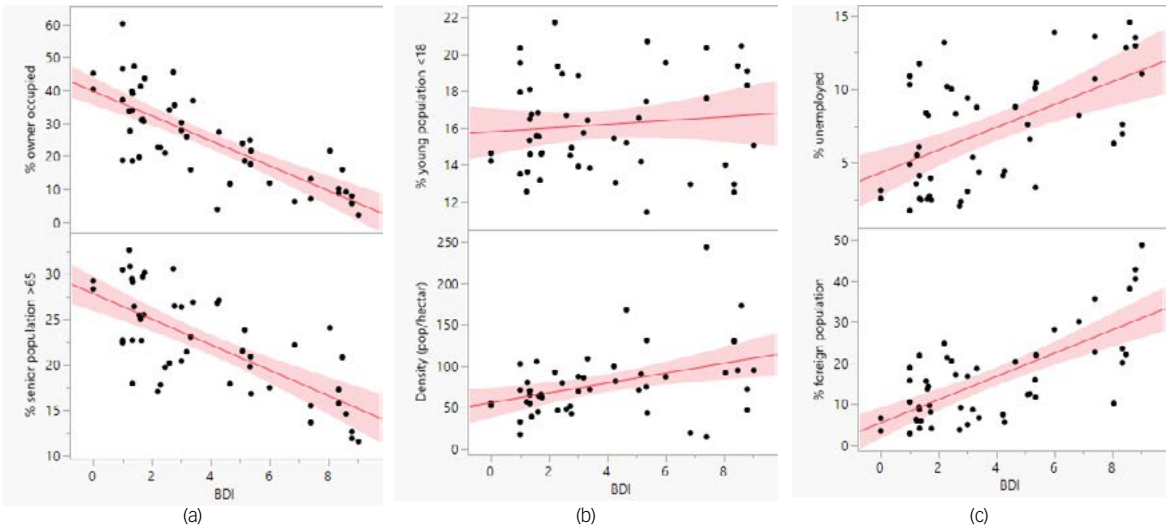


Figure 4: Scatterplot matrix and regression lines (95% CI) of the 6 socio-economic variables against the Bomb Damage Index (BDI) for Essen City Districts.

(red, green, blue), as shown in Figure 9a. The six Districts surrounding the City Centre are clearly depicted in red (cluster 1), but the separation of the "average" blue Districts (cluster 3) with more affluent green districts (cluster 2) is further south, rather than on the A40 motorway as expected earlier. This is because some of the Districts directly south of the A40 motorway have more mixed profiles (blue in Figure 8), compared to the almost clearcut profiles of the affluent Districts (green in Figure 8). For example, the Districts of Sudviertel, Ruttensheid, Huttrop, Steele and Margarethenhöhe (Figure 9), have below average unemployment, making them relatively affluent, but also below average owner occupancy, placing them closer to cluster 1 (red), in statistical terms. Hence, the A40 motorway does not reflect clearly the North-South divide of Essen in relation to the four socioeconomic variables examined here.

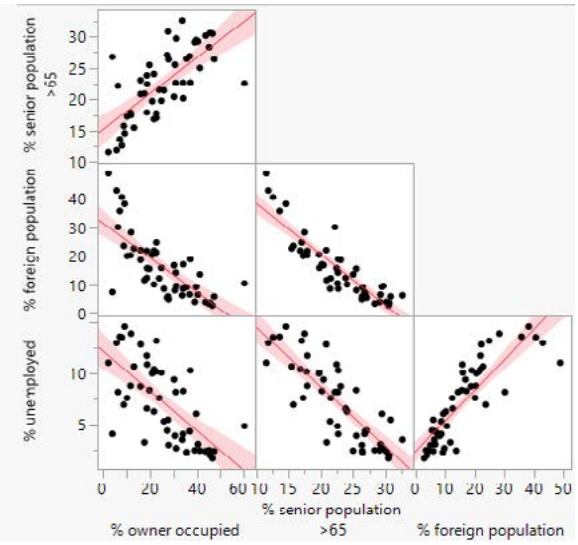
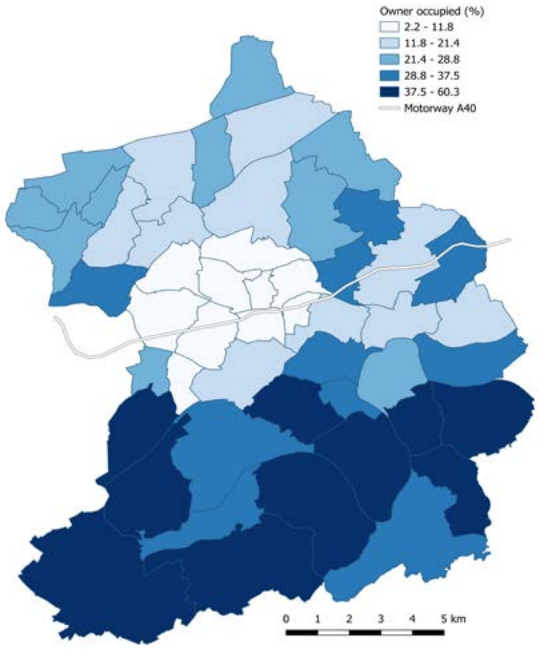
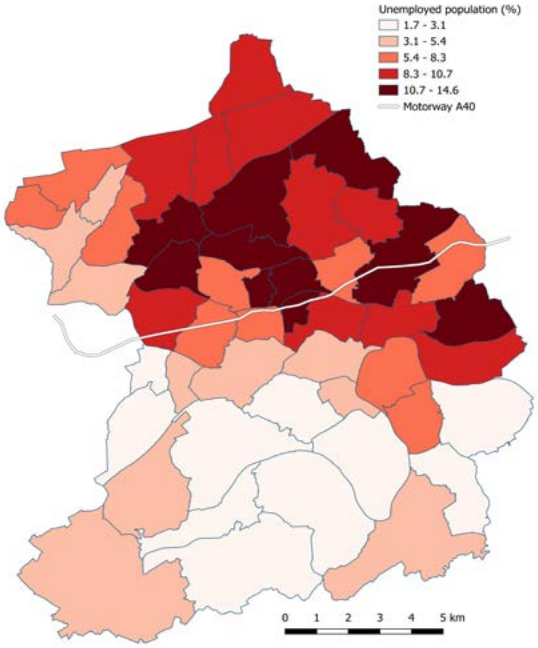


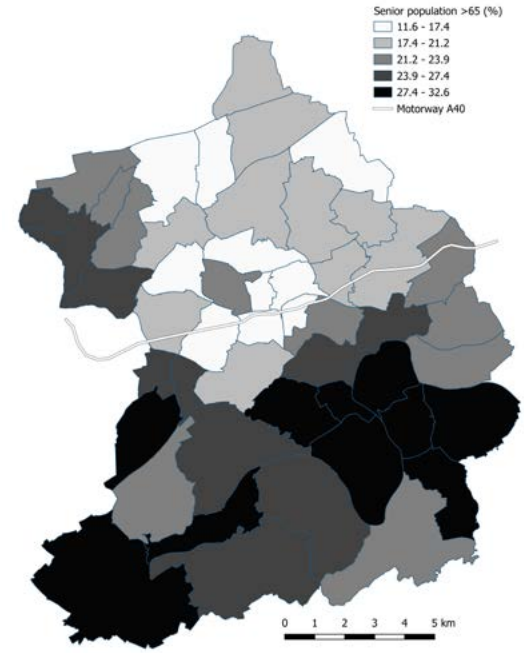
Figure 5: Scatterplot matrix and regression lines (95% CI) of the 4 socio-economic variables against each other for Essen City Districts.



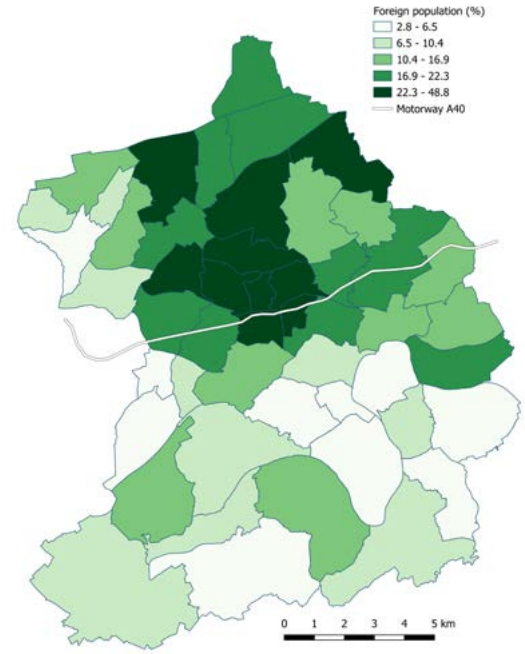
(a) % owner occupied



(b) % unemployed population



(c) % senior population >65



(d) % foreign population

Figure 6: Maps of the 4 socio-economic variables (quintiles) that are strongly correlated with the Bomb Damage Index (BDI) for Essen City Districts. The white line indicates the A40 motorway.

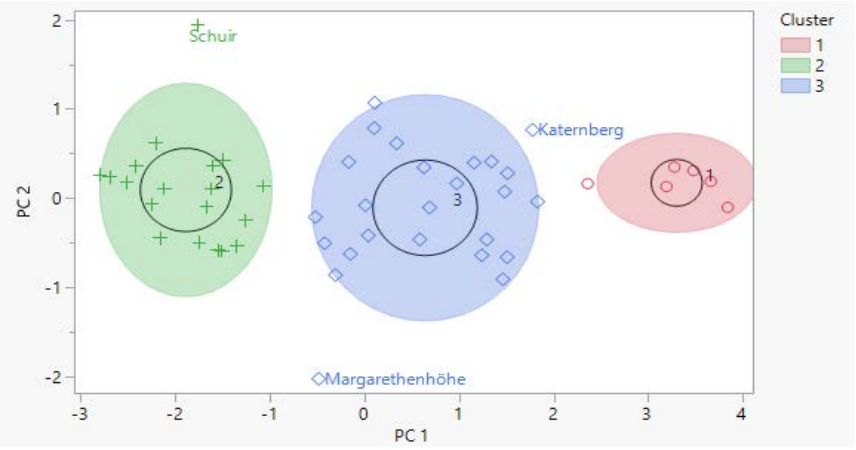


Figure 7: K-means cluster analysis of the four socioeconomic variables, resulting in three clusters (1,2,3), also indicating three outlier Districts: Schuir, Margarethenhöhe and Katernberg.

The final stage of analysis is to compare the patterns of the socioeconomic clusters (Figure 9a) with the patterns of bomb damage (Figure 3), but with a simpler classification to reflect bomb damage for the highest decile of damage (red) and the lowest two deciles of damage (black) in Figure 9b. Although the patterns on the two maps do not match exactly, it is evident that five of the six Districts from the less affluent socioeconomic cluster 1 (red in Figure 9a) were also heavily bomb damaged, while all the heavily damaged Districts (red in Figure 9b) fall in either the less affluent cluster 1 (red in Figure 9a) or the mixed socioeconomic cluster 3 (blue in Figure 9a). It is also notable that none of the heavily damaged Districts (red in Figure 9b) has been classified as affluent cluster 2 (green in Figure 9a). This is more evident when we visualize the relationship between the statistical distribution of BDI by socioeconomic cluster using "violin plots" in Figure 10. It then becomes apparent that the two extreme socioeconomic clusters 1 (red) and 2 (green) are also significantly different in terms of BDI, with BDI District values for these two clusters not overlapping at all in Figure 10. However, cluster 3 (blue) presents a more mixed picture with Districts having values of relatively low to quite high BDI.

5. Discussion and Conclusions

Based on the analysis presented above, the level of destruction caused by Second World War bombing appears to be closely related to the contemporary socioeconomic profile of Essen. The least affluent areas of Essen (socioeconomic cluster 1) tend to have been Districts which suffered heavy bomb damage, while more affluent areas (socioeconomic cluster 2) are in Districts which suffered very low or no bomb damage. These results suggest a relationship which aligns with previous research (Hanson, 2000; Coughlan 2020) demonstrating that severe bomb damage/postwar redevelopment can result in social inequalities and disadvantage decades later. These findings, however, should be interpreted with caution and require further investigation, as discussed below. The spatial distribution of the results is particularly revealing, not only because it highlights the present-day socioeconomic disparities within Essen, but also because the socioeconomic patterns of today can be related back to the pre-war development of Essen. In that respect we agree with Ortwein et al. (2022) that the perceived affluence/deprivation division of Essen carved by the A40 motorway may be attributed to factors beyond socioeconomic status and position (Lengyel et al. 2022), adding here historical events and planning processes that question the role of A40 as a physical socioeconomic border.

The results confirm that the highest levels of destruction occurred in the City Districts surrounding the city centre and extending to the north and the south. These hotspots reflect the industrial targets of the British Royal Air Force (RAF) during the 'Battle of the Ruhr' (Beseler & Gutschow 2000); a consequence of the domination of Friedrich Krupp AG's coal and steel production in Essen, as discussed earlier in this paper. The growth of the Krupp industry, however, did not just determine the areas of Essen that would suffer most destruction during the Second World War, but also had already paved the way for how Essen would develop socially and economically. As noted earlier, the Krupp workers' settlements housed a working population in districts around the city, particularly in the districts of Frohnhausen and Holsterhausen (Stenglein 2015), whereas the middle classes already chose to live further away in the south of the city (Boucsein 2010: 46). Our research shows that this socio-spatial pattern continues to exist today, despite the major city transformation that occurred as a result of severe bomb damage and postwar reconstruction.

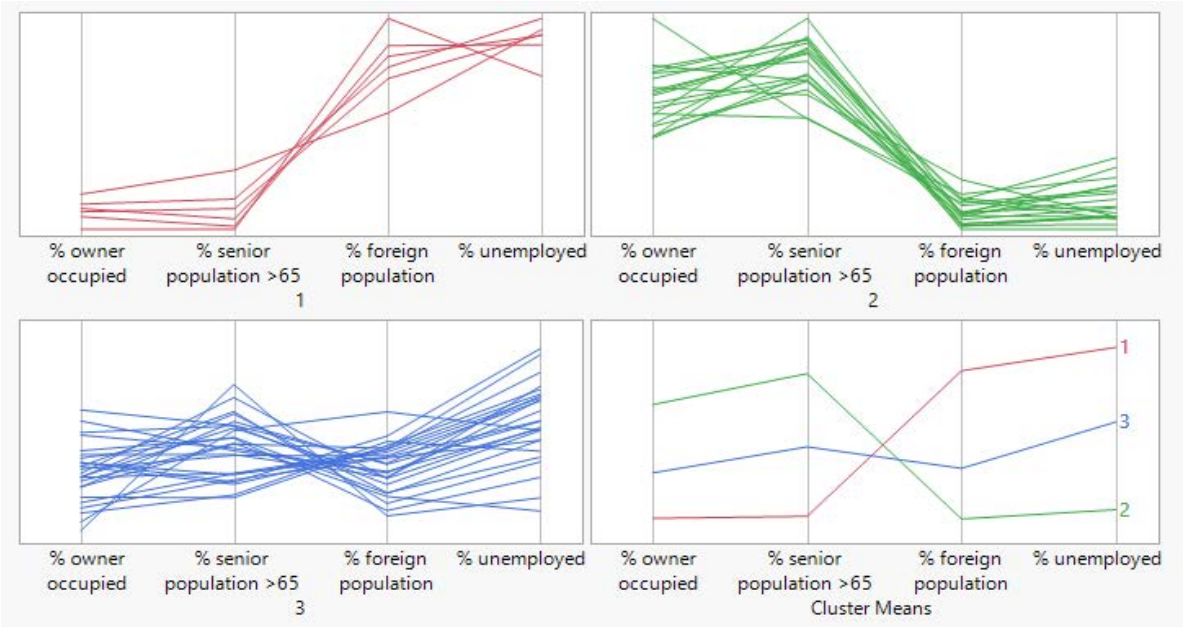


Figure 8: Parallel coordinates of the four socioeconomic variables for each of the three clusters and cluster mean lines summarizing each of the three clusters.

Comparative research is required in other cities to explore these findings further, but it is evident here that postwar planning did not bring the heavily damaged areas up or eliminate disparities across the city.

From a town planning perspective, much postwar development reflected a continuation of pre-war plans relating back to the 1920s (as discussed earlier), rather than a new, radical postwar vision. The City District of Holsterhausen, however, which suffered severe destruction during the Second World War, was an exception and became a significant postwar reconstruction area in the 1950s, described as "radical" and "hypermodern". The redevelopment of the Alfredshof resulted in a postwar development that differed significantly in urban form and architectural style to the typical rows of houses in the old Alfredshof settlement and was designed to reflect a new beginning. Despite this major reconstruction, however, Holsterhausen is classified as an "average" District (socioeconomic cluster 3), with relatively high unemployment, a relatively high foreign population, and very low home ownership and senior population. Such figures could be explained by the high student population, which is drawn to the area predominantly because of the proximity to the *Universitätsklinikum* (University Hospital) or due to Holsterhausen's location between the centre of Essen and the outer districts. It has a dense road network, intersected by numerous primary roads that link to the A40 motorway passing through the area. This, coupled with multiple bus, tram, and underground routes, leads to a substantial volume of traffic, which detracts from the environmental quality of the area. By contrast, the garden city-inspired Kruppian settlements located in the City Districts of Stadtwald, Bredeney and Margarethenhöhe, which suffered medium to low bomb damage are all classed as relatively affluent today (socioeconomic cluster 2).

To conclude, the analytical approach undertaken here has captured the level of destruction caused by Second World War bombing and brought together information about the urban and social fabric of Essen at the City District level. The contemporary spatial patterns of relative affluence have been mapped and the correlations between the variables, as well as with the level of Second World War bomb damage have been visualized and analyzed. We have also demonstrated here how the use of GIS adds value to traditional historical cartographic research because it enables the information in historical maps to be examined in novel ways. Moreover, the extraction of data from historical maps in a digital geospatial form can be visualised, overlayered, and combined with other spatial data, answering new research questions and enriching understanding of the maps and their effects. With the help of such geo-computational tools, this article has provided a critical statement on mid-twentieth century urban planning and shed light on how war damage and early planning visions and decisions have been imprinted on today's urban and social fabric of the German city of Essen.

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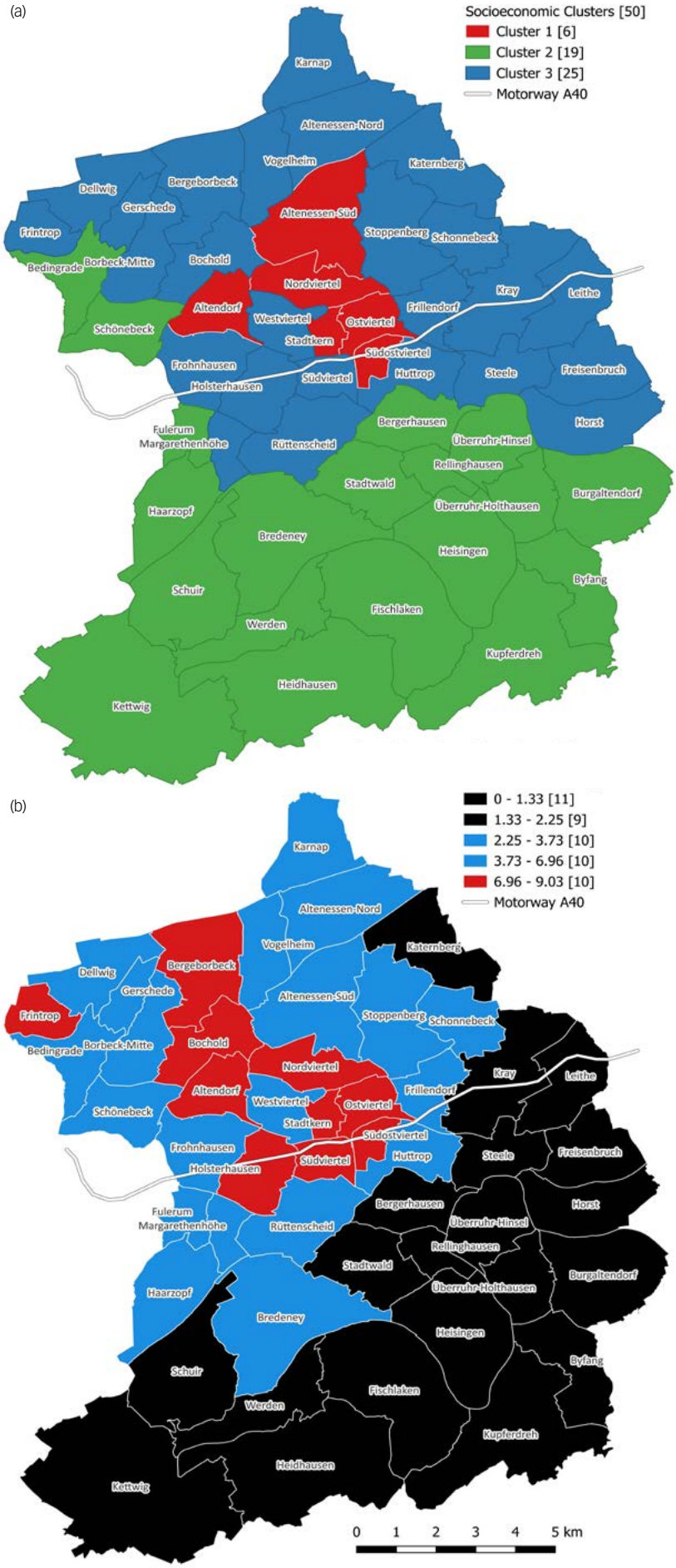

▲ **Figure 9:** (a) Map of the 3 clusters with the colours representing socioeconomic clusters: 1=red, 2=green, 3=blue. (b) Map of BDI with highest decile of damage (red), followed by two medium deciles (blue) and lowest two deciles of damage (black). The white line indicates the A40 motorway.

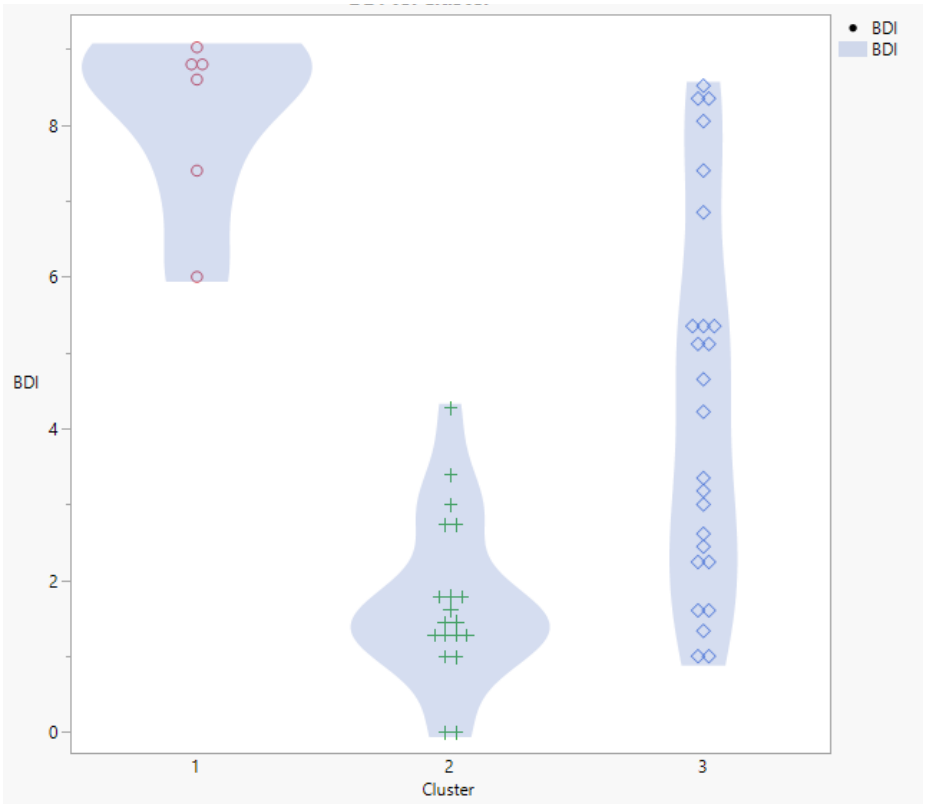

Figure 10: Violin plots of BDI by the three socioeconomic clusters of Figures 7 and 8.

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Post-conflict Recovery Discourse for Urban Cultural Heritage in Aleppo

Tracing the Continuum of Exchange between Syria and Germany

Franziska Laue

Over the past decades, various conflicts have caused significant disruptions in Middle Eastern countries. In Syria, 2021, a point of no return marked the passing of a decade of conflict, which has now been exacerbated by a multitude of regional earthquakes in early 2023. Aleppo was particularly affected. Besides the human tragedy, which the world continues to witness in real time, there has also been a highly publicised outcry regarding the destruction of the nation's built and urban heritage. International discourses and efforts on post-conflict recovery swiftly emerged within international expert networks, civil society, academia, and organisations. Some disciplines made the effort to build on experiences and practices from post-disaster responses and post-conflict contexts around the world, for a potential transfer to the current challenges inside Syria. Often, this links to established pre-conflict networks through individual connections and institutional structures. However, the past 12 years also have shown the need to strive for a coordinated discourse of potentially parallel efforts and, hence, the question of how to harness experience gained in the past, transcending impulses, expertise and experience across generations and backgrounds. Against the backdrop of years of efforts in urban heritage conservation and rehabilitation in the northern Syrian city of Aleppo (its progress and challenges, by the way, often described in various issues of TRIALOG since 1991), this paper aims to trace the emergence of such continuous networks and their actors. It particularly investigates connections within the landscape of cooperation and discourse by illustrating events and efforts in academia, development cooperation, civil society, and general interdisciplinary exchange. For this, the author will first look at the timeline of milestones, followed by how and with whom the groundwork was made for Aleppo's rehabilitation efforts, and later for the increasing spectrum of its recovery discourse towards post-conflict recovery of urban cultural heritage. The paper will subsequently attempt to briefly grasp the open process of a growing diversity of actors, the spectrum of the current discourse, and the importance of continuing a challenging yet fruitful process between all involved stakeholders.

Post-Konflikt-Wiederaufbaudiskurs für das städtische Kulturerbe in Aleppo. Dem Kontinuum des Austauschs zwischen Syrien und Deutschland auf der Spur

In den vergangenen Jahrzehnten haben Konflikte in den Ländern des Nahen Ostens die Region nachhaltig erschüttert. In Syrien markierte 2021 ein Jahrzehnt eines unwiderruflichen Konflikts (der zudem Anfang 2023 durch regionale Erdbeben noch verschärft wurde). Neben den menschlichen Schicksalen, die die Welt in Echtzeit miterlebte, gab es bereits früh einen starken öffentlichen Aufschrei über die Zerstörung des baulichen und städtischen Erbes des Landes. Aleppo wurde zu einem prominenten Beispiel dieser Betroffenheit. In internationalen Netzwerken (Expert:innen, Zivilgesellschaft, Wissenschaft und Organisationen) entstanden rasch Wiederaufbau-Diskurse und Planungsbemühungen, oftmals anknüpfend an bestehende Netzwerke aus der Zeit vor 2011. Die vergangenen Jahre offenbarten jedoch zunehmend den Bedarf nach einem koordinierten und konstruktiven Diskurs und systematischen Austausch von bisher gesammelten Erfahrungen, Fachwissen und Impulsen, der Generationen, Fachbereiche und Sektoren verbindet. Vor dem Hintergrund der jahrzehntelangen Bemühungen um den Erhalt und die Sanierung des städtischen Erbes in Aleppo (auch seit 1991 in verschiedenen TRIALOG Ausgaben beschrieben) will dieser Beitrag die Entstehung solcher kontinuierlicher Vorkonflikt-Netzwerke und ihrer Akteur:innen nachzeichnen. So werden insbesondere Zusammenhänge innerhalb der Kooperations- und Diskurslandschaft, indem Ereignisse und Bemühungen in Wissenschaft, Entwicklungszusammenarbeit, Zivilgesellschaft und allgemeinem interdisziplinären Austausch illustriert werden. Als Grundlage hierfür dienen Literatur- und Fachdokumente, sowie eigene Projekt- und Netzwerkerfahrungen der Autorin.

1. Introduction

Long-term *TRIALOG* readers will already be aware of Aleppo's unique urban heritage and the complexity and struggles it has endured. Its historic relevance, unique setting, challenges, and stages of achievements within rehabilitation and developmental efforts have often been described by Syrian and European practitioners and researchers in various issues of *TRIALOG* since 1991 (e.g., Annegret Nippa's atmospheric account in *TRIALOG* No. 29 [1991: 4-9]). For many decades in the second half of the 20th century, Syria was considered stable within the region, and the location of various bilateral and international cooperation projects. This drastically changed in early 2011. Since then, everybody's perspective has had to inevitably shift, given the new reality of a country in conflict. Armed combat, over the years, has caused significant disruptions and, in areas, devastating destruction of urban and rural livelihoods. The situation has now been exacerbated by a multitude of regional earthquakes in early 2023. Aleppo is among the cities especially affected by direct combat (UNESCO 2018: 16). Besides the human tragedy, which the world continues to witness in real time via various media sources, there has also been a highly publicised outcry regarding the destruction of world heritage and other tangible and intangible traces of human civilization in the city. International discourse driven efforts on post-conflict recovery swiftly emerged within international expert networks, civil society, academia, and organisations. The example of Aleppo, with its years of pre-conflict urban

heritage rehabilitation programmes, provides an insight into the current struggle for a coherent discourse and process. Before the conflict, urban transformation had already undergone shifting paradigms, e.g., changing approaches from formalistic physical and spatial interventions to more holistic planning strategies. This pertains to a growingly complex net of mutual relations that have spanned professional, technical, academic, and personal connections throughout several decades. This learning process continued during the post-2011 discourse, with perspectives shifting from reconstruction to a more-encompassing recovery discourse, and is ongoing.

Against this backdrop, this paper will trace the continuity of previously made experiences among Syrian and German individuals and institutions and their built relations through milestone events. A brief description of the historical context for pre-cooperation knowledge creation will be followed by the key events leading into a decade-long period of rehabilitation and cooperation efforts. Then the impacts on the landscape of actors linked to cooperation in Aleppo after 2011 will be illustrated, followed by a description of the struggle for continuation and the emergence of new initiatives. For this, as the contemporary pre-conflict chronology is rich; data such as project reports, proceedings, minutes of meetings, research results, workshop documentations, and conference publications will be used as reference, and complemented with primary information, including the author's involvement in the urban heritage development discourse in Aleppo before and since 2011. The paper will conclude with a brief discussion on harnessing the knowledge across generations and disciplines for a productive exchange and debate for the sake of a liveable recovery in Aleppo, and the gaps that remain apparent.

The author would like to acknowledge important limitations to this paper's content. Firstly, it is written from the perspective of a German practitioner, who draws information through her direct involvement in parts of the rehabilitation project and subsequent recovery discourse in Germany, and through personal conversations with Aleppian friends and colleagues. Hence, it is not conducted as a scholarly study. Consequently, the mentioned examples likely represent only a part of the overall efforts. Moreover, concerning a yet unresolved conflict inside Syria, the author has anonymised active Syrian contributions. Hence, this paper presents one perspective of the discourse, inviting further and continued conversations on experiences made by Syrian colleagues, scholars, and activists across generations.

2. Landscapes of growing knowledge and exchange … and subsequent cooperation

The northern Syrian city of Aleppo looks back upon around four millennia of continuously inhabited urban heritage (Bianca et al. 1980; Qudsi 1994). Situated at the intersection of ancient multidirectional trade routes, Aleppo was a cultural, religious, and economic gravitation point and thus a cultural and religious melting pot (Eldem et al. 1999: 17). Until well into 2012, the roughly 350-ha-sized historic area was characterised by a largely intact urban landscape, unique monuments, and urbanisation patterns reaching back to Hellenistic times (Qudsi 1994: 19), but with a transforming socio-economic and socio-cultural set-up similar to other historic centres in the region. The tracing of the history of various overlapping eras has been a subject for local and international scholars and practitioners throughout centuries, often shaped by the political undercurrents of their backgrounds and eras. To understand the current actors' landscape in Aleppo's recovery discourse, it is worthwhile to look past milestones that have emerged around the interest to document and actively preserve Aleppo's local urban built legacy. Hence, for this paper's structure, a rough differentiation between three periods is offered to help structure the following subsections: Early sources for research and travel records (pre-20th century), local responses to Western planning paradigms (early 20th century to 1970s), kick-starts for cooperation, consolidation and upscaling (1980s to 2011). The subsequent chapters then offer an observation on the caesura of cooperation and recalibration (2011 to today).

2.1 Early sources for Syrian-European knowledge exchange (pre-1970s)

Relations between Syrian and European counterparts appear to run deep and are complex, if not complicated, in their mutual history. The Eastern Mediterranean region's history of continuous urban civilization has long been a relevant reference for research, travel and projections to scholars, now as then. Its architectural and urban development, local societies and culture continuously generated knowledge about cities such as Damascus, Jerusalem, and Aleppo. The era of Western travellers[1] and scholars in the 18th and 19th centuries accelerated the accessibility of such travel accounts outside of the region and in Europe, not rarely acting within the realm of colonial efforts (Lafi 2017). This included documenting ancient archaeological remnants, centuries-old monuments (Herzfeld 1912), and single urban architectural elements in written and drawn accounts, making knowledge about a continuously inhabited, culturally and linguistically rich region available to international readers. During the Ottoman administrative period since the 16th century AD, Aleppo's urban setting became subject to further urban extensions to the west (Jamiliya) and north (Aziziyie), and to new architectural influences (Watenpaugh 2004), and thus to detailed monument plans and descriptions and various governmental records, including ownership records. Especially early Ottoman cadastral documentation (Raymond 1993) became a basis for administration under the French colonial rule following 1918. Cadastral maps produced between 1928 and 1932 served as a basis for taxation and land evaluation (Toshan in Fischer & Gangler 2012; David 1993). Aleppo's urban stock was meticulously documented (1931-41) in records by the French 'colonial expert' Jean Sauvaget (Lafi 2017: 6), listing monuments for preservation and protection. Moreover, aerial photography from the 1930s, generated by the French research institute IFEAD/IFPO,[2] allowed for the first bird's eye views. Likewise, local initiatives arose, such as the Al-Adiyat Archaeological Society, which was founded in 1924, initially with the aim of protecting the citadel's remnants, and subsequently dedicated to the overall tangible and intangible urban heritage. It remains active today as an important reference for local knowledge transfer (Lafi 2017: 20), including the recovery of urban heritage, and to the international community.

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1
European scholars such as the German geographers Carsten Niebuhr (1772, 1774), Johann Ludwig Burckhardt (1824), Ernst Herzfeld (1912) are among the prominent early names.

2
IFEAD – Institut français d'études arabes de Damas; IFPO – Institut du Proche Orient.

2.2 Local responses to master planning (early 20th century to 1970s)

Simultaneous to the accurate documentation of its historic remnants, Aleppo's overall urban development became subject to irreversible transformation. On the one hand, social and economic structural changes – such as the exodus of the wealthier population to newly built neighbourhoods (Nebel & Spiekermann 2008) since Syria's independence in 1946 (Lafi 2017: 15) – affected the city's historic centre. On the other hand, the international influence, on Aleppo's urban vision, of modernist transformation concepts that adhered to western (formalistic, transit-oriented) planning paradigms,[3] disregarded the organic growth and introverted the urban fabric and its socio-economic setting.[4] In the mid-1970s, however, the first activities of demolishing historic areas such as Bahsita (Qudsi 1994) sparked direct mobilisation within the local residential and professional community to stop the destruction (Lafi 2007: 18; Qudsi 1994). Instrumental to that were Aleppian conversationalists and architects, among them Adli Qudsi (a driving force who trained overseas), along with professionals from the same generation. Their cause gained visibility via Al-Adiyat's publications requesting a UNESCO classification (Lafi 2017: 18) and directly reaching out to the UN agency. UNESCO's 1980 report presents records of disruptions and demolition of the old city's physical, socio-economic fabric, requested protective classification, and outlined a new strategy in response (Bianca et al. 1980). Besides a moratorium to prevent further demolishing, the entire 350-ha old city of Aleppo was placed on the UNESCO World Heritage List in 1986 (UNESCO 1986), and was declared 'protected by the Antiquities Law administered by the Directorate of Antiquities and Museums (DGAM[5])' (UNESCO 2022). This laid the grounds to later ensure its preservation and to generate funding and technical assistance from various international donor agencies and international civil society. The years of late 1970s and early 1980s were among the most influential and crucial for a vocal bottom-up response. Firstly, the response changed the course of historic Aleppo's fate by preventing further destruction and by contributing to its sustainable development. Secondly, it set the landscape of pioneering actors who remained engaged in the subsequent process in the 20th and 21st centuries. Thirdly, the mobilisation made Aleppo's past and future visible to institutions abroad. Fourthly, it marked the start of exchange with civil society and academia; and fifthly, it subsequently became subject to financial and technical cooperation.

2.3 Getting things done – kick-start for cooperation, consolidation and upscaling (1980s to 2011)

The late 1980s and early 1990s witnessed international donor mobilisation. This included a mission to outline official Syrian-German cooperation[6] efforts to tackle Aleppo's urban development within the old city. A detailed account, by Sacher Olabi, on the challenges at the time can be found in *TRIALOG* No. 50 (1996: 45-55). Simultaneously, research outside of Aleppo about Aleppo gained momentum, for instance in West Germany at the University of Tübingen, and in East Germany at the Technical University Dresden.[7] Widely used standard references today include detailed mapping and an inventory of historic Aleppo (Wirth & Gaube 1984), in-depth accounts of traditional housing (Gangler 1993), research by urban geographers contributing to the intersecting discourse on Aleppo's urban societies and historic institutional set-up, and religious space described by Knost (2009). Close exchange between Syrian and international academic institutions contributed to further evidence on Aleppo's urban setting and history (David 1982;[8] Raymond 1993; Terasaka & Naito 1990). Meanwhile, in 1990, previously active Syrian and German scholars, practitioners and individuals who were jointly dedicated to the preservation of Aleppo's urban heritage, founded the Association of the Friends of the Old City of Aleppo (in short: Aleppofriends) at Stuttgart's Linden Museum. Among their first initiatives was, in 1993, the activation and fundraising among its members to provide financial support for, for instance, house owners on a smaller scale via the newly set-up 'Emergency Fund' (later it changed into 'Housing Fund').

In around 1994, the Municipality of Aleppo, GTZ (until 2011, Gesellschaft für Technische Zusammenarbeit, now GIZ), and the Arab Fund for Economic and Social Development established a comprehensive Urban Rehabilitation Programme (Rehalab). Joint technical and financial cooperation aimed at implementing economic, ecological, infrastructural, social, and cultural projects, inspired by the principles of IBA Berlin (Lafi 2017: 20). Soon after, in 1999, the Directorate of the Old City (DOC) was established as a specialised municipal entity to administer Aleppo's preservation. The DOC's location, alongside the local GTZ office, was in the Seyf Al-Dawle Building, a historic multi-courtyard complex that was extensively restored between 1994 and 1996 (see the article by Anette Gangler in *TRIALOG* No. 40, 1994: 22-27). On the building level, a Syrian-German expert team co-authored the restoration guidelines (Karzon 1997) and a maintenance programme (Bitar 2005). During its initial phase, the programme undertook extensive analyses (1993-97), which fed into a 'Development Plan', in 1999, along with a comprehensive management and capacity building process. This served as the guideline for planning and development and foresaw sector-specific action area planning in clearly designated parts of the old city. For instance, one area was dedicated to the urban redevelopment and redesign of the perimeter of the citadel of Aleppo. International research cooperation also specifically gravitated around the citadel as a site itself, which is among the oldest monuments in Aleppo and reaches back at least four millennia. Syrian-German excavation missions (e.g., by the Syrian Directorate-General of Antiquities and Museums and HTW Berlin) started in 1996 (until 2011), and the international agency Aga Khan Trust for Culture (AKTC) joined in the cooperation with a comprehensive conservation and reuse project in 1999 (GTZ 2004; Lafi 2017: 21). Other action areas were subject to focused projects coordinated by the GTZ, e.g., on waste management, traffic (see Driessen in *TRIALOG* 82, 2004: 39-42), environmental protection, tourism development (see Spiekermann & Gangler in *TRIALOG* 79, 2003: 16-21; Nebel & Spiekermann 2008), and local economic development. In 2005, lessons learned from the early programme experience – for instance, going beyond relying on a 'static vision of heritage' (Lafi 2017: 21) – translated into efforts of aligning Old Aleppo's sustainable development with the dimensions of the Local Agenda 21 (Chibli 2002). Also, the Syrian-German 'Conservation and Development Strategy' (C+D Strategy) for the old city, co-authored in 2005, offered a more-comprehensive format by introducing strategic zones and

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3
Redont, for instance, and master planning by Danger in 1929 and his colleague Ecochard in 1938, foresaw transformative and potentially grave consequences for the city's existing urban fabric.

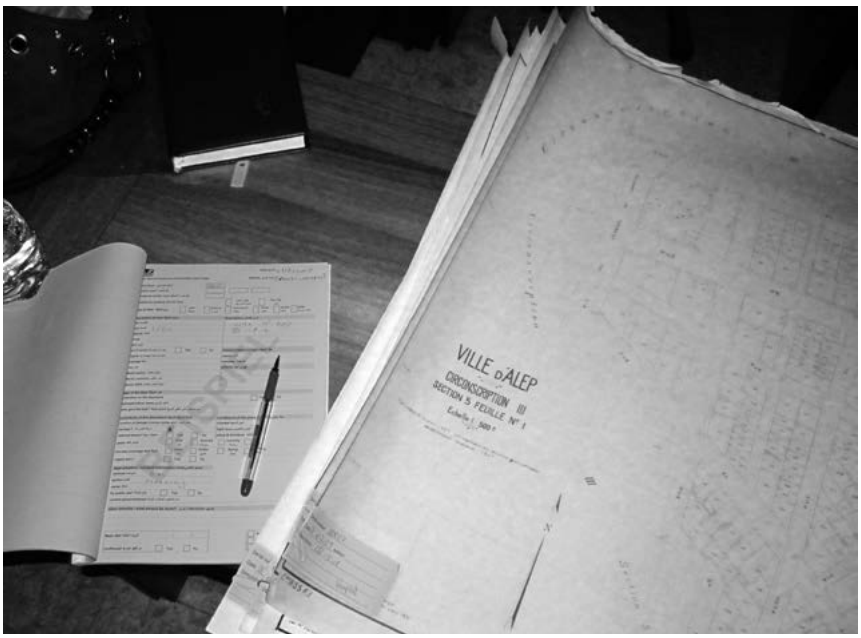
4
With its spacious cuts into a continuously inhabited city for millennia (Bianca et al. 1980; Qudsi 1994), the implementation of parts of the master plan by André Gutton (1954) and its less impactful revision by Gyoji Banshoya (1975) was approved by the local municipality, resulting in dramatic large-scale destruction within the compact historic urban fabric (UNESCO/UNITAR 2018).

5
DGAM - Directorate-General of Antiquities & Museums.

6
Prior to the conflict in Syria, European-Syrian development cooperation in the urban development field was based on governmental agreements.

7
The specific Eastern German research is lesser known, but the GDR and Syria maintained an exchange programme by German universities hosting Syrian students.

8
Jean Claude David has continued to contribute to Aleppo's urban discourse ever since, including writings on Waqf Ibshir Pasha in 1982, the impact of planning and administration 1986, etc.



▲
Figure 1: Assessment of paper records at DOC's Archive and Documentation Section in 2009. Photo by author.

adding buffer zones that connect to the newer parts of the city (Oikos 2005).[9] During the programme's overall runtime, independent local experts joined the project team as fully employed staff members, substantially increasing mutual access to, and mobility within, the broader international community and options to build capacities. With time, project staff members and local experts consolidated private consultancies and offices in the related project fields, or linked up to other international cooperation agencies, research institutes, and foundations within the AKDN.[10]

Looking at a considerably long runtime of 14 years (1994-2008), the GTZ rehabilitation project could build on multiple lessons for further development and strategic continuation (GTZ 2006) and, in 2008, made the 'Toolkit for Urban Conservation and Development' (Nebel & Spiekermann 2008) available for knowledge transfer. Designed in a modular structure, it documented and shared tools and experiences for comparable contexts, with chapters on topics such as legal framework, options for process management, community development, participation, and lessons learned. Simultaneously, Aleppo's rehabilitation programme was subsumed under the newly established countrywide 'Programme for Sustainable Urban Development in Syria'[11] (UDP), and hosted three subcomponents, including heritage conservation.[12] Taking into consideration some recommendations from the above-mentioned C+D Strategy, interventions in the old city were incorporated and scaled up into citywide strategies such as the 'City Development Strategy' (CDS) supported by Cities Alliance (2009-11). This further diversified the pool of local (and international) stakeholders, among them experts from the heritage-focused work, consequently attaining overlapping roles.[13]

With further consolidation and diversification of the cooperation, Aleppo's old city remained visible to German academia. Universities and research centres (e.g., ZMO & OIB) intensified and diversified exchange on architectural and urban rehabilitation (with the University of Stuttgart, BTU, & TU Berlin), on textile heritage (with Burg Giebichenstein Halle), and on woodwork preservation in historic mansions such as the Seyf Al-Dawle Building and on document restoration for family-history archiving (both with Academy of Fine Arts Stuttgart – AKB). Moreover, this fostered a variety of thematic in-depth graduation projects tackling urban heritage at the intersection of Aleppo's overall urban challenges, such as informal housing and economy. Additionally, regional cooperation aimed at strengthening relations across fields and disciplines manifested in joint urban design workshops with Iraq and Egypt (e.g., JUDW with BTU's Middle East Cooperation Unit in 2010).

With the changing scope of programmes, such as GTZ's UDP, the role of and cooperation with civil society also reluctantly changed. Meanwhile, the Aleppo Citadel Friends Society was founded around 2004, and international associations such as Aleppofriends redirected to funding a new project within the UDP's old city component: the set-up of DOC's Archive and Documentation Section for its historic urban documents (Alepposcope 2010; Laue 2017). (See Figure 1.) Its location was the Shibani School, a former Franciscan convent, which was extensively restored as part of a debt-swap agreement with Germany and, by the end of 2010, was hosting the Goethe Institute, AKTC, and CIM. Across most projects and throughout the given runtimes, participation and inclusion of civic stakeholders took place, including those of women's association, neighbourhood units and shop keepers (Nebel & Spiekermann 2008). Nevertheless, most projects were largely facilitated top-down, and often limited to project-specific information formats and feedbacks. The involvement of other local non-state actors concerned environmental initiatives (e.g., greening campaigns), cultural education, health and welfare (Nebel & Spiekermann 2008).

Syria's pre-conflict visibility to a non-expert European audience increased thanks to improved accessibility for international holidaymakers in the early 2010s, and a growing reputation for being an attractive destination for Arabic language courses. With its overall wealth of accessible, complex, and intact authentic cultural heritage, Aleppo's tourism benefited from increasingly affordable direct flights between 2009 and 2011 (Airliners.de 2009), thus travel itineraries regularly included a visit to the old city. In contrast to that, Syrian individuals continuously faced travel restrictions. Nevertheless, personal Syrian-European connections built throughout the decades remained active and were expressed through mutual hospitality, whenever possible. The following chapter traces these continuities, which resulted in the emergence of more informal networks and collaborations.

3. Caesura. The shift of collaborations and networks (2011 to today)

The Arab Spring in early 2011 had its spill-over effect of hope on Syrians, who also demanded change. With events and weekly Friday demonstrations, tensions gained momentum in March 2011. The actual turning point in and around Aleppo came several months later. With armed combat reaching the northern Syrian city around June 2012, significant areas inside the historic city and nearby faced severe damage and destruction (UNESCO/UNITAR 2018). One major combat line crossed through Aleppo's historic centre (UNESCO/UNITAR 2018: 19), resulting in dramatic losses of some of its most valuable architectural features (e.g., the Big Mosque, hammams, etc.), turning entire neighbourhoods uninhabitable and causing the exodus of large shares of its local communities (e.g., Bayyada). In addition, local administrative buildings (e.g., Seyf Al-Dawle) in

9
This subsequently facilitated the transition to a citywide urban development programme starting 2009.

10
Aga Khan Development Network.

11
This expansion of Syrian-German cooperation now included several mid- and large-sized Syrian cities, and conversation now concerned actors across several cities countrywide.

12
As well as informal settlement upgrading (IS) and local economic development (LED).

13
This included being consultants and lecturers, researchers and active members in local or international civic organisations. Thus, capacities were built in on-site internships or short-term consultancies.

◀
Figure 2: Armed men sitting around an exhibition model of the old city in Shibani building, circa 2013, exact date unknown. Drawing by author after a photo.

immediate vicinity to shelling and bombing faced damage, partial destruction, and abandonment. Buildings not directly affected by severe damage were evacuated or faced ad-hoc repurposing. For instance, the citadel became a strategic post for the state's army forces. The Shibani School interchangeably served as shelter and strategic headquarters for the armed forces. A striking image is that of armed men sitting around an exhibition model of the old city, originally built to inform Aleppians and guests about the old city's history – an eerie sight (Figure 2).

3.1 The individuals – relocation and adaptation

With armed conflict affecting daily life and work in Aleppo, a growing number of its inhabitants, including project partners, team members and fellow researchers, reported having to swiftly relocate. In some instances, this kept individuals in a limbo and relying on multiple locations on a regular basis, whereas others permanently relocated to reprise opportunities of work, activism, or to pursue post-graduate education or doctoral research in neighbouring countries, Africa, Europe,[14] and further overseas. In each individual experience, relocation entailed differing circumstances to return (depending on the circumstances of exiting the country) and, e.g., being able to continue research inside Syria. Throughout, personal communication channels into Aleppo were kept as active and safe as possible, e.g., to monitor the situation of one's homes and neighbourhoods. Early into the armed combat, such exchange also took place with relocated European scholars and practitioners. For instance, student volunteers who had remained inside Aleppo turned to activism by entering affected buildings at their own risk; they reached out for remote assistance to apply methods in damage assessment and monitoring for protecting architectural elements from further damage (Figure 3). Furthermore and more striking, as a means of increased visibility across borders, social media accounts (e.g., by anonymous photographers) documented the developments on a daily basis.

For relocated Aleppians, research and study subjects (often of the preceding work or study in and around Aleppo's old city) continued as academic subject matter, often receiving the added perspective of post-conflict responses and further personal first-hand experience. In the context of urban heritage conservation and post-conflict recovery, additional research entailed damage assessments of buildings and neighbourhoods and empirical studies on in-war coping. (A detailed account on this, by Dima Dayoub, is found in *TRIALOG* No. 134 [2019].) Others facilitated aspects of a possible recovery process from within Syria as active stakeholders in capacity building, i.e., as (founding) members of a civic platform for local participation and peace-building. Gradually, around the second half of the 2010s, with the option to temporarily return to Aleppo, first-hand accounts were increasingly available. Information via field research, reconnaissance walks, mapping, and categorical photographic documentation provided more-reliable evidence with significant degree and detail. One example is MIK's comprehensive documentation project 'Post Conflict Documentation of a Historic Neighbourhood – Suwayqat Ali Area' in 2019 (Dayoub 2021). (See Figure 4.) This shows that having access to such direct accounts from within Aleppo continues to be crucial.

◀
Figure 3: Early damage assessment and monitoring by student volunteers in 2012. Source anonymous.

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14
Based on direct personal accounts, the 2015 regional migration movement.

Figure 4: Workshop Meeting for 'Post Conflict Documentation of a Historic Neighbourhood – Suwayqat Ali Area' in 2019. Photo by author.

3.2 The institutions – a shift in cooperation and communication

Beginning late spring 2011, top-level governmental relations and negotiations were put on hold, and institutions gradually withdrew from long-running cultural and development programmes and projects across scales. Some were forced to cancel cooperation agreements altogether.

Formal bilateral, pre-conflict cooperation between Germany and Syria was instantly affected with an immediate decision by the German Embassy, in late April 2011, to evacuate staff, students, and consultants – in the case of Aleppo, on a 30-hour notice. As hinted above, this new reality also forced those German and European individuals to adapt to their own relocation from yearlong involvement in projects.

Academic institutions also struggled to uphold cooperation with Syrian counterparts due to now-missing official mandates, consequently redirecting and adapting research and teaching to match the added layer of conflict affectedness. On the building scale, this included systematic documentation of pre- and in-conflict data for buildings (by the MIK, DAI, etc.), inventorisation and archiving of tangible and intangible heritage (MIK 2022), 3-D modelling by the University of Regensburg of historic monuments such as Aleppo's Souq (Mollenhauer 2017) and the Great Mosque (Alafandi & Rahim 2014). Moreover, initiatives documented damage and destruction across the entire old city through remote damage assessment of its urban tissue (by the DAI), mapping of available pre-conflict data for areas affected by damage (BTU 2016) (Figure 5), and comprehensive post-conflict recovery research (Neglia 2020; DAI 2018). Like the pre-conflict situation, cooperation between practitioners and academics continued, however less formal, outside Syria. For instance, the former GIZ project 'Urban Historic Archive and Documentation Centre for Aleppo' (UHADCA),

Figure 5: Mapping of available pre-conflict data for Historic Aleppo in 2016. Source: BTU Cottbus Senftenberg

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◄
Figures 6 and 7: Workshop on 'Scenarios for Post-War Reconstruction in Aleppo' at the University of Stuttgart. 2016. Photo by author.

with its digital inventory, contributed to kickstarting the project 'Aleppo Archive in Exile: Middle East Cooperation Unit – BTU Cottbus-Senftenberg' in 2014 (Ghalam & Wessling 2019; BTU 2021), as well as PhD programmes for Syrian scholars. Adapted cooperation also included workshops on recovery, such as the IUSD Lab's 'Scenarios for Post-War Reconstruction in Aleppo' at the University of Stuttgart (Laue & Gangler 2016) (Figures 6 and 7), coaching in GIS (e.g., by DAI), and online courses on strategic urban planning addressed to Syrian planners of different ages and experiences (e.g., by UNESCWA). Other trainings were provided at tertiary third locations, e.g., in Beirut (Lebanon) for local archaeologists (e.g., Hochschule für Technik und Wirtschaft), or in Jordan and Egypt for heritage preservation (BTU Cottbus, Cairo University). Moreover, exiled Syrian practitioners and academics set up exchange networks to bring Syrian expertise together – such as the 'Syrian Urban Research Network' (SURN) in 2016 at TU Berlin (Habitat Unit 2016), under which urban heritage was among the various research topics. Early into these cooperation projects, mixed team members produced accompanying documentations and publications bilingually in Arabic and English, and occasionally German.

Meanwhile, civil society organisations and initiatives inside Aleppo were nevertheless forced to explore ways to cope with the situation (Khalaf et al. 2014), some having to reassess their original mandates. Given the formal and political frame conditions for cooperation and civic engagement, expressions of political and societal concerns and criticism could affect their work negatively. Yet, the door of exchange, linked to technical expertise and heritage, remained open. Thus, updates on the state of salvaging initiatives and protective action inside the old city could be shared via online participation during symposia, e.g., by members of Adiyat and Citadel Friends, who kept in contact with their fellow members inside and outside Syria, thus continuing to be active partners. Meanwhile, German associations that were not bound to governmental restrictions (e.g., Aleppofriends) diversified and adjusted their activities for its members to contribute to Old Aleppo's post-conflict recovery discourse.[15] Moreover, networks co-founded by Syrians with a broader theme, such as 'Syrbanism', focusing on strategic urban recovery for Syrian cities (Syrbanism 2022), and 'Syrians for Heritage SIMAT' (since 2018), formed and are active today in the recovery discourse for Aleppo's urban and built heritage, connecting and contributing to MENA specific graduate networks, research papers and cultural initiatives (e.g., archiving memories).

Whereas, early into the conflict, initiatives taking place in Germany were driven and facilitated by personal and informal engagement of those formerly involved, funding became increasingly relevant to facilitate the exchange among a greater variety of stakeholders. Given the political status quo, conventional German state agency funding was more restrictive, excluding open cooperation between public institutions, including academic exchange. Thus, lacking the formal funding that had been previously available pre-conflict, non-profit associations and private foundations filled the gap in the interim; among them, the Gerda Henkel Stiftung, which facilitated much-needed critical research, exchange, and mobility. Also, supranational networks that specialised in heritage conservation and protection (such as ICCROM & ICOMOS) facilitated exchange, work, and research and training opportunities. Nevertheless, a few years in, state-bound (bilateral) cooperation agencies returned by facilitating adapted modes of supporting the recovery discourse (e.g., for thematic working groups). Also, multilateral organisations such as UNESCO

◄
Figure 8: Meeting of the Archaeological Heritage Network, ArcHerNet 2016. Photo by author.

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15
This took place by joining working groups, organising and participating at conferences, discussion rounds, providing funding to publications and etc. addressing post-conflict recovery aspects.

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offered network events to facilitate the contact and exchange between practitioners and scholars across disciplines and generations. This reintroduced more formal modes of exchange, and provided former co-workers with mobility to reunite outside Syria. In Germany, initiatives and actors involved in Old Aleppo's recovery initiatives gathered for exchange under the umbrella of the Archaeological Heritage Network (ArcHerNet), which, since 2015, has its 'Stunde Null – A Future for the Time After the Crisis' project (ArcHerNet 2016) (Figure 8).

4. Towards managing a Sisyphean task … the recovery discourse today

Hence, following that brief glimpse into the timeline, it is worthwhile to structure out the landscape of actors to understand the dynamics shaping the current discourse and, subsequently, what determines and influences the discourse?

4.1 Who is discussing? Emerging networks in Germany

In order to grasp the growing diversity and visibility in the current discourse, the following paragraphs will be dedicated to roughly clustering Aleppian and non-Aleppian actors into four different groups in conjunction with the timeline of events: Group one entails written, drawn and photographed references of the early 20th century available today, including those by local scholars and international travellers. Most members of this group are no longer alive. Hence, data and sources are mostly available via desktop research. Group two entails two active clusters in the second half of the 20th century. On the one hand, this includes professionals who contributed to the impactful and irreversibly top-down planning, and on the other hand, local civic actors, practitioners and scholars who pioneered and kick-started the protection and conservation processes. Many individuals are still active, and their expertise is mostly accessible today. Group three comprises a growing variety of generations, ranging from former employees in the public sector and local and international consultants within cultural and development cooperation to local and international students and scholars of different disciplines (architecture, engineering, archaeology, art, etc.). For the most part, they possess direct experience of the pre-conflict context inside Aleppo. The fourth group entails the possibly greatest diversity of actors engaged in a common discourse, gained either from having a direct relation and reference to Aleppo since the conflict started,[16] or, in the case of young (German) researchers and practitioners, from developing research interest in the process. Whereas the first group's knowledge can be regarded as the foundation of present-day knowledge, individuals from the latter three groups are mostly active today, and their mutual exchange is of great opportunity for a sustainable recovery discourse.

Observations by the author[17] of this paper result in the conclusion that, on the one hand, Germany-based recovery discourse with special attention to Aleppo's urban heritage between 2011-15 initially comprised primarily European and Europe-based Syrian researchers, consultants, and activists (groups two and three). Soon, through scholarship and mobility opportunities around 2013 onwards – for instance, those offered by special PhD and postgraduate programmes via the German Academic Exchange Service (DAAD's Leadership for Syria Programme 2015-2019) – Syrian academics becoming more visible gained momentum around 2016-18 (groups two and three). The expertise, experiences, and evidence shared by both young and established academics (across all latter three groups) and their eyewitness accounts (e.g., on the state of damage and safeguarding), further enriched established networks and working groups. Moreover and in parallel, the opportunity to create independent exchange among Syrian expatriates within self-established initiatives and realms of communication (SIMAT 2018), connecting different European networks such as the 'Aleppo project' (CEU 2022), took place.

4.2 What is being discussed? Changing scope and productive diversification

Consequently, with a growing number of actors across generations engaging in an exchange, the discourse's content, scope and direction of looking at recovery further evolved and broadened, resulting in the challenging of the initial rationales behind the strategic scope of reconstruction and related responses. For instance, earlier post-2011 discussions and assessments were still directed at (immediate response) physical rebuilding and formalistic (urban) planning for reconstruction in specific districts of the old city of Aleppo. Later, as a consequence of having further in-depth information, the need for a more comprehensive understanding of recovery (i.e., frameworks by UN-Habitat) became crucial, as has more awareness of dealing with a protracted state of crisis, given the complex private, public, societal, ecological, and economic dynamics and inherent ambiguities of an in-conflict situation. One conceptual response was the project 'Post-conflict Recovery of Urban Cultural Heritage – A Toolkit for Practitioners Recover Urban Heritage' (DAI 2018), which was co-authored by Syrian-European experts and research teams and summarised initial attempts and possible tools across fields of action. One connecting aspect for a comprehensive recovery approach was linking it to concepts such as the Historic Urban Landscape approach (HUL) and incorporating post-disaster response measures.

What remained challenging was the discourse on drawing contextual lessons learned from other post-conflict contexts. When applicable, such examples have offered selective aspects of transferability. During workshops and conferences, European and international cases – ranging from small-scale reconstruction (single monuments and ensembles) to recovery (comprehensive schemes for entire districts and cities) – served as visual and conceptual orientation. Some cases are well-documented and extensively available (e.g., in *TRIALOG* No. 54 [1994], on post-war reconstruction, and No. 88 [2006], on Afghanistan). However, there seems to be a reference gap particularly for regional examples, be it for urban heritage in danger or for contextually matching references. One prominent exception is the much debated rebuilding of post-civil war Beirut (Lebanon), ranging from the chosen style of architecture to the process itself and the involved (or excluded) actors (see *TRIALOG* No. 64). Hence, finding consensus on transferability is challenging and needs to be negotiated. This is a particular challenge for tackling the complexities of post-conflict reconstruction and recovery at Syrian and non-Syrian universities, entities that are shaping future generations of practitioners and scholars.

16
E.g., by having no active recollection of pre-conflict Aleppo, or developing interest while abroad. Their engagement and research, however, may be driven by empathy and academic interest.

17
According to this categorisation, the author of this paper belongs to the third group, continuing her involvement in the recovery discourse and working groups on urban heritage in Aleppo in Germany since 2011.

18
The current reality inside Syria is expressed in top-down plans for major cities in Syria such as Damascus and Homs, which envisage high-cost and ambitious tabula rasa solutions aiming for the modernist development of entire districts (Clerc 2014, 2019; Ferrier 2020).

This is equally a challenge for the actual (planning) practice of bottom-up and top-down.[18] One example offers room for controversial discussions on contextual lessons learned: Germany, or rather two 20th century Germanies, each with their very own post-war experience, show the complexities of recovery processes. Here, differing political dynamics and macro-economic set-ups translated into starkly contrasting and ideology-driven approaches to post-war recovery, which took several decades in both the East and West. Nevertheless, this offers crucial lessons about diverging recovery prospects against the backdrop of two contrasting ideologies and, hence, of contrasting priorities and shifting planning paradigms (expressed in recovered or newly planned urban layout and architecture[19]) in parallel. With Aleppo having been divided into East and West until the state military took control over entire city in late 2016, the possibility of two parallel reconstruction approaches was palpable, and academic workshops in Germany (IUSD Lab 2016) factored that possibility in. Hence, one challenge is to find a way to bring the different and contradicting schools of thought – with their dynamics and the juxtapositions of controversial realities – into a mutual conversation. Finding safe spaces for open discussion remains a work in progress, not to mention its translation into practice.

4.3 How to continue?

Looking ahead is challenging. Yet, the continuous and growing connections between individuals across the decades to tackle the challenges of their time – and now meeting in the process of Aleppo's urban heritage under threat – makes it worthwhile to briefly reflect on the intergenerational potentials and challenges of the above-mentioned exchange. It becomes multifactorial as well, especially when different disciplines and cultural contexts meet. Aleppo's urban and built heritage has long been an established curricular subject in architecture studies at the University of Aleppo. Along with the formal education, the personal connection to cultural heritage, its subjective and objective values, and its actual and projected connection with the overall urban realities (before and since the conflict), are a part of carrying further the subject-related knowledge transfer with each generation. However, planning in Syria and for Aleppo is affected by the political setup and shifting international partnerships. This calls for a sobering negotiation process in which all involved generations and disciplines need to acknowledge various internal and external dynamics when coming together for an adequate recovery discourse.

In the case of urban heritage in Aleppo, paradigms (as described above) already changed in times of peace. That process with its outputs has been well documented[20] and – thanks to digitisation efforts – is generally accessible, and lessons learned have been made available by actors from groups two and three. On the one hand, having access to a continuum of knowledge and its accompanying discourse and process could help building capacities among future scholars and practitioners. On the other hand, in the light of contemporary realities, it is crucial to allow new and even starkly shifting perspectives that challenge previously established approaches and attitudes (that may have been zeitgeist-driven, yet are outdated). This even concerns differences in terminologies (across academic and professional disciplines), possible tools and measures, prioritisation of disciplinary approaches (e.g., what historic era is the historic reference for 'building back better'?), and overall normative reasoning for strategies. This is of particular concern in the case of Aleppo, a city with multi-layered historic eras spanning across millennia. Ideally, this would be a fruitful process in which scholars and practitioners meet, feel confident and comfortable to share their respective professional and scientific positions and suggestions and concerns, negotiate polarising standpoints connecting past realities, and present both challenges and future visions. Hence, bringing the perspectives by all groups together is essential.

Conclusion

With urban heritage as a relatable subject matter to a broader expert and non-expert audience, Aleppo continues to serve as an example of, in part, well-preserved accumulation and availability of local (physical and virtual) pre-conflict expertise and knowledge. It also shows that this could be, and needs to be, harnessed when discussing in-conflict and post-disaster responses. The spectrum of themes and the variety of self-organised initiatives and networks reflect a long and uninterrupted interest inside and outside Syria, facilitated by mobility of knowledge over time as well as by attempts to its transfer, adjustments, and even revision. Syrian-European formal and informal relations maintain their continuous attention and interest, and do advocate for visibility. In addition, it can be seen that networks and exchange can gain and keep momentum and are essential to create and ensure visibility and mobilisation. Due to the absence of official communication between decision-makers in both countries, productive formats within symposia, teaching, workshops, and competitions are continuously needed and are worthwhile. Now, more than 12 years into the conflict and with the added emergency caused by the earthquake, the need for a sensitive, yet critical, recovery is even more crucial, and requires building on that continuum, thus inviting additional expertise and perspectives – e.g., giving room for new impulses from next generations (inside and outside Syria). This may not always have been without challenges, as throughout and with continued reference to outside theories and paradigms since the French Mandate, we are still dealing with reconciling Modernist strategic and methodological approaches and schools of thought with those reflecting local dynamics, local realities, local expertise, and, once again, the added layer of competing ideologies. With further challenges of an ambiguous in- and post-conflict situation, and past references being up for revision, the overall discourse landscape on recovery has become more complex. Here, the door needs to remain open for conversations among the differing positions. Most importantly, the agency for how and with whom to achieve that continuum should be among Aleppians (of all generations, disciplines and capacities), who must keep fighting and striving to protect their heritage and ensure its sustainable future.

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19
For large-scale processes, debated references were either a tabula rasa approach as in Marseille (France) and Tashkent (Uzbekistan), or a rebuilding approach as in Warsaw (Poland).

20
The change was from focusing on formalistic planning paradigms (such as an early IBA-inspired approach) (Lafi 2017) towards integrated and participatory planning and management approaches (understanding space as an urban landscape).

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A Post-conflict Reconstruction Attempt in Benghazi, Libya
The Case of Al-Manara Palace

Yehya Serag

This paper analyses an attempt of post-conflict reconstruction in Benghazi, Libya, by the Alliance for Post-Conflict Reconstruction (APOCOR) in 2019 and 2020. In Benghazi, Libya, APOCOR attempted to start an initiative to rescue and restore Al-Manara Palace, a historical colonial building in a heritage area that had been severely damaged in the confrontation between the Libyan army and ISIS. The aim was to launch the initiative as a pilot project to stimulate the different stakeholders to engage in a wider reconstruction effort in the surrounding area. The attempt included two workshops and a direct intervention (i.e., studies) in the affected areas. However, because of several obstacles (e.g., finances, politics, COVID-19, etc.), the initiative came to a halt. The aim of this paper is to analyse this case and to highlight the methodology used as well as the different hurdles that stop such initiatives, especially when they are launched by non-international organisations.

Wiederaufbau nach einem Konflikt in Benghazi, Libyen. Der Fall des Al-Manara-Palastes
Dieser Beitrag analysiert einen Versuch des Wiederaufbaus nach einem Konflikt in Benghazi, Libyen, durch die „Alliance for Post-Conflict Reconstruction" (APOCOR) in den Jahren 2019 und 2020. In Benghazi, Libyen, versuchte APOCOR, eine Initiative zur Rettung und Restaurierung des Al-Manara-Palastes zu starten. Dabei handelt es sich um ein historisches Kolonialgebäude in einem zum Kulturerbe deklarierten Gebiet das bei der Konfrontation zwischen der libyschen Armee und ISIS (Islamischer Staat) schwer beschädigt worden war. Ziel war es, die Initiative als Pilotprojekt ins Leben zu rufen, um die verschiedenen Interessengruppen dazu anzuregen, sich an einem umfassenderen Wiederaufbau in der Umgebung zu beteiligen. Der Versuch umfasste zwei Workshops und eine direkte Intervention (d. h. Studien) in den betroffenen Gebieten. Aufgrund verschiedener Herausforderungen und Hindernisse (z. B. Finanzen, Politik, COVID-19 usw.) kam die Initiative jedoch zum Stillstand. Ziel dieses Beitrags ist es, diesen Fall zu analysieren und die angewandte Methodik sowie die verschiedenen Hürden zu beleuchten, die derartige Initiativen aufhalten, insbesondere wenn sie von nicht-internationalen Organisationen gestartet werden.

Introduction and background

In December 2010, in Tunis, the first spark of the Arab Spring revolutions took place, spreading shortly after to Egypt, Libya, Syria and Yemen. Despite the initial regime changes in these countries but for Syria, the repercussions of the revolutions continued in the decade to follow. The repercussions varied from political instability in some countries to full-scale civil conflict in others. In fact, Libya witnessed several phases that were sparked by the revolution that started in February 2011 against the regime of the Libyan leader Muammar Gaddafi. Shortly after starting, the revolution turned into an armed conflict between the regime and the rebels. The latter were, at a certain moment, backed by NATO until Gaddafi was toppled and assassinated in October 2011. Following a period of instability, fanatical terrorist groups, including ISIS, infiltrated the country in an attempt to establish spheres of power in the eastern part of Libya, including Benghazi. In 2017, the Libyan National Army managed to retake the city of Benghazi after fierce confrontations with ISIS that inflicted heavy damages to the old downtown. However, the country was soon to witness political disputes and the country was subsequently divided into two spheres of power: the army under Marshal Khalifa Haftar in the East, and the civilian government in the West. Nevertheless, in recent years signs of national reconciliation have emerged.

Formation of APOCOR

The Alliance for Post-Conflict Reconstruction (APOCOR) was initiated in 2019[1] by a group of academics and active consultants from the countries of Egypt, Lebanon, Iraq, Libya, Denmark, and Germany. The members of the network were provoked by the high level of destruction that had been inflicted on certain cities in varied countries of the Middle East and North Africa. The backgrounds of the members of the network complement each other to form an integrated team covering the disciplines of urban planning, architecture, civil engineering, and remote sensing. The team works on applying a comprehensive methodology of post-conflict reconstruction approaches in war-torn and violence-affected cities to mitigate destructive and devastating impacts.

Over the course of two years, the Alliance attempted to investigate three cities that had been affected by armed confrontations: Mosul, Iraq; Homs, Syria; and Benghazi, Libya. This was done through a workshop that was hosted in Cairo in 2019, and was accompanied by research related to the three cities. Another workshop followed, in 2020, which focused mainly on downtown Benghazi and selected significant heritage buildings to tackle as case studies. During the period between 2019 and 2021, members of APOCOR identified a potential case study in downtown Benghazi, Al-Manara Palace, which they considered as a representative damaged heritage building that could be

1
The author is one of the founding members of APOCOR and one of the consultants who worked in this initiative.

used as a demonstrative project for post-conflict reconstruction intervention. This paper discusses the case of Al-Manara Palace and how its post-conflict reconstruction fell short of being realised.

Post-conflict reconstruction methodology

The APOCOR team developed a post-conflict reconstruction methodology to be applied in affected cities. This methodology is generic in its nature but is intended to be contextualised according to each case. The methodology was developed based on previous practices arising from 20th-century conflicts such as (to name but a few) World War II, the Lebanese civil war, and the Yugoslav wars. However, with the new advancements in technology, the methodology also relies on remote sensing, geographical information systems (GIS), as well as augmented and virtual realities.

It is important to mention that the methodology is also based on earlier UNHABITAT damage assessment reports on Syria conducted in 2014 as well as on earlier research work by the author, including supervision of Master and PhD dissertations as well as course works guided by the author between 2014 and 2021. The methodology was mainly written by the author after its acknowledgement by the main members of the team. The main elements of the methodology are explained in the following paragraphs and linked with the attempt that took place in Benghazi for the Al-Manara Palace.

As such, the methodology is composed of the following elements that can be applied, with varying order, in severally damaged cities.[2]

Physical damage assessment

The first and essential step is to conduct a damage assessment of the city, district, or site in question to decide on the level of intervention. This can be done through field surveys to determine the accurate level of damage and destruction affecting the buildings and structures in the city, knowledge that is very much needed for the detailed intervention in individual buildings. However, it is important to take into consideration the presence of dangerous hazards such as booby traps and unexploded bombs. At this point, remote sensing technology can provide a basic overview of the level of damage through analysing satellite imagery. The resulting data can be exported onto a GIS platform that can provide proper damage assessment mapping for the situation on the ground. Similarly, ground-penetrating radar (GPR) can be used to measure and assess the damage level of the infrastructure networks. These technologies can also help, to a certain extent, in identifying the locations of suspicious, hazardous, or unexploded objects still remaining from previous battles.

Defining immediate actions

Usually, with the end of hostilities, internally displaced persons (IDPs) attempt to return to their homes. Their numbers join to the already extant population that stayed in the city during the conflict. Accordingly, there is an urgent need for providing shelter and basic services for the existing population. Accordingly, intervention within less-damaged districts comes first. Based on the damage assessment results, the least-damaged districts are identified; within these districts, the initial shelter provision is made for those in need among the returnees and the remaining population. Basic daily services are provided, as well as the necessary repairs to the infrastructure networks within these areas.

▲
Figure 1: The damaged Al-Manara Palace in Benghazi. Source: EUC, Benghazi, 2019.

Selecting a proper post-conflict reconstruction strategy for the city

Based on the damage assessment, setting a post-conflict reconstruction strategy for the different districts of the given city is crucial. As such, there are several intervention alternatives that have been used previously in other cases.[3] These alternatives usually follow three main paths:

a. To rebuild the city from scratch by introducing new city planning, new city image, and new urban fabric. This approach is usually used in severely damaged areas in which the structures are beyond repair. Many planners see this as an opportunity to resolve many issues from the pre-conflict era as well as the new challenges of the post-conflict period. An example of this is the city of Rotterdam in the Netherlands, which was built in a totally new image following its destruction in the Second World War.

b. To rebuild the city as a replica of its pre-conflict image. In some cases, especially those with historical districts or monuments, there is a tendency to reconstruct such districts in the same historical form that stood for decades and even centuries. Heritage sites and buildings form the shared memory of a city, and can be advantageous during the reconciliation process. The decision to be taken depends, of course, on the level of destruction and the funding of such an enormous intervention. An example in this regard is the city of Dresden, in which the historical centre was rebuilt to reflect the image that had existed for centuries but was destroyed during the Second World War. In some cases, however, this kind of intervention is difficult to realise because of funding shortages; in this case, a different form of intervention might be required.

2
This methodology was presented by the author in the workshops that were organised by APOCOR. It was later presented by the author in the international conference 'Destruction/(Re-) Construction: Cultural Heritage in Conflict' organised by the Arab German Youth Association (AGYA) and hosted by the American University in Beirut in September 2019.

3
These alternatives were discussed by Sana Kassouha (2014) in her unpublished Master's thesis dissertation entitled 'Towards a strategy for regaining cultural identity in the urban reconstruction of the war ravaged city centre of Homs, Syria' (Ain Shams University and Stuttgart University).

c. A blended intervention depending on the level of damage in each district of the city. In some districts, only slight repairs are needed to mitigate the damage and the buildings can be reused in a short period of time. The historical districts and monuments of the city might be replicated, if possible, while severely damaged districts are rebuilt from scratch following new plans and regulations.

Using augmented reality in heritage sites

Intervention in heritage sites is considered challenging, especially when the level of destruction in the sites is high. As discussed earlier, in several cases the convenient intervention is to rebuild the heritage site as it once stood. However, if the level of damage is extensively high and there is a shortage in funding for the reconstruction intervention, the use of technology might offer a temporary or permanent solution. Using augmented reality might be the answer in this case, since augmented reality can provide the image of the heritage site through proper devices and applications in such a way as to preserve the place memory of the specific part of the city. At a later, proper time, the decision can be made to reconstruct the heritage site once sufficient funds are available.

Using debris and rubble

Debris and rubble are usually present in extensive amounts following armed conflicts in cities. Their presence forms both a challenge as well as a potential during the reconstruction process of a city. In some contexts, the shortage in building material might be overcome by recycling the rubble and debris to produce new building material. This is done through producing building blocks as well as extracting and remoulding the necessary steel to be used in the reconstruction process. On the other hand, clearing the rubble can be a challenge, or can even offer the opportunity of changing the natural landscape surrounding the city. Cases of changing the natural landscape are found in many post-WW II German cities, where artificial hills were created by dumping rubble and subsequently covering it with soil to attain a natural look. Accordingly, a plan to deal with the debris and rubble is considered crucial to the reconstruction process and should be drawn up at an early phase.

Funding the reconstruction process

The physical reconstruction process of a damaged city is not possible without proper funding and financing. Accordingly, a funding/financing plan and scheme for the main actions and projects of the reconstruction process is crucial to the realisation of the process. Different possibilities and alternatives should be considered, including government funding, private sector funding, citizen funding, international aid or donations, etc.

Creating jobs through the reconstruction process

In most cases, the local economy, following a long period of armed conflict and fighting, faces major challenges in regard to getting back to its normal situation. As a result, the levels of unemployment soar and intervention is needed. Reconstruction processes can possibly offer assistance here, as several jobs in the construction sector become necessary, which might help improve the general stagnant situation. This element, however, is considered a side product of the post-conflict reconstruction process, although it is still integral to achieving partial economic stability for the society.

Social reconciliation

Social reconciliation is considered an important aspect in cases of civil conflict where fractions of the society have engaged in armed conflict based on identity, religion, sect, or race. Earlier cases (e.g., in Iraq, Syria, Lebanon and Rwanda) show how civil conflicts can rage for years based on these aspects.

A comprehensive plan for social reconciliation should be drawn up, since it is essential to attempt to avoid future

Figure 2: Location of Al-Manara Palace in downtown Benghazi.

conflict by healing or attempting to heal the scars left by the civil conflict between the once-fighting populations of the cities in question. When it comes to armed civil conflicts, without proper social reconciliation, there is no guarantee that future conflicts can be avoided.

Accordingly, APOCOR aimed to conduct a demonstration project to test this methodology on the ground. Benghazi was selected because of the following reasoning:

1. The Al-Manara Palace represents an example of a heritage building damaged during battle in a conflict zone.

2. The location of the building falls within the wider area of the downtown, which witnessed varying levels of damage.

3. Access to information and documentation from the field was available, with one member of APOCOR having his team on the ground in Benghazi.

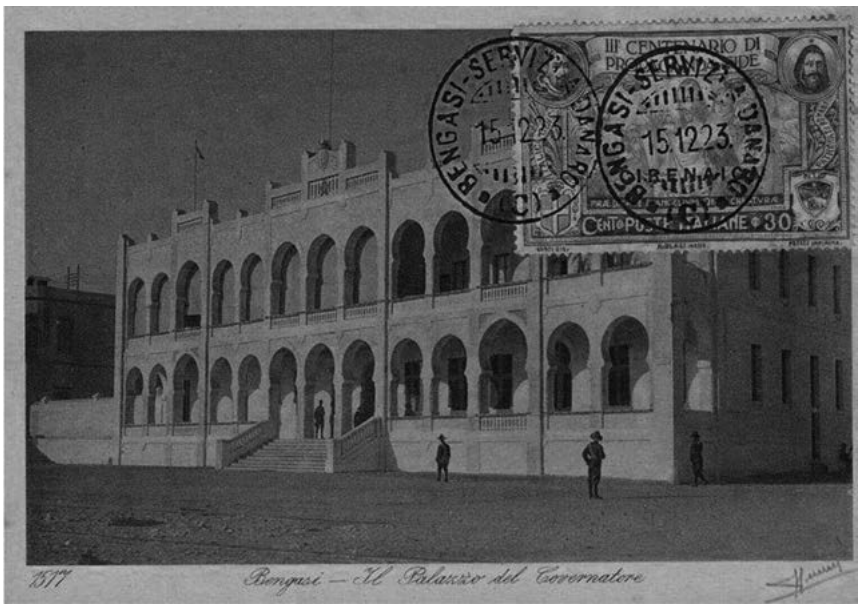
Al-Manara Palace: a historical and cultural significance

The building was built in 1913, and there are two assumptions for its origin: the first is that it was built during the Ottoman rule in Libya, while the second identifies the Italian architect Alberto Alpago Novello as the designer of the building at the beginning of the Italian colonial period. At a certain point, the building became the seat of the Italian governor of Benghazi and the site of the trial and execution of Omar Mukhtar, a prominent Libyan resistance fighter of the 1930s. Several political events took place in the palace during the monarchy period, including the declaration of independence made by King Senussi in the 1950s and, later, during Gaddafi's rule, talks with the Italian Prime Minister Berlusconi in the 2000s before the Arab Spring period commenced. Prior to being damaged in the conflict, the palace hosted many functions, including: Seat for the Cabinet, the Higher Institute of Administrative Sciences, and the association of the staff members of Benghazi University.

The heritage site is located a block inside the old core of the city of Benghazi and has direct access to the Mediterranean waterfront. The site is divided into three main buildings, with the largest of them being the actual Al-Manara Palace, but the entire block is commonly known as Al-Manara Palace. The building has a unique historical importance as well as a special architectural style that is different from the surrounding area: it combines Ottoman architectural features with a modern function relative to the period it was built.

Significance of the heritage to the community

Locally and nationally: Al-Manara Palace is considered by the people of Benghazi as the site of several historical events over a period of 100-plus years. It also brings together different segments of the community, as part of the population still values the efforts for independence that were made by the former King Senussi of Libya. Other segments of the local community still value the events that Colonel Gaddafi held in this building, while others simply associate the image and character of the old district with Al-Manara Palace and its once recurrent functions prior to the conflict.



▲
Figure 3: Al-Manara Palace as a cultural heritage building. Source: EUC, Benghazi.

Post-conflict reconstruction attempt

After identifying the building as a potential demonstration project, the Libyan member of APOCOR, a structural engineering consultant, commissioned his team in Benghazi to conduct field visits to Al-Manara Palace and to conduct photographic documentation of the damage. This team also managed to obtain the floor plans of Al-Manara Palace for later use in the project.

As a member of APOCOR, the author was involved in conducting an analytical study to the surrounding context of the building (i.e., most of the downtown area).

A severely damaged heritage building

The building was severely affected by the armed conflict and confrontations that took place in the city in 2015. ISIS forces occupied Al-Manara Palace and its complex as well as the surrounding district, where several battles took place between the Libyan Army and ISIS before ISIS could be expelled from the city. Subsequently, the obviously structurally damaged building became deserted. Shelling and bullet damage is obvious on both the interior and exterior of the building. With most of its doors and windows damaged or removed, the building, with its damaged facades and roof, is also subject to erosion as it overlooks the sea. As the building is considered part of the collective memory of the people of Benghazi, if the building were to collapse it would mean the permanent loss of an aspect of the country's collective memory for the future generations. Should immediate action not be conducted, it is expected that the parts of the building might collapse soon.

Applying the post-conflict reconstruction methodology

APOCOR attempted to apply some steps of its post-conflict reconstruction methodology, with some parts proving to be relatively achievable while others faced tangible hurdles.

The first step was to assess and understand the levels of damage to both the building and its surrounding areas (i.e., damage assessment was conducted). In terms

Figure 4: Damage assessment to the building (first 6 images) and its surrounding area (last 6 images).

of the surrounding context, the consultants relied on the UNHABITAT damage assessment report from 2018; it was produced for the downtown area and shows the levels of damage on satellite maps. Fieldwork was subsequently conducted to assess the severity of the damage inflicted to the building itself: the walls, roof, and tower of the building had sustained damage because of shelling and gunfire, which affected the structural stability of the building and, hence, set a need for immediate action. The surrounding infrastructure networks that are connected to the building (such as sewage, water supply and electricity networks) had likewise suffered severe damage

The second step was to *define immediate actions*. Accordingly, after studying the status quo of the building, the consultants decided that some immediate actions, which would be considered as the first phase for rescuing the heritage building, should be taken to safeguard the heritage. These actions included:

1. Installing concrete for inclinations in the affected roof areas.

2. Repairing the damages to window and door openings, as well as the cavities and holes that resulted from shelling and gun fire, to preserve the building from vandalism. If such openings could not be replaced (e.g., because of lack of resources), they would be closed using plywood.

3. Protecting the structural capacity of the building through casting reinforced concrete, adding materials and enhancements necessary for the roofs and the rest of the structural elements affected by the shelling, strengthening the worn-out parts to ensure that they do not collapse, and undertaking other measures to stop the deterioration of the building.

Parallel to the step of defining immediate actions, the team worked on analysing the surrounding context to

▲
Figure 5: Analysis of the surrounding area. Source: Author and APOCOR, 2020.

suggest a *general framework for the post-conflict reconstruction* that, ideally, would later be developed into a strategy. The intention was to restore the damaged heritage buildings to their original forms, if the buildings' respective condition allowed for that, and replacing the severely damaged and irreparable buildings with other uses, should that be possible.

Although APOCOR's methodology stresses on *using debris and rubble*, the consultants were notified that should they get involved in the reconstruction process of Al-Manara Palace, the support that they could get from local contractors would initially be limited to clearing the rubble rather than reusing it; only in later phases of the project could a process of reusing the debris and rubble in Benghazi perhaps be identified and applied.

One of the main aims that led APOCOR to select this building was to introduce it as a catalyst to bring the different stakeholders of the society to work together in restoring and repairing the heritage building. Likewise, the aspiration was that this intervention could develop into a series of reconstruction projects for damaged buildings in the downtown area, similar to a domino effect.

Aiming to improve the social interaction that would lead to *improved social reconciliation* in the city, APOCOR managed to get an approval from the Libyan Department of Antiquities that acknowledged the intended efforts for the reconstruction of not only the said building but other heritage buildings in the area. The said department also offered to provide site supervision and security during the rescue project of the building. The University of Benghazi's Faculty of Engineering also expressed its interest to cooperate in this project through the use of its labs to conduct civil engineering tests and checks such as building-material tests, soil analysis, and footing checks. The faculty aspired that the building could be a case study with hands-on application for the researchers and students of the relevant disciplines in the university.

In addition, a local contracting company that applied for the reconstruction works, should there be enough funding, expressed its readiness to clear the rubble without extra cost as explained earlier. As such, APOCOR was planning to further expand the involved stakeholders should the project's funding was secured.

Accordingly, for the community, the project could have helped in social reconciliation through bringing people together for a unified purpose. Most segments of the local community have memories attached to this building that are one way or the other relevant to a specific period of the local and national history. For that, the building complex provides a significant common ground for all segments of the local community to stand together for a common goal: the maintenance and restoration of an important icon of the city. This, in turn, could increase the opportunities for social reconciliation through the establishment of a common goal.

Figure 6: Video still from APOCOR's virtual reconstruction of Al-Manara Palace.

In addition, *capacity building and creating job opportunities for the community* could have been enhanced, as there was an opportunity to raise the level of reconstruction skills. Since the scope of the rescue, maintenance, and rehabilitation interventions in the building would require a workforce of workers of different specialisations, the necessary training for the different types of needed crafts could be provided to the works from the local community.

The most challenging part was *funding the reconstruction process.* Initially, APOCOR approached the Libyan Department of Antiquities to fund the project; however, as mentioned earlier, the only possible contribution they offered was to supervise the site during the reconstruction process. Efforts to approach the local government were soon dropped, owing to the instable political situation on the national level and the lack of a unified government at the time; as there was no clear authority to allocate that the needed funds, funding failed.

The consultants realised that it would take a demonstration project, or at least on-ground reconstruction activities, to lure local stakeholders into contributing to the reconstruction process. Accordingly, the consultants decided to apply for and use a limited grant from an international NGO as a seed fund to conduct the first phase of the project, which aimed at securing and rescuing the building from further deterioration and treating the structural damages.

Therefore, APOCOR applied for the Cultural Emergency Response Fund that is offered by the Prince Claus Fund, a foundation located in the Netherlands that deals with the rescuing of cultural heritage. APOCOR members capitalised on their ongoing field studies, investigations, and analyses concerning the building and the surrounding area, and even made a movie clip[4] showing what the building should look like after reconstruction.

They went through several online meetings with Prince Claus Fund case officers and almost succeeded to qualify for funding in February 2020, as per the expectations of the case officer. Less than a month later, however, the COVID-19 pandemic hit the globe, causing a massive disruption in every aspect of life. When discussions were resumed with the Prince Claus Fund, it was announced that most funding was being allocated to alleviating COVID-19 impacts. As such, the reconstruction intervention that was intended to be implemented in Al-Manara Palace in downtown Benghazi has come to a halt until possible funding can be secured.

Conclusion

This paper discusses the attempt for the post-conflict reconstruction of a heritage building in Benghazi, Libya. The consultancy team of APOCOR conducted work and several field studies, setting a framework for intervention. Despite applying the post-conflict reconstruction methodology, the intervention came to a halt because of the shortage of funding. APOCOR could not secure funding from the local government because of the country's political instability, and could not secure funding from international NGOs because of the COVID-19 pandemic situation. These were two of the main obstacles confronting the reconstruction process; had funding been implemented, a different outcome could have been realised.

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4
https://www.youtube.com/watch?v=d4HLwN7nwzU&t=6s

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Multi-fold Perspectives on Skopje's Reconstruction
Megastructures, Infrastructures, and Emergency Housing

Aleksa Korolija and Cristina Pallini

Reviewing and cross-checking available literature against articles published in international and Yugoslav journals, this paper highlights the diverging aspects of Skopje's reconstruction after the earthquake of 26 July 1963, an unmatchable case study on the architectural and town planning debate of the mid-sixties. While the master plan proceeded in forced stages as alternative scenarios were pondered, new emergency neighbourhoods were expanding daily along the main arterial roads. The historic centre was considered a vital part of Skopje, yet the future of its architectural expression – according to the entries of the 1965 competition – remained entangled in the infrastructural layout. When considering the complexity of all these conditions (and the pressure of time), the notion of context takes on a plurality of meanings: Skopje, a city grafted onto place geography but periodically reshaped by tumultuous settlement processes; 150,000 inhabitants that suddenly became homeless; professionals from the town planning institutes of Tito's Yugoslavia; and experts from international organisations (e.g., seismologists, hydraulic engineers, economists, sociologists) as well as town planners and architects from different backgrounds. The subsequent planning documents highlighted some fundamental nodes, such as the physical features of the Skopska Kotlina (Skopje Basin), where a major national road junction was under construction, defining urban growth and productive articulation. Using the competition for the city centre as a starting point, we shall consider the gigantism of most of the architectural projects against the technicalities of town planning allied to emergency interventions, which opened the way to future substitutions and densification. A review of the projects submitted to the 1965 competition, in fact, clearly shows the contrast between these visionary proposals and the reality of the problems at hand. The following paragraphs dwell on the different nature of the existing problems (above all: settlement congestion, which was severe even before the earthquake), the management of which could not be separated from some major works underway, such as the road junction that would return Skopje to its strategic role in the Balkans. The deployment of forces was such that the debate on the future city drew on very different international expertise. While the architects' megastructures for 'the heart of the city' remained largely on paper, the preferred investment was in the networks on which the settlement-to-come depended. Somehow, paradoxically, the neighbourhoods built in emergency proved organic to these networks precisely because of their precariousness, which would guarantee greater degrees of freedom in the years to come.

Vielfältige Perspektiven auf den Wiederaufbau von Skopje: Megastrakturen, Infrastrukturen unt Notunterkünfte
Nach Durchsicht und Abgleich der verfügbaren in internationalen und jugoslawischen Fachzeitschriften veröffentlichten Literatur beleuchtet dieser Beitrag die unterschiedlichen Aspekte des Wiederaufbaus von Skopje nach dem Erdbeben vom 26. Juli 1963, einer unvergleichlichen Fallstudie zur Architektur- und Stadtplanungsdebatte. Während der Masterplan in Phasen vorangetrieben und umgesetzt sowie alternative Szenarien erwogen wurden, entstanden entlang der Hauptverkehrsstraßen täglich neue Notquartiere. Das historische Zentrum wurde als wichtiger Teil von Skopje angesehen, doch die Zukunft seines architektonischen Ausdrucks - geprägt durch die Wettbewerbsbeiträge von 1965 - blieb in der infrastrukturellen Gestaltung verstrickt. In Anbetracht der Komplexität all dieser Bedingungen (und des Zeitdrucks) erhält der Begriff des Kontexts eine Vielzahl von Bedeutungen: Skopje, eine Stadt, die auf die Geographie eines Ortes aufgepfropft ist, aber durch stürmische Siedlungsprozesse immer wieder neu geformt wird; 150.000 Einwohner, die plötzlich obdachlos wurden; Fachleute mit unterschiedlichem Hintergrund. In den nachfolgenden Planungsdokumenten wurden einige grundlegende Knotenpunkte hervorgehoben, die das städtische Wachstum und die produktive Gliederung bestimmte. Ausgehend von dem Wettbewerb von 1965 für das Stadtzentrum werden wir den Gigantismus der meisten architektonischen Projekte mit den technischen Aspekten der Stadtplanung in Verbindung mit Notmaßnahmen vergleichen. Ein Rückblick auf diese Projekte zeigt deutlich den Kontrast zwischen visionären Vorschlägen und den realen Konsequenzen. In den folgenden Abschnitten wird auf die unterschiedliche Natur bestehender Probleme eingegangen, deren Bewältigung nicht von den laufenden Großprojekten - wie dem Straßenknotenpunkt, der Skopje seine strategische Rolle auf dem Balkan zurückgeben sollte - getrennt werden konnte. Während die Megastrukturen der Architekt:innen für das „Herz der Stadt" weitgehend auf dem Papier blieben, wurde lieber in die Netze investiert, von denen die künftige Siedlung abhing. Paradoxerweise erwiesen sich die in der Not gebauten Viertel gerade wegen ihrer Unsicherheit als organisch mit diesen Netzen verbunden, was in den kommenden Jahren größere Freiheitsgrade garantieren würde.

Introduction: re-contextualising the 'heart of the city'

At the height of the Cold War, Skopje, at the time the capital of the Republic of Macedonia, a part of the non-aligned Yugoslavia, fell into the international spotlight following the cataclysmic earthquake of 26 July 1963. Two years later, in 1965, many architectural journals covered the competition for the reconstruction of the city centre, a sort of 'design workshop, a school, a building site and, at the same time, an international exhibition' (Tolić 2011: 91). The call identified the centre of Skopje as a two-kilometre quadrilateral of express roads across the Vardar River. The 'heart of the city' (Rogers, Sert & Tyrwhitt 1954) acquired a specific declination: a regional centre, integrated by the governing bodies of the Republic of Macedonia (Sedlar 1966: 21), juxtaposed to both the eclectic square of the Serbian town and the Ottoman bazaar on opposite sides of the old Stone Bridge. In 1966, *Casabella* and *Arhitektura Urbanizam*, the mouthpieces of the Association of Yugoslav Architects,

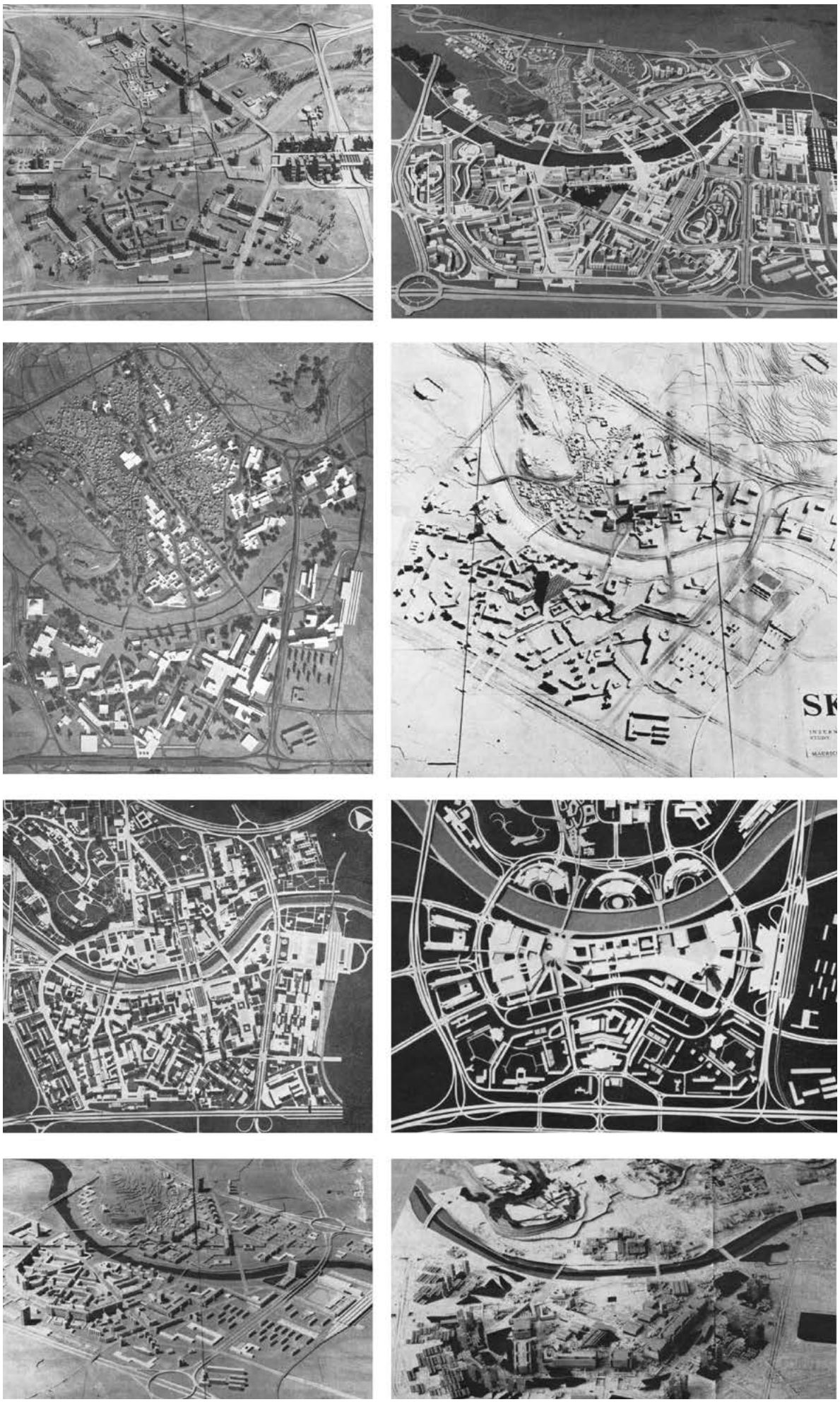

Figure 1: The eight projects presented at the 1965 competition for the reconstruction of the city centre. From top left: Kenzo Tange (ex-aequo) proposed three megastructures, the City Gate built over the railway and road interchange, the City Wall along the ring road of the Serbian town, and the City Arcade between the Ottoman bazaar and Gazi-Baba Hill; Radovan Miščevič and Fedor Wenzler (right) arranged residential buildings in a complex system of public spaces and green areas; Luigi Piccinato and Studio Scimemi (left); Maurice Rotival (right) envisaged the importance of the regional centre as a monumentality of the pyramidal tower; Slavko Brezovski and Makedonijaprojekt (left) proposed a new urban axis unifying the Serbian and the Ottoman towns; Aleksandar Djordjević and the Town Planning Institute of Belgrade (right) placed the regional centre along the Vardar, encompassed by a double ring road; Jaap Bakema and Jo Van den Broek (left) proposed an oversized courtyard building with three skyscrapers at the conjunction between the Vardar River and the Ottoman town; Edvrad Ravnikar (right) envisioned the city centre as a mixed low-density and skyscraper garden city meant to face the harsh summer climate. Source: *Arhitektura Urbanizam* 39 (1966).

published the competition entries (Boschini 1966; Mitrović 1966; Galić 1966: 7-15), while *The Japan Architect* dedicated a long article to Kenzo Tange's project (Tange 1967b). However, the diversity of proposals only partly reflected the contraposition between Yugoslav and foreign submissions. [Figure. 1]

Among the eight participating groups, four were coordinated by Yugoslav architects from the republics of Croatia, Slovenia, Serbia, and Macedonia, while the remaining four were led by CIAM members who had played a leading role in post-Second World War reconstruction. Indeed, the propensity for megastructures emerged not only in the respective projects of Kenzo Tange and Maurice Rotival, but also in those of Slavko Brezovski and Aleksandar Djordjević. Tange's idea of 'urbanising architecture and spatialising the city' materialised in three elements at an urban level: the City Wall along the ring road of the Serbian town, the City Gate integrating the new railway and bus station, and the City Arcade at the edge of the bazaar (Tange 1967[a]: 27). The City Gate, a megastructure at the forefront of earthquake-resistant technology, was to channel pedestrians into an east-west sequence of public squares reaching the old Stone Bridge (Tange 1967b: 40; Lozanovska 2012: 437). Slavko Brezovski[1] aligned the regional institutions to form an enfilade across the Vardar River, while Aleksandar Djordjević, from the Belgrade Institute of Urban Planning (Galić 1966: 10), envisioned the new city centre as an inland road junction straddling the Vardar, whose geometric layout dictated the architectural footprint. Maurice Rotival's thirty-storey pyramid – meant as a monument to international solidarity – challenged the Vodno heights, directing ground-level flows via a system of squares.

Van der Broek and Bakema tried to separate loose architecture from infrastructure (Van den Heuvel 2018): four towers at the midpoints of the two-kilometre quadrilateral, macro-blocks as a common denominator between the nineteenth-century quarters, and the new centre with the university and museum complex behind the Kale Fortress. Slovenian architect Edvard Ravnikar[2] and the Zagreb group formed by Radovan Miščevič and Fedor Wenzler[3] envisaged green avenues as a key element of the new city centre (Galić 1966: 10). Skopje's climate, particularly arid in the summer, led Ravnikar to propose rows and masses of trees, while arcades – lower in the city centre and taller along the avenues of the Serbian town – were to unify the new townscape as perceived at eye level (Galić 1968: 111). Miščević and Wenzler hinged their project on the Vardar, 'the natural artery in the heart of the city and one of its greatest treasures'. A ring road was proposed to free the bridge-bazaar axis from traffic, intersecting the riverbank park. The new elevated station square was to offer a vantage point, enclosing the city's geographic site and its main monuments into a single perspective (Miščevič & Wenzler 1965: 28, 46 & 50). Luigi Piccinato[4] and Gabriele Scimemi presented a project of great specificity and methodological rigour: eschewing all self-referential monumentality, they aimed at restoring legibility to the historic city with its ethno-religious neighbourhoods (Galić 1968: 110). Only Piccinato and Scimemi bothered to consider the historical palimpsest, and advocated for professionals to recognise the local reality, hence avoiding pre-set designs derived from assumptions and generic concepts (De Sessa 1985: 147). They qualified second among foreigners, as the competition ended with a joint prize shared between Kenzo Tange (60%) and the Miščević-Wenzler team (40%). Despite praising Tange's proposal of organising public activities along the river, the jury considered his large-scale urban figures somewhat oversized. The scheme for the centre of Skopje was finalised in 1966 by a joint Yugoslav and Japanese team that included Arata Isozaki, Vojislav Mačkić, Radovan Miščević, Yoshio Taniguchi, Dragan Tomovski, Sadao Watanabe, and Fedor Wenzler (Mačkić 1966: 14).

The challenge of imagining a new centre for a city still made up of ethno-religious *mahala*[5] clustering around the bazaar led many planners to neglect the actual townscape and focus instead on functional zoning and infrastructural design as flagships of modernity. Also, the competition somewhat overshadowed the joint humanitarian effort – and knowledge transfer – displayed by experts from the international organisations that had enabled the construction of 17 emergency settlements on the fringes of the destroyed city, leading to a draft regional plan that had already integrated these same settlements in a new scheme.

Skopje before the earthquake

Skopje was built at the north-eastern head of the old Stone Bridge on the Vardar, an inevitable crossing point in a system of interconnected valleys between Mount Vodno (south), Suva Gora (southwest), and Skopska Crna Gora (northeast). Stretching some 47 km in a northwest-southeast direction, the Skopje Basin interlocks the valleys formed by the Morava and Vardar rivers, which connect the Danubian plains to the Aegean port of Thessaloniki. [Figure 2] Throughout the centuries, this north-south corridor channelled the territorial gravitations of the upper Vardar valley, from seasonal transhumance to major migratory movements. Both the Slavs and Ottomans reinforced Skopje as a military stronghold. At the beginning of the 20th century, the Serbian and the Ottoman towns still faced each other across the Vardar: the first equipped with the railway station on the Nis-Thessaloniki line, the second still featuring the old ethno-religious quarters around the bazaar. Despite this persisting fragmentation, Skopje's population quadrupled from 42,368 to 171,893 in the four decades from 1921 to 1961 (Galić & Sokolov 1964: 19; Fisher 1964: 46). The migratory pressure, however, was underestimated (Popovski 1985: 3), particularly concerning the provision of new housing and related facilities.

Unlike in other federal capitals (Tolić 2011: 69), post-WWII reconstruction funds were used for interventions in Skopje's city centre. Internal migration clogged the historical centres throughout Yugoslavia, and Skopje was no exception; the newcomers quickly saturated all abandoned houses (Fisher 1964: 46). During the decade between 1953 and 1963, Skopje concentrated one-third of Macedonia's economic potential, absorbing 83% of its population increase, thus baffling the benefits of socialist planning (Sedlar 1966: 18) introduced in 1947, when the municipality entrusted the draft of a 30-year plan to a group of Czechoslovak architects coordinated by Ludek Kubeš. This plan was revised as early as 1955 due to the population increase, and envisaged the infrastructure crossroads formed by *Partizanska Ulica* and *Ulica Borisa Kidriča*. In the newly established settlements, socialist planning adopted a tiered system, namely a strict zoning and hierarchical

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distribution of public services and collective functions. In this context, the raion was the smallest administrative, social and spatial unit, providing public services for ca. 30,000-40,000 inhabitants.[6] Skopje's periphery, however, teemed with squatter houses, far removed from the raion efficiency (Pota 1950; Galić 1962). In the aftermath of the Second World War, informality and squatting, which in Belgrade had emerged by the end of the First World War (Vuksanović-Macura 2018), became a common denominator of all Yugoslav cities. In Skopje, the housing stock was totally inadequate even before the earthquake due to the growing demographic pressure. From 1961 to 1963, the urban population rose to 198,173 (Galić & Sokolov 1964: 23), with 48,170 housing units available and approximately 4,080 flats under construction (Galić 1968).

On the night of 26 July 26 1963, the earthquake irreparably damaged 65% of the total building stock, leaving little alternative to demolition.[6] While three-quarters of Skopje's population were suddenly made homeless (Mijalković & Urbanek 2018: 7), the damage also affected the local infrastructure (roads, railways, sewers, electricity, and telephone networks) (Petrovski 2004) to the point that reconstruction was to absorb 15% of Yugoslavia's gross domestic product by 1963 (Petrovsk & Milutinović 1985: 18). The displacement and relocation of the injured to Pristina (Kosovo) in the hours following the earthquake did not prevent people from coping with emergency: they arrived from all over the country, hoping to find a job in the announced reconstruction of Skopje. Already overcrowded and with critical living conditions, the city continued to grow, consequently escalating the emergency situation.

While demolition and consolidation works were proceeding in the centre, reconstruction was already underway in the outskirts. As early as September 1963, 15,000 prefabricated single-family houses could be counted along a strip of some 20 km parallel to the river and perpendicular to the historic axis: a condition from which no plan was ever to escape (Sedlar 1966: 18).

As customary in socialist planning, statistics came immediately into play prior to any design. The Yugoslav planning practice, in fact, required a preliminary report (named 'programme for the elaboration of the urban plan') (Maksimovic 1986: 64) including data on the urban area and agricultural land, mobility and the main industrial sectors, and considering future development. Statistics were used to predict the population increase within twenty years and, accordingly, the number of new raions required to meet the housing needs (Ilić 1949: 6). Usually, these preliminary reports also included a series of dossiers on the geological, hydrographical, climatological and microclimatic conditions, supplemented by a historical report and data on demographics, land use, residence, technical and health facilities, mobility, green spaces, culture and leisure (sports) system, administrative institutions, and production apparatus. This was followed by an economic assessment and a 'territorial balance' sheet (Ilić 1949).

After the earthquake, when planning had to respond simultaneously to both reconstruction efforts and population relocation, Skopje's basin was considered an asset, the mapping of which started with industrial and agricultural areas and smaller towns (Galić &Sokolov 1964: 20). This opened a new scenario for Yugoslavia. Until this point, regional plans had been reserved for sparsely urbanised areas with a predominant productive, tourist or recreational vocation. However, since Skopje was a chemical and metallurgical hub linked to the towns that were part of the same basin (such as Tetovo, Kumanovo, and Titov Veles), decentralisation was recognised as a logical strategy to shunt migratory flows to smaller centres. Skopje's geographical condition and industrial apparatus enabled the decision to keep the factories running despite the emergency and, with housing provided for their workers, to recover 80% of productivity

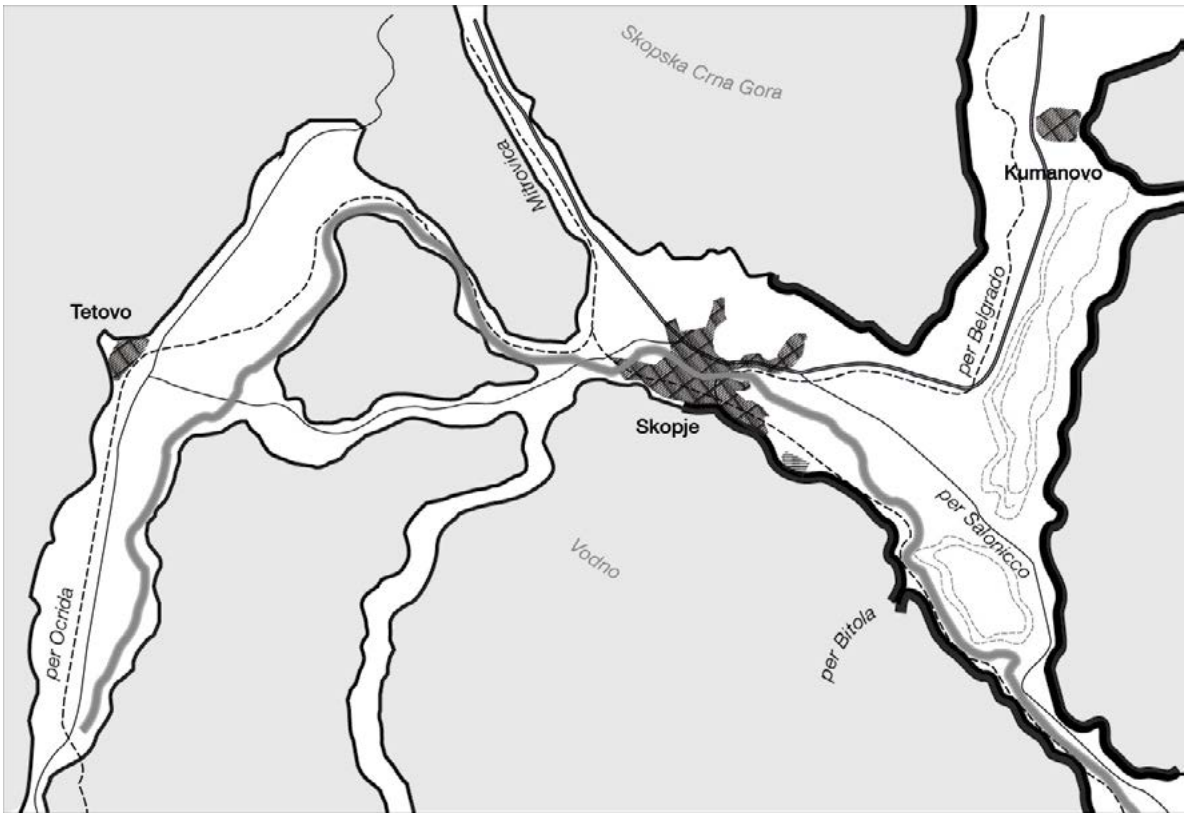

Figure 2: Skopje's basin (*Skopska Kotlina*) as revealed highlighting the 500 m contour line. The basin reaches the Morava-Vardar corridor (marked with a thicker line) at the point where it diverges from the river course. To the west, the Lepenac and Treska rivers flow into the Vardar. The towns of Titov Veles (today Veles) and Kumanovo lie along the continental corridor, while Tetovo guards the upper Vardar valley. The railway junction connects the Thessaloniki-Mitrovica and Thessaloniki-Belgrade lines. The *Bratstvo i Jedinstvo* motorway passes along the Morava-Vardar corridor; the *Jadranska Magistrala* was to enter the basin coming from the northwest. Source: Re-elaboration by the authors based on a sketch by Doxiadis Associates (1965: 312).

by October 1963 (UN 1970: 85). Furthermore, the polycentric settlement structure at the regional level was supported by two major infrastructures under construction, for both of which socialist Yugoslavia had obtained international funding (Čavlović 2018; World Bank 1963): the *Bratstvo i Jedinstvo* (Brotherhood and Unity)**7** motorway, completed in 1963 and projected towards Austria and southwards towards Greece, and the *Jadranska Magistrala*, the Adriatic road from Rijeka to Bar with a section from Bar to Skopje (which remains incomplete to this day, when compared to the original plans). The junction between the two was in the Skopska Kotlina. Skopje, once the 'key to the Balkans', was to become the node of a modern transport system between Western Europe, the Northern ports, and the Middle East (Galić &Sokolov 1964: 14). In 1962, with the mediation of the Investment Bank, the Yugoslav government requested $35 million for the Ljubelj-Skopje section (174 km) of the *Bratstvo i Jedintsvo* motorway (World Bank 1963) and a 422-km section (out of a total of 764 km) of the *Jadranska Magistrala*.

In some respects, the 1965 competition for the new city centre was a manoeuvre to attract architects and experts who had worked either in non-aligned countries or in reconstruction across Europe. This way, the reconstruction process could trigger socialist planning in a federal capital which, unlike the others, could not rely on a cutting-edge planning office. Besides, the problems at hand were of an unprecedented scale and complexity for Yugoslav planners.

In situ

Immediately after the earthquake, Yugoslav architect Ernest Weissmann, who had spent the Second World War years in the United States working for the United Nations Relief and Rehabilitation Administration UNRRA, travelled to Skopje together with UNESCO experts and the International Advisory Committee.[8] In 1963, as Deputy Director of the United Nations Department of Economic and Social Affairs in charge of Housing, Building and Planning (UN 1970: 68; Bjazić-Klarin 2015), Weissmann was among the first to seize the Skopje earthquake as an opportunity to obtain immediate technical aid, thereby accelerating the modernisation of Yugoslavia with the help of international institutions. In fact, Macedonia lacked technical personnel, so architects and engineers often arrived from other republics (Antolić 1949: 19).

Beginning in October 1963, when the UN sent the Soviet Anatolii Nikolaevich Rimsha and the Franco-American Maurice Rotival to Skopje, it was clear that international experts and Yugoslav architects would cooperate. Maurice Rotival (1892-1980) had moved to the United States in 1939 and then to Latin America, ultimately returning to Europe during the Second World War. Rotival assisted the Skopje Institute of Urban Planning in the execution of four alternative strategies (called 'Keys')[9] of concentration or decentralisation consistent with the infrastructural networks. The diversity of the four proposals and their frameworks revealed all the uncertainties regarding the seismological condition, which became clear only in the following months (Ambrasey 1965), confirming that the entire region was at a high risk (Galić &Sokolov 1964; Ciborowski 1967; UNESCO 1968). In the absence of a real estate market, and without the pressure of private interests and expropriation costs, each of the four Keys was equally feasible. This aspect had already been pointed out in 1949 by Yugoslav architects: in the West, despite examples of remarkable beauty and scope, urban projects often remained on paper or misinterpreted due to the interests of private capital (Ilić 1949: 16).

Robert Home (2007: 8) argued that rebuilding Skopje *in situ* was a choice dictated by the city's key position in the infrastructure network (ensuring supplies from other republics) as well as when reassessing the historical and symbolic brotherhood between the Yugoslav people. The key involvement of international experts was to bring about new earthquake-proof technology, while also contributing to the advancement of local town planning. In 1964, the Special Fund contracted Doxiadis Associates to draw up the Skopje Master Plan. At the same time, the Polish company Polservice offered its support to the Skopje Institute of Urban Planning as a sign of solidarity, involving the Warsaw City Planning Office.

Normally, Polservice[10] facilitated contacts between Polish professionals and foreign investors and did not deal directly with design (Gzell 2011; Stanek 2012). Both Doxiadis Associates and Polservice had to follow the indications derived from Rotival's Keys (Galić 1968: 37; UN 1970: 81). Considering the significance of time in the planning, Doxiadis Associates introduced mid- and long-term scenarios: the seven-year reconstruction phase until 1971 and the thirty-year scenario, when urban development was to involve the entire Skopska Kotlina (Galić 1968: 43; UN 1970: 82). With the replacement of the Thessaloniki-Mitrovica railway at the foot of Mount Vodno with a large urban boulevard, Skopje was to stretch in a south-easterly direction with industrial areas converted into residential districts. The debate on the plan was moving along; Rotival's four Keys opened the way to the proposal by Doxiadis Associates, resulting in a series of principles/constraints – the limits of the basin, the presence of the river – orienting urban development within a given time frame (Doxiadis Associates 1965: 313).

Adolf Ciborowski, chief architect of the Warsaw Institute of Urban Planning from 1956 to 1964, coordinated the Polish group (Stanek 2012), who mapped the low-density emergency quarters built immediately after the earthquake in view of embedding them into the plan (UN 1970: 96; Mijalkovic & Urbanek 2018). Ciborowski (1967) argued that the reconstruction of Skopje left little room for a utopia. Translating urban expansion into quantitative figures, he relied on the method of 'optimised analyses' (Sedlar 1966: 20), thence simulating alternative solutions: a mono-centric growth, decentralisation into two satellite towns, and a polycentric regional city, which was deemed more appropriate precisely because it embedded the new quarters. A greater grasp on the reality, particularly considering projections on population growth, brought the Polish planners to draft a master plan in which Skopje was to develop towards Tetovo, Titov Veles and Kumanovo, while also keeping its industrial apparatus (Galić 1968: 130). In December 1964, Polservice and Doxiadis Associates started collaborating with the Skopje Institute of Urban Planning on a draft master plan for the second reconstruction phase, to be supplemented by quantitative and qualitative analyses by 1965. The profound diversity of the planning groups rendered this goal even more ambitious. Yugoslav and Polish

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Figure 3: Tent camps among damaged historical buildings in the aftermath of the earthquake. Source: UN Development Programme (1970: 33).

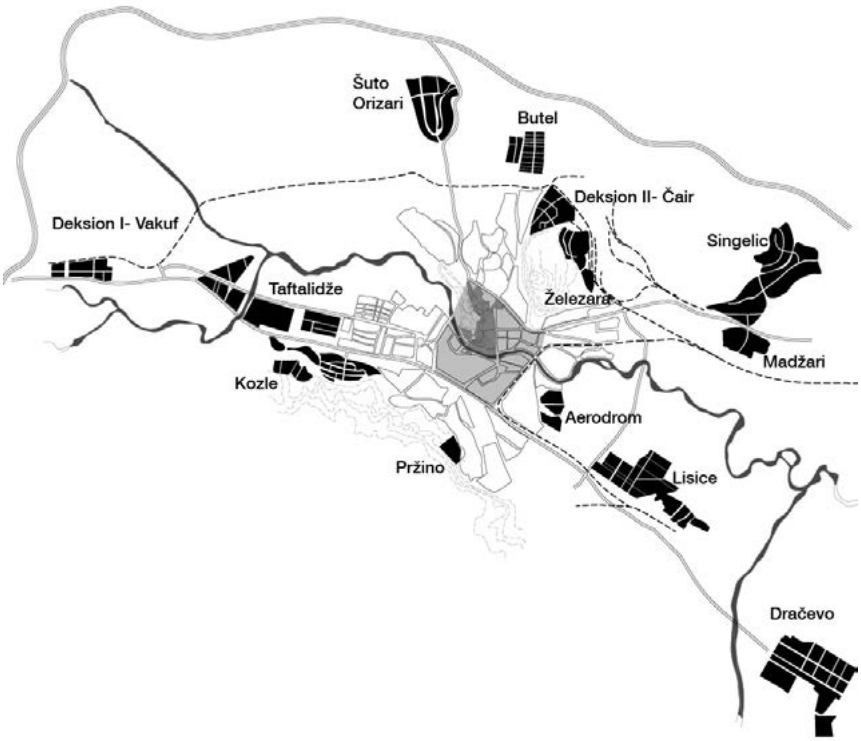

Figure 4: Location of the emergency neighbourhoods (in black) in relation to the two-kilometre quadrilateral that defined the project site in the competition for the reconstruction of the city centre. Source: Drawing by A. Korolija, based on maps from *Arhitektura Urbanizam* 28 (1964).

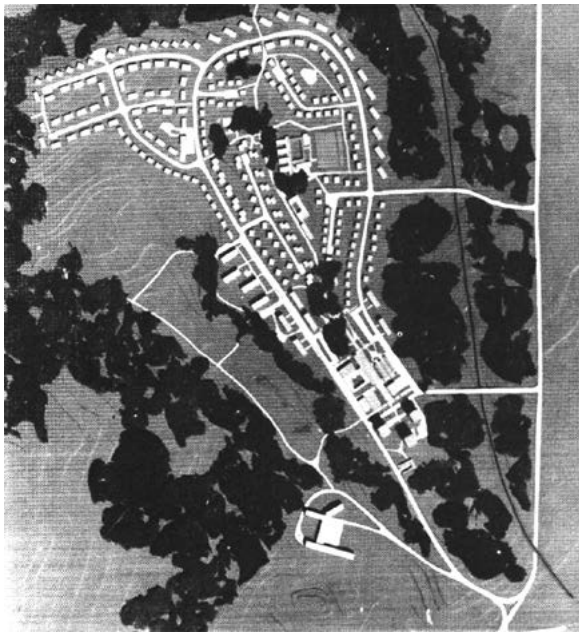

Figure 5: Plan of the Železara neighbourhood drafted by the Town Planning Institute of the Republic of Croatia. The urban layout followed the existing topography, while public functions (schools, post office and shops) were located along the main roads. Source: *Arhitektura Urbanizam* 28: 38 (1964).

planners worked under the guidance of Ciborowski (appointed project manager by the UN): analysis and design proceeded in parallel, breaking the customary methods. For those working side by side, the project plans became a kind of *lingua franca* and the team a *veritable multiplier of knowledge*. For Yugoslav town planners, trained in the institutes of each respective city, this was a chance to measure themselves against other professionals, while the international environment accelerated the exchange of new methodologies for data collection and processing in accordance to different disciplinary practices. At this very early stage, for example, computers were used to calculate the housing construction cost in relation to family composition. At the same time, a social survey was carried out for the first time, depicting the housing conditions of the different ethnic groups (Home 2007; UN 1970).

Debate on reconstruction and reality of post-disaster needs: the low-density parallel city

Despite the economic difficulties, and the technical backwardness of Macedonia, in 1963 Yugoslavia could claim a leadership in the Non-Aligned Movement and thus open a channel of communication with both the Western Bloc and Soviet Union. Three months after the earthquake, on 22 October 1963, this 'thaw' (also favoured by Stalin's death) resonated in Tito's heartfelt appeal to the General Assembly of the United Nations for international solidarity to avert the consequences of a nuclear conflict (UN 1970: 52). The reconstruction of Skopje opened a bridge between worlds ideologically apart (Galić 1968: 25), drawing both the Red Army and US soldiers to the aid of the Yugoslavians, in a daily routine rendered even more critical by the seismic swarm as well as by the 150,000 uninhabitable buildings (UN 1970: 20). Soviets removed rubble and assisted homeless people, while Americans repaired damaged buildings, initiating the Homecoming Project (*Povratak Kući*).

The Serbian and Ottoman cities facing each other across the Vardar – one with its fragmentary showcase of eclecticism, and the other with its small wooden houses – had become a single expanse of tent camps, schools, and field hospitals in the shadow of minarets and socialist quarters. [Figure 3] In August 1963, Weissmann recommended Robert Fitzmaurice, an expert in emergency solutions and building techniques, to the Yugoslav government. Fitzmaurice arrived from Great Britain ten days after the earthquake with 800 prefabricated houses (UN 1970: 68).

In 1964, the journal *Arhitektura Urbanizam* published a special issue on the reconstruction of Skopje that included material from the preliminary report, tables from the *Definitive Preliminary Fundamental Town Plan of Skopje* drawn up by the City's Town Planning Office (with support from the International Consultative Committee), as well as visual documentation – plans, detailed layouts, models and photos – on the temporary housing quarters. The latter were built along the main roads to facilitate the provision of construction materials and the management of parallel sites. [Figure 4] Public services – mainly schools, kindergartens, and health posts – were also built in close relationship with infrastructure (Janković 1964; Mijalković &Urbanek 2018). [Figures 5 and 6] The widespread perception that multi-storey buildings were unsafe accelerated the flight from the centre, backed by the urban planning institutes from all

Yugoslav republics (Janković 1964).[11] These low-density neighbourhoods of standardised housing units equipped with a basic provision of services and public spaces were to accommodate a total of 70,000 homeless families (Pesić 1963: 58). They were conceived as embryos for future raions; over time, multi-storey buildings (or even single-family houses of a better quality) were to replace prefabricated dwellings, fostering a typological mixture uncommon in a socialist country. As early as 1950, trusting that Yugoslav socialism would allow a certain plurality, Vladislav Ribnikar had raised the question of single-family houses, which represented a refuge from the chaotic urban life and could be realised in rural or natural areas under more favourable economic conditions. After the first five-year plan, the rising cost of building materials forced the prioritisation of group housing (Ribnikar 1950: 17); nevertheless, particularly after 1950, many leading Yugoslav architects designed single-family houses, proposing a catalogue of solutions aimed to challenge squatting and self-building (*Ekonomski Institut Narodne Republike Srbije* 1958).

Mass construction of single-family houses, however, only concerned temporary accommodation, while tourist settlements and multi-density neighbourhoods remained largely unexplored (Ilić 1964: 42). In apparent contradiction to the country's political orientation, single-family houses gained momentum after the Skopje earthquake. By October 1963, 1,586 prefabricated houses were imported from England and, to a lesser extent, from other countries: Bulgaria, East Germany, Denmark, Sweden, Czechoslovakia, Poland, Austria, France, and Norway, as well as from Switzerland, Mexico, and the United States. All these countries seized the opportunity to provide reconstruction aid in a clearly tangible way. The twenty houses donated by Mexico in the neighbourhood of Taftalidže I, for example, were designed by the well-known architect Pedro Ramirez Vazquez as Mexican-style haciendas. Other emergency shelters showcased different prefabrication techniques. The 700 houses donated by Great Britain in the Djordje Petrov neighbourhood were built in steel frames, whereas those at Taftalidže II (donated by France) and Trndol (donated by France and manufactured by the Austrian union of timber builders) were built in wood. Significantly, the Soviet Union donated a factory to produce precast concrete elements for multi-storey housing. An additional 1,620 houses were commissioned by the Yugoslav government and built abroad, complementing the 11,500 houses produced in the country (Mijalković, Urbanek 2018). Croatian architect Bogdan Budimirov argued that the earthquake had opened the domestic market to Yugoslav companies such as Exksportdrvo (among others), which produced prefabricated wooden houses for export. The urgency to build entire neighbourhoods led to the testing of new building techniques, which soon turned Skopje into a permanent prefabrication fair (Mattioni 2007: 41). Talking at the Permanent Conference of Cities, the President of the Federal Parliament Edvard Kardelj (1963) argued that prefabrication of single-family houses was to foster an economic and timely response to the housing shortage in Yugoslav cities (Fisher 1964: 48). In Skopje, experimentation also concerned the relationship between neighbourhood schemes, topography, and infrastructure; disentangling vehicular from pedestrian flows; and checking the most convenient location for schools, kindergartens, community, and shopping centres in locations with a minimum of 3,000 inhabitants to a maximum of 10,000 (Janković 1964: 38). In many cases, a non-central location, or alternatively one set along inbound roads, was preferred as convenient for two adjoining neighbourhoods. [Figures 7 and 8]

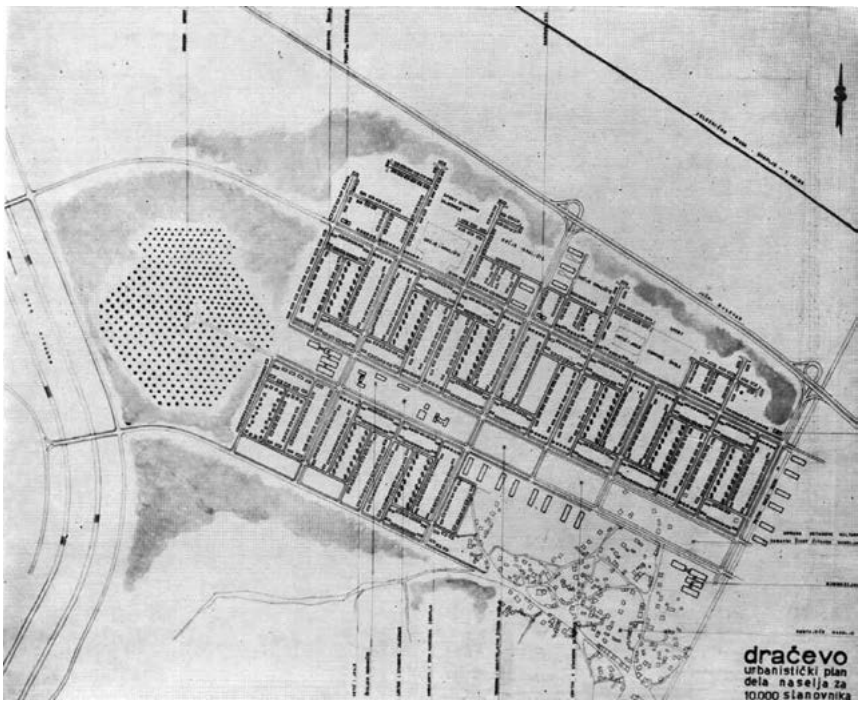

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Figure 6: Plan of the Dračevo neighbourhood drafted by the Belgrade Town Planning Institute. The central elongated area included public functions meant to cover the essential needs of the 10,000 inhabitants of the prefabricated single-family houses, and of those living in the pre-existing neighbourhood (lower right corner). Source: *Arhitektura Urbanizam* 28: 39 (1964).

In anticipation of the redistribution of 18,000 inhabitants by 1971 and 62,000 by 1981, the emerging 'parallel city' was to become part of the medium- and long-term plan (Sedlar 1966: 20). Fast-paced housing experiments contributed to raise the urban standard from 8.23 sqm (1963) to 14.7 sqm per inhabitant (Galić 1966: 89). Despite the uncertainty about the costs of primary urbanisation, the short life cycle, and the distance from the centre, Doxiadis included the emergency neighbourhoods in the residential stock (Doxiadis 1965: 321). By housing labourers near the factories, they helped to keep production running. [Figure 9]

The notion of 'scaffolding' – currently used in the field of psychology – has been recently used to explain the 'deep structure' of socialist cities, identifying both the built environment produced by socialist planning and the resulting 'development potential' (Zarecor 2018: 100); in other words, residential and cultural programmes generated a structure that revealed all the latent potential in the ability to react to critical situations. In the reconstruction of Skopje, rather than the centre-periphery opposition (Zarecor 2013: 59), the unchangeable feature of the built environment led in the complementarity and proximity of housing and factories. Temporary neighbourhoods did require a primary urbanisation consistent with their layout, thereby allowing a possible linear re-composition along infrastructural networks. The quarters built for earthquake victims became a resource for the Yugoslavian construction industry as well (Ilić 1964: 42), disclosing new fields of intervention.

Once integrated in the final plan (the 'Second Elaboration of the New-Town Plan' begun in 1964 and drafted with the participation of UN), the emergency neighbourhoods built around greenery and public spaces could eventually become an asset for urban expansion, providing room for densification. Thereby, investments in primary urbanisation were to pay off (Ciborowski 1967) with the 17

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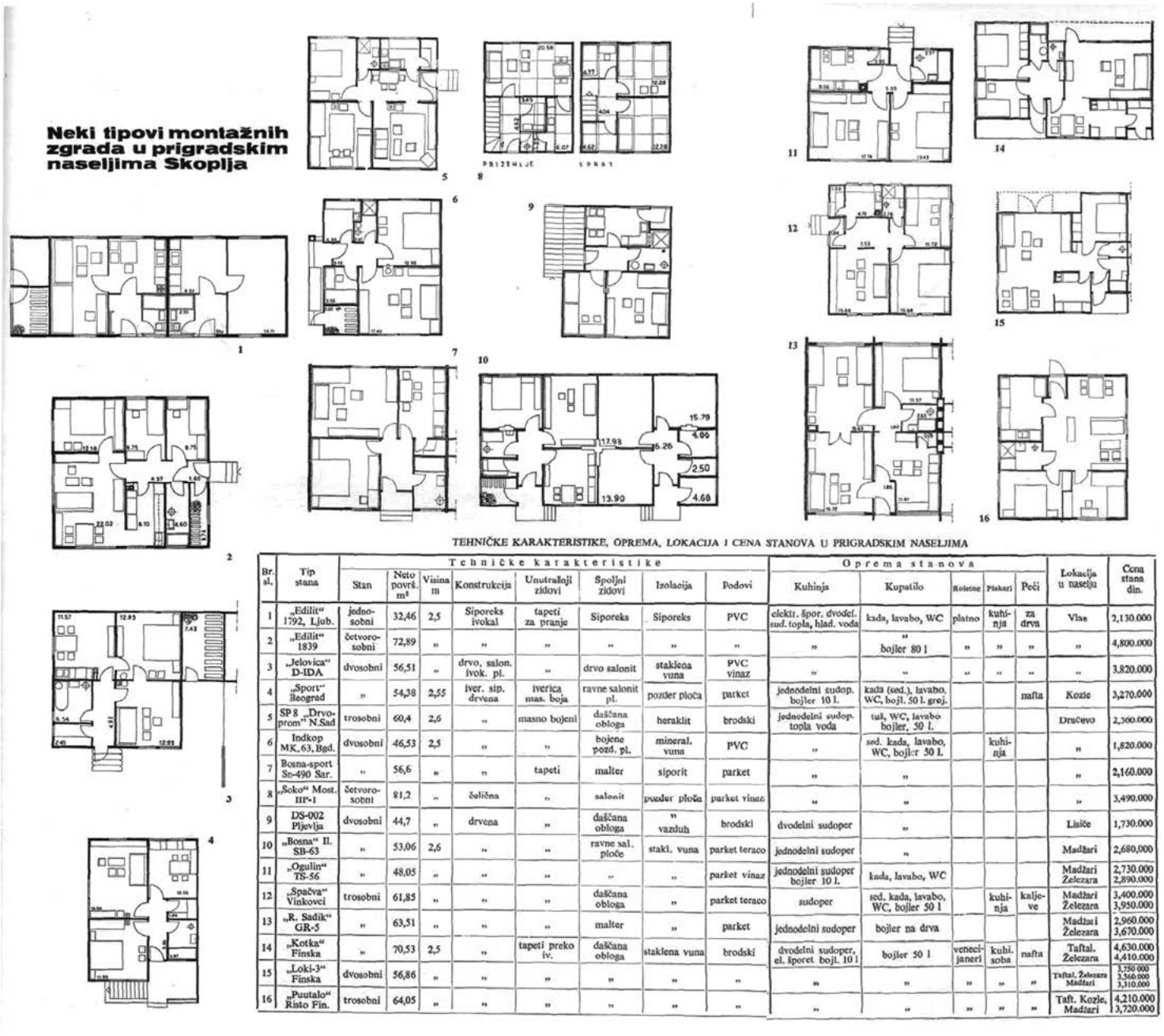

TEHNIČKE KARAKTERISTIKE, OPREMA, LOKACIJA I CENA STANOVA U PRIGRADSKIM NASELJIMA

Br. sl.	Tip stana	Tehničke karakteristike: Stan	Neto površ. m²	Visina m	Konstrukcija	Unutrašnji zidovi	Spoljni zidovi	Izolacija	Podovi	Oprema stanova: Kuhinja	Kupatilo	Roletne	Plakari	Peći	Lokacija u naselju	Cena stana din.
1	„Edilit" 1792, Ljub.	jedno-sobni	32,46	2,5	Siporeks ivokal	tapeti za pranje	Siporeks	Siporeks	PVC	elektr. šporet, dvodelni sud. topla, hlad. voda	kada, lavabo, WC	platno	kuhinja	za drva	Vlae	2,130.000
2	„Edilit" 1839	četvoro-sobni	72,89	„	„	„	„	„	„	„	„ bojler 80 l	„	„	„	„	4,800.000
3	„Jelovica" D-IDA	dvosobni	56,51	„	drvo, salon. ivok. pl.	„	drvo salonit	staklena vuna	PVC vinaz	„	„	„	„	„	„	3.820.000
4	„Sport" Beograd	„	54,38	2,55	iver. sip. drvena	iverica mas. boja	ravne salonit pl.	pozder ploča	parket	jednodelni sudop. bojler 10 l.	kada (sed.), lavabo, WC, bojl. 50 l. grej.			nafta	Kozle	3,270.000
5	SP 8 „Drvo-prom" N.Sad	trosobni	60,4	2,6	„	masno bojeni	daščana obloga	heraklit	brodski	jednodelni sudop. topla voda	tuš, WC, lavabo bojler, 50 l.				Dručevo	2,360.000
6	Indkop MK, 63, Bgd.	dvosobni	46,53	2,5	„	„	bojene pozd. pl.	mineral. vuna	PVC	„	sed. kada, lavabo, WC, bojler 50 l.		kuhinja		„	1,820.000
7	Bosna-sport Sn-490 Sar.	„	56,6	„	„	tapeti	malter	siporit	parket	„	„				„	2,160.000
8	„Soko" Most. III-1	četvoro-sobni	81,2	„	čelična	„	salonit	pozder ploča	parket vinaz	„	„				„	3,490.000
9	DS-002 Pljevlja	dvosobni	44,7	„	drvena	„	daščana obloga	„ vazduh	brodski	dvodelni sudoper	„				Lisiče	1,730.000
10	„Bosna" II. SB-63	„	53,06	2,6	„	„	ravne sal. ploče	staki. vuna	parket teraco	jednodelni sudoper	„				Mađari	2,680,000
11	„Ogulin" TS-56	„	48,05	„	„	„	„	„	parket vinaz	jednodelni sudoper bojler 10 l.	kada, lavabo, WC				Mađari Železara	2,730.000 2,890.000
12	„Spačva" Vinkovci	trosobni	61,85	„	„	„	daščana obloga	„	parket teraco	sudoper	sed. kada, lavabo, WC, bojler 50 l		kuhinja	kalje-ve	Mađari Železara	3,400.000 3,950.000
13	„R. Sadik" GR-5	„	63,51	„	„	„	malter	„	parket	jednodelni sudoper	bojler na drva				Mađari i Železara	2,960.000 3,670.000
14	„Kotka" Finska	„	70,53	2,5	„	tapeti preko iv.	daščana obloga	staklena vuna	brodski	dvodelni sudoper, el. šporet bojl. 10 l	bojler 50 l	venecij-aneri	kuh. soba	nafta	Taftal. Železara Mađari	4,630.000 4,410.000
15	„Loki-3" Finska	dvosobni	56,86	„	„	„	„	„	„	„	„	„	„	„		3,350.000 3,360.000 3,310.000
16	„Puutalo" Risto Fin.	trosobni	64,05	„	„	„	„	„	„	„	„	„	„	„	Taft. Kozle, Mađari	4,210.000 3,720.000

▲
Figure 7: Comparative analysis between Yugoslav and foreign types of single-family prefabricated houses. The table entries include data surface, structure, insulation, basic furniture and final costs. Source: *Arhitektura Urbanizam* 28: 41-42 (1964).

neighbourhoods marking the limit of urban growth. In Yugoslavia, Sedlar (Sedlar 1966: 20) emphasised that it was the primary infrastructure that determined the value of land, as the cost of land in the suburbs was not always lower than in the city centre.

By means of the new infrastructure network, Skopje was also to upgrade is geographical role. It was the above-mentioned final version of the plan, accompanied by a mid-term (1975) and a long-term projection (1981), that anticipated a multi-polar, regional city with residential districts on both banks of the river. The incorporation of single-family houses into quarters with an increased density was to consolidate the temporary neighbourhoods. The plan proposed to channel car traffic along three arteries parallel to the Vardar,[12] shunted by five north-south transversals. The neighbourhoods made the city's 'expansion threshold' tangible, an invisible barrier not to be crossed without facing substantial development costs. The bus system was planned for a maximum journey time of 45 m. between home and work (Home 2007).

Conclusion

Most certainly, the debate on the reconstruction of Skopje after the earthquake of 26 July 1963 brought to the fore some difficulties in focusing the mutual inductions between planning, architecture, urban and landscape design. Proposals for the heart of the city – a programme with a context-specific declination at that historical juncture – almost all leant toward new configurations marking a clean break with the architecture of the historic core. Somehow, paradoxically, while these projects seem eager to fit in the design of the new infrastructure layout, the same infrastructure laid the groundwork for the construction of emergency neighbourhoods, thereby trying to make a virtue out of necessity, namely bringing into coherence major national roads under completion, the know-how sedimented in Yugoslav technical offices, and the prefabricated houses received from foreign countries to cope with the emergency.

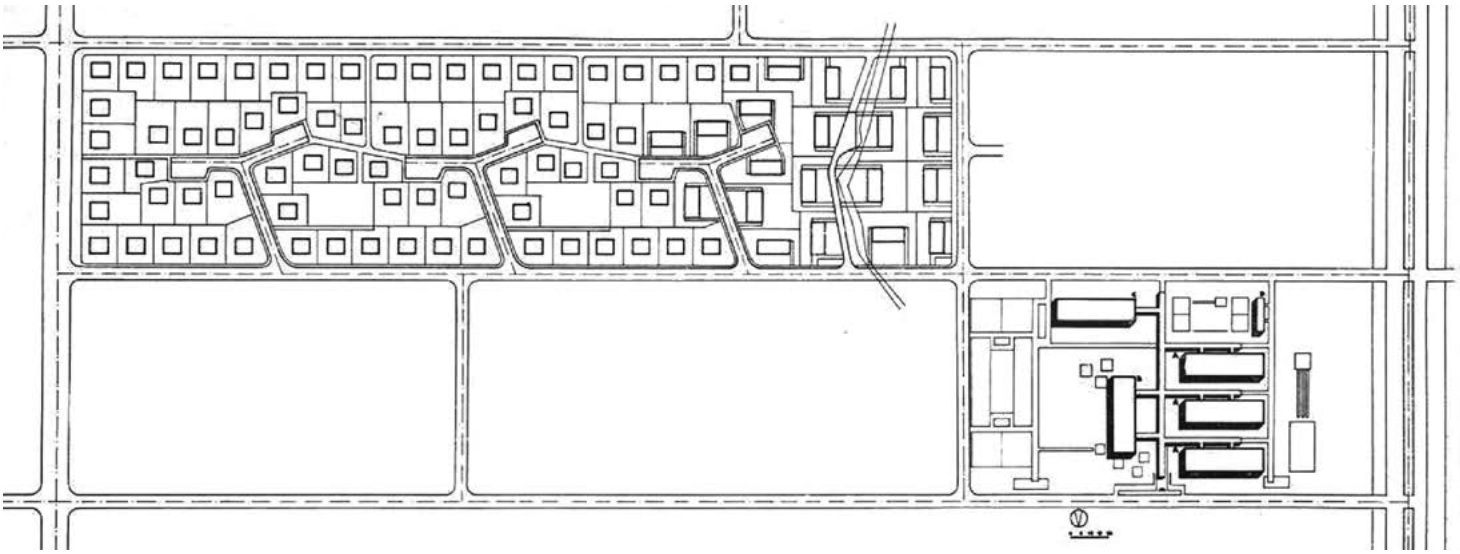

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Figure 8: Taftalidze neighbourhood and the project for an elementary school. Source: *Arhitektura Urbanizam* 39: 18 (1966).

The ambivalent relationship between physical features, infrastructure, and architectural gigantism embedding anti-seismic technology stands in stark contrast with the pragmatism of the emergency neighbourhoods made up of prefabricated houses, which left medium- to long-term degrees of freedom: expandability, densification, or replacement.

In this sense, the post-earthquake phase triggered a non-standardised response. Despite the tight timeframe, emergency solutions were to crystallise networks, leaving some room to modify the built environment at a later stage. This approach was possible thanks to the design experience accumulated in the Yugoslavian town planning institute. Furthermore, it allowed the time-folding parallel work of different teams of international experts, mediators, and institutional bodies. In some cases, a month after the catastrophe it was already possible to move on to the realisation.

Buying into James Lewis's idea that that 'relief includes use of mostly external resources externally mobilised', whereas 'planning makes use of mostly resources internally mobilised (Lewis 1979: 249-252), we may conclude that the neighbourhood schemes provided a long-term strategy for regional development. By placing their cores along the roads in such a way as to allow future change, Yugoslavian town planning institutes seized the crisis as an opportunity to endorse socialist scaffolding as a long-standing concept. For both architects and urban planners in socialist Yugoslavia, neighbourhoods design opened a broad field of experimentation in formal, economic, and social terms.

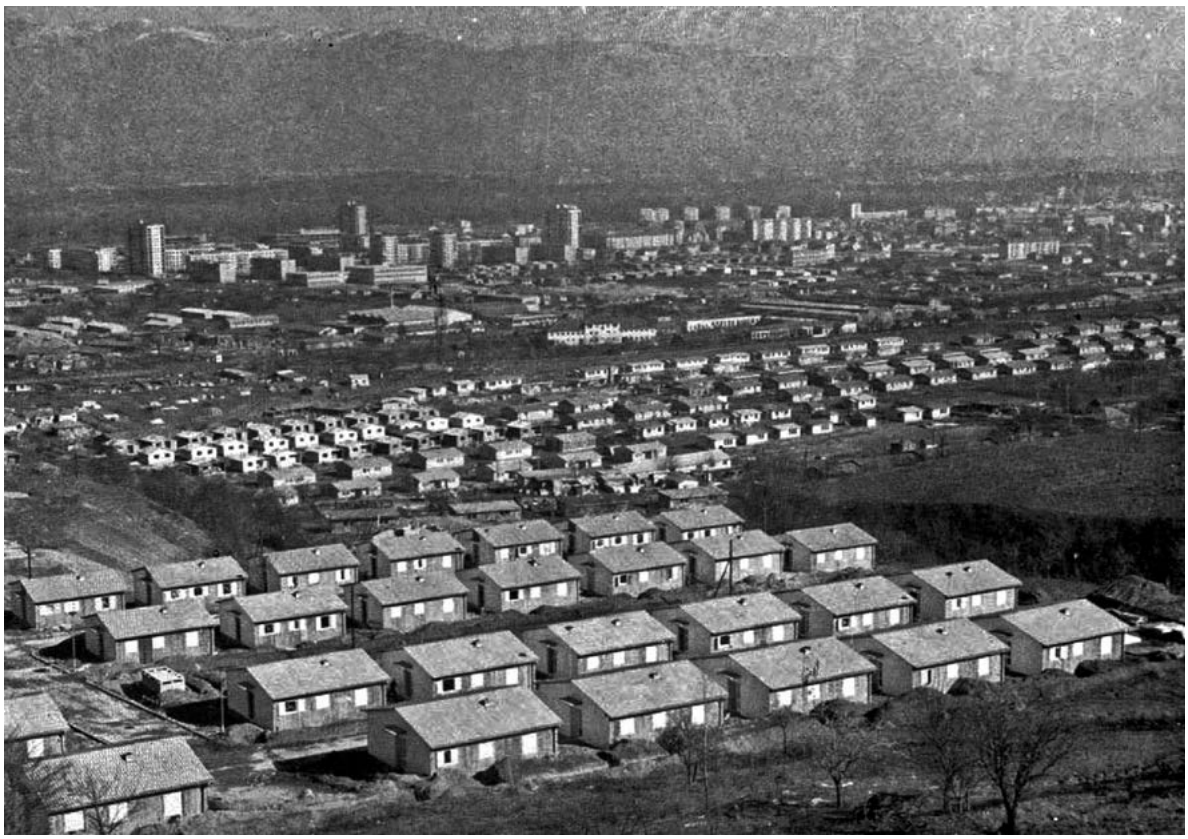

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Figure 9: Kozle and Taftalidze neighbourhoods with prefabricated houses from Yugoslavia, Czechoslovakia, Finland, France, Italy, Poland, Romania and UK. Source: *Arhitektura Urbanizam* 28: 40 (1964).

Poignantly, Slovenian architect Saša Sedlar argued that great catastrophes, with all their consequences, elicit reactions that reveal the man's spirit, vitality, and social conscience: 'Epidemics, fires, wars, earthquakes, and floods are thus decisive moments in human history. Even Europe after the Second World War rose from the ruins exhausted, purified and full of new ideas. Many modern and progressive ideas were realised in this period. [...] The days and weeks after the storm are the most precious because one must in the shortest possible time, amidst the ruins and misery, make decisions that will determine the development of a city or a country for many centuries. (Sedlar 1966: 18)'

Notes

1. A Macedonian architect trained in Belgrade and Zagreb, Slavko Brezovski (1922-2017) participated in the collaboration with *Makedonija Projekt*.

2. A pupil of Jože Plečnik, Edvard Ravnikar (1907-1993) moved to Paris in 1939 to collaborate with Le Corbusier. After the war, he worked for the Planning Department of the Ministry of Construction and participated in numerous urban planning competitions in Yugoslavia.

3. Both Radovan Miščevič (1925-2015) and Fedor Wenzler (1925-2008) graduated from the Zagreb Faculty of Architecture. Miščevič worked at the Department of Urban Planning with Joseph Seissel.

4. Luigi Piccinato (1899-1983) had been a protagonist of the Italian town planning debate of the interwar period.

5. The term derives from the Arabic *mähallä*, which means to live, to settle. In the Ottoman cities of the Balkans, it indicated the smallest administrative urban entity, including a place of worship, a school, and a bakery. The predominantly residential function of the *mahala* contrasted with the *čaršija*, the commercial street which aggregated the main public buildings such as the *hammams* (baths) and the *han* (urban caravanserai).

6. Encompassing the neighbourhood level (microraion), a raion covered approximately 15-20 ha so that cultural, educational, and sports facilities would be at a maximum distance of 700 to 850 m from each residential neighbourhood (Maksimović, 1986: 88-89). Usually lined with roads on all sides, a microraion was equipped with shops and basic educational facilities (school and kindergarten) set in a central green area.

7. The damage was quantified as follows: 15,766 houses and flats were lost, of which 3,152 were completely destroyed and 12,614 had to be demolished; 36,578 housing units were in need of repair or reconstruction, of which 13,730 were classified as heavily damaged.

8. This infrastructure of national unity aligned four of the six capitals: Ljubljana, Zagreb, Belgrade and Skopje. The route from Belgrade to Skopje ran along the valleys of the Morava and Vardar rivers.

9. Established in 1964 as the operational body of the Special Fund financed by the UN and UNESCO in agreement with the Yugoslav government.

10. It was a question of redefining the routes and stops of freight and passenger railway lines. For road transport, regional routes had to be connected to the new national level infrastructures; urban accessibility had to be prioritised accordingly.

11. Polservice was established in 1961 to operate in the field of foreign trade, providing employment opportunities for experts in various fields.

12. The Belgrade Institute of Urbanism designed Dračevo and Kozle; the Croatian Institute of Urbanism designed Madžari, Kamenik and Železara; the Skopje Institute of Urban Planning designed Deksion I, Deksion II and Taftalidže.

13. The junction between *Jadranska Magistrala* and the *Bratstvo i Jedinstvo* National Highway, with *Partizanska Ulica* on the left bank and *Juzni Bulevar* further south on the opposite bank.

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Tracing the Historical Process of Recording and Mapping War Damage
The Cases of Hamburg, Nuremberg and Hanover

Georg Sedlmeyer

This article discusses the development of war damage recording in the cities of Hamburg, Nuremberg and Hanover using historical maps. It illustrates a development process based on the three process stages of 'recording and evaluation', 'analysis' and 'planning', as presented in the Atlas Kriegsschadenskarten Deutschland (Enss & Knauer 2022: 26-36). Irrespective of the mapping style, these process stages can be traced in all damage maps of the sample cities. The article demonstrates that there was a parallel development for recording and mapping damage, while classifying the maps makes it possible to compare maps. Likewise, conclusions can be drawn about missing information, such as authors and map legends. This examination of the maps is important because the maps depict situations, damage or preservation-worthy building stock in different ways. This makes it possible to understand and investigate changing perspectives towards war events and their effects (damage), as well as on reconstruction or planning projects of a city. At the same time, a brief insight into the historical background of wartime map production. It is only possible to show this for Hamburg, Nuremberg and Hanover because a particularly rich stock of maps was found in the respective city archives. This article builds on the chapter Kriegsschadensaufnahme – ein mehrstufiger Prozess ('War Damage Assessment – A Multi-stage Process') by the author in Enss & Knauer's Atlas (2022: 26-36) by focusing on the disclosure of a sequence of mappings in the respective cities. Unpublished or hitherto unknown maps are indexed and contextualised as documents here in the already developed systematics and can thus be further examined in the context of ongoing research.

Die Entwicklung der Erfassung und Kartierung von Kriegsschäden: die Fälle Hamburg, Nürnberg und Hannover
Dieser Beitrag beleuchtet die Entwicklung der Kriegsschadenserfassung in den Städten Hamburg, Nürnberg und Hannover anhand historischer Karten. Dabei wird ein Prozess aufgezeigt, der sich an den drei Schritten "Erfassung und Bewertung", "Auswertung" und "Planung" orientiert, wie sie im Atlas Kriegsschadenskarten Deutschland (Enss / Knauer 2022: 26-36) dargestellt sind. Unabhängig vom Kartierungsstil lässt sich diese Entwicklung in allen Schadenskarten der Beispielstädte nachvollziehen. Der Artikel zeigt, dass es eine parallele Entwicklung bei der Erfassung und Kartierung von Schäden gibt, wobei die Klassifizierung der Karten einen Vergleich der Karten ermöglicht. Ebenso werden durch die Klassifizierung Rückschlüsse auf fehlende Informationen, wie Autoren und Kartenlegenden möglich. Diese Auseinandersetzung mit den Karten erscheint interessant, da die Karten Situationen, Schäden oder erhaltenswerte Bausubstanz auf unterschiedliche Weise darstellen. Dies ermöglicht es, wechselnde Sichtweisen auf Kriegsereignisse und deren Auswirkungen (Schäden), aber auch auf Wiederaufbau- oder Planungsprojekte einer Stadt zu verstehen und zu untersuchen. Zugleich wird ein kurzer Einblick in die Kartenproduktion zur Zeit des Krieges gegeben. Die Darstellung dieser Abfolge ist für die Städte Hamburg, Nürnberg und Hannover möglich, da in den jeweiligen Stadtarchiven ein besonders reichhaltiger Bestand an Karten gefunden wurde. Dieser Beitrag basiert auf dem Kapitel "Kriegsschadensaufnahme - ein mehrstufiger Prozess" (Sedlmeyer 2022 in: Enss / Knauer 2022, S. 26-36) und fokussiert die Offenlegung einer Abfolge von Kartierungen in den jeweiligen Städten. Unveröffentlichte bzw. bislang unbekannte Karten werden hier als Dokumente in die bereits erarbeitete Systematik einsortiert und kontextualisiert und können damit im Rahmen laufender Forschung weiter untersucht werden.

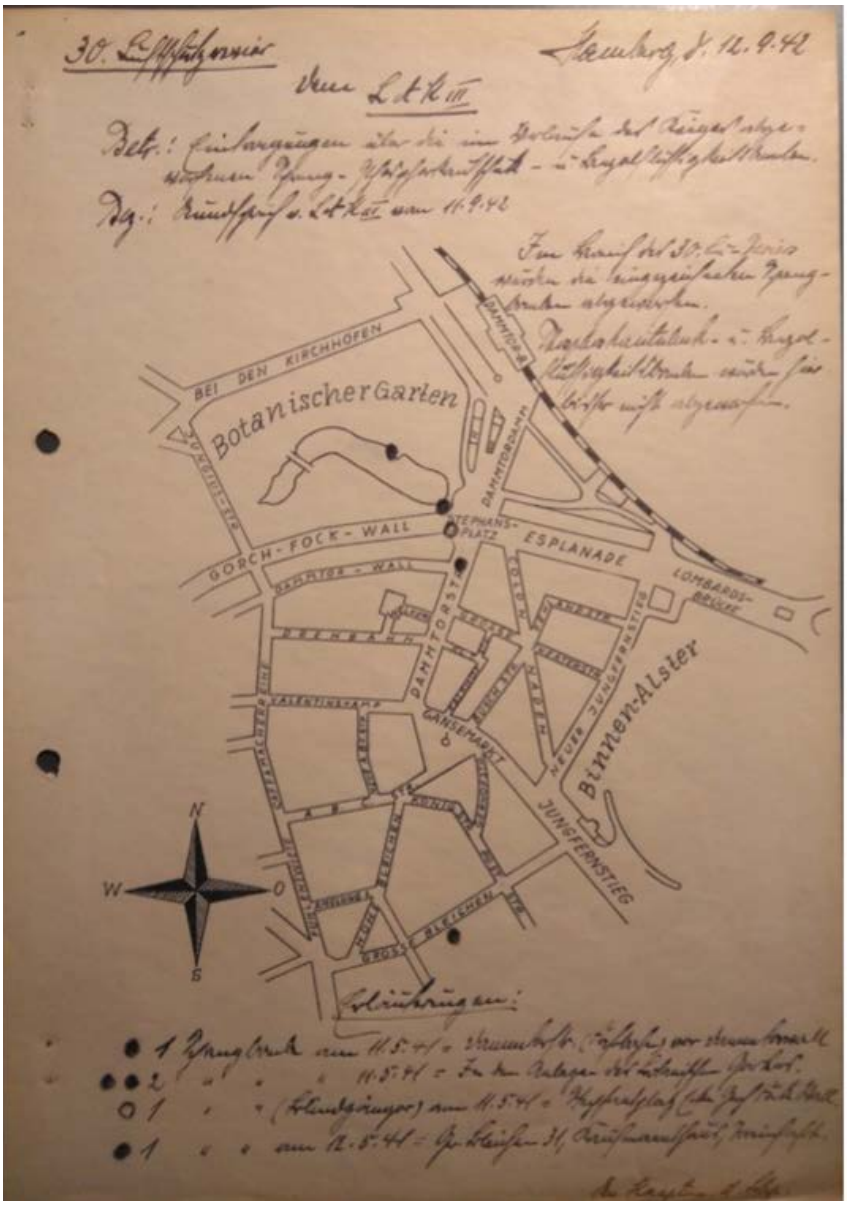
1. War damage and war damage maps

War damage in German cities in World War II was not static, as looking at a single war damage map might suggest. Buildings damaged by the air raids disintegrated further due to weathering or were even torn down as, in parallel, other damaged structures were being rebuilt. Accordingly, it was difficult to depict the actual condition of a damaged city on maps. Thus, with the first air raids at the beginning of the 1940s and up until the mid-1950s, with the end of rubble clearance, a diverse set of maps emerged that depict (damage) conditions in the given city in different ways. As documents of urban development history, these maps have been difficult to decipher, as in most cases they were archived without any written material to provide contextual information. It is not new that maps always lag behind reality; as Corner (2011) noted, maps exert a direct or indirect effect on other actors or conditions in the environment – which could be followed by new mapping (Enss & Knauer 2022: 15). How many and which war damage maps were produced for a given city and how they were used has received little attention in past research, especially in relation to reconstruction. For example, the works of the architect Edgar Wedepohl (1961) or the art historian Hartwig Beseler and planning historian Niels Gutschow (Beseler & Gutschow 1988) show only a single damage map per city, while the choice of the map is not explained. They used maps to convey the extent of the damage, the scale of the losses, or to explain far-reaching reconstruction projects. However, their approach ignores the fact that there were several damage maps per city, with changing authorship and thus different perspectives. The geographer Werner Göpner (1949) demonstrated that there were different damage maps for each city. The architecture and planning historians Niels Gutschow, Werner Durth and Jörn Düwel (Durth & Gutschow 1988 and Düwel & Gutschow 2013) correctly stated in several works that damage maps were the starting point for urban reconstruction planning. Therefore, it is important to be able to read these maps in order to understand the starting point of reconstruction. In 1991, the geographer Uta Hohn wrote about the validity of statistical data on damage in a city, especially information

on total destruction and numbers of dwellings. She noted that reliable information can hardly be given and comparisons cannot be made because the damage was measured with different parameters for each city. This is likely to apply in a similar way to the mapped assessment of damage. The collection of data for the maps presented here is described in more detail in the *Atlas Kriegsschadenskarten Deutschland* (Enss & Knauer 2022: 26-36).

When looking at war damage maps of different cities and different time periods, it is noticeable that they vary in their choice of cartographic techniques. For example, areal hatchings for entire city quarters, dots for bomb impacts, or the coloured filling of individual buildings can be observed. The reasons map authors chose these different modes of representation is documented by Göpner (1949: 96-111). Wide-ranging research on war damage maps was not possible because the maps often lacked essential information about authorship, dates, or a breakdown of the legends. For a long time, it was even not known which damage maps existed. Procedures for recording war damage could also not be matched with maps, as explanatory written material was stored separately from the respective maps in the archives. Many of these maps are thus mute and cannot be placed in the context of other research, such as historical maps. Only recently has the publication *Atlas Kriegsschadenskarten Deutschland* (Enss & Knauer 2022) provided an overview of how many maps there apparently are per city and how many thematically different representations of damage exist on maps. They also show that the damage maps influenced later reconstruction and the inherent transmission of heritage (Enss & Knauer 2022: 66-79). As a result, increasing attention is being paid to this map material and this time period, while the readability of the maps is also being sought. This is evidenced by the special issue on 'Bombed Cities' in the journal *Urban Planning* (Alvanides & Ludwig 2023).

Figure 1: Map sheet on the air raids of 11 May 1941 and 11 September 1942 (scale unknown). Source: Staatsarchiv Hamburg: 331-1 I, No. 1531. ▼



2. Methodology: recording and mapping war damage

The cities examined here, Hamburg, Hanover and Nuremberg, are particularly suitable for further illumination of their thematic maps on war damage and reconstruction. These three cities have a rich stock of damage maps in their respective archives, some previously unpublished, offering an opportunity for further classification in order to trace and depict the development process of war damage records. The three cities were attacked from the air from 1940 onwards, and maps of wartime effects can be traced for Hamburg and Nuremberg from 1942 onwards. Although it is not clear if such maps also existed for Hanover, a new development process of war damage mapping can be traced through the maps for the post-war period.

The recording and mapping of war damage must be understood as a dynamic and evolving process. Only then can the maps for Hamburg, Hanover and Nuremberg be understood and a development, including perspectives on events and conditions, be traced on the basis of the maps.

The research project (University of Bamberg 2019-2022) preceding the *Atlas* by Enss and Knauer (2022) enabled this extensive research on damage maps and written documents in various city archives, drawing parallels in the development of mapping damage. For this purpose, written sources were put in connection with mapping and then considered in chronological and content-related grouping. War damage assessment, together with war damage mapping, can thus be described as a dynamic, multi-stage process. Three process stages emerge, which can be labelled as *recording and evaluation*, *analysis* and *planning*. Although these stages are temporally dependent on the respective air warfare events in a city and can occur at different times, they can be observed across the majority of cities. Motivations, local requirements and local policies, as well as administrative decision-making processes and structures to deal with the chaos after an air raid, can be seen through these maps. For this case study, however, it is not the map as a carrier of information and its effect that is to be described, but rather the embedding of the map in its historical context. This is achieved by embedding the selected maps in the above three process stages.

3. Recording and evaluation

In the crisis after an air raid (or even after the war), drawing maps first served to evaluate the situation (Oswalt 2019: 53). The incident (air raid) was recorded and in some cases the extent of damage already assessed and graphically recorded on maps. This first activity was described

with the aim of documenting war damage or war events in order to provide and understand basic information such as location, type and amount of damage (Hohn 1991: 38). Two subgroups of maps are distinguished for this purpose. First, the corresponding maps record single bomb impacts as dots or symbols, where the focus is on the type of bomb and its effect (fire or explosion). The distinction made between incendiary or explosive bombs can be assumed to have been relevant for the *Sofortmaßnahmen* (immediate action) and the multitude of police tasks, such as monitoring and coordinating cordoning work, securing ruins, clearing unexploded ordnance or retrieving dead and injured people (Blunck 1992: 22). The distinction between blast or fire damage was also relevant during the war for the assessment of ruin stability and for the salvage of building materials, but equally relevant after the war for rubble clearance. Secondly, maps illustrated an initial assessment of the structural damage that had occurred. A distinction was made according to the intensity of the damage, usually in predefined damage class ranges from light, medium, heavy to total damage (Hohn 1991: 34), as well as a distinction of the air raids, to which various symbols or colour codes could be assigned. This recording of damage sites and their evaluation was carried out in one step on site, usually for each parcel of land or for each building. With the determination of the condition of the buildings, these data collections are roughly comparable to an urban planning inventory (Niemeyer & Göderitz 1943: 1254). In fact, building experts can be identified as the authors of these maps, or at least the commissioning of damage maps by building authorities can be demonstrated (Hohn 1991: 35).

3.1 Hamburg

The Hamburg map sheet in Figure 1 was drawn in September 1942 by the police for the air-raid precinct east of the Alster. The simple map, published here for the first time, provides an overview of bomb types (dots) and targets of the air raid (12 May 1941). Unexploded bombs (circles) are also recorded here. Further information, such as the damage to the individual buildings, was recorded in separate lists (Staatsarchiv Hamburg: 331-1 I, No. 1531) and index cards (Staatsarchiv Hamburg: 430-5, No. 3109-02).

3.2 Nuremberg

The section of Nuremberg in Figure 2 shows a simple assessment of damage in light and dark red, representing lighter and heavier damage. Furthermore, entries in pencil can be seen, which represent additions to later air raids. Compared to the Hamburg map sheet, the circles drawn in pencil can be interpreted as bomb impact sites. It is thus a hybrid form that records bomb impact sites and evaluates and depicts damage that has occurred, as it were. The map is not dated, but due to the extensive damage depicted in the area around the Laufer Tor, it is assumed to date from after 2 January 1945, the day of the heaviest air raid on the city of Nuremberg.

3.3 Hanover

The map section of Hanover in Figure 3 is called a *Feldplan* ['area map'] and bears various dates referring to the end of 1945. The name *Feldplan* suggests that entries were made on the map sheet on site. Consequently, an assessment of the condition took place directly. That this plan was used as a data basis for further mapping is suggested by the other maps shown here on Hanover. The degrees of damage are differentiated by colour (blue cross = slight damage; green = moderate damage; yellow = severe damage; red = total damage; the red circles are missing measuring points of the city's coordinate network and do not represent recorded bomb impacts as in the maps before).

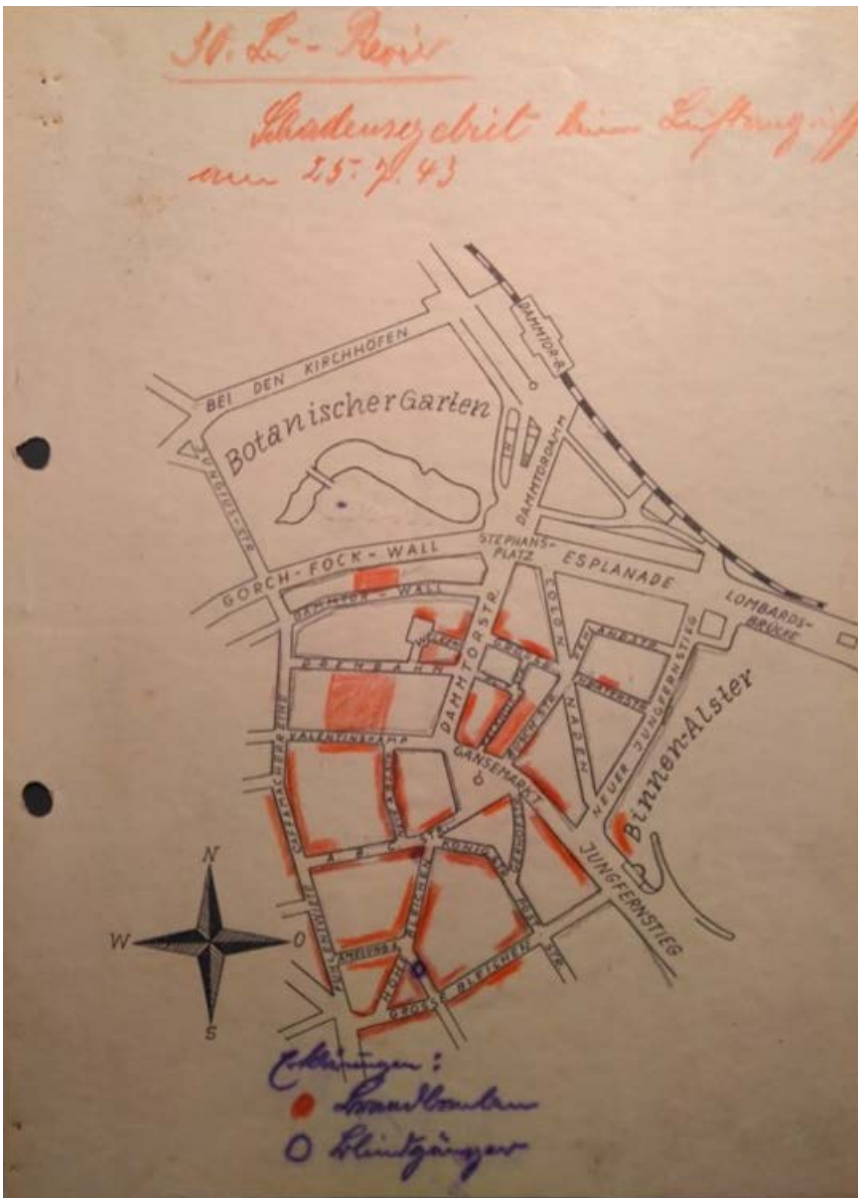


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Figure 2: Section of unnamed map sheet (scale: 1:2000). Source: Stadtarchiv Nürnberg: A4 VI, No. 2222-1.

It can be summarised here that the maps presented in Figures 1, 2 and 3 were an initial collection of information that could be compiled into further maps, and a recording and evaluation by maps could be recognised for all three cities. Two sub-groups are identified for this purpose: The mapping of bomb impact sites by points, and an initial or new recording of damage (*Feldplan*). What is new here is the illustration of a mixed form that combines both mapping methods. The maps are to be understood as products of data collection for authorities, which laid the foundations for compensation payments, but also the basis that construction decisions could be made. Despite their different representations of the cause or intensity of damage, they are understood here as one group since they were the first maps (in terms of time) that attempted to record and evaluate the damage or the occurrence of war in the city (Enss

& Knauer 2022: 30-32). These activities are understood here as the first process stage of war damage recording. The maps of both subgroups are characterised by simple manual entries in cadastral sheets or, for Hamburg (Figure 1), by tracings of a city map (see Enss & Knauer 2022: 120). For Hamburg, the police can be identified as the actors directly on the document. For Nuremberg, both the police and building experts can be assumed (comparable sheets were found for Hamburg; see Staatsarchiv Hamburg: 331-1 I, No. 1531). In Hanover, the building authority is the author of this set of maps.

Figure 3: Section of a so-called *Feldplan* ['area map'] of the city of Hanover (scale: 1:1000). Source: Stadtarchiv Hannover: 1.HR.13.2.Stadtkarten. SKH.1.1000.Schadensplan. SO.702a.
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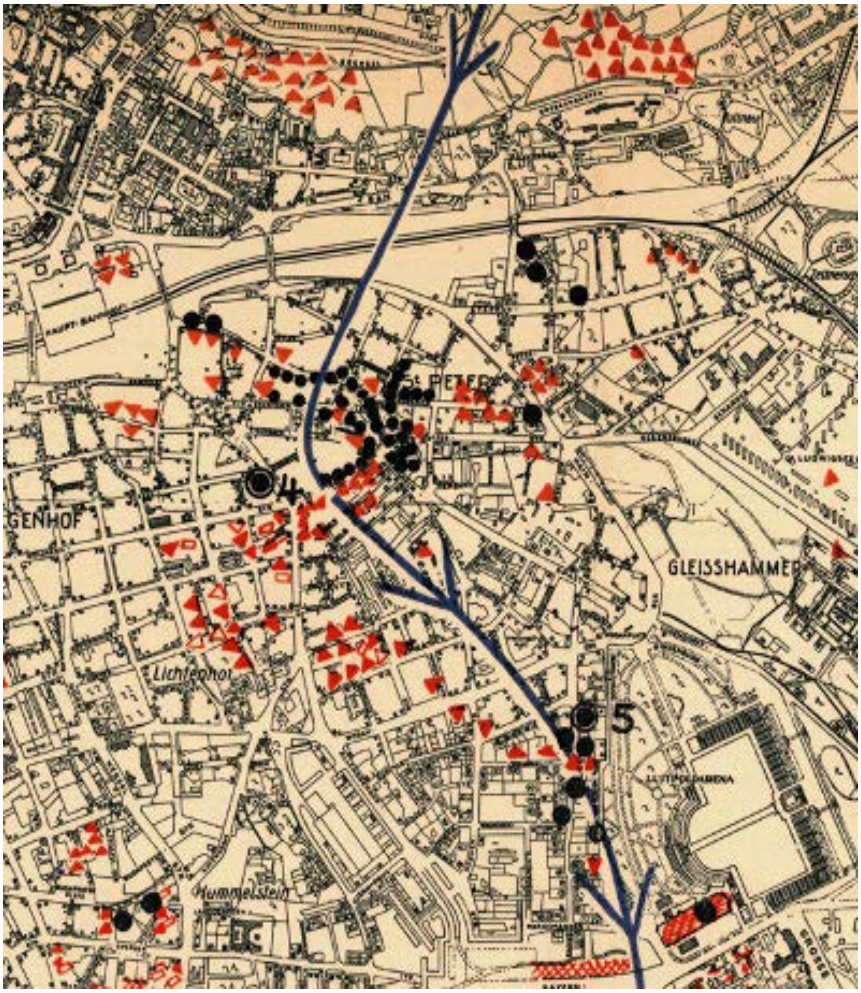

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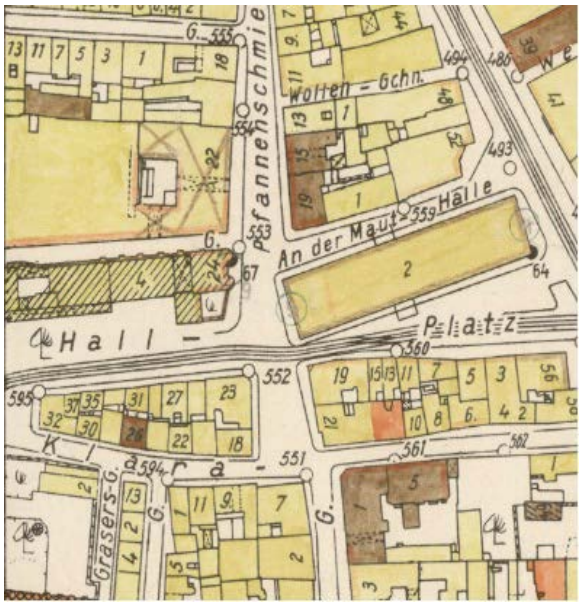

Figure 4: Section of the *Schadenskarte, Stand Sommer 1945* ['damage map, status summer 1945'], sheet 6840 (scale: 1:2500). Source: Staatsarchiv Hamburg: 720-1, No. 265-11=847.

4. Analysis

In this step, previously collected data on damage was analysed. For this purpose, various pieces of information were combined in new maps, selected or presented in an edited form (final drawing). After an air raid or after the end of the war, a municipal administration was probably faced with questions about where and which, especially structural, measures had to be initiated. Against the background of the economically limited resources due to the war, questions were also asked as to which options for action were available at all. Answering these questions required structured or comprehensive information on damage, building structures worth preserving, or further information on conditions in the city (Enss & Knauer 2022: 32-33).

4.1 Hamburg

Figure 4 shows an excerpt of a map sheet published here for the first time, from Hamburg from the summer of 1945, showing the damage (yellow = unconditional total damage; brown = contingent total damage; orange = serious damage; grey = slight damage) and school locations (blue and red dots) for the district of Barmbek-Nord. The accessibility and number of schools was a decisive parameter for the planning of districts to be built up (Durth & Gutschow 1988: 48). Thus, data on schools and damage to building structures are combined.

4.2 Nuremberg

The excerpt from the *Geprüfter Gesamtschadensplan* ('examined overall damage plan') for the city of Nuremberg from December 1945 (Figure 5) shows not only damage (yellow = total damage to grey = slight damage) but also preserved or dangerous parts of the walls (lines along the building boundaries), inhabited vaults (crossings out), and monuments (numbers). The title designation '*Geprüft*' ('examined') suggests that previous records of damage had been checked and the damage designations were entered again on a map sheet. Here, too, a compilation of different information was carried out. Diefenbacher (2009: 37) already demonstrated that the *Geprüfter Gesamtschadensplan* belonged to a plan for the reconstruction competition (planning).

4.3 Hanover

The complete map sheet on the city of Hanover in Figure 6 shows only the damage (yellow = total damage to grey = slight damage). Since there are no other annotations on the map sheet and the drawing was made by hand but very accurately, it can be assumed that it is an edited form (final drawing) based on surveys comparable to the *Feldplan* shown in Figure 3.

At this stage, various pieces of information besides damage are shown in map sheets, or the situation is presented in an edited form (final drawing). As explained above, these maps were preceded by recordings and assessments. These may have been drawn up in the form of maps (Figures 1, 2 and 3), but it is also possible that they appear in lists or damage registers. Besides the obvious recording of other information in addition to damage, the question arises as to what information was omitted and for what reasons. The purpose of these maps is seen in general

planning projects, for example, for clearing rubble or for communicating preservation or reconstruction goals (Enss & Knauer 2022: 32-33), usually depicted on cadastral sheets and focused on a specific area. In most cases, information for each parcel of land or building is shown separately – in addition to neat hand drawings, also sometimes printed. Municipal building or planning offices were active here. Many of these maps appeared for the first time after a heavy air raid, or even predominantly after the end of the war.

5. Planning

Finally, the first planning reactions to war damage in a city were also recorded in drawings in order to show a possible way out of the crisis situation. Planning – not actually part of war damage recording – is nevertheless attributed as the third step of war damage recording and mapping, insofar as maps were used to try to depict new structures and those to be planned on old or damaged stock.

5.1 Hamburg

Reconstruction planning could affect the large-scale structures of a city, but also individual, defined areas in detail, as can be seen in Figure 7 for Lübeckerstraße (today: Rüterstraße in Hamburg-Wandsbek). This section of the sheet is published here for the first time and is part of Konstanty Gutschow's planning for Hamburg in the summer of 1945 (Diefendorf 1985: 161). The damage information for each house (filling, hatching, grid and void) is visible as a basis, above which a rubble clearance line and a new building line are planned. This was intended to bring about traffic improvements.

5.2 Nuremberg

The section of the plan in Figure 8 is a design by the architect Heinz Schmeißner from 1947 for a traffic plan of Nuremberg's old town. The damage information for each building (yellow = total damage to dark brown = slight damage) is again visible here as a basis, above which new traffic routes and building blocks become visible through lines of varying thickness.

5.3 Hanover

The state of preservation of individual buildings is shown in Figure 9 by thin horizontal or chequered lines for the city of Hanover, reproduced here for the first time. Totally damaged buildings are marked as void. Progress in the reconstruction of individual buildings is shown with thicker horizontal or chequered lines. Outlines represent buildings to be preserved. Similar to Figures 7 and 8, new traffic planning can be seen above the contemporary state of the buildings. This drawing depicts initial or early planning ideas to be considered in the context of the building condition.

The representation of planning over the current state of urban fabric served to recognise, but also to justify, how new streets, buildings or structures were to be integrated into the still existing city. Independent architects who took part in reconstruction competitions, as well as city planning offices, drew proposals or ideas of a future city directly into the damage picture, or in direct connection with damage maps. This also shows where changes were intended.

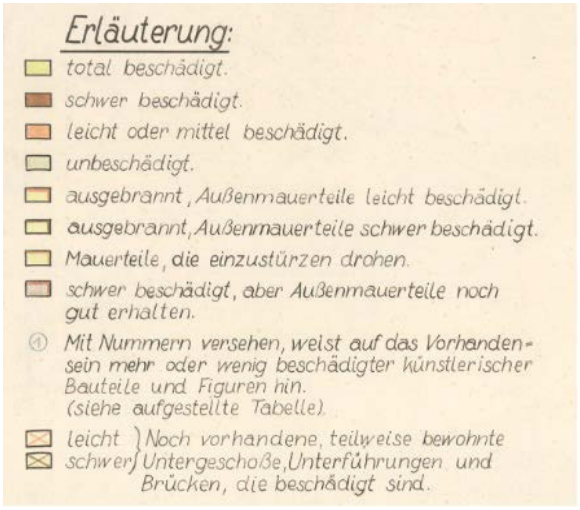

Figure 5: Section of the *Geprüfter Gesamtschadensplan* ['examined overall damage plan'] of the City of Nuremberg dated 19.12.1945 (scale: 1:2000). Source: Stadtarchiv Nürnberg: A4 VII, No. 2469.

6. Conclusion

Recent developments in the research field of damage maps have resulted in the rediscovery of archival material across Germany. The classification of the maps proposed here makes it possible to trace the development of the recording and mapping. By classifying the maps of Hamburg, Nuremberg and Hanover into the process stages, it becomes apparent that there were parallel developments of mapping in different cities. The assessment of damage on maps raises the consecutive question of whether to carry out or postpone repairs to damaged buildings. In this

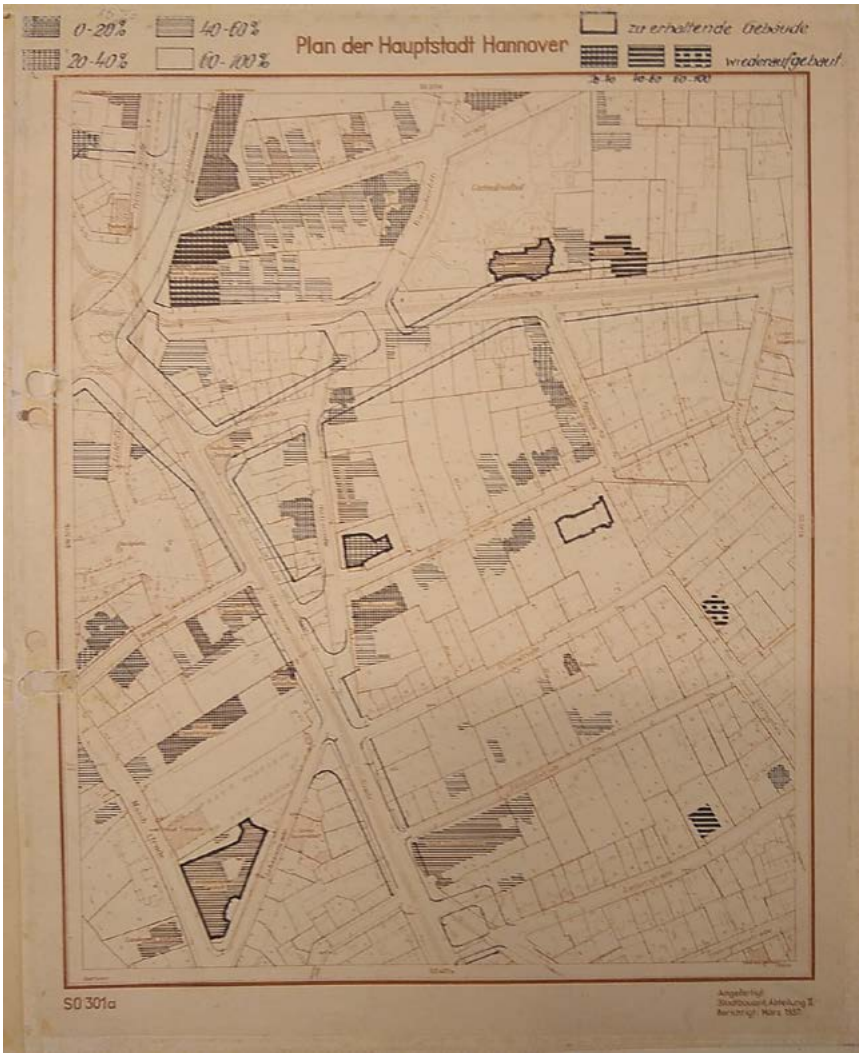

Figure 6: Sheet of the *Plan of the Capital City of Hanover*, sheet 301a with damage (scale: 1:2500). Source: Stadtarchiv Hannover: 1.HR.13.2.Stadtkarten. SKH.1.2500.Schadensplan. SO.301a.

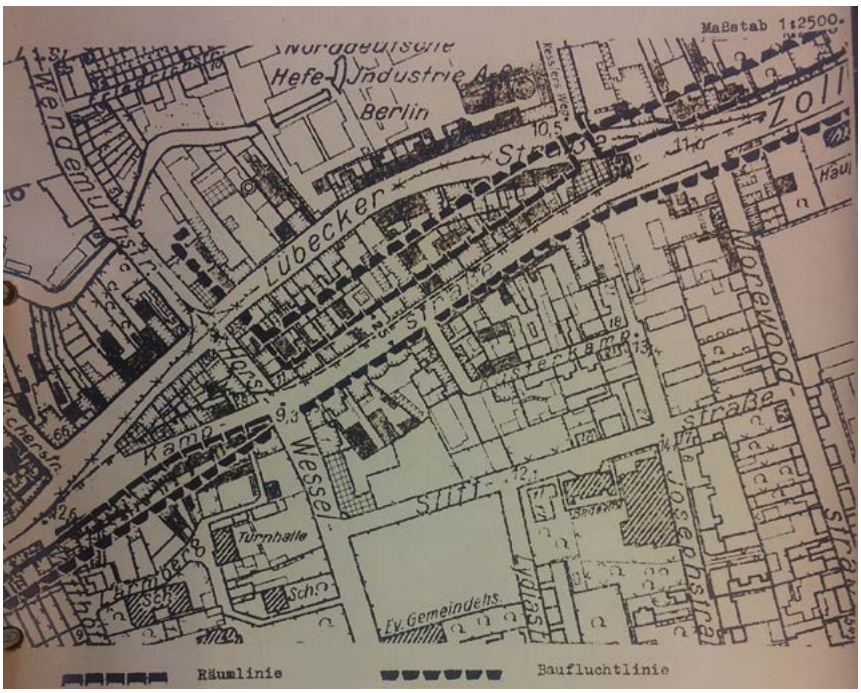

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Figure 7: Konstanty Gutschow – Schriftsatz E5, Verkehr, Lübeckerstrasse, 30.07.1945 (scale unknown). Source: Architekturarchiv Hamburg.

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Figure 8: Section of a traffic plan of Nuremberg (scale: 1:5000). Source: Stadtarchiv Nürnberg A 4/X, No. 41/1.

Figure 9: Plan of the Capital City of Hanover, sheet 301a with planning proposal (scale: 1:2500). Source: Stadtarchiv Hannover: 1.HR.13.2.Stadtkarten. SKH.1.2500 Schadensplan. SO.301a.

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context, war damage maps may have had a decisive influence on the building stock of a city, because damage categories were often linked to recommendations for repair or demolition (Enss & Knauer 2022: 32). The maps could also be used to calculate what funds would be needed for reconstruction, while further questions related to urban planning came to light, such as designing the transportation network. Finally, new reconstruction solutions could be found and questioned as a result of the depicted damage. In this context, there is a pictorial representation of the function that damage maps could hold as part of the planning process. Looking into the future, there is still scope for investigating the effect of these maps, for example, according to the agencies collecting and recording the information of these maps (Corner 2011).

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Reconstructing and Re-imaging after Protracted Intrastate Conflict

Visions and Realities in Belfast after the Good Friday Agreement

Henriette Bertram

Planning after war and violent conflict takes place in a state of insecurity and instability and has to deal with both material and symbolic needs. On the one hand, profound societal and institutional transformation in all areas of life – including ways of coming to terms with the past – is necessary. On the other hand, many people long for political stability and 'normalisation'. This article traces the reconstruction process of Belfast, a city severely affected by the Northern Ireland conflict and which is still in some parts segregated and fragmented. Since the end of the conflict in 1998, city development and marketing strategies have aimed to create a vision of Belfast as a new and exciting destination – and a 'normal', conflict-free metropolis. This article provides an overview of reconstruction and reimaging efforts and shows how the vision of 'normalisation' has influenced urban development, and concludes that while this vision has been successful in attracting visitors and changing the image of the city, it has not helped to deal with the past or provide a widely accepted narrative of the conflict. Methodologically, this paper is based on a discourse analysis including planning documents, media reports, and expert interviews of actors involved with the redevelopment.

Wiederaufbau und Imageveränderung nach langanhaltenden innerstaatlichen Konflikten. Vision und Realität in Belfast nach dem Karfreitagsabkommen

Nach Kriegen und gewaltsamen Konflikten finden Stadtplanung und -entwicklung in einem Zustand der Unsicherheit und Instabilität statt und müssen sowohl materiellen als auch symbolischen Bedürfnissen gerecht werden. Einerseits ist ein tiefgreifender gesellschaftlicher und institutioneller Wandel in allen Lebensbereichen - einschließlich der Vergangenheitsbewältigung - notwendig. Auf der anderen Seite sehnen sich viele Menschen nach politischer Stabilität und „Normalisierung". In diesem Artikel wird der Wiederaufbauprozess von Belfast beschrieben und analysiert. Belfast wurde vom Nordirlandkonflikt schwer getroffen ist und teilweise immer noch segregiert und fragmentiert. Seit dem Ende des Konflikts im Jahr 1998 zielen die Stadtentwicklungs- und Marketingstrategien darauf ab, Belfast als neues und aufregendes Reiseziel - und als „normale", konfliktfreie Metropole - darzustellen. Dieser Artikel gibt einen Überblick über die Bemühungen um Wiederaufbau sowie Image-Umdeutung (Re-Imaging) und zeigt, wie die Vision der „Normalisierung" die Stadtentwicklung beeinflusst hat. Er kommt zu dem Schluss, dass diese Vision zwar erfolgreich war, um Tourist:innen anzuziehen und das Image der Stadt zu verändern, dass sie aber keine Vision zum Umgang mit der Vergangenheit oder Vorschläge für eine weithin akzeptierte Sichtweise auf den Konflikt entwickelt. Methodisch stützt sich dieser Beitrag auf eine Diskursanalyse, die Planungsdokumente, Medienberichte und Expert:inneninterviews mit Planungsakteur:innen umfasst.

1. Introduction

Planning after the end of war and violent conflict takes place in a state of insecurity and instability and has to deal with both material and symbolic needs. On the one hand, profound societal and institutional transformation in all areas of life – including ways of coming to terms with the past – is necessary. On the other hand, many people long for political stability and 'normalisation' (Bollens 2013; Mac Ginty 2010). Against this background, reconstruction is a task that combines physical as well as social aspects, and the rebuilding of buildings as well as relationships between the former conflict groups (Barakat 2005).

In this article, I trace the reconstruction process of Belfast, a city severely affected by the Northern Ireland conflict. Since the official end of the conflict in 1998, city development and marketing strategies have created an image of Belfast as a new and exciting destination, a great place to live, work, and spend leisure time – and a 'normal', conflict-free metropolis. The aim of this article is to show how this vision has influenced reconstruction projects and the overall development of the city. In my description of reconstruction projects, I concentrate on the city centre and only briefly introduce projects in the surrounding residential areas, and I have chosen to do so for three reasons. Firstly, the districts and neighbourhoods of Belfast developed very differently during and after the end of the conflict, and a relatively short article like this one cannot do the topic justice. Secondly, up to a quarter of Belfast's commercial centre was destroyed due to the bombing campaign of the IRA as well as to neglect and disinvestment (Power et al. 2010) so that substantial redevelopment had to be organised. And thirdly, the city centre, as a 'neutral zone', would be the place where one might expect projects that deal with the 'dominant factor in the country's recent history' (Crooke 2008: 91) in an inclusive and multifaceted manner in order to help create a widely accepted narrative and common identity.

The initiatives shown here have been very successful in changing the image of Belfast to outsiders as well as

inhabitants, and in showcasing 'normalisation'. At the same time, most of them do not refer to the past and especially not to the conflict in any way. As a result, an agreed narrative is still lacking and the sovereignty of interpretation is left to the communities, some of which still struggle to come to terms with violence and trauma and long for post-conflict stability. The research presented here is part of a wider project on the aims, motives and strategies behind the re-development of the spatial remnants of conflict in Belfast and their implications for the peace process. Methodologically, it is based on a discourse analysis including planning documents, media reports, and expert interviews of actors involved with the redevelopment (see Bertram 2014, 2017a, 2017b, 2018, 2019, 2021a, 2021b).

2. Post-conflict reconstruction and urban planning

The term post-conflict has been termed 'the greatest oxymoron of them all' (Lederach 2005: 43), reflecting the fact that peace agreements put an end to the manifest phase of a conflict but neither ensure lasting peace nor eliminate the causes of conflict (Hayward 2011, McEvoy-Levy 2006). Process models of conflict resolution outline various phases of a conflict, starting with negotiations between the conflict parties and ending with an agreement and subsequent long-term societal change (Mac Ginty 2005). In reality, these phases are never linear. Especially the process of societal transformation is highly complex and accompanied by insecurity and hardship for all parties (Ramsbotham et al. 2011). Violent and peaceful phases may alternate for years after an agreement before the peace process consolidates. Many attitudes and behavioural patterns of the population shaped during a conflict, such as emotions like fear, rage or pain, do not vanish with the signing of an agreement, and the 'limbo' between war and peace can continue for a long time (Mac Ginty 2010). Many people feel a need to retreat into the stabilising security and comfort of their own group and continue to regard the other group as the 'out-group'. This 'ethos of partition' (Charlesworth 2006) is expressed spatially by segregation so that encounters with members of the other groups and a revision of stereotypes are unlikely (McVeigh & Rolston 2007).

Within this context, reconstruction is a complex and multilayered task. Barakat defines it to include all efforts 'designed not only to reactivate economic and social development but at the same time to create a peaceful environment that will prevent a relapse into violence' (2005: 11). Other authors emphasise that social and societal processes should lie at the heart of reconstruction as 'wars destroy not only buildings and bodies but also trust, hope, identity, family and social ties' (Pouligny 2005: 496). Reconstruction in cities is especially complex as cities are seen as 'intensive microcosms for the wider societal tensions and fragmentations, and their diverse related discourses' (Gaffikin & Morrissey 2011: 79) where the former conflict parties cannot avoid each other. The desire for separation is strengthened by spatial proximity. At the same time, former conflict groups rely on each other to guarantee economic or transportation stability, and everyday encounters happen regularly (Davis & Libertun de Duren 2011).

One prerequisite for the rebuilding of trust and hope is the willingness of all parties to deal with the past. Collective memory, heritage, and the related sites are somewhat contested in all societies, and they are an active and deliberate construction depending on the needs of a group at a certain point in time (Ashworth & Graham 2005; Lederach 2005; Assmann 2007). During protracted intrastate conflict, however, the parties develop fundamentally diverging narratives of the past (Aiken 2008), resulting in 'ghettoised and antagonistic styles of remembrance' that mirror the separation in other areas (Graham & Whelan 2007: 479). This makes reconstructing or redeveloping sites of heritage especially difficult because there is no agreed frame of remembrance (Oberschall 2013). Remembering the past within the own community helps to control the collective identity in the present (McDowell 2007) and tends to the need for security and retreat described above. The diverging collective memories may thus even become a hindrance for the peace process (Ahonen 2012) – or a 'medium through which to explore conflict transformation, reconciliation and resolution' (Crooke & Maguire 2018: 4).

3. The effects of conflict on Belfast

Belfast, as the biggest agglomeration of Northern Ireland, was the most affected during the conflict. During the late 1960s, economic crisis resulting from deindustrialisation and a housing crisis resulting from bad living conditions, especially for the Catholic population, led to violent conflict. Riots sparked everywhere in Northern Ireland, especially in the bigger cities (London-)Derry and Belfast. By 1998, almost 3,500 people had lost their lives due to the conflict and more than 40,000 were injured (Sutton 2016). About half of the casualties of the conflict lived in Belfast. Within the city, political violence was mostly concentrated in North and West Belfast (Gaffikin & Morrissey 2006).

The city centre remained a neutral zone where the public display of political symbols was frowned upon (Hocking 2015). After the bombing campaign of the Irish Republican Army[1] in the 1970s, which destroyed large parts of the city centre, a 'ring of steel' was built around it (Hills 2009). At the entrances, everyone was searched for weapons. No vehicles were allowed to drive into the centre, except for deliveries to the shops, and at 6 p.m. almost all entry points were shut (Brown 1990). The barriers were gradually dismantled from the 1980s onwards, a show of trust for the peace process in its early stages. Nevertheless, it took several years for shop owners and investors to regain trust and start to renovate buildings or open new establishments.

Even today, many residential areas are still segregated into Protestant/unionist and Catholic/nationalist territory. Due to an increase of newly built 'neutral' estates and the influx of outsiders who work or study in Belfast, a cautious desegregation can be observed. This statistical effect, however, is not valid for most social housing estates, where segregation is not expected to change in the near future (Nolan 2012). Many of the communities are separated physically by so-called peace lines. Even though some structures have been demolished or changed in order to look less threatening, many houses

1
The Irish Republican Army was a paramilitary organisation dedicated to a reunited Ireland using violent as well as political strategies. The organisation split and merged several times during the last decades and was especially active during the 1970s and 1980s.

along the peace lines are fortified with metal grates. These physical barriers lead to a segregation of daily life and almost all activities that take place within the city. Many inhabitants hardly ever leave their own districts, not even to visit the city centre. Bus stops, public or medical facilities, or shopping venues that are situated in the 'other group's territory' are avoided for fear of verbal or physical violence (Belfast City Council & Deloitte 2008).

4. Post-conflict urban development in Belfast

Northern Ireland officially became a post-conflict society after the signing of the Belfast Agreement between the main unionist and nationalist parties as well as the governments of the United Kingdom and the Republic of Ireland in 1998. The Agreement started processes of devolution, demilitarisation, the release of political prisoners, a police reform, and other important measures, but it explicitly excluded recommendations on how to deal with the legacy of the conflict. More than 20 years after the agreement, some issues – like the investigation of unresolved deaths and the establishment of new institutions to deal with the legacy of the past – are still not resolved (Archick 2018).

Many parts of Belfast have changed rapidly and noticeably: New places for leisure, shopping, and events have been developed. The tourist sector is growing continuously and average incomes have risen significantly. Especially in the inner city and some of the neighbouring districts, religious or political affiliation do not play a significant role. The most important strategies of urban development have been 1) the revitalisation of the city centre and the waterfront, 2) the staging and marketing of heritage through quarterisation and theming of city space, and 3) a general orientation towards events and leisure. These strategies aim to change the image of Belfast to outsiders like tourists and investors, as well as to create new and historically unspoilt places of identification for inhabitants.

1. Revitalisation and renewal of the city centre and the waterfront

Post-conflict revitalisation can be seen as a political statement that gives a conflict as little space as possible. Neill et Al. (2014: 5) call this strategy a 'non-military battle with political violence in showcasing the advantages of normalisation'. There is an emphasis in Belfast on implementing a conflict-free vision of the future rather than dealing with the conflict in the past and present. Plans to enhance the quality of place and the perception of the city centre have been made since the early 1980s, but this line of thinking still seems to play a role nowadays in the urban development of Belfast. As a first step, several public institutions with large numbers of staff were relocated to the city centre. Urban Development Grants, a public sector initiative to encourage regeneration, were used as incentives so that owner-occupiers as well as institutional investors would repair and reuse their buildings (Boal 1994). The Belfast Urban Area Plan of 1990 focused on the promotion of retail (Gaffikin & Morrissey 1990) and aimed to improve the image of Belfast and the whole region of Northern Ireland with a newly renovated, attractive and lively city centre (Boal 1994). The effects in terms of structural and economic improvements, however, were slow to materialise (Berry & McGreal 1993). Private investors contributed significantly only in the aftermath of the Belfast Agreement (Neill et al. 2014; Plöger 2007).

One of the first bigger and publicly subsidised projects was the development of the shopping mall, Castle Court, on Belfast's main shopping street Royal Avenue in 1987. The building itself was hailed as a symbol of confidence and a new beginning because of its glass façade (McEldowney et al. 2001). At the time, Castle Court was the biggest commercial development ever in Northern Ireland, and it became an important signal that the inner city of Belfast had become attractive again for investors (Brown 1985). After facing a range of closures during recent years, a new family entertainment and adventure venue is soon to be developed in the building (Scott 2022). Longer opening hours and cultural events in the city centre were hoped to turn Belfast into a 'city of shoppers and spectacle' (Neill 2001: 46). Furthermore, the combination of a newly created pedestrian zone, improved street lighting and furniture, the refurbishment of historic buildings in the vicinity, and the opening of restaurants, bars and other elements of the evening economy helped to create a lively environment (Brown 1990).

Another important element was the revitalisation and structural renewal along the River Lagan, at the time named 'one of the most ambitious urban planning projects in Western Europe' (Brown 1990: 62). Its main aim was to reconnect the city with its river by redeveloping the former port and about 140 h of brownfield land along the Lagan's shores (Smith & Alexander 2001). The Lagan was decontaminated, and footpaths and cycle paths were created. Another modern events location, the Waterfront Hall – again with a glass façade – was built beside Belfast's first modern high-rise buildings (Hocking 2015). Across from it, on the other side of the Lagan, the multifunctional Entertainment Centre Odyssey Arena (renamed SSE Arena in 2015), which hosts concerts, exhibitions and sporting events, was opened in 2001 (Neill et al. 2014).

The opening of Victoria Square Shopping Centre in 2008 increased the sales area in the inner city by one third. The shopping mall was built on an unattractive brownfield site, thereby closing a gap between the city centre and waterfront. For the first time, it brought a range of premium designer labels to Belfast (Neill et al. 2014). Its glass dome is used as a viewpoint by tourists as well as residents (Hocking 2015). Further potentially 'game-changing' projects in the city centre that link regeneration and the staging of cultural heritage (see below) are underway (Scott 2022; see Corscadden 2022).

2.Theming of city space & staging of cultural heritage

The second major element in post-conflict urban development is the classification of inner-city space into thematic quarters. Altogether, seven culturally interesting quarters have been identified and named, a practice that inspired the much-cited bon mot 'from a "city of two halves" to a "city of seven quarters"' (Carden 2011:

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7) even though the marketing and development concepts for the seven quarters differ strongly in terms of advancement, continuity and actual activity.

The historic Cathedral Quarter is traditionally home to artists, galleries and small cultural venues, as well as bars, restaurants and clubs. It has been marketed professionally since it was refurbished in the 1990s (Hocking 2015). At its heart lies the eponymous St. Anne's Cathedral; at its margins, the Arts Campus of the University of Ulster and several newspaper offices. Controversies on gentrification, loss of authenticity, and touristification keep arising between the long-established cultural sector and developers (see Power et al. 2010). One of the next projects within the quarter is the improvement of Cathedral Gardens (Corscadden 2022).

Titanic Quarter, on the other hand, is a completely new development on the former Harland & Wolff site, once Northern Ireland's biggest industrial brownfield site (75 hectares), and was started in 2002. It will be finished in the 2030s (Titanic Quarter 2016). The quarter relates to Belfast's shipbuilding industry and its best-known vessel, the *Titanic*. For a long time, the *Titanic* was seen as a 'symbol (…) of hubris and lost confidence in modernity' (Neill & Ellis 2008). The shipbuilding industry in Northern Ireland was associated with the systematic discrimination of Catholic workers by Protestant employers (Neill 2006). Despite this, the touristic potential of the 'brand *Titanic*' has been being exploited since the early 2000s and seems to be relatively noncontroversial in the present. The heart space of the quarter is the spectacular *Titanic* Belfast Visitor Experience, which opened on the 100th birthday of the *Titanic* in April 2012. Visitor interest was high from the beginning (Thompson 2014), and tourist websites highly praise the exhibition (Hetherington 2012; *Trip Advisor* 2016). Scholarly publications, however, are somewhat sceptical about the event-orientated and 'pseudo-historic' staging of heritage (Hocking 2015) in the newly created building while nearby original buildings are either neglected or turned into hotels. Neill sees this as a sign for the 'hegemony of the profane' (Neill 2014: 121). In addition to the visitor experience, the quarter has various uses: Housing and office space, hotels, educational and leisure facilities, a Science Park, the headquarter of the Public Record Office of Northern Ireland, and the film studio Titanic Studios, where parts of the series *Game of Thrones* were filmed.

Gaeltacht Quarter[2] in (nationalist) West Belfast has been marketed since 2006. It is the only quarter outside the city centre or the relatively wealthy and mixed South of the city (Canning 2006). The promotion of the Irish language, however, is only a small part of the initiative. It aims to enable visitors to experience the Irish culture and to unite cultural and touristic initiatives under one organisational roof. Other attractions include Black Taxi Tours, led by former political prisoners, and the famous murals painted by members of the communities of West Belfast. Gaeltacht Quarter is the only quarter clearly relating only to one of the traditional communities in Belfast. The initiators, however, emphasise that they have no interest in deepening the segregation but, rather, strive to establish an inclusive, 'cosmopolitan' form of Irishness (Carden 2011). All of the quarters are geared towards an audience with significant amounts of leisure time and willing to spend money, which fits in well with the third strategy explained below.

2
The term 'Gaeltacht' describes an Irish-speaking community.

3. Orientation towards leisure and events

Since the end of the conflict, a 'diverse cultural infrastructure' has been created in Belfast and become attractive to visitors and inhabitants alike (Neill et al. 2014: 11). Initiatives and venues are very diverse and small-scale, so only a selection can be presented here. Between 2009 and 2016, several major institutions were either refurbished and reopened or newly created (Ulster Museum, 2009; Lyric Theatre, 2011; Metropolitan Arts Centre MAC, 2012; Crumlin Road Gaol, 2012; *Titanic* Visitor Experience, 2012; extension to Waterfront Hall, 2016). The *Titanic* Visitor Experience is now being incorporated into a 'Maritime Trail' including the *SS Nomadic*, the only remaining White Star Line ship; the former Harland & Wolff Drawing Offices, which have been converted into a boutique hotel; and a marina and several other attractions.

In addition to that, Belfast has hosted several big events during the last decade or so, among them the MTV Europe Music Awards (2011), World Police and Fire Games (2013), Giro d'Italia's Big Start (2014), parts of the Tall Ships Race (2015, 2009), the Ice Hockey World Championships (2017), and the Darts Premier League (2008-2019). From 2011 until 2019, the successful fantasy series *Game of Thrones* was filmed in Belfast, bringing additional international reputation (*Soulshine Traveler* 2014) and a new source of tourist revenue to the city. Complementary to these, there is a large number of regionally or nationally renowned events and festivals that enrich cultural life in the city, as well as arts and crafts markets, foodie events, marathons and musicals.

This section has shown that Belfast is aiming for a fresh start and a speedy change of image, thereby also reshaping physically. The city's image has changed significantly during the last decades – even though slower than expected due to setbacks in the peace process and relapses into violence. Belfast is, nowadays, seen as a vibrant and attractive place with tourism as its most dynamic economic sector. Tourist guidebooks and travel reports in newspapers and magazines include Belfast regularly. Most are pleasantly surprised and delighted with all the new attractions, and visitors are hardly bothered by the conflict (Cromie 2016; Schaap 2016; Turbett 2016) – if they do not go looking for it explicitly, for example, via a Black Taxi tour in West Belfast (Bertram 2017[a], 2021b). Interestingly enough, *Lonely Planet* declared Belfast a 'brand-new city' on its website in 2016, having transformed from 'bombs-and-bullets pariah to a hip-hotels-and-hedonism party town' (*Lonely Planet* 2016). In 2016, Belfast received the Guardian and Observer Travel Award as 'Best UK City', which was perceived by city councillor, Deirdre Hargey, as a 'testament to how far the city has come in recent years' (*Belfast Telegraph* 2016).

The centre has taken back its role as 'Northern Ireland's main shop window' (Neill & Ellis 2008: 99), and little evidence remains of the destructions and dangers of the 1970s onwards. Overall, the changes in Belfast's city

centre are geared towards a creation of places of consumption and culture, sometimes relating to non-controversial aspects of the heritage of the city, like the newly discovered *Titanic*. The beneficiaries are tourists and a rising number of well-educated, mostly young(-ish) inhabitants who also aim to shake off the grey and oppressive image of Belfast and show that it has more to offer than conflict.

5 Discussion

The strategies described here are not new and were not invented in Belfast, but have rather been part of a standard repertoire of planning and development policies in many Western cities for decades – paradoxically, to showcase the given city's uniqueness and distinguishing features. Belfast today is one among many 'normal' cities striving for distinctiveness after a difficult political phase and economic hardship following deindustrialisation. What is special in Belfast is the relatively late moment in time at which most of these developments started, and the speed as well as the determinedness with which the 'lost years' of the conflict are being made up for. Alternative visions were never seriously debated. Neill et al. have observed that urban development in Belfast mostly relies on 'the shock of the new' (Neill et al. 2014: 8): The prestigious new attractions and big events bear a strong symbolism of 'normalisation'. From shopping malls and glass façades to the brownfield conversion at the former shipyards, almost all the spaces are 'neutral', relating neither to unionist nor nationalist traditions and therefore supposedly accessible to all (Hocking 2015). O'Dowd and Komarova have called this the emergence of 'Consumerist Belfast' (2009), in which confessional or political affiliation do not play a role and shared consumption transcends the former lines of conflict.

A substantial part of the population, however, does not follow the narrative of 'normalisation', remaining instead within the behaviours and attitudes shaped by conflict. 'Consumerist Belfast' is complemented by a very persistent 'Troubles Belfast' (O'Dowd & Komarova 2009). The latter is associated with the segregated estates of the socially deprived neighbourhoods in which the spatial remnants of the conflict can still be experienced. Memory of the conflict is taking place there, but separately. Other by-products of the conflict are blight and decay, dysfunctionality, and a range of spatial praxes that still speak of the fear of 'the Other'. The relative deprivation of these neighbourhoods has increased since the Belfast Agreement as 'Consumerist Belfast' now has so many things on offer they cannot afford. There is an overlap of the 'vertical division along sectarian lines but also a horizontal divide between a relatively contented embourgoised majority and a socially excluded lumpenproletariat living in marginalised, polarised housing estates festooned with ethnic territorial markers' (Graham 2007: 225).

The reactions to the new and rapidly differentiating post-conflict Belfast are polarised, not only on the part of inhabitants. In the academic debate, different viewpoints are articulated. Neill has disparaged the initiatives of urban development as 'lipstick on the gorilla' in several of his works (Neill 1993; Neill et al. 1995; Neill 2004, 2006) – a critique that has been cited many times (Murtagh 2011; Nagle 2009). Neill himself rescinded these words almost 20 years later, stating that he had used 'perhaps too harsh a metaphor' (2014: 5). Bairner (2006), however, finds talking about a 'normalisation' of Belfast inherently wrong given that a 'normal' life had also been possible during the conflict. He criticises the kind of 'normalisation' looking only to increase consumption and profit, thereby leaving out large parts of the population. Nagle (2009) asks, also critically, whether the newly emerging attractions in Belfast could possibly be seen as 'Potemkin villages' arising from a neoliberalisation of urban politics and passing by the reality of life of many inhabitants. Being impressed and awed by all the new attractions against the background of rising inequality must seem cynical and shallow from this point of view.

A different argumentation was articulated by Boal as early as 1994, and is confirmed by planning and policy representatives in Belfast today. Boal, in contrast to the positions presented above, considers it cynical to depreciate accomplishments that are positive for many just because they cannot unfold the same impact on all inhabitants: 'Those of a more cynical disposition rather dismiss developments such as city centre regeneration and Laganside as cosmetic, image manipulating exercises, manifestations of the post-modern city […]. Only a city that has plumbed into the depths can fully savour those indicators of recovery that are evident. Cynicism is all too easy' (1994: 154).

The observation of newness does not include some of the urban development initiatives that refer to historical or heritage themes and use them for tourism and marketing purposes. Among these are Titanic Belfast as well as Cathedral Quarter, and others that are hoped to construct an attractive image and marketable collective identity. In this process, the staging of heritage for touristic purposes is sometimes prioritised over the use for the native population (Hocking 2015). The most obvious and formative element of recent history, however, has no representation in public space anywhere in the 'neutral' parts of the city where multiple perspectives could be acknowledged. Due to the 'scale of the unknown and the unresolved' (Crooke 2008: 91), even the publicly funded museums have been hesitant to accept the challenge of finding a way to show the history of the conflict in a way that could help a society to heal rather than risking new cleavages. To fill this void, the communities have continued and expanded their traditional ways of remembering and telling their stories – in Memorial Gardens, murals, tourist offers like the Black Taxi Tours, or by curating their own exhibitions. While these activities have certainly contributed to a sense of community and self-efficacy, they are not meant to address people outside of that community. It seems that while the physical reconstruction of the city centre aimed at 'normalisation' is working very well for some parts of the population, the city has not been as successful in terms of social reconstruction. In the light of present – regional, UK-wide and global – challenges like shifting demographics, Brexit and its concomitants for Northern Ireland, and rising inflation and energy costs, taking care of the issues of the past seems more relevant than ever to maintain the fragile state of peace.

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The Day Shall Come Again
How Digital Maps Are Used for Tracking Damage and Planning Recovery for War-torn Ukrainian Cities

Mykola Makhortykh

The rise of digital technologies and geographic information systems (GIS) has transformed the process of mapping spatial phenomena ranging from pandemics to elections to the effects of climate change. Armed conflicts are no exception, with several studies discussing how digital maps can influence the representation of war destruction and the planning of post-war reconstruction and recovery. However, a number of questions still remain: For instance, how do digital mapping projects use different platform affordances to track the impact of contemporary wars on urban spaces? What possibilities for interacting with the mapping projects are provided to their users? And how can different types of digital maps facilitate the process of post-war recovery in Ukraine? To address these questions, this article examines a selection of projects that map the destruction of Ukrainian cities caused by the ongoing Russian invasion. Using a combination of interface analysis and visual discourse analysis, this article examines how four types of mapping projects – i.e., private, state-affiliated, NGO-affiliated and investigative journalism mapping initiatives – track damage inflicted on Ukrainian cities and asks whether these projects can be used for planning urban recovery in the future. This article concludes that, independently of their type, most of the mapping projects use their affordances in a similar way by focusing on spatial and temporal visualisations of damage to Ukrainian cityscapes, which provide limited possibilities for user interaction. The possibilities and limitations of existing mapping projects for planning the post-war recovery in Ukraine are then briefly discussed.

Der Tag wird wieder kommen. Wie digitale Karten für die Wiederaufbau-Planung ukrainischer Städte im Krieg genutzt werden können

Das Aufkommen digitaler Technologien und geografischer Informationssysteme (GIS) hat den Prozess der Kartierung räumlicher Phänomene - von Pandemien über Wahlen bis hin zu den Auswirkungen des Klimawandels - verändert. Auch bewaffnete Konflikte bilden hier keine Ausnahme. In mehreren Studien wird erörtert, wie digitale Karten die Darstellung von Kriegszerstörungen und die Planung des Wiederaufbaus und der Erholung nach dem Krieg beeinflussen können. Es bleiben jedoch noch eine Reihe von Fragen offen: Wie nutzen beispielsweise digitale Mapping-Projekte die verschiedenen Möglichkeiten der Plattformen, um die Auswirkungen zeitgenössischer Kriege auf städtische Räume zu erfassen? Welche Möglichkeiten zur Interaktion mit den Mapping-Projekten werden den Nutzer:innen geboten? Und wie können verschiedene Arten digitaler Karten den Prozess des Wiederaufbaus in der Nachkriegszeit in der Ukraine unterstützen? Um diese Fragen zu beantworten, untersucht dieser Artikel eine Auswahl von Projekten, die die Zerstörung ukrainischer Städte durch die anhaltende russische Invasion kartieren.

Mithilfe einer Kombination aus Schnittstellenanalyse und visueller Diskursanalyse wird in diesem Artikel untersucht, wie vier Arten von Mapping-Projekten die Schäden in ukrainischen Städten erfassen, d. h. private, staatliche, NGO-nahe und investigative journalistische Mapping-Initiativen. Es wird auch die Frage gestellt, ob diese Projekte für die Planung des Wiederaufbaus von Städten in der Zukunft genutzt werden können. Dieser Artikel kommt zu dem Schluss, dass die meisten Mapping-Projekte unabhängig von ihrer Art ihre Möglichkeiten auf ähnliche Weise nutzen, indem sie sich auf die räumliche und zeitliche Visualisierung der Schäden am ukrainischen Stadtbild konzentrieren, die nur begrenzte Möglichkeiten zur Interaktion mit den Nutzer:innen bieten. Die Möglichkeiten und Grenzen bestehender Mapping-Projekte für die Planung des Wiederaufbaus in der Nachkriegszeit in der Ukraine werden anschließend kurz diskutiert.

Introduction

On 24 February 2022, the Russian army started a large-scale invasion of Ukraine that resulted in a major escalation of the Russian-Ukrainian war ongoing since 2014. In addition to the high human toll, the invasion has caused massive damage to Ukrainian cities due to frequent Russian strikes against critical infrastructure aiming to undermine the morale of the Ukrainian population (Amnesty International 2022), as well as due to the high intensity of urban warfare, which is characteristic of other contemporary conflicts (Ristic 2018), in particular those involving Russia (Ljungkvist 2022). As a result, a number of Ukrainian cityscapes (e.g., Mariupol or Kharkiv) have been heavily damaged, whereas others (e.g., Popasna or Rhubezhne) have been almost completely destroyed.

The availability of information about the urban destruction in Ukraine is due to the rise of digital technologies, in particular geographic information systems (GIS), which facilitate the creation of interactive digital maps that can be used to visualise the impact of the war. Compared with other recent instances of urbicide (e.g., in Syria [DiNapoli 2019]), Ukraine is distinguished by the high rate of internet penetration – 75% of the Ukrainian population in 2020 were active internet users (The World Bank 2022). This contributes not only to the high mediatisation of the Russian-Ukrainian war (Hoskins & O'Loughlin 2015), but also to the intense use of digital maps in the context of the war by Ukrainian individual citizens as well as NGOs. This, combined with the Western journalists' and human rights groups' relatively easy access to Ukraine, facilitates the process of documenting the war-inflicted destruction, as is

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reflected in the growing number of expert- and citizen-driven initiatives in Ukraine and abroad using digital maps to track the impact of the war on Ukrainian urban spaces.

To understand the role of digital maps in tracing the damage to Ukrainian cityscapes and whether these mapping projects can be used for planning their post-war recovery, this article uses a combination of interface and visual discourse analysis to examine a selection of private, state-affiliated, NGO-affiliated and investigative journalism initiatives dedicated to mapping the consequences of the war in Ukraine. While doing so, this article discusses the following questions: How do digital mapping projects use different platform affordances to track the impact of contemporary wars on urban spaces? What possibilities for interacting with the mapping projects are provided to their users? And how can different types of digital maps facilitate the process of post-war recovery in Ukraine?

The rest of this article is organised as follows: First, it provides a brief overview of the recent research on the use of digital maps in the context of armed conflict, in particular for the purposes of tracking damage to urban spaces and planning their post-war recovery. Then, it briefly discusses the actor-based typology of the projects mapping the impact of Russia's war on Ukrainian cityscapes, followed by a more detailed examination of digital affordances used by specific examples of private, state-affiliated, NGO-affiliated and investigative journalism mapping initiatives. Thereafter, this article summarises its findings concerning the platform affordances and possibilities of user interactions associated with the examined projects and concludes with a discussion of the possibilities and shortcomings of existing mapping projects for planning the post-war recovery in Ukraine as well as the limitations of the current study.

Digital maps as a tool for tracking urban destruction and planning recovery

The increasing use of GIS around the world has changed many aspects of the work of cartography, including both its functionality and aims. Before the adoption of GIS, maps were often drawn by hand and depicted spatial features using marks and hatchings of different colours (for examples related to the post-war reconstruction, see Enss & Knauer 2023). These pre-digital maps were static by nature and updating them required substantially more effort. GIS not only accelerated the process of updating maps (e.g., to reflect the latest changes in the landscape) and created new possibilities for enhancing maps with additional information (e.g., linking additional video or text materials), but also increased the participatory potential of mapping (e.g., by facilitating the production and distribution of maps by non-conventional cartographers). These new possibilities are transforming the process of mapping spatial phenomena ranging from pandemics (Yang 2022) to elections (Shen 2016) to the consequences of climate change (e.g., rising sea levels [Retchless 2014]) or city renewal programmes (Page & Ross 2015).

The representation of armed conflicts and the associated consequences of the large-scale violence is one of the phenomena that has undergone substantial changes following the rise of digital cartography. For centuries, maps were one of the common forms of elite-driven narration about 'the progress of war' (Thussu 2003: 125) as well as war propaganda. However, the shift towards participatory digital cartography (e.g., Wynne-Jones et al. 2015) and the availability of geospatial data (Makhortykh 2021) challenges the exclusive ability of military and political elites to visualise spatial phenomena as part of the process of drawing borders and enables new possibilities for representing and interpreting different aspects of war. By doing so, digital maps can serve a broad range of aims, from tracking human rights violations (Sulik & Edwards 2010) to facilitating the collection of tactical military intelligence (Stottlemyre & Stottlemyre 2012) to increasing the reach of war-related journalistic stories (Matheson & Allan 2009: 67) to measuring contestation and control over conflict areas (de Bruijne & Anderson 2019).

The Russian-Ukrainian war is one of the recent examples of the importance of digital cartography for representation of armed conflicts. Digital maps have been an important component of the visual framing of the war in Ukraine since 2014 (Makhortykh & Sydorova 2017); they currently play an important role in the journalistic coverage of the ongoing violence (Pavlik 2022) and serve as essential elements of the system of emergency notifications (e.g., for missile attacks [Nazaruk 2022]). Additionally, a number of interactive mapping platforms, such as Liveuamap, enable new possibilities for monitoring the course of the war by aggregating relevant updates and visualising their impact.

However, despite the increasing recognition of the importance of digital maps for representing modern wars, including Russia's war against Ukraine, the question of how maps are used for post-war reconstruction and recovery, in particular in the context of urban environments, remains less studied. One such use deals with the application of digital maps for documenting war destruction, which is an essential prerequisite for post-war reconstruction. A few studies examine such usage of digital maps in the context of the war in Syria, for instance, when documenting the damage to the cityscape of Aleppo (Gangler 2016) or archaeological sites in Syria (Casana & Laugier 2017). Such usage can not only identify potential damages caused by the war (e.g., looting or militarisation of heritage sites [Casana & Laugier 2017]) but also trace the dynamics of destruction and recovery.

In addition to documenting the damage, digital maps play an important role in the planning and implementation of post-war reconstruction (Barakat et al. 2007), albeit research on this topic, to our knowledge, remains limited. The majority of existing studies focus on the use of maps for tracking war destruction and do not necessarily follow their use for actual recovery. In one of the few exceptions, Belal and Shcherbina (2018), the possible uses of maps for the reconstruction of Syrian cities damaged by the ongoing war is discussed, including the facilitation of risk assessment for post-war urban planners and ensuring the safety of the population in the post-war period (e.g., by mapping the dangerous areas where unexploded mines can be located).

The use of digital maps for tracing damage and planning urban recovery in Ukraine

The new possibilities provided by GIS for planning post-war recovery are exemplified by the broad range of projects that were established after February 2022 to map damage

to Ukrainian cities in the context of the Russian invasion. These projects range in scope – e.g., from country-wide to city-specific – as well as their complexity (e.g., a single-person-moderated overlay for Google Maps to team-run visualisation interfaces). A number of these projects originated in Ukraine, whereas others were initiated by Western journalistic and activist groups.

To facilitate the analysis, the mapping projects have been grouped into four categories, depending on the agency behind them: 1) State-affiliated mapping initiatives – i.e., projects affiliated with the state institutions such as ministries; 2) NGO-affiliated mapping initiatives, – i.e., projects affiliated with non-governmental organisations; 3) Investigative journalism mapping initiatives – i.e., projects initiated by the investigative journalism groups; and 4) Private mapping initiatives – i.e., projects initiated and supported by individual non-institutional actors such as citizen journalists or bloggers. The next section reviews the selected mapping projects by category (with a particular focus on how they use digital affordances in the context of urban recovery).

It is important to acknowledge that the actor-based typology outlined above is far from an exhaustive one and that other alternative typologies can also be applied. Yet, the actor's agency is arguably an essential factor in determining how the mapping projects use GIS in the context of urban recovery. The nature of the actor determines the technical resources available for the mapping effort: private mapping initiatives, for instance, are more likely to rely on existing out-of-the-box mapping solutions (e.g., publicly available cartographic overlays) than to develop dedicated visualisation interfaces. Additionally, the availability of technical resources has major implications for the sustainability of specific mapping projects: State-affiliated initiatives are more likely to receive the financial and technical support required for maintaining the project, whereas private initiatives might be more vulnerable due to them often relying on the work of a single individual.

In addition to unequal access to technical resources to deploy and sustain digital mapping solutions, different types of actors have different capabilities to access the geospatial data to be mapped as well as different motivations to do it. Geospatial data can often be of sensitive nature, which is particularly true in the case of urban infrastructure damage, where the disclosure of information to the public might be used by the attacker for calibrating future attacks. In the case of Ukraine, for instance, the disclosure of information about damages to critical infrastructure is forbidden for all actors except those affiliated with the state; under these circumstances, mapping damages as part of the post-war reconstruction planning might be a challenging task.

State-affiliated mapping initiatives

The Map of Cultural Losses (MoCL) project (https://uaculture.org/culture-loss-en/) is an example of a state-affiliated mapping initiative. The project was initiated in the spring of 2022 by the Ukrainian Cultural Foundation, a state agency established in 2017 with the purpose of supporting the development of culture and arts. The aim of the project, as stated by the head of the foundation, Vladislav Berkovsky (UCF 2022), is to visualise the breaches of international conventions by Russia in relation to the damage to Ukrainian cultural heritage. Unlike most of the other projects discussed below, the MoCL explicitly focuses on one specific element of Ukrainian cityscapes: Heritage-related objects.

Despite being a state-affiliated initiative, the MoCL does not use a dedicated platform for its aims. Instead, it adopts the same approach as private initiatives that rely on the custom overlay for Google My Maps using the administrative map of Ukraine. To visualise the damage to heritage-related objects within cities across the country, the MoCL relies on individual markers in the form of explosions, which appear in three colours as shown in Figure 1: Green (i.e., damaged objects), yellow (i.e., ruined objects), and red (i.e., destroyed objects). The description of the markers, available on the click, includes the name of the object, the information about an incident, the date when the tag was added and when the object was damaged, available photo/video evidence, and the information source.

To collect data for the map, the project relies on the crowdsourcing principle. Specifically, individuals are asked to fill in the form on the external platform to provide information both about the damage to the urban objects and about themselves (e.g., their name, date of birth and contact details), so that they can be approached by the project team. Unlike other projects, where information can be entered by clicking on the map, the MoCL does not allow the direct entering of specific geographic coordinates and, instead, requests that information about the location of damage (and how this information was acquired) is provided in textual format. It also requests that photographic or video evidence is uploaded, together with a description of the damaged object. The project states that new markers are added only after verification, but does not specify how exactly verification is done. Besides this, the MoCL does not provide many interaction options as it does not have built-in functionalities for reporting potential errors, unlike, for instance, the MoR (see below) does.

NGO-affiliated mapping initiatives

One example of an NGO-affiliated mapping initiative in the context of the war in Ukraine is the Map of Ruinations (MoR) project (https://reukraine.shtab.net/). Initiated by the Anti-Corruption Headquarters (ACH), a Ukrainian NGO established in 2014, the MoR aims to facilitate fundraising for the reconstruction of the infrastructure destroyed since the 2022 Russian invasion. The MoR uses a topographic-administrative map of Ukraine visualised through Visicom API and developed by the Ukrainian company of the same name.

Figure 2 shows that the MoR aggregates individual markers (i.e., indicators of damage to specific objects) into heat circles that highlight more- or less-damaged areas. Each individual marker can be clicked on to receive an overview, which usually includes the date of the damage, the type of building damaged (e.g., educational or medical facility), and the link to the source of information about the damage. In some cases, the overview also includes a brief description of the episode that caused the damage as well as images of the objects before and after the damage.

Besides viewing content associated with individual markers, the MoR allows filtering out markers, for instance, by

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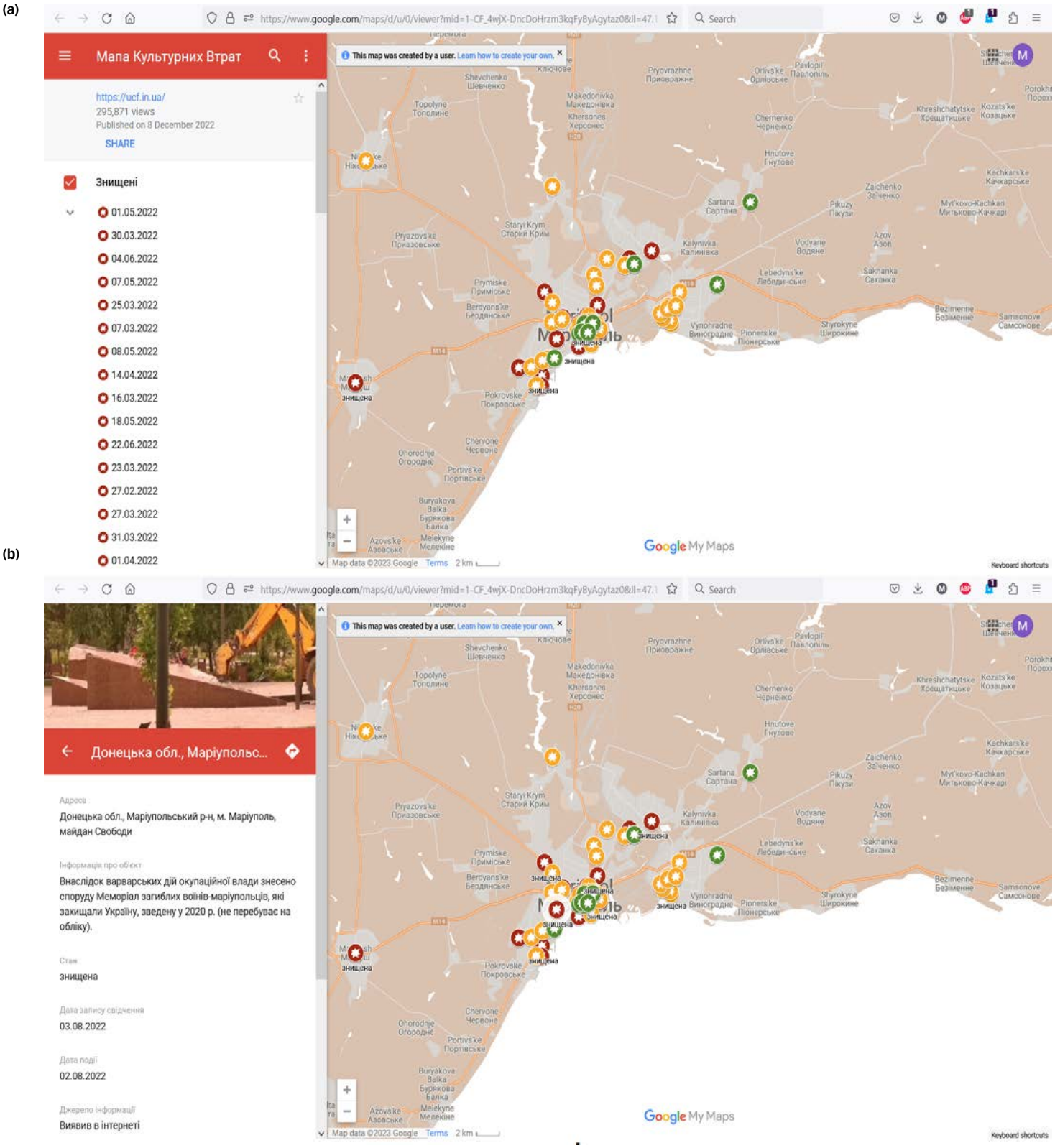
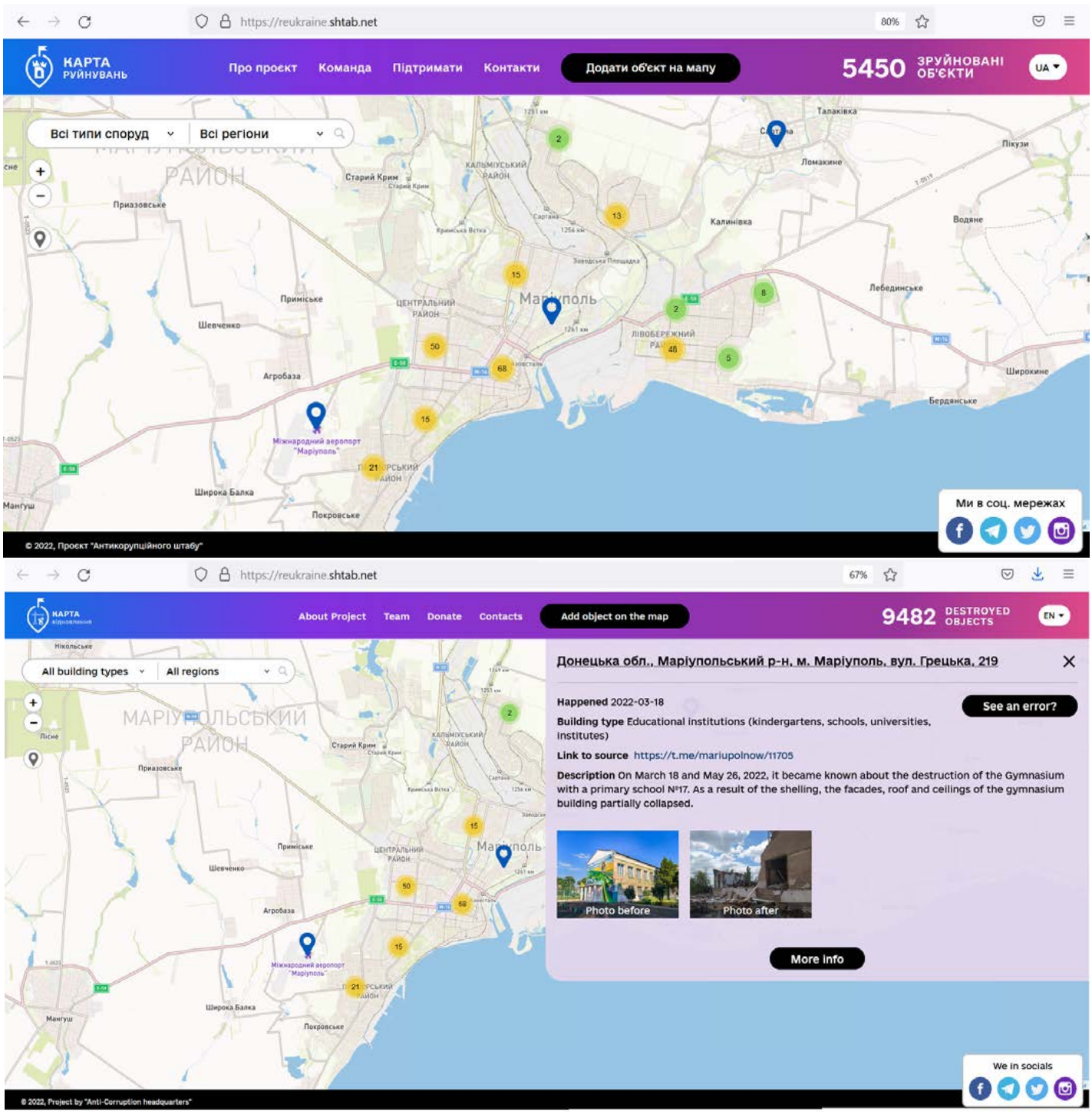


▲ **Figure 1:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the MoCL project. (a) The overview of the general interface. (b) The overview of the individual marker content.

visualising only a specific category of destroyed objects (e.g., airports or cultural objects – overall, there are 13 object types) or objects located in a specific region. In terms of user interaction, the project allows sending feedback for individual markers (e.g., to report an error and propose a correction) and adding destroyed objects to the map itself. In the latter case, the users are asked to provide the geographic coordinates (or just to click on the area where the object is located) together with the object type and address.

A similar mapping approach is used by another Ukrainian NGO, LUN Misto, which was established in 2019. Compared with the ACH, LUN Misto has a more extensive background in using spatial data: Before the Russian invasion, it already released a number of interactive mapping projects dealing with sound pollution in Kyiv (https://misto.lun.ua/noise) or air quality monitoring (e.g., for Lviv; https://misto.lun.ua/air/lviv). Since February 2022, LUN Misto has initiated several war-related initiatives, such as the Map of Light project, to chart the services available during blackouts (https://misto.lun.ua/help?ls=svitlo#5/48.2/31.3).

Among these war-related initiatives, the one which is of particular relevance is the LUN Misto Monitoring (LMM) project



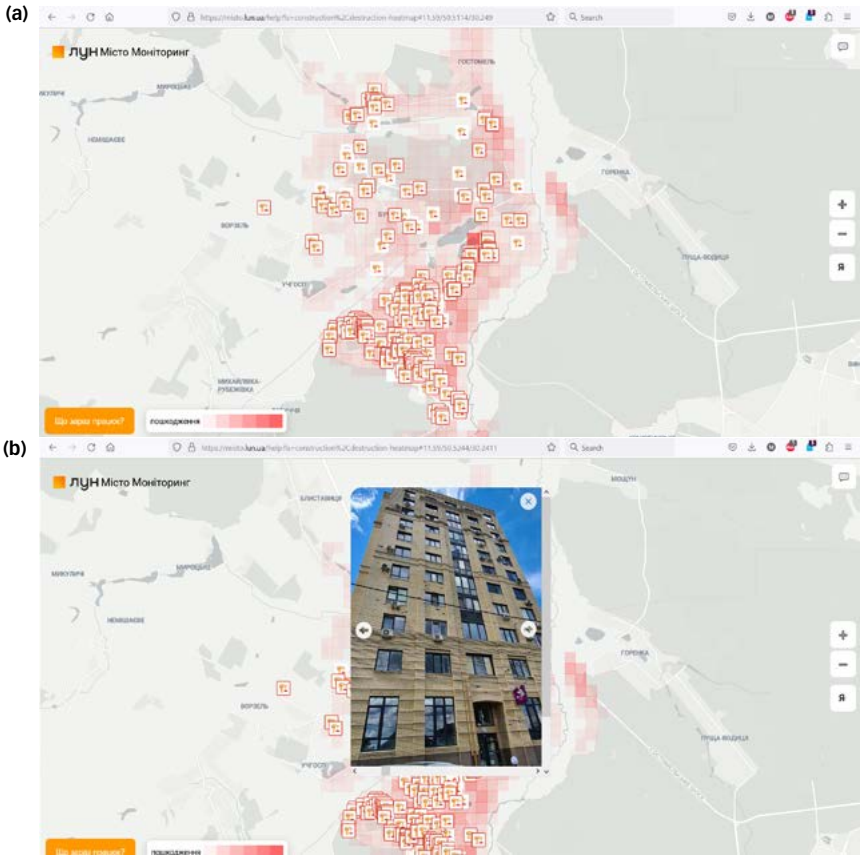
▲ **Figure 2:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the MoR project. (a) The overview of the general interface. (b) The overview of the individual marker content.

(https://misto.lun.ua/help?ls=construction) and the related Houses of War (HoM) project (https://misto.lun.ua/homesofwar). Unlike the MoR, with its country-wide focus, the LLM and the HoM trace damage to the urban infrastructure in the satellite cities around Kyiv (e.g., Irpin and Bucha). However, the LUN projects go beyond damage mapping and also claim to monitor the process of housing reconstruction.

The actual interface of the LMM shown in Figure 3 consists of a heatmap visualisation of the damaged urban areas. The intensity of the heatmap shows the different degrees of destruction, with the markers in the form of hoisting cranes referring to specific buildings. The amount of information provided for each marker is minimal; usually, it includes several photos showing the current state of the building as well as the status (e.g., 'damaged' or 'repaired'). Additionally, markers include links to the catalogue of housing supported by the LUN that contains information about the characteristics of the buildings, and housing advertisements.

The options for user interaction are more limited in the case of the LMM than for most other projects, except private initiatives. In part, this is due to the LMM being just an overlay for the other LUN project, the Map of Light. Consequently, there is no dedicated user feedback form for the LMM; instead, the user is redirected to the form used to provide feedback and additions to the Map of Light project. As with the CHiU (see below), there are no possibilities for users to add information, and the ways data for the LMM is collected as well as the rate at which it is updated remain unclear.

Despite both the MoR and the LMM putting an emphasis on urban reconstruction, the affordances of the two



▲ **Figure 3:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the LMM project. (a) The overview of the general interface. (b) The overview of the individual marker content.

projects provide little support for this goal. For the MoR, the only recovery-related aspect of the project is related to the call for charitable donations redirecting users to the United24 webpage, an initiative of the Ukrainian president, Volodymyr Zelensky. In the case of the LLM, there are also no built-in functionalities for recovery mapping (e.g., to track the reconstruction of housing over time). The HoM project related to the LLM offers stories of damaged housing objects published on Instagram together with calls for financial support; however, there is no mapping interface connecting the two projects directly.

Investigative journalism mapping initiatives

The Civilian Harm in Ukraine (CHiU) project (https://ukraine.bellingcat.com) is probably the most well-known investigative journalism mapping initiative in the context of the war in Ukraine. The project is designed by Bellingcat, a Netherlands-based investigative journalism group, to map damage to the infrastructure, including a broad range of elements of the Ukrainian cityscapes. It is based on the OpenStreetMap project and enhanced with TimeMap, a frontend application used to visualise the development of spatial phenomena over time, and developed by Forensic Architecture, which is another investigative initiative focusing on state violence and human rights violations. TimeMap has been used by Forensic Architecture for a number of investigations, for instance, the ones dealing with the use of European arms for airstrikes in Yemen (https://yemen.forensic-architecture.org/) or the involvement of the Russian units in the Battle of Ilovaisk in Ukraine in 2014 (https://ilovaisk.forensic-architecture.org/).

In the case of the CHiU, TimeMap serves a purpose similar to the ones of the above-mentioned initiatives: It allows for visualising the damage to the Ukrainian infrastructure over a particular period as well as identifying the periods of the particularly intensive attacks from the Russian side. Figure 4 shows that similar to the MoR (Figure 2), the CHiU aggregates individual markers, albeit (unlike the MoR) using varying sizes of circles instead of heat intensity. The composition of metadata about incidents causing damage to the urban infrastructure is also similar between the two projects: The CHiU provides information about the date of the incident, the location, and a brief summary together with a link to the source. It does not provide, however, an image of the object before it was damaged or destroyed.

Another similarity between Bellingcat's CHiU and the MoR concerns the use of platform affordances for facilitating user interaction with the map. Both projects enable filtering out specific types of objects (12 object types for CHiU and 13 for MoR). The project of Bellingcat, however, also allows filtering out damage from specific types of weapons, for instance, cruise or ballistic missiles or small arms. This additional functionality allows identifying the most significant sources of damage to the Ukrainian cityscapes, thus enabling a more thorough understanding of the nature of violence.

There are also other differences between the two projects. Unlike the crowdsourcing principle used by the MoR, the CHiU relies on the expert verification of information coming from the community of open-source intelligence researchers (Bellingcat 2022). While, to a certain degree, it limits the possibility of ordinary users contributing to the mapping initiative (also considering the lack of the user feedback functionality that is present for the MoR), it also potentially enables a more reliable selection of information. Additionally, as already noted, the CHiU includes a temporal component, which allows for examining how damage to the Ukrainian cityscapes has evolved over time. At the same time, this might also lead to possible confusion, in particular since, by default, the map shows the damage over the period of one month; for the complete overview of the damage, the user has to manually change the time period shown.

Private mapping initiatives

The last type of examined projects deals with private mapping initiatives. Unlike other types of initiatives, private projects usually focus on damage to a single city and not country- or region-wide mapping. Two such city-specific initiatives are the Destruction of Mariupol (DoM) project (https://cutt.ly/2Xe5jn2), which is devoted to the destruction of the largest Ukrainian city on the Azov coast captured by the Russian army in May 2022, and the Consequences of War in Sievierodonetsk (CoWiS) project (https://cutt.ly/RM7Mk4Q), which focuses on the administrative centre of the Luhansk oblast occupied by Russians since the end of June 2022.

A distinct feature of both the DoM and the CoWiS projects is that both are the responsibility of single individuals, which also has implications for the projects' composition and maintenance. The curator of the DoM remains largely anonymous, but, assumedly, now lives in Israel, whereas the CoWiS is curated by a user who refers to himself as Oleksii Zadesentsev. While it is unclear whether it is the same person, a PhD student with the same name conducts geographic research on the Sievierodonetsk region at the Kharkiv National Karazin University.

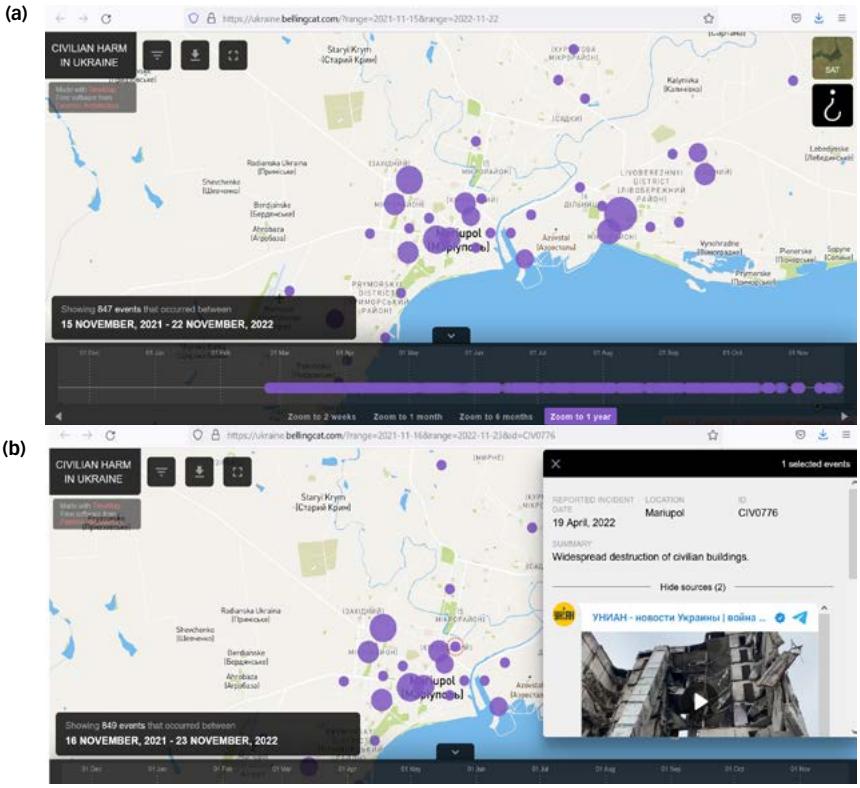
Similar to the MoCL project, the DoM and the CoWiS rely on Google My Maps for visualising the destruction but use different colour schemes. Each project is based on a custom overlay that allows adding markers supplemented with a short textual description and/or URLs. For the DoM (Figure 5), there are two main types of markers: The ones including static photos to showcase the destruction and the ones including video records.

By contrast, the CoWiS (Figure 6) uses a broader range of markers. Some of these markers include swastikas (denoting locations where Russian units and pro-Russian civilians were seen), fires (partially or fully burnt buildings), yellow (buildings which are partially destroyed but potentially can be repaired), green (buildings with little damage) and brown blasts (almost completely destroyed buildings), and purple skulls with bones (places where individuals were killed on the streets and buried). The overlay itself does not include the legend for the markers; instead, it is provided in the description of the map.

Besides being managed by a single individual, the CoWiS (and, to a lesser degree, the DoM) is distinguished by being not exclusively focused on infrastructural damage. Instead, the CoWiS tracks the broad range of war-related developments, including, for instance, propaganda activities organised by the Russian occupational administration and locations where civilians can be evacuated. In this sense, it is more similar to projects such as Liveuamap (https://liveuamap.com/), which use GIS to trace a broad range of war-related developments, including the places of clashes between Ukrainian and Russian forces and political statements made by officials in relation to the war.

While the DoM project is more focused on the damage to the cityscape, it also links to a broader range of materials than most other mapping initiatives. Most of these materials are photo and video evidence of the destruction (usually of infrastructure objects, but sometimes also images of dead people lying on the streets). Some of the linked materials also include recordings of actual fighting (e.g., shelling of the residential areas or the counter-attacks of Azov fighters defending the city).

Due to their reliance on Google My Maps overlays, both the CoWiS and the DoM provide few possibilities for user interactions (e.g., commenting materials or adding new markers). This also has implications on the rate of updates and sustainability of the projects; for instance, in one of the few interviews conducted by Ukrainian journalists with the creator of the DoM project (*0629* 2022), the person noted that he is solely responsible for finding new materials, which is a task he performs outside his work. Similarly, the owner of the CoWiS, in the description of the overlay, invites the sending of new materials. The lack of dedicated teams also makes it harder to provide consistent labels to the markers, which results in broadly different degrees of detail between labels (e.g., sometimes labels include specific dates and sometimes only a month). Additionally, the verification of data in both cases is likely to be more difficult compared to the CHiU or the MoCL projects, which might make data from the CoWiS and the DoM less reliable in terms of its use for tracking damages to the infrastructure and planning the recovery.



▲ **Figure 4:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the CHiU project. (a) The overview of the general interface. (b) The overview of the individual marker content.

Conclusions

The growing use of digital maps prompts the necessity of understanding their impact on different societal processes, including the ones dealing with mass violence. To address this necessity, this article looks at how digital maps are being used to track damage and plan the reconstruction of Ukrainian cities in the course of the ongoing Russian invasion. Specifically, it examines how different types of mapping projects use digital affordances to represent the destruction of urban spaces in Ukraine, how users can interact with these projects, and, finally, how the above-mentioned projects can shape the recovery of Ukrainian cityscapes.

The examination of mapping projects shows that despite them relying on different platforms (e.g., My Google Maps overlays or OpenStreetMap), the ways these platforms' affordances are used turn out to be similar. All examined projects utilise a scalable digital map of Ukraine (usually an administrative one) supplemented with clickable markers denoting the damaged or destroyed elements of cityscapes and, usually, the date when it happened. The major difference is related to the amount of metadata associated with the markers, with some projects (e.g., MoCL) offering more information about the objects and others (e.g., CoWiS) providing minimal detail. A few projects provide additional functionality – for instance, the MoCL and the LLM connect to external resources with additional data on the objects – but the key difference between the projects relates to their scope (e.g., country-wide or city-/region-specific) and thematic focus (e.g., damaged objects of specific types or a broad selection of war-related phenomena).

In terms of interaction, the digital maps examined in the study enable relatively limited options for their users. The interaction-based functionalities are usually limited to the possibility of changing the map's scale and acquiring additional information about added markers. In most cases, there are no built-in possibilities to alter or regenerate

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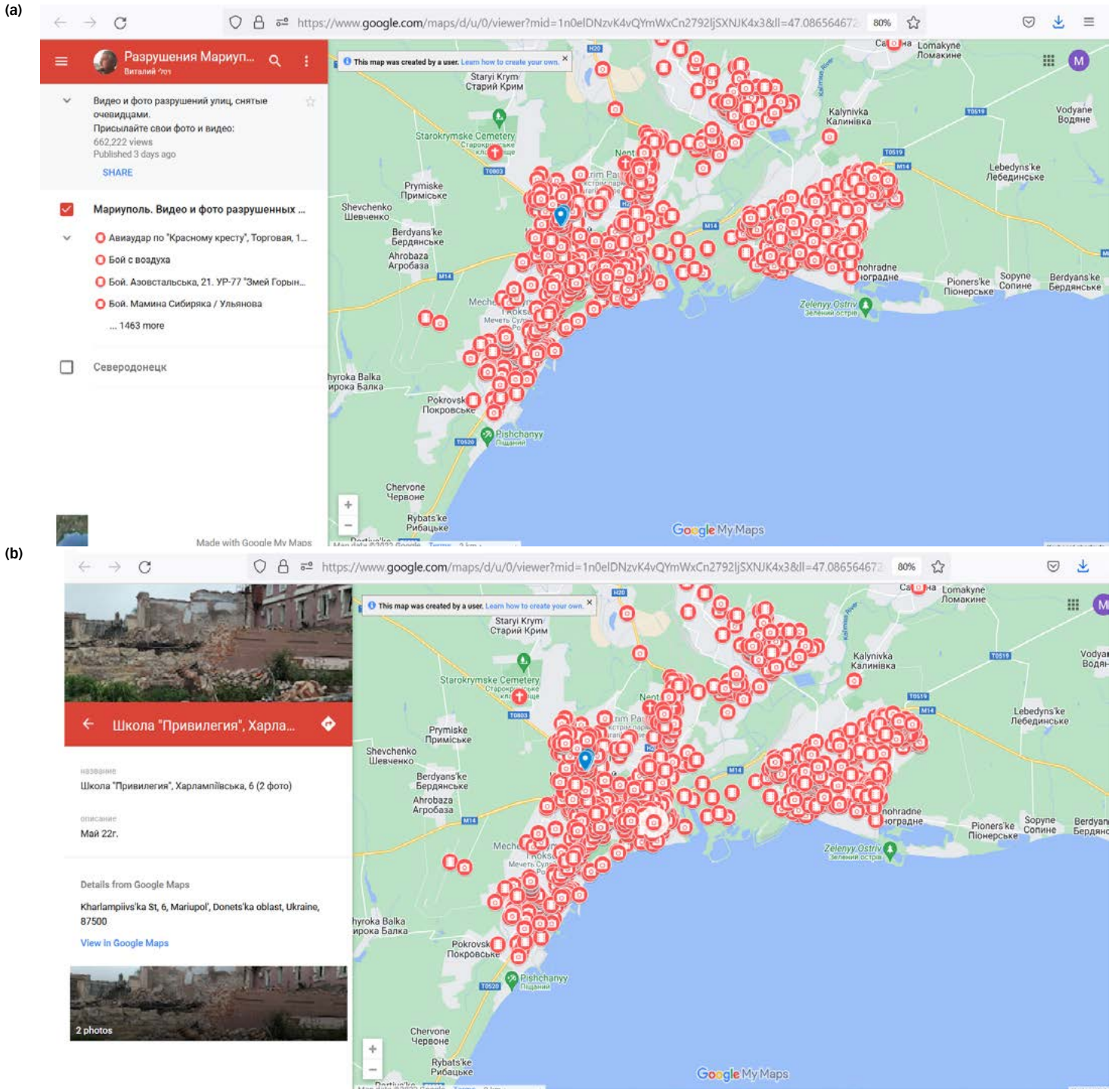
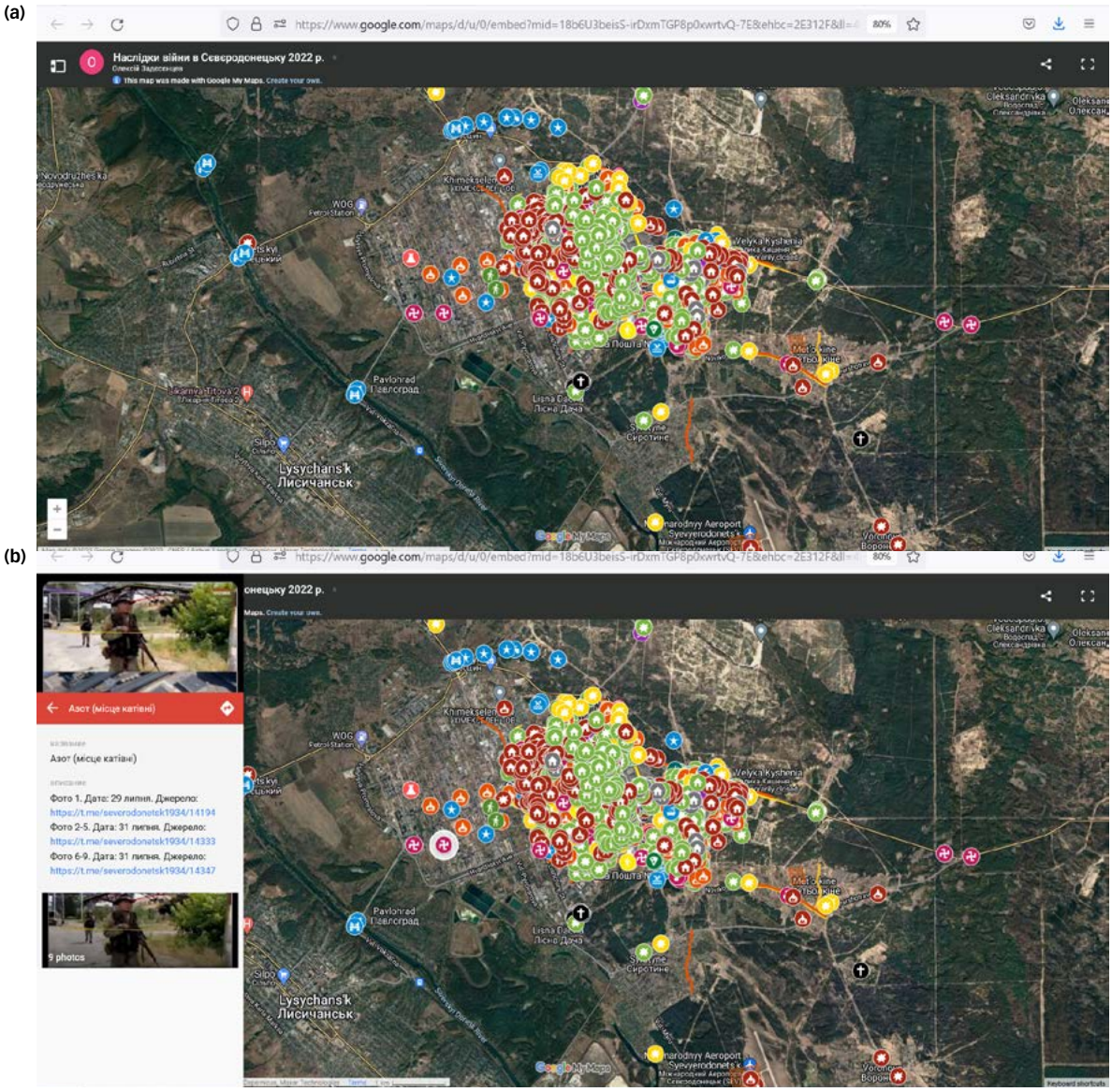


▲ **Figure 5:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the DoM project. (a) The overview of the general interface. (b) The overview of the individual marker content.

maps, aside from the Bellingcat project, where it is possible to change the time period for which markers are shown on the map. There are also no possibilities to download map data in most cases, except for the projects relying on Google My Maps, where it is possible to export KML/KMZ data, and the Bellingcat project, which allows exporting map data in .csv format. A few projects (e.g., CoWiS, MoCL) invite users to provide materials that can be used to develop the map; however, only the MoR allows users to add information directly to the map.

Lastly, the potential of different types of maps to facilitate the process of post-war urban recovery remains ambiguous. On the one hand, the process of tracking damage to urban spaces is an essential prerequisite for reconstruction. The existence of digital maps of urban destruction can help authorities identify priorities in the process of recovery. The crowdsourcing of many of these mapping projects can empower local communities, which can visualise damage and attract attention to it. Furthermore, these projects can increase public awareness not only within the affected country but also outside of it, in particular considering the accessibility of digital maps that are often openly available in both Ukrainian and English. Such awareness can help attract the funding required for repairing the damage after the war.

On the other hand, none of the examined projects, including the ones that claim to be dealing with the recovery processes, go beyond tracing damage to the Ukrainian cityscapes. While NGO-affiliated projects, such as the MoR or the LLM, put some effort into attracting funding to be used for the recovery, they do not use mapping technologies for recovery planning. Partially, this can be attributed to the fact that the warfare in Ukraine is still ongoing, but it



◀ **Figure 6:** Screengrab of the visualisation of the damage to the urban infrastructure in Ukraine provided by the CoWiS project. (a) The overview of the general interface. (b) The overview of the individual marker content.

raises the question as to what degree digital maps also have the potential to inform post-war recovery planning. It is important to acknowledge, however, that not all examined projects position post-war recovery as their main aim; instead, for some projects (e.g., CHiU, MoCL), the main purpose is to highlight the damage to civilian objects, whereas for others (e.g., CoWiS, DoM), it is more about documenting the course of the war in a specific area.

Another limitation in the use of digital mapping projects for planning post-war recovery is the sustainability of these projects. In regard to sustainability, there are multiple questions about the long-term preservation of the collected geospatial data and the potential of it being deleted or altered. Such risks are particularly high for private mapping initiatives, where it is unclear whether the data used for maps are backed up; similarly, for private initiatives, the concerns about data ownership can be particularly pronounced due to them often utilising and linking content published via other individuals' social media profiles. However, other types of mapping projects can also have sustainability issues: Some of the earlier LUN maps, for instance, are not accessible anymore, and the Bellingcat mapping project, which initially allowed reviewing markers added within the course of a single year (hence, raising concerns about the availability of earlier markers as the war goes beyond a one-year span), only recently expanded the timespan for which markers can be viewed.

It should be pointed out that it is important to note some limitations of this article. First, it does not provide a comprehensive overview of all the projects mapping damage to the Ukrainian cityscapes. While it does examine some of the well-known projects, in particular the ones originating from Ukraine, other projects (e.g., the ones initiated by Western journalistic groups other than Bellingcat) remained outside the scope of this article. Second, the period in which the data were collected and analysed (i.e., the active phase of the Russian-Ukrainian war in the autumn of 2022) has implications on the projects' focus on documenting the damage and not necessarily planning the reconstruction. When the day comes that the war is over, it will be important to revisit these projects to see whether they shift their focus to recovery planning and how the data accumulated by them is used in this context. Third, this article relies on external interpretation of the projects, without in-depth understanding of the motivations of the project creators and how they envisaged the use of digital maps for planning the post-war reconstruction in Ukraine. Future work will benefit from advancing such an understanding by conducting interviews with the project creators.

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The Disaster Recovery of Beirut
The Reconstruction of 2020's Community-Based Initiatives and 1992's Public-Private Partnerships

Angie Rizk

This article explores Beirut's history of destruction and recovery, focusing on two key events: the 1992 post-war reconstruction led by a public-private partnership (PPP) and the 2020 Beirut port explosion recovery facilitated by community-based initiatives (CBIs). In 1992, during the PPP era, reconstruction was profit-driven, leading to gentrification and exclusion. In contrast, CBIs, arising amidst the 2020 crisis, empowered residents, fostering community participation and reshaping urban recovery. This study emphasises the transformative potential of social capital, highlighting how empowered communities redefine disaster recovery, enabling a profound reconnection between citizens and their city. The article underscores the significance of community participation in reshaping urban landscapes and redefining residents' rights in the face of adversity.

Der Wiederaufbau von Beirut nach der Katastrophe. Der Wiederaufbau durch Gemeinschaftsinitiativen von 2020 und durch öffentlich-private Partnerschaften von 1992
Der Artikel untersucht die Geschichte der Zerstörung und des Wiederaufbaus in Beirut und konzentriert sich dabei auf zwei Schlüsselereignisse: Den Wiederaufbau nach dem Krieg im Jahr 1992 unter der Leitung einer öffentlich-privaten Partnerschaft (PPP) und den Wiederaufbau nach der Explosion des Beiruter Hafens im Jahr 2020, welcher maßgeblich durch gemeinschaftsbasierte Initiativen (CBIs) unterstützt wurde. In der PPP-Ära von 1992 war der Wiederaufbau gewinnorientiert, was zu Gentrifizierung und Ausgrenzung führte. Im Gegensatz dazu stärkten die CBIs, die inmitten der Krise von 2020 entstanden, die Bewohner:innen, förderten die Beteiligung der Gemeinschaft und gestalteten den Wiederaufbau der Stadt neu. Der Artikel bezieht sich auf eine Studienarbeit, die das transformative Potenzial von Sozialkapital unterstreicht und zeigt, wie durch die Ermächtigung von Gemeinschaften der Wiederaufbau nach einer Katastrophe neu definiert und eine tiefgreifende Verbindung zwischen den Bürger:innen und ihrer Stadt hergestellt werden kann. Der Artikel betont die Bedeutung der Gemeinschaftsbeteiligung bei der Neugestaltung von Stadtlandschaften und der Neudefinition der Rechte der Bewohner:innen angesichts von Widrigkeiten.

I. Introduction on Beirut: the Phoenix City

Beneath the soil of Beirut, Lebanon, layers of debris embody the reminiscences of civilisations that constituted the city we know today. Beirut has been destroyed and rebuilt seven times, earning its name as the 'phoenix city'. Unfortunately, this history of destruction, reconstruction, and urban transformation surpassed the civil war, which lasted from 1975-1992, and persisted into the 21st century. In 2020, the Beirut port explosion reduced the city to rubble, thus marking its eighth destruction.

Researchers have classified disasters into several categories, the most common being natural and man-made. Natural disasters can be caused by environmental phenomena, while man-made disasters can be caused by warfare, terrorist attacks, and accidents. This article compares the recoveries from two man-made disasters that occurred almost three decades apart, the post-war Beirut recovery in 1992 and the post-explosion Beirut recovery in 2020, through the lens of social capital.

The Lebanese Civil War resulted from the culmination of several factors, but the primary ones were the sectarian-based political system and surrounding regional factors. The war ended in 1990 with the Taif Accord, a sectarian power-sharing agreement that implicitly backed sectarian divisions and power allocations in the country (Gurses 2007). This resulted in structural challenges in the society, which became politically and spatially fragmented. After 16 years of civil war in Lebanon, 90,000-150,000 lives had been lost, in addition to immense destruction and a fragmented society (Gurses 2007). The government, at the time, adopted a predominantly economic reconstruction strategy in which downtown Beirut would be re-created as a regional hub with emphasis on business, culture, and tourism (Marot & Yazigi 2012). To implement this vision, a public-private partnership (PPP) was established with a private real-estate firm called Solidere. The work of Solidere was primarily focused on the thorough transformation of Beirut Central District, leaving out the suburbs and other pericentral districts. With this PPP, the decision-making regarding Beirut's urban reconstruction was driven by profit. Dr. Schmid (2006) describes the reconstruction of Beirut as being characterised by 'an exclusion of most of the protagonists involved and by a strong market orientation which often disregarded public interests' (Schmid 2006: 365).

On 4 August 2020, the Beirut port explosion happened at a critical time during which Lebanon was facing a multifaceted crisis: health, economic, and political. However, the crisis united a diverse and fragmented community in a solidified, yet still diverse, social movement that advocated for the resignation of the distrusted government. The social movement had a strong mobilisation capacity that allowed it to organise quickly in large numbers. Motivated by the solidarity of the social movement and the absence of public services, community-based initiatives (CBIs) emerged to support the vulnerable communities during the crisis period by providing care packages and financial aid. The Beirut port

explosion resulted in damages worth 3.1 billion USD, with around 13,500 buildings damaged and 300,000 people homeless (Strategy& 2020). Amid the unrest from the accumulated crises, the explosion made the situation even worse. A state of emergency was declared and the Lebanese army took charge, creating the Beirut Forward Emergency Room (Beirut FER) to coordinate the recovery efforts. The municipality of Beirut was ill-equipped for disaster management; it focused on permit approvals. Other stakeholders involved were international NGOs (INGOs), local NGOs (LNGOs), CBIs, donors, and volunteers. CBIs became a vital stakeholder in the disaster recovery, with 356 collective actions in August as opposed to 107 state security responses and 80 policy decisions (Lebanon Support 2020).

How was disaster recovery carried out in each of those events, and what was the impact on the citizens?

The two events will be compared based on the main actors leading the recovery efforts, their relationships, and the adopted approaches. Furthermore, the impact on the citizens will be explored.

This article is based on the thesis titled *Disaster in Context of Crisis: Assessing the Performance of Community-Based Initiatives in Urban Disaster Recovery – A Case Study of the Beirut Port Explosion* (Rizk 2021). Rizk's thesis focuses on the performance of community-based initiatives (CBIs) that rushed to offer disaster recovery after the explosion.

The findings of the thesis are compared with an analysis of the 1992 post-war reconstruction of Beirut. The analysis covers the process of Beirut's recovery and compares the strategic urban plan set by the public-private partnership (PPP) against the actual situation. Data was collected from secondary resources such as academic papers, journal articles and news sites, as well as the book *Beirut Reborn* (Gavin 1996), which describes the urban plan and its desired outcomes.

II. General Framework

Before proceeding with this article, is important to briefly distinguish between crisis and disaster. Crisis is an abnormal situation, possibly the result of political or economic issues or disaster, in which important decisions have to be made regarding threats or opportunities (Shaluf, Ahmadun & Said 2003). According to Perry (2007), disaster has no universal definition, the definition being dependent on the discipline. Within the social discipline, the focus on disruption and vulnerability is the social construct and not the agent causing it. Perry (2007) defines disaster as a sudden occasion that disrupts social routines, causes the undertaking of unplanned courses of action, and poses danger to valued social objects.

What happens to communities after a crisis?

Crises induce instability. In response, social movements mobilise and advocate for radical transformations (Smith & Wiest 2012). According to Diani (2013), networking is essential to mobilising individuals, collective performance, and inter-organisational collaboration; as such, it constructs solidarity and a shared identity, and eventually helps in defining the conflict.

Social movements self-organise when communities initiate themselves for civic engagement. Self-organisation is the

networking, cooperation, and coordinated production of qualities and systems (Fuchs 2006). According to Nicholls (2009), the spatiality of the social networks and their geographical construct are essential to the dynamics of a social movement. Agnew (2002) adds that people take up their social experiences of the places which they inhabit; they reflect those built-up emotions in their decisions over identities and interests. Place encourages activists to mobilise initiatives and social movements; this results in strengthening the ties in subjects of interest. With time, these ties become main contributors to social networks, or 'social capital'. According to Woolcock (2002), social capital is the series of norms and networks that enable people to act collectively, and can be divided to three categories: bonding, bridging and linking. *Bonding* refers to the horizontal ties between people in the same community or situation. *Bridging* refers to the horizontal but more distant ties between people of different backgrounds but similar situations. *Linking* refers to the vertical ties between a community and the formal organisations in a higher level of institutional power.

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What is Disaster Recovery?

Contreras (2016) defines disaster recovery as a complex and multidimensional process of restoring sustainable living conditions in their physical, social, economic, institutional, cultural, and ecological layers. Although early studies presented models of urban recovery phases, current disaster literature critiques this linear process (Cretney 2018, Contreras 2016). Smith & Birkland (2012) identified short-term and long-term recovery phases. Short-term recovery is the transition from the disaster-response phase; it includes 'managing donations and volunteers, conducting damage assessments, securing temporary housing, restoring lifelines and clearing debris' (Smith & Birkland 2012). Long-term recovery concerns activities extending for several years aiming to restore urban activities; it includes 'debris management, historical preservation, housing, businesses, infrastructure, and public sector' (Smith & Birkland 2012). The research presented in this article was conducted one year after the explosion, between the short-term disaster recovery phase and the early stages of the long-term disaster recovery (Rizk 2021). Disaster recovery initiatives cover all aspects of individual well-being within the following five environments: natural, agricultural, social, economic, and built. This article is concerned with urban recovery, and focuses on CBIs intervening on the built environment in both its built and unbuilt forms.

What is social capital and what is its role in disaster recovery?

Disasters can destroy human and economic capital, but social capital remains the least affected. Social capital allows more cooperation among actors in disaster recovery networks and contributes to improved outcomes (Smith & Birkland 2012). In disaster, *bonding social capital* provides individuals with immediate aid where communities with higher levels of trust, established norms, and participation are capable of a quicker disaster recovery. *Bridging social capital*, in disaster recovery, contributes to the exchange of information and resources between the non-affected and affected communities and between social groups working in disaster recovery. *Linking social capital* happens when the mobilised organisations and individuals are capable of retrieving the necessary resources from institutions and pairing them with the local needs. Social capital will help in describing the nature of the relationships among the main stakeholders in disaster recovery, as well as the relationships between them and the citizens that were affected.

What are CBIs, their role in disaster recovery, and the influential factors to their performance?

According to Igalla et al. (2019), CBIs are a form of self-organisation where citizens gather human and material resources to provide public goods or services for their own community. CBIs are grassroots or emergent groups; they are able to bypass the rules of disaster recovery, provide locally grounded resources, and identify the specific needs of the community (Smith & Birkland 2012). According to Cretney (2018), grassroots-led disaster recovery initiates pathways for public participation in the recovery processes. This increases the extent of ownership that the residents feel towards the recovery, for example by being more engaged, connected to, and empowered with the

decisions for the recovery of their city. Igalla et al. (2019) defines nine factors that influence the outcomes of CBIs, one of which is network strength. According to Edelenbos et al. (2020), *network strength* is centred around Putnam's definition of social capital, and consists of bonding, bridging, and linking as its components. For CBIs, *bonding* concerns the relationship of the members within the CBI. It is based on trust, familiarity, and engagement. *Bridging* concerns the relationship between different CBIs or other organisations that share the same vision. It translates into collaboration, and the exchange of information and data. *Linking* concerns the relationship between CBIs and formal institutions.

III. The Two Cases

Post-civil war reconstruction of Beirut (1992)

When the civil war came to an end in 1990, the weak national and local governments lacked resources to redevelop central Beirut. The plans to reconstruct Beirut Central District (BCD) did not receive official approval through public processes and, instead, were presented directly to the government (Mango 2004). Law No. 117 of 1991 was signed to allow the creation of a private company, known as Solidere s.a.l., to take over the reconstruction of the city centre. Law No. 117 also stipulated the collective transfer to all properties within BCD to Solidere, who would become the sole owner of the properties. This public-private partnership (PPP) provided the capital to reconstruct the city's public domain and infrastructure, and the government-supported policies for resettlement and land rights. Solidere became the main actor involved in the reconstruction of Beirut, and the owner of all properties demarcated in the redevelopment zone. This PPP set Beirut to compete among the metropolitan-region cities. It provoked a higher quality of design and construction, and a sustainable development approach.

Controversy arose when property owners were given shares in the company in lieu of cash remuneration; this controversy was increased with the forced property transfer between two private owners (Mango 2014). Private-property owners had no participation in the decision-making regarding the future of their assets, and Solidere bypassed any form of public participation (Mango 2014). Solidere witnessed opposition from landowners and tenants, who protested the privatisation of their assets; opposition from refugees and squatters, who were forced to move out; and opposition from professionals, who disagreed with the urban strategies. 'But in the end, the opposition did not achieve much' (Makarem 2015: 502). Although governmental institutions endorsed a participatory approach to planning and spoke of establishing citizen forums, this never materialised. As a defence, public institutions highlighted that the master plan required municipal approval, which represents the public, and that the Urban Planning Directorate acted as a representation of the public opinion as well (Mango 2004). It is worth noting that, at the time, the municipality of Beirut was not functioning and had no president. The fight against Solidere still persists today with St. George Resort, a landmark building that is located in the Solidere zone. St. George Resort refused privatisation and fought back against Solidere until 2020, when it finally gained the right for owning its restoration (Moussa 2020).

The lack of participation in decision-making came along with an absence of co-production processes. During the preliminary phases of development, Solidere consultants invited public commentary during 30 seminars; the seminars, however, were aimed towards informing, not discussion (Kabbani 1992). It seemed like 'the future of the heart of Beirut was decided long before any (official) investment had been made in it' (Makdisi 1997: 674). With the property owners being forced to transfer their property to the private company, landowners did not have any opportunity to contribute to the transformation of their assets in this new urban development.

With this PPP, Beirut's citizens were marginalised from participation and co-production in the reconstruction of their city. Much of Solidere's work was controversial and, as Solidere's contract was extended until 2029, remains so (Barrington 2017). Today, Beirut's citizens are too familiar with the reconstruction, as their collective memory still bleeds from their struggles with the post-war reconstruction.

Post-explosion reconstruction of Beirut (2020)

When the Beirut port exploded on 4 August 2020, the authorities were inadequately equipped for disaster relief. Numerous community-based initiatives (CBIs) emerged and were essential to relief and recovery. They contributed to displacement response, basic needs, damage assessments, debris removal, and reconstruction. Within three weeks from the blast, UN Volunteers (2021) documented 200 individual and group initiatives in Beirut. In the absence of a disaster management strategy, CBIs coordinated and established partnerships among themselves and with local NGOs to accomplish larger-scale recovery objectives.

Despite the socio-political instability and the limited healthcare and economic resources resulting from the crises, CBIs performed well in disaster recovery. Characterised by increased bonding social capital, CBIs relied on their members' network, professional backgrounds, and resourcefulness, equipping them with unique capacities. CBI leaders relied on their personal networks to link to donors, as this supported their credibility. If the core members were architects or engineers, they were able to recruit more professional volunteers, construction material suppliers, and contractors. This resulted in informed resource management. Although literature supports familiarity between CBI members as a contributor to better bonding, core members of CBIs were not necessarily familiar with each other. However, data from Rizk (2021) indicates a good level of trust among them. This was linked to having shared values and vision towards making a change in the country as response to the crisis they had been experiencing in the months prior to the explosion. As was stated in an interview Rizk conducted with CBIs (2021): 'Don't forget, [my co-founder] and I already have many connections. Many of our friends had money and were capable. They were the ones who launched us off.'

CBIs were motivated by the value to help others regardless of their social differences. With little data available, CBIs performed quick socio-economic vulnerability assessments to direct their interventions. They broadened their representation to include citizens, refugees, foreign

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workers, owners, and tenants of destroyed buildings. CBIs harnessed the availability of young professionals, who were motivated by personal enhancement with regards to their career development. Young professionals saw an opportunity to launch their career and receive on-site training. Some CBIs capitalised on that and called for recent graduates and university students who, in return, received training from experienced volunteers.

Moreover, patriotism was a major motivator that drove a paradox: love for the nation but not the government. The need to be united with those who were affected by the blast was a form of social motivation. As one of the respondents in Rizk's (2021) article said, 'The explosion brought us closer as a community. It united us as Lebanese.' The value of helping others overcame the socio-political differences and built solidarity. Moreover, patriotism was intensified by the lack of institutional support or linking social capital.

With government support absent, CBIs acknowledged the extent of their resources. This prompted them to collaborate and capitalise on each other's capabilities, increasing their bridging social capital. Human resources and know-how were exchanged more often than financial resources. In some cases, NGOs allocated funds to the disaster recovery projects but lacked know-how in construction; as a result, partnerships developed among CBIs and local NGOs that shared a common vision. The resourcefulness, high level of social capital within CBIs and between CBIs, and the motivation of youth provided space for co-production in disaster recovery where each member of the society was able to contribute to disaster recovery based on their abilities. For example, to overcome the lack of know-how in reconstruction, CBIs gathered professional volunteers through social media, personal networks, and referrals. CBIs contacted university clubs; this resulted in a flow of young professionals seeking on-site experience. CBIs formed of professionals were better at managing resources. They established credibility through their professional reputation, quality of work, skilled reports, and project management skills.

Moreover, CBIs gathered financial and material resources from CBI core member's personal networks, but these were limited and challenged by the financial crisis. Expats played an important role in gathering funds. The NGO Impact Lebanon started out as an initiative to bring together the Lebanese diaspora in support of the social movement back in October 2019. It then redirected its efforts to disaster recovery, where, in one year, it raised $8.8 million to disperse to CBIs and NGOs for disaster recovery (Impactlebanon.org 2021).

Amid the context of distrust in the public institutions, some CBIs did not rely on linking social capital with the Lebanese government. The Beirut Forward Emergency Room was created by the Lebanese Army to coordinate relief and reconstruction efforts among involved entities. However, it had centralised decision-making and lacked experience in disaster response (Beyond Group 2020). Some CBIs described coordination with Beirut FER as time-consuming and unorganised, while others favoured the cooperation and thought it was an effort to coordinate action (Rizk 2021). Nevertheless, within two months of the blast, it became compulsory for all actors conducting disaster recovery to register with and report to Beirut FER. The interviewed sample in Rizk's article (2021) describe their relationship with Beirut FER not as a collaboration, but as a requirement or a must to obtain permits and proceed with work.

The municipality of Beirut lacked resources, experience in disaster management, and updated data. Within this context, linking to governmental institutions for collaborations, advisory, and financing was not available for CBIs. The limited linking social capital was a motivation for CBIs, who felt they need to fill the gap and compensate for government incapacity. This lack of linking social capital allowed for more participation in urban decisions, where citizens asserted their position as primary contributors to the recovery process.

Moreover, the political atmosphere allowed CBIs to link to international organisations and receive funds. While government agencies were responsible for only 3.6% of the funds deployed to recovery, the majority of the funding (33.9%) came through international agencies (Lebanon Support 2020). International funds were pledged to recovery, but such funds are not sent through state institutions. 'While assistance for any country in crisis should normally flow through, or in coordination with, state institutions, in Lebanon most such institutions are deeply mistrusted and not well placed to lead humanitarian assistance efforts. Local civil society must be empowered to manage and monitor the response and the international humanitarian support. (Abouzeid, Habib, Jabbour, Mokdad & Nuwayhid 2020: 1380)' Moreover, CBIs managed to link to international organisations, foundations, and embassies for financial support; the following were named in the interviews: UN agencies, German NGOs, Fondation de France, UNHCR, German Foundation, an Italian NGO, and several embassies.

The explosion resulted in the damage of 480 heritage buildings in eight historical areas (Strategy& 2020). CBIs reported facing challenges with owners who did not want to reconstruct their heritage buildings but, instead, planned to sell their land for development. Within days of the explosion, real-estate brokers flooded the affected neighbourhoods of Beirut in an effort to make offers to buy destroyed property at sub-market prices. This alarmed the community, especially tenants still protected by the old rent law. 'Both property developers and owners of rent-controlled apartments are trying to take advantage of the destruction following the blast. (Collard 2020)' CBIs immediately took action to raise awareness and protect those properties from being sold. Streets and social media were filled with banners promoting ideas such as 'Beirut is not for sale. This will not be a Solidere 2.0. We are staying here. (Rizk 2021)' It was not until October, 2020, that Law No. 194 was issued, thus forbidding any transfer of real-estate ownership located in affected neighbourhoods. Furthermore, all powers of attorney signed in the aftermath of the explosion and up to the date of the issuing this law were frozen, pending examination of the concerned institutions. Moreover, Interventions on classified heritage buildings require permits and approval from the Directorate General of Antiquities (DGA). The Beirut Heritage Initiative, one of the CBIs that was formed by a group of professionals in heritage buildings, operated as an independent entity linked to the DGA. The DGA provided it with a legal framework to

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operate, but did not have influence on decisions or financing. Besides Law No. 194, no additional housing policies were proposed.

Through their actions, CBIs not only advocated for the right of inclusivity and appropriation, but also formulated a relationship of respect and admiration between themselves and the tenants and owners of destroyed buildings. CBIs saw themselves as the trustworthy support that the beneficiaries could not find in the government. This bond permitted better participation of the tenants in the decisions to rehabilitate their homes, shops, or neighbourhoods. This gave urban citizens the opportunity to participate in the urban transformations. He interventions developed by CBIs ranged from reconstructing single residential units to interventions on neighbourhoods, and included the revitalisation of public spaces and the establishment of neighbourhood public services that had not previously existed, such as free clinics and community kitchens. Moreover, some CBIs redirected their work towards community-building initiatives, capacity building, public-space revitalisation, and socio-urban recovery.

While these initiatives just started growing, they became a step forward towards urban recovery and an immanent part of the community, which found in them a rescue from an incapable government.

IV. Post-disaster recovery, a comparison of events 30 years apart

Although Beirut was in crisis in 1992 as in 2020, it is evident that the post-disaster recovery initiatives took different paths. The criteria for comparison are as follows: the actors leading the recovery, their networks, their approaches to recovery, and the impact on the citizens.

In both events, the Lebanese government exhibited a lack of efficacy in the reconstruction efforts of the city of Beirut. The Lebanese Civil War resulted in a fragmented society, whereas the crisis of 2020 served as a unifying catalyst for the community. This dichotomy was manifest in the main actors of the recovery initiatives. The PPP of the 1990s had little representation of the community and implemented a top-down approach to planning.

However, the case was different for the 2020 recovery. In the circumstances of the pre-existing crisis of 2020, the community's confidence in governmental institutions had already been significantly weakened. With the declaration of a state of emergency and the subsequent military takeover, other public institutions were excluded from engaging in disaster response, a measure aimed at avoiding issues of corruption (Beyond Group 2020). Complicating matters further, the Lebanese government, mired in debt and grappling with an economic and financial crisis, found itself incapable of providing substantial financial support. According to Lebanon Support (2020), a mere fraction – less than 1% – of the recovery initiatives were orchestrated by government entities. In stark contrast, a substantial number of initiatives, approximately 87, were spearheaded by citizen-driven endeavours, as reported by Beyond Group (2020). The CBIs of 2020 asserted their participation in the urban recovery initiatives, adhering to a bottom-up approach to reconstruction with limited deference to government procedural norms.

Moreover, the crisis situation in the months prior to the Beirut port explosion generated an atmosphere characterised by heightened social capital within the Lebanese community. The increased bonding social capital brought volunteers together under the values of patriotism and altruism, thereby fostering a collective spirit of aiding one another. The following statement reflects one of many cases where disaster-recovery volunteers were connected through heightened social capital: 'Lama introduces me to a group of young people who seem to be old friends, but appearances are deceiving because in reality they have only known each other for a few days. (SoS Chretiens d'Orient 2020)'

The pre-existing activity of CBIs in the crisis context had already laid the groundwork for effective communication and resource-sharing, thereby provoking a cohesive framework that fostered interconnection among diverse CBIs and an elevated bridging of social capital. Another form of bridging social capital was evident through the exchange conducted between CBIs: CBIs recognised their diverse resources and expertise, prompting a need for resource exchange and collaboration. To facilitate this, private initiatives created websites and platforms, such as *elda3em.com*, connecting CBIs, donors, volunteers, and beneficiaries. Through these platforms, CBIs could list their services and request needed resources, volunteers could offer their expertise, and beneficiaries could find appropriate CBIs. Additionally, various platforms were established to track initiatives, including their locations and progress, and the responsible entities for reconstruction efforts (e.g., Beirut Crisis Shelters, Beirut Explosion Response Map, AUB Shake Up Beirut Map, Open Map Lebanon, and Thawra Map).

Notably absent, however, was the mechanism of linking social capital. Yet, the intensified presence of bridging social capital was instrumental in increasing the accessibility to both human and financial resources. Consequently, the Lebanese community achieved a notable degree of efficacy in its contributions toward disaster recovery, facilitated by the active participation offered by CBIs, thereby enabling their involvement in the production of space within their urban environment.

Conversely, the fragmented Lebanese community in the aftermath of the civil war in 1992 was unable to form a unified front capable of articulating a collective imperative for participation and co-production. As stated in one of the CBI Interviews from Rizk (2021): 'The civil war divided the Lebanese […]. The *Thawra* [protests that happened before the explosion] created relationships between people of different backgrounds and societies. People forgot about this division and worked together because they had the same goal."

The main actors in the contexts of each respective disaster-recovery period influenced divergent methodologies. During the post-war recovery, the PPP exhibited a discernible tendency to exclude the wider public from the process of co-production. Conversely, in the crisis-stricken year of 2020, a discernible shift emerged, characterised by a heightened awareness and involvement of the local communities in CBIs. Strengthened by bonding social capital, and motivated by sentiments of patriotism, the young and educated youth conquered the streets, removed rubble, and drew up renovation plans. These endeavours were

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channelled through the coordinated activities of CBIs, which acted as pivotal orchestrators of such communal efforts. In effect, young citizens became more aware of their rights to the city and the value of their co-production.

Solidere had a strategic plan for the development of Beirut Central District. The rush of the community to the devastated areas, the lack of capacity and lack of disaster management plans, and the lack of linking social capital did not provide the 2020 recovery initiatives with a strategic plan. This resulted in an unorganised duplication of work. Through bonding social capital, CBIs were able to coordinate some of their initiatives together. This was not enough to manage the development strategies on a city scale. Although the government had initiated the Beirut Forward Emergency Room (Beirut FER) to organise the recovery efforts, it was not well received by CBIs (Rizk 2021).

In 1992, several tenants had to give up their assets to Solidere. In 2020, local citizens of Beirut were careful to ensure the non-recurrence of historical precedents, and tenaciously safeguarded their rights to land ownership. CBIs advocated for the rights of tenants and owners, and protected heritage buildings from being demolished. Collective memory of the post-war reconstruction of Beirut central district prompted the community to protect local residents from developers seeking to buy damaged plots. Moreover, urban activists worked at raising awareness on topics such as renters' rights, displacement, gentrification, real-estate interests, public spaces, and people-centred redevelopment. CBIs were guided by these principles in their own initiatives. With CBIs intervening in the built environment, urban issues were brought to light for a community where public participation in urban development was lacking. More discussion started happening on topics such as preservation of heritage buildings, revitalising neighbourhood activity, bottom-up approaches to urban upgrading projects, and foreseeing the risk of gentrification after the Beirut blast.

V. Conclusion

This article compares two events that occurred 30 years apart: the public-private-partnership (PPP) of post-war Beirut reconstruction in 1992, and the community-based initiatives (CBIs) of the Beirut port explosion disaster recovery in 2020. While each of those events took different recovery trajectories, there is no doubt that each was a result of the circumstances that preceded them. In the wake of a broken country after the civil war, the PPP managed to get the proper funding and create a recovery strategy for Beirut Central District, although some of the goals that the PPP set were not entirely achieved or were downplayed against financial gains. Similarly, in 2020, with an distrusted government that had gone through a year of financial and economic crisis, the COVID-19 pandemic, and the socio-political instability, CBIs were able to rise to the burden and take on disaster recovery works.

The recovery initiatives of the CBIs after the Beirut port explosion opened a window for community participation, one that was not available during the 1992 PPP. The residents of the affected areas were empowered by the presence of the CBIs, who in turn advocated for the right of inclusivity and appropriation. While many of Beirut's residents are still taunted by the gentrification of 1992, the collective memory of the redevelopment of Beirut Central District fuelled the bond and hope that came with CBIs. CBIs saw themselves as the trustworthy support that the residents of Beirut could not find in the government. This bond permitted better participation in the urban decisions to rehabilitate homes, shops, or neighbourhoods, eventually giving the citizens more opportunity to participate in the urban transformations. Since the port explosion in 2020, Beirut's citizens have formulated a new relationship to their city compared to the early '90s. They have redefined the extent of their interaction, asserted their will for participation, and grown their sense of place.

As the work of CBIs started spreading in the communities and neighbourhoods and the bonds with the residents increased, some CBIs looked at the bigger picture and redirected their work from reconstruction to urban recovery through community-building initiatives, capacity building, public-space revitalisation, and socio-urban healing. Such initiatives included revitalising public spaces, establishing neighbourhood public services, round-table discussions with neighbourhood tenants, polls, supporting small-business owners, and programmes for women empowerment and youth development.

Although devastating, disasters can result in opportunities for urban development. Absent or weak disaster management frameworks can result in unjust or unsustainable disaster recovery initiatives in which cities are reconstructed for capital. However, given a certain set of circumstances, a crisis can empower a community with enough social capital for the community itself to become a major player in the urban reconstruction. After the Beirut port explosion, community participation and co-production led to a new understanding and a new vision for the relationship between the residents of Beirut and their city. Henry Lefebvre's right to the city continues to gain new meaning for the residents of Beirut in areas of social justice, social change, a right to the city's transformation, and a renewed right to urban life.

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Sewing the City Together. The Impact of War Destruction and Post-war Planning on the Contemporary Landscape

An Example from Popowice, Wrocław

Aleksandra Gierko

The Second World War not only changed the landscape of Wrocław and caused irreversible damage, but also made it a part of the Polish state. Therefore, urban planners struggled to complete the urban tissue, taking into account the great needs of the growing urban population and its complicated identity. The landscape of many contemporary housing estates in Wrocław, as part of the Popowice settlement discussed in this article, is the result of attempts to 'stitch' former German parts with new structures. The article discusses research on the social and environmental quality of landscape, and is an attempt to understand its post-war transformations, particularly using comparative cartographic studies, and is supported by iconographic resource research and field studies. An important aspect of the research was to investigate a potential relationship between modern planning policies and the ideas included in the pre-war planning concepts. The results show that modern concepts have been developed on the basis of existing infrastructure, especially streets and underground lines. However, the context of pre-war planning has been neglected, and the preserved parts are only remains in the new urban landscape.

Die Stadt zusammennähen: Die Auswirkungen von Kriegszerstörung und Nachkriegsplanung auf die heutige Siedlungslandschaft am Beispiel von Wrocław

Der Zweite Weltkrieg hat nicht nur die urbane Landschaft von Wrocław verändert und dabei irreversible Schäden verursacht, sondern die Stadt auch zu einem Teil des polnischen Staates gemacht. Als Konsequenz bemühten sich Stadtplaner:innen, die Struktur der Stadt zu ergänzen und dabei die vielfältigen Bedürfnisse der wachsenden Stadtbevölkerung und deren komplizierte Identität zu berücksichtigen. Die Landschaft vieler heutiger Wohnsiedlungen in Wrocław ist das Ergebnis von Versuchen, ehemalige deutsche Teile mit neuen Strukturen zu „vernähen". Der Artikel befasst sich mit der Erforschung der sozialen und ökologischen Qualität der urbanen Landschaft und ist ein Versuch, ihre Transformationen in der Nachkriegszeit zu verstehen, insbesondere durch vergleichende kartografische Studien, unterstützt durch ikonografische Quellenforschung und Feldstudien. Ein wichtiges Thema der Forschung war die Beziehung zwischen der modernen Planungspolitik und den Ideen, die in den Planungskonzepten der Vorkriegszeit enthalten waren.

Introduction

As a result of the Second World War, the city of Breslau reached a turning point. Shortly following the war, it regained its Polish name of Wrocław as the national border between Poland and Germany shifted. However, not long before this point – in the interwar period – the city had already reached the limit of its ability to function. The growing urban population of the 1920s made living within the urban area hazardous, and the health conditions were very poor. Breslau was one of the most populous cities of the Weimar Republic (Magistrat der Hauptstadt Breslau 1926: 9-11), mainly due to the relatively small amount of land within the administrative boundaries of the city. Municipal authorities decided to develop the areas incorporated in the city in 1868, including the neighbourhood of Popowice (discussed in this article). A wide-ranging programme was implemented to build affordable flats. The appropriate proportions of green areas in relation to built-up sites were strictly regulated by zoning plans. The beginning of Polish administration in Wrocław is related to the management of the demolished building structure. In the subsequent years, urban planners struggled to complete the urban tissue, taking into account the immense needs of the growing urban population. Nowadays, access to cartographic and iconographic sources from different time periods, and modern digital data, allows for in-depth comparative research and the temporal tracking of changes to which urbanised areas have been subjected. Cartographic sources from different time periods are overlapped in a geographic information system (GIS) and then juxtaposed with historic photographs. This allows one to identify 'permanent' structures that originate from the pre-war period and whose provenance cannot be read directly in the field studies. The article discusses research on the social and environmental quality of the urban landscape and is an attempt to understand its post-war transformations, particularly using comparative cartographic studies, and supported by iconographic resource research and field studies. The Popowice settlement was chosen as a case study for this research as its structure probably suffered the most compared to other settlements. The overall aim was to identify whether the pre-war planning concepts influenced modern planning policies in terms of landscape, while also investigating if part of the urban greenery structure from the 1920s still exists in Popowice.

Methods

The article is part of a broader research project that examines several housing estates developed in the period between the 1920s and 1940s in Wrocław (Gierko 2021[a], Gierko 2021b). A spatial and thematic delimitation of the study was made for the purposes of the article. The research presented here focuses on the landscape transformation of estates, and the reasons for those changes, from

the moment of construction to contemporary times. Among others, two types of research methods have been used: chamber studies and field studies. The chamber research process included the collection and appropriate development of cartographic, iconographic, and literature materials, which were used to outline the background of the study and comparative cartographic analysis.[1] Comparative analyses are commonly used in landscape studies (Chmielewski 2012: 247-269; Stahlschmidt et al. 2017: 36-39, 54-77) to assess the dynamics of landscape transformation (Van Eetvelde & Antrop 2009). They were also aimed at assessing the state of preservation of pre-war land development. When analysing changes, attention was also paid to factors determining the manner of land use related to period tendencies, thus referring to the method of 'landscape biography' (Kolen et al. 2017: 120-135). The chamber studies were then supplemented by field studies that were aimed at a familiarisation with the examined objects and the confrontation of the actual state of preservation with the performed chamber studies. Field research was carried out using the direct observation method combined with photographic documentation in summer 2019 and spring 2021.

Results and discussion

The German Siedlung Pöpelwitz: 1919-1945

The whole settlement was developed in the western part of the city (Figure 1), about four kilometres from the city centre, on the southern side of the main Legnicka street, heading to the west (then *Frankfurter Strasse*). The borders were marked by the streets of Legnicka, Małopanewska, Bystrzycka, and Na Ostatnim Groszu (in German: *Frankfurter*, *Malapane-*, *Weistritz-*, and *Heller Strasse* respectively).

The planning phase dates back to 1919 and the site encompassed an area of approximately 47 hectares. The studied area was adjacent to the airport to the west, to production areas and allotment gardens to the south and east, and to commercial buildings and housing along the main street to the north. Formerly built tenement houses were also built along the southern part of *Frankfurter Strasse*.

The narrow plots were occupied not only by the given building fronting to the street, but also by small factories and storage buildings at the back. This situation created an obstacle during the development of the new settlement. However, the former structure was incorporated into the new one. Nevertheless, the north-western corner of the site remained undeveloped until the 1940s due to the complicated ownership situation. Another empty plot, located in the southern part of the settlement and owned by the municipality, was intended for public-use buildings: a Lutheran church and a social care home. Multifamily residential buildings with a varying number of rooms (mainly two rooms[2]) were the dominant mode of development. Thanks to the work of Doctor Christine Nielsen, who described the designs of Theo Effenberger, previous concepts of development of the estate are known. Compared to the first and second urban designs from 1919, the final concept assumed a reduction of 1/5 of the number of single-family houses (Nielsen 1999: 106). Finally, a total of 1,800 flats were built for 8,000 inhabitants.[3] Public-use buildings, the Catholic church, and the elementary school were placed along the main east-west axis. The tower of the church, with a soaring dome, was an excellent landmark of the estate. The height of residential buildings gradually reduced from north to south: from five and four floors to two floors, creating a more rural character of landscape. Most of the urban layout and buildings were designed by Theo

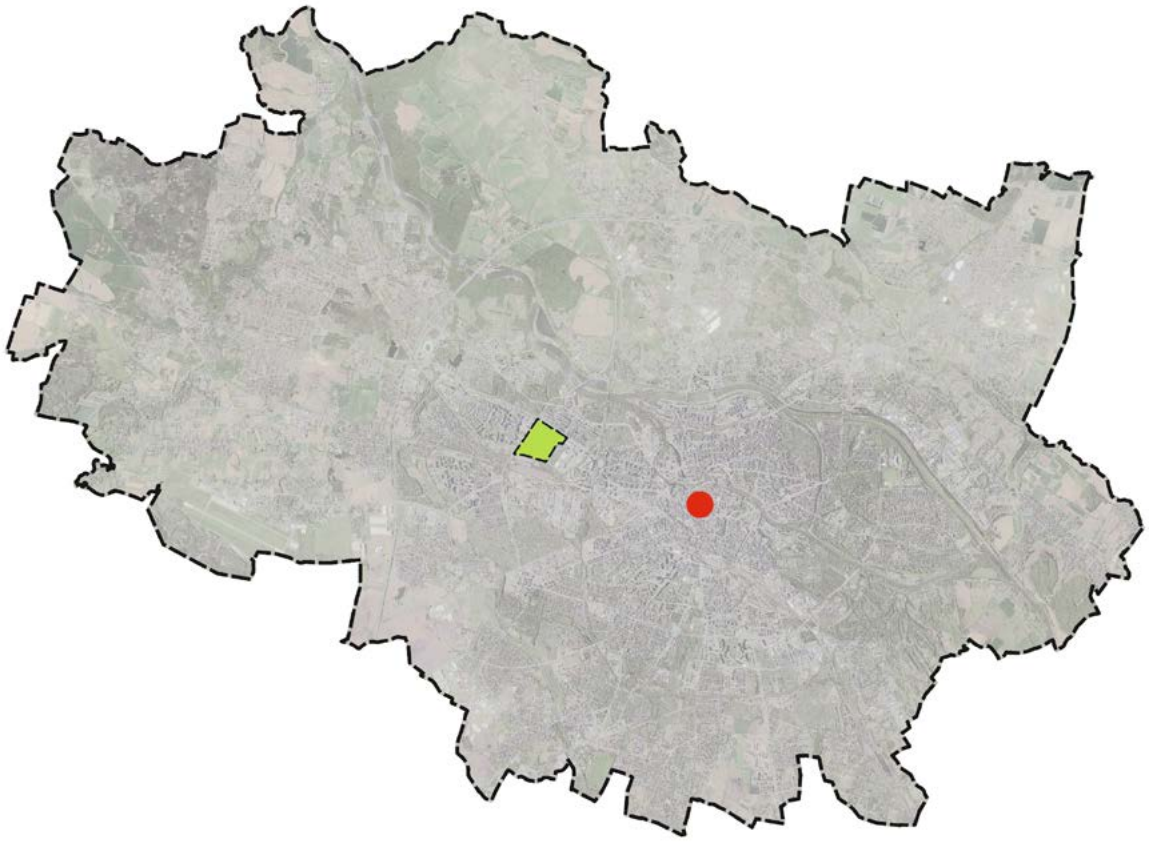

Figure 1: The location of the settlement (green shape) in relation to the city centre (orange dot). Source: Ortofotomap from Wrocław Geoportal.

1
Iconographic, cartographic and other materials, and their origin as well as the method, are described in another article concerning the Gajowice estate in Wrocław (Gierko 2021b).

2
Two-room apartments prevailed (53%). There were also three-room apartments (24%), one-room apartments (21%), and, least common, flats with four rooms (Kononowicz 2011: 555-556).

3
The number of inhabitants cited by Wanda Kononowicz. The same quantity was given in the municipal publication from 1926, *Siedlung und Stadtplanung in Schlesien. Heft 1: Breslau*. Currently, the number of people registered in the estate is around 6,000.

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Figure 2: The urban layout and character classification of spaces in the interwar period on the basis of topographic maps. Source: Maps from Wrocław University Library.

Figure 3: A photograph taken on the settlement by Heinrich Klette in the 1920s.

Effenberger and implemented in the 1920s. The project was appreciated by critics of the time, who perceived it as derivative of the best regional architectural patterns and craftwork; the urban development was described by Konrad Hahm as 'organic', and the reference to a concept of a garden city[4] and the designs of Theodor Fischer were clearly visible for him. On the other hand, aspects of modern living requirements were underlined. On an urban scale, the unity of housing blocks contrasted with appropriately scaled open spaces; in terms of architectural features, the access to sun and air, but also spatial isolation from the city noise (Hahm 1929: 10-12).

The quality of open spaces

According to Professor Wanda Kononowicz, the key to the sophisticated composition of the estate is the placement of individually designed urban interiors along the network of slightly outlined streets (Kononowicz 2011: 555-556). The public spaces of the streets and squares, equipped with large target-size greenery (mostly lime trees), were undeniably an important element of the landscape of the estate. However, the urban concept consisted of a well-planned network of semi-public, semi-private, and private areas (Figure 2). Parts defined as semi-public greenery were placed on the western part of the settlement, along the street. This classification is judged by the manner of land cover and use. Front gardens of different widths were used as orchards and for growing vegetables (Figure 3), less often as ornamental gardens. The spatial arrangement of the gardens supported such a use. The greenery was adjacent to the fronts of the buildings and separated from the road by a pavement and a row of trees. Another spatial solution was adopted on the southern border of the settlement. The public road was placed alongside the buildings, with only a few of the buildings set back in relation to the building line. Therefore, the greenery belt had a public character, equipped with small squares with benches encompassed by hedges, while two rows of trees were planted along the belt.

An interesting solution was implemented between two public roads in the eastern part of the estate (Figure 2). There was a semi-public pedestrian road that was narrower in width than the main roads, and its location between buildings probably discouraged incidental users. The widening in the form of a square at the beginning of the road could encourage people to stop for longer if they accidentally met a neighbour. This road was adjacent to one of the recreational areas for the residents. The multifamily buildings in the north-east part of the settlement were equipped with semi-private open spaces. These sites were mostly accessible by direct exits from the back of the buildings and were arranged with sandboxes and benches, accompanied by trees.

Private spaces had the largest share of estate coverage. As the entire settlement had been built under the influence of the garden city concept, for self-sufficient citizens, most of the residents had access to a private vegetable garden. The gardens were placed predominantly at the back of the buildings, but entry was also possible through semi-private pathways that were placed among the gardens. The

4
The garden city movement was founded by Ebenezer Howard. With his publication written in 1898, he demanded the creation of new suburban towns that would be partially self-efficient. Howard aimed to reduce the alienation of humans and society from nature; hence, he postulated a high ratio of the green areas to the built areas in the urban structure. The utopian idea was subsequently introduced in the creation of the new garden suburbs, such as the Hampstead Garden Suburb, planned by Raymond Urwin in 1906. Both the publication of Raymond Urwin's *Town Planning in Practice* (1909) and the English plans of the new garden suburbs were known to German architects of the interwar period.

Figure 4: The urban layout and the phases of post-war development on the basis of an ortofotomap. Source: Ortofotomap from Wrocław Geoportal.

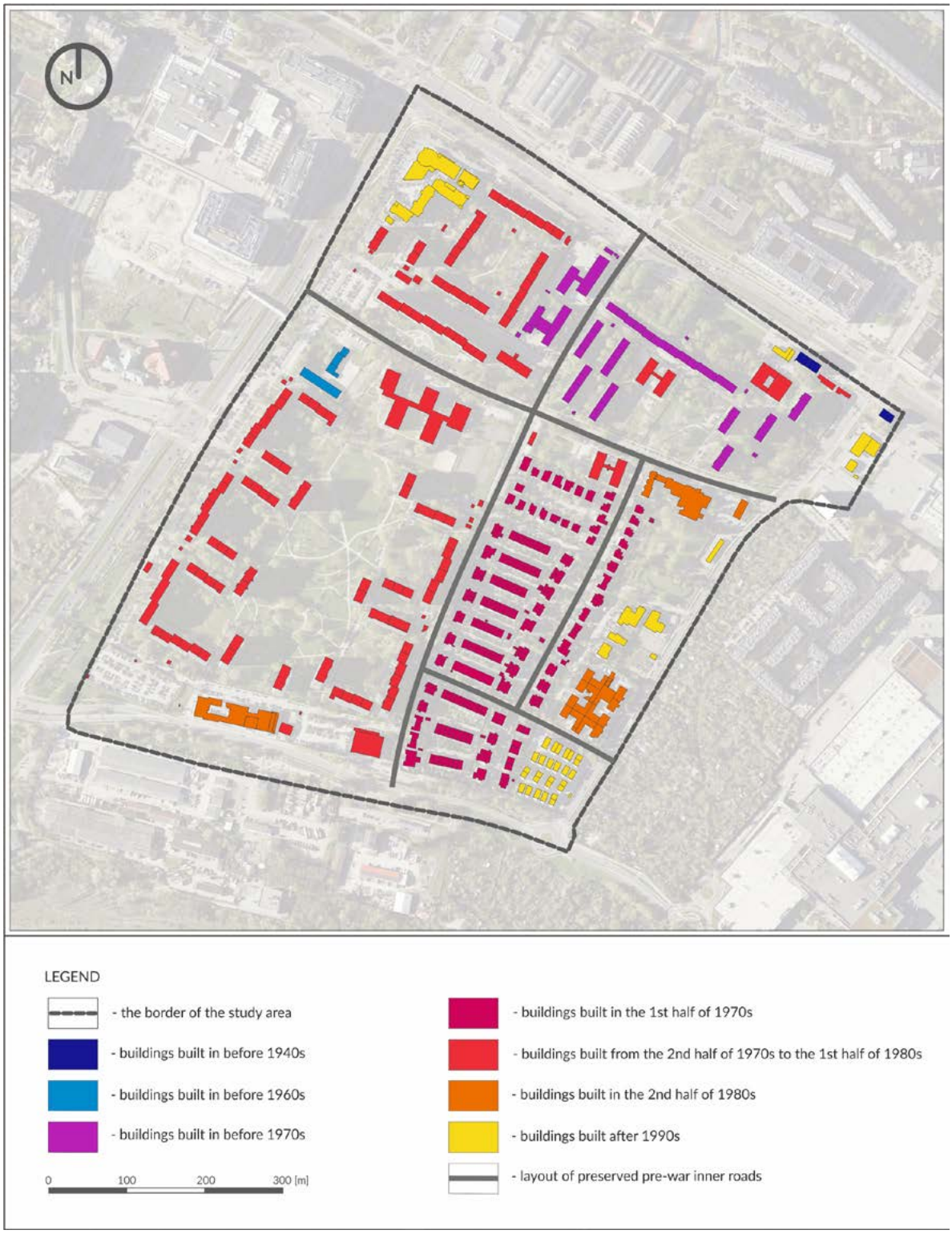

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Figure 5: The remnants of the arranged greenery are the canvas of the new public space.

adaptation of the project meant that the backyards were also equipped with tool sheds for four to 12 families. A detailed planting plan for the gardens was also implemented. The backs of the gardens were planted with fruit trees so that the trees formed a green belt throughout the interior of the block.

City in transition: 1945-1955

The last investment made on the estate under the German administration was probably the construction of a fire pond[5] on the public square on *Frankfurter Strasse* in 1944. Subsequently, the passage of the war front through the city and the provisions of the Yalta Treaty[6] completely changed the image of Wrocław. The damage to urban tissue was estimated to be 68% of the total area of the city (Ptaszycka 1956: 204). The Popowice district was severely destroyed: Polish aerial military photography from 1947 shows many building gaps and bomb craters in the ground. The damage in this part of the city was estimated to be 75 to 100%.[7] The image of destruction is also presented in the report of the Presidium of the National Council of the City of Wrocław from 1955 (Meisinger 1955: 1-7), in which the process of removing rubble from the city is reported. The report also states that the estimated number of flats in Wrocław before the war was approximately 600,000, of which 73% were damaged. In the first years after the war, the city was cleared of rubble to allow its operation and

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5
In the 1930s and 1940s, the German administration implemented preventive measures aimed to protect civilians, such as reinforced basements, air-raid shelters, and fire ponds, that were built in greenery areas. The pond on Popowice survived untouched until the mid-1990s.

6
The Yalta Conference (4-11 February 1945) was the World War II meeting to discuss the post-war reorganisation of Europe. As a result of the premises of the heads of government of the United States, the United Kingdom, and the Soviet Union, Poland lost eastern territories and received territorial compensation in the west from Germany. The decision was formally ratified at the Potsdam Conference, which took place in the same year.

7
Anna Ptaszycka claimed that the value of 100% is not adequate to reality, because the estimates did not take into account the value of fundaments and underground infrastructure (Ptaszycka 1956: 204-206).

Figure 6: On the left, the second part of single family establishment. On the right, the location of the designed part in relation to the current situation. Sources: Sketch made after Prof. W. Czerny on the basis of his publication; map Wrocław Geoportal.

the elimination of dangerous sites, while construction materials were recovered for the benefit of the inhabitants. After 1949, a massive recovery of debris to be reused took place, due to intensification of building reconstruction across the country and especially in the capital (Meisinger 1955: 1-7).

Initially, reconstruction works concerned monument tissue, such as churches, and were concentrated in the city centre. Architects and conservators agreed that buildings should be reconstructed. However, they focused on a specific point in history, rejecting consecutive traces, 'especially those of the nineteenth century' (Ptaszycka 1956: 210). The temporal and locational scope of the reconstruction was due to the fact that the historical centre was then seen as a heritage of the Piast dynasty, which was in line with the ideology of the so-called Regained Lands.[8] In the 1960s, reconstruction started to encompass the districts located further from the city centre and urban regulation plans were initiated. The first spatial development plans of the 1960s and 1970s encompassed the zones that were included in the city limits before the war and had been a subject of the pre-war investments. Elements such as the road system, which required corrections and adjustments to meet current needs, were redesigned. It was not until the mid-1980s that work began on the directions of development of the new city districts (Przyłęcka 2012: 13-35). The discussed part of the Popowice district, as mentioned before, was still severely damaged as a result of hostilities. Only three buildings from the interwar period survive to this day. Following assessment, the rest were deemed uninhabitable and designated for demolition.

Figure 7: The remaining greenery with one of the pre-war buildings with a modern wall painting (in the background to the left).

The Polish Popowice: 1955-today

A photograph taken from an aeroplane in the middle of the 1970s shows the canvas of pre-war streets in which new buildings were being incorporated. The old urban layout is still visible, especially because the former constructions were demolished without excavation of the foundations. The first investments were made before the 1960s in the western part of the settlement (Figure 4). These were probably low-quality buildings, so most of them were removed when the estate was developed in subsequent phases. Only a few of those structures survive to this day and are used as commercial pavilions. In the second half of the 1960s, 5-storey and 7-storey buildings were developed in the north-eastern part of the site. They were built just before the spatial development plan for the estate was prepared (Przyłęcka 2012: 192). The multifamily houses were placed loosely, in accordance with the tendencies of the time, and the pre-war context of building quarters was ignored. However, the main public square alongside the main street was retained and, most likely by chance, one of the semi-private recreational spaces was preserved (Figure 5). These greenery structures are still visible in the landscape, although the character of the recreational space has changed from semi-private to public. It was thanks to the comparison of the pre-war plan and aerial photographs from the 1920s with the modern map, and the results of the field study, that the greenery arrangement was identified. Despite preservation, its provenance is probably not clear to the inhabitants.

Following the development of a new estate structure, the first urban regulations, established at the end of the 1960s, assumed the division of the site along the east-west axis. The northern part was intended for multifamily buildings and the southern part was planned for single-family houses. In the first half of the 1970s, detached and terraced houses were built on the pre-war matrix of the streets of the east side. The settlement was served by a complex system of secondary roads. In addition, all buildings had a basement with a garage. Spatial disposal resulted in the relatively small size of the private greenery zone, and a similar plan was to be implemented on the western side. Such space consumption was challenged by Professor Władysław Czerny (Czerny 1972: 236, 240) in his alternative design for the site (Figure 6). According to his thesis of economic adaptation to existing conditions, he designed a development of approximately 300 terraced houses adjusted

8
'Regained Lands' (also known as 'Recovered Territories') are the former territories of Germany that became part of Poland after World War II. The term 'Regained' refers to the fact that these territories had belonged to the Polish state and were lost during different periods over the centuries. It was supported by a political idea based on the establishment of a Polish state under the Piast dynasty, the first historical ruling dynasty of Poland, during the Middle Ages. Therefore, the Gothic architectural style was identified as the 'traditional' Polish style.

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to the slope of the terrain. The drains of the houses were carried out in accordance with the slopes, so that they were connected to the existing pipe system on the peripheral streets. Additionally, on the streets, car parking spaces were incorporated into the plan. Access to houses was to be provided by 2.5-metre-wide footpaths, with car access in exceptional cases, offering an alternative to the road system that runs through the estate. Furthermore, in the solution, the houses had neither a basement nor a garage, which resulted in 30% savings in cubature, in the opinion of Czerny. The spatial disposal could have allowed for the creation of a semi-public park of 2.3 ha area in the core of the establishment. However, the concept was never realised, as it did not meet the requirements of the growing population.

The direction of development for the western part was influenced by the popularisation of large panel system-building. In the mid-1970s, the local spatial plan was changed, and the implementation of a complex of 5-storey to 11-storey buildings, constructed with prefabricated concrete slabs, was possible (Przyłęcka 2012: 192). A new spatial arrangement for the estate was the result of the necessities of a growing urban population. The buildings were composed of repeating sections that rose in a cascade, and were arranged around cul-de-sacs. In the centre of the site, a large public greenery zone was established. Not long after that, most of the northern part of the estate was completed. As the main east-west axis of the pre-war existing road had been preserved with the greenery system and empty spaces left after demolition of public-use buildings, urban planners intuitively filled it with new public-use buildings such as a school, kindergarten, and church. The preserved layout of the greenery system was gradually reduced and most of the estate was built up by the end of the 1980s. In the 1990s and 2000s, only the peripheral plots remained to be built, several of which remain undeveloped to this day.

Conclusions

The transformation of the Popowice estate could be perceived as a disintegration of a structure on many levels when comparing its state before and after the war. From the perspective of urban planning, a part of a city designed as a whole, with carefully determined character of the spaces, has vanished in terms of the structure of the buildings and composition of the outdoor areas. The new concept was developed on the basis of existing infrastructure, especially streets and underground lines. However, the context of pre-war planning has been neglected, and the preserved parts can be considered as mere 'outliers' of the new urban landscape. Compared to the other studied settlements of the mid-war period in Wrocław, the Popowice settlement is plausibly the most transformed one in terms of landscape and the structure of open spaces. In other settlements, such as Gajowice or Tarnogaj, some elements of the greenery system are now absent. However, some parts of the urban tissue were preserved and reconstructed, which constitutes a context for the landscape elements. Thus, the Popowice case study stands out against other investigated settlements.

As a consequence of the comparative cartographic analysis of a case study, the remains of the landscape structure have been distinguished. However, their character changed as a result of the rearrangement of the estate.

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Figure 8: The landscape parts are stitched elements of different provenance.

These single elements are the 'outliers', which means the 'witnesses' of the pre-war concept (Figures 7 and Figure 8). The urban development plan from the 1920s, encompassing the entire estate, was substituted with successive developments of parts of the site that do not fit together: the 'sewing' ended with a 'patchwork' of different urban layouts. While tracing the post-war changes of the 1960s and early 1970s, available evidence shows a particular scheme: the new developments were made *ad hoc*, as a reaction to the needs of the moment, wherein modern and thoughtful solutions were not implemented. This could be related to a lack of coherent urban planning policy. On the other hand, in later years, policy changed as a response to changing needs, and was presented as the solution, in this case, to a growing population. Research on the official correspondence of that time could provide further context.

The part of the estate made of prefabricated dwellings can be perceived as an organised and structured integrity. However, it was incorporated into the existing neighbourhood. As a result, single-family houses are adjacent to high-rise buildings. In effect, the whole site is made of parts of different character and does not have a clear identity. The pre-war orderly structure of private, semi-private, semi-public, and public spaces was lost during the reconstruction process. In the new context, most of the spaces have a public character. Especially the north-east side of the estate, where the buildings are loosely dispersed among trees and there is no gradation between 'public' and 'private'. At the environmental level, the greenery system of planned and continuous structures was defragmented. During the next development phases, subsequent fragments were transformed and only a few mature trees of the interwar period survive today. However, it could be added that, unlike the urban layout issue, the gaps in the greenery system could be filled more easily. Working on the challenges of the estate could be beneficial both for social and environmental aspects complementing each other, as many similar examples show. However, studies on the quality of greenery and its perception by residents, as well as comparisons with other city units, could add to the context.

Conflict of interest statement

None declared.

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Book reviews

Jon Silver (2023)
The Infrastructural South

FOS (Flow/ Overflow/ Shortage) Research Collective*, Sophia Abbas, Alex Baker, Suyash Barve, Moritz Kasper, Demetra Kourri, James Christopher Mizes, Andrea Pollio, Laura Silva, Noura Wahby
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Overflows, shortages, and other extremes increasingly dominate the urban-infrastructural realities of the 21st century. Cities across the world but especially in the South regularly experience hard-to-manage infrastructural events and conditions: floods, heat waves, power outages, stampedes, data leaks. Jon Silver's recent book, *The Infrastructural South: Techno-Environments of the Third Wave of Urbanization* provides us with a provisional set of coordinates to examine the conditions under which such urban extremes become infrastructural problems: it offers a dense compilation of political, material, and geographical processes that define contemporary urban-infrastructural lifeworlds. Focusing largely on Africa, the book's main goal is to "develop a postcolonial urban theory of infrastructure" (p. 17) that shall politicize and address infrastructural injustices. In particular, Silver proposes a non-comprehensive vocabulary to help understand how infrastructure investment affects the everyday struggles of urban residents. More broadly, the book is concerned with the fraught relationship between urbanization and infrastructural modernity. Thus, in the opening chapters, Silver outlines a critique of linear, teleological, and Eurocentric notions of urban modernity like the networked city model. Moving from critique to conceptual proposition, the book combines insights from urban political ecology and the growing work on infrastructural heterogeneity to provide "counterhegemonic notions of [urban] modernity" (p. 48). The book's vocabulary is anchored in what Silver has dubbed "techno-environments" – enclave, incremental, corridor, digital, etc. – that constitute both the empirics and epistemics of *The Infrastructural South*.

Most chapters discuss cases of specific techno-environments. Following *Splintering Urbanism*, chapter 3 focuses on "enclave techno-environments" planned *from above* and their role in reinforcing urban inequality by providing exclusive infrastructural security for elites through quasi-independent municipalities or high-density luxury housing. Conversely, chapter 4 considers the incremental nature of infrastructures *from below*. In the absence of networked systems, these infrastructures – according to Silver – can be forms of both survival and prefiguration. Drawing on energy infrastructures and practices in Kampala and Accra, Silver argues for the recognition of ambiguous and heterogeneous infrastructures as part of an agenda for southern urban development. Recognizing the *above* and the *below*, chapter 8 then offers a sweeping glance of the digitization of urban Africa, from government Internet shutdowns to mobile money and indigenously developed transportation apps. Digital mediation and its infrastructures, the chapter argues, are powerful tools to "configure, enhance, and potentially contest the city" (p. 186). In contrast to such an optimistic outlook, chapter 6's observations on transport corridors paint a more grim future. Silver argues that the residential demolitions required to make way for these corridors are the "imminent trauma" of "infrastructure-led, authoritarian neoliberalism" (p. 157).

Silver often underscores the multiple nature of *The Infrastructural South* and the new vocabulary he proposes to describe it. Chapter 5 frames a hydroelectric dam and a (post-) colonial bucket sanitation system as the urban beyond city limits and beyond the present. Infrastructural relations across space and time are "constitutive of the making of infrastructure" in African cities (p. 111) and their analysis helps to unravel the injustices of racial capitalism and (post-) colonial segregation. However, Silver later challenges the reader to think beyond Africa. Examples from the US and the UK illustrate the global breakdown of the networked city model and the shifting dynamics of infrastructural power. By highlighting similarities between struggles for basic infrastructure rights in post-industrial cities and African cities, *The Infrastructural South* is intended to help rethink infrastructure in different urban contexts. Yet, as chapter 7's "secondary techno-environments" remind us, places that are often considered "off the map" provide rich insights into the rifts, tensions, pressures, and – to use Anna Tsings term – "frictions" that are part of an infrastructural catch-up currently unfolding in southern geographies.

In keeping with the book's ambition to move from critique to propositional futures, the final chapter attempts to conceptualize a move "towards a popular infrastructure." Reiterating *The Infrastructural South* "not just as a condition or geography, but also as an epistemological position" (p. 241), Silver proposes the notion of "mutating modernity" (p. 247) – a non-linear descriptor of contemporary urban-infrastructural experiences across the planet – before delving into his set of infrastructural propositions. Drawing on a wide range of debates and scales, he invites reflection on heterogeneity, public work schemes, commoning, platform urbanism, reparations, and pan-Africanism as principles for infrastructural futures. Yet, at this point in the book, its initial coordinates and ambitions are stretched thin. Even with its impressive catalog of cases, *The Infrastructural South* struggles to bridge the gap between empirical material and analytical claims. Its vocabulary offers readers an eclectic abundance of coordinates that are left almost too provisional, often leaving the reader with more questions than answers. How does the idea of "mutating modernity" compare to existing critiques of Eurocentric notions of the urban modern? In what ways can African cases speak to a larger South, infrastructurally and epistemologically? How can practitioners, scholars, and activists actually use this new vocabulary for propositional and radical approaches to just infrastructural futures?

These questions and others are productive echoes of reading *The Infrastructural South*, a book that offers many openings for scholars, practitioners, and students. Even though this book may have offered a few too many openings, we recommend *The Infrastructural South* for its ambition to synthesize and advance recent debates on southern/African urban infrastructures. Silver's fascination with and expertise on Africa's infrastructural transformations shine through on every page, providing those new to southern urbanism with a dense map of starting points for further investigations. As an international collective of researchers interested in urban extremes across geographies and beyond orthodox narratives, we share many of the sentiments and epistemological positions of the *The Infrastructural South*, and the book was a compelling addition to our reading group on infrastructural overflows and shortages, their measurement and management. It informed our debates about how to understand infrastructural problems today and will continue to shape our thinking about extreme urban conditions in *The Infrastructural South* and elsewhere..

Obituary

Community building and processivity as the essence of architecture

John F. C. Turner
(1927 – 2023)

On the evening of the first Sunday in September, the architect John Francis Charlewood Turner died at the age of 96 in Hastings, in the south of England, where he had lived since the late 1980s. Sixty years ago the August issue of Architectural Design from 1963, which he guest-edited, turned the attention of European architects to the self-built settlements in Peru for the first time. Turner finally became well-known in the 1970s through his research on self-building and his interpretation of housing as an activity and a process; housing as a verb was the topic which he was dedicated to throughout his life.

John F. C. Turner studied architecture at the Architectural Association (AA) in London. Inspired by the anarchist thinking of Colin Ward and Pjotr Kropotkin, his interest in community architecture developed. By far the most important influence though was the discovery of the ideas of the Scottish biologist and urban planner Patrick Geddes.

Turner came to Peru in 1957 through his friend Eduardo Neira, with whom he shared his admiration for Geddes. There he worked for eight years as a young architect for governmental and international organizations, first in Arequipa and later in Lima. Strongly impressed by the enormous self-building activity in the barriadas, Turner was, in his own words, 'deschooled' - adopting Ivan Illich's expression. Since then, he devoted himself to researching the elements of the housing process and the function of housing in people's lives. During his time in Peru he also met and worked together with Trialog member Hans Harms. Together they developed, among other things, an exhibition in Lima in April 1962 on the barriadas and incremental urban development in Peru.

In the life period that followed, from 1965 onwards, Turner deepened his research as a professor at the Massachusetts Institute of Technology (MIT) and later in London at the AA and the Development Planning Unit of University College. His two most influential books, Freedom to build (1972) and Housing by people (1976), were instrumental in the 1976 United Nations Habitat I conference in Vancouver and established his international reputation as a housing expert. In 1988, Turner was awarded the Right Livelihood Award, the so-called Alternative Nobel Prize.

John Turner was oftentimes interpreted as advocate of self-build in a literal sense, although in reality he primarily called for people's self-determination in the building process, especially with regard to the community and the common. Since the end of the 1970s, he and his wife Bertha have tried to return to these origins and devoted themselves to working on neighborhood initiatives, first in London and, since 1989, in Hastings.

In Bauwelt issue 20 of May 27, 1983, dedicated to "Architecture-Colonialism" and co-curated by Trialog members Kosta Mathey and Florian Steinberg, Turner published the article "Does the 'Third World' need a new architecture?". He addresses aspects of the process of planning and building that, for him, are closely linked: On the one hand, there is the role of the architects, as 'experts', and their relationship to the users, the 'inperts'. "It is of equal importance to me to work with the residents and not for them," writes Turner, calling for a fundamentally different form of interaction on an equal level. If applied to the relationship with the so-called 'Third World' - "for me there is only one world" - this clearly means for him a move away from the colonialist view of the North and towards cooperation on an equal footing.

On the other hand, Turner calls for Another Development and for the need for cooperative and resource-saving action in view of the world's serious ecological problems. Already forty years ago, he called for a paradigm shift in the mentioned Bauwelt article: "For those of us who have lost faith in limitless economic growth and the blessings of technological progress, the search for alternative solutions is becoming a question of survival for humanity and - at least for the younger ones among us - also for ourselves."

In the years since 2011, as we have worked closely together on his Geddes-inspired life project Framework, we have come to know John Turner as a fascinating and generous person who, as a practice-oriented theorist, thought across disciplines and worked tirelessly for a better world. We were able to pre-print the foreword of our joint book Por una autonomía del Habitar (Logroño: Pepitas de Calabaza, 2018) in the Trialog issue published together with Klaus Teschner for the Habitat III conference in Quito (issue 124/125, 2016). Turner emphasizes the unchanged validity of a paradigm for the housing process based on local self-help practices and looks for criteria for its measurability: "the degrees to which the principles of subsidiarity, requisite variety and economy appear to be or have been practised or not; and to which degrees the three meanings of community have been supported, i.e.: person-person relationships and the strengthening of neighbourhood, the strengthening of societies by those personal and local relationships, and the contributions made to the community of all life on earth".

The concern for the future of our planet dominated Turner's thinking until shortly before his death. His legacy is more relevant than ever in a world in deep ecological and social crises. Turner's extensive archive was incorporated into the historical archive of the Col·legi d'Architectes de Catalunya (COAC) in Barcelona still during his lifetime. We will do our best to maintain it and make it universally accessible, and will further disseminate his ideas so to develop new architectural and social tools out of them.

Kathrin Golda-Pongratz, José Luis Oyón and Volker Zimmermann

Gemeinschaftsbildung und Prozeßhaftigkeit als Essenz der Architektur

John F. C. Turner
(1927 – 2023)

Am Abend des ersten Septembersonntags verstarb der Architekt John Francis Charlewood Turner im Alter von 96 Jahren in Hastings, im Süden Englands, wo er seit Ende der 80er Jahre lebte. Vor sechzig Jahren richtete die von ihm editierte Augustausgabe des *Architectural Design* von 1963 erstmals den Blick der europäischen Architektenschaft auf die selbstgebauten Siedlungen in Peru. Große Bekanntheit erlangte er schließlich in den 70er Jahren mit seinen Forschungen zum Selbstbau und seiner Interpretation des Wohnens als Aktivität und als Prozess; *housing as a verb* war das Thema, für das er sich sein ganzes Leben lang interessierte.

John F. C. Turner studierte zunächst Architektur an der Architectural Association (AA) in London. Inspiriert vom anarchistischen Denken Colin Wards und Pjotr Kropotkins entwickelte sich sein Interesse für Gemeinschaftsarchitektur. Der bei weitem wichtigste Einfluss war aber die Entdeckung der Ideenwelt des schottischen Biologen und Stadtplaners Patrick Geddes.

Turner kam 1957 durch Vermittlung seines Freundes Eduardo Neira nach Peru, mit dem er die

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Faszination für Geddes teilte. Dort arbeitete er acht Jahre als junger Architekt für staatliche und internationale Organisationen, zuerst in Arequipa und später in Lima. Stark beeindruckt durch die enorme Selbstbauaktivität in den Barriadas wurde Turner nach eigenen Worten 'entschult' - in Übernahme des Ausdrucks von Ivan Illich. Von nun an widmete er sich der Erforschung der Elemente des Wohnprozesses und der Funktion der Wohnung im Leben der Menschen. In diese Zeit in Peru fällt auch sein Kontakt und eine Phase der Zusammenarbeit mit Trialog-Mitglied Hans Harms. Gemeinsam entwickelten sie unter anderem im April 1962 in Lima eine Ausstellung zu den *Barriadas* und zur inkrementellen Stadtentwicklung in Peru.

Im folgenden Lebensabschnitt, von 1965 an, vertiefte Turner seine Forschungstätigkeit als Professor am Massachusetts Institute of Technology (MIT) und später in London an der AA und der Development Planning Unit des University College. Seine zwei einflussreichsten Bücher, *Freedom to build* (1972) und *Housing by people* (1976) waren maßgebend für die Habitat I-Konferenz der Vereinten Nationen 1976 in Vancouver und begründeten seinen internationalen Ruf als Experte für Wohnungsbau. Im Jahr 1988 wurde Turner der *Right Livelihood Award*, der sogenannte Alternative Nobelpreis verliehen.

Sehr häufig wurde John Turner als unbeirrbarer Verfechter des Selbstbaus im wörtlichen Sinne interpretiert, obwohl er in Wirklichkeit vor allem die Selbstbestimmung der Menschen im Bauen einforderte, vor allem im Hinblick auf das Gemeinschaftliche. Seit Ende der 70er Jahre versuchte er, gemeinsam mit seiner Frau Bertha, zu diesen Ursprüngen zurückzukehren und widmete sich der Mitarbeit in Nachbarschaftsinitiativen, zunächst in London und seit 1989 in Hastings.

In der von den Trialog-Mitgliedern Kosta Mathey und Florian Steinberg mitkonzipierten Bauwelt-Ausgabe 20 vom 27. Mai 1983 zum Thema „Architektur-Kolonialismus", veröffentlichte Turner den Beitrag „Braucht die ‚Dritte Welt' eine neue Architektur?". Er spricht darin Aspekte im Prozess des Planens und Bauens an, die für ihn eng miteinander verbunden sind:

Das ist zum einen die Rolle der Architektinnen und Architekten, als ‚Experten', und ihr Verhältnis zu den Nutzerinnen und Nutzern, den ‚Inperten'. „Genauso wesentlich erscheint mir das Arbeiten mit den Bewohnern, und nicht für sie", schreibt Turner, und fordert hier eine grundsätzlich andere Form von Interaktion auf Augenhöhe. Übertragen auf das Verhältnis zur sogenannten ‚Dritten Welt' - „für mich gibt es nur eine Welt" - heißt das für ihn auch eine Abkehr von der kolonialistischen Sichtweise des Nordens, hin zu einer ebenbürtigen Zusammenarbeit.

Zum anderen fordert Turner *Another Development*, die Notwendigkeit eines kooperativen und

ressourcenschonenden Handelns angesichts der gravierenden ökologischen Probleme der Welt. Bereits vor vierzig Jahren mahnte er in dem Bauwelt-Artikel einen Paradigmenwechsel an: „Für diejenigen unter uns, die den Glauben an grenzenloses Wirtschaftswachstum und den Segen des technologischen Fortschritts verloren haben, wird die Suche nach alternativen Lösungsansätzen zur Überlebensfrage für die Menschheit und - jedenfalls für die jüngeren unter uns - auch für die eigene Person."

In den Jahren seit 2011 bei unserer engen Zusammenarbeit für sein von Geddes inspiriertes Lebensprojekt *Framework* lernten wir John Turner als einen faszinierenden und großzügigen Menschen kennen, der als praxisorientierter Theoretiker interdisziplinär dachte und unermüdlich für eine bessere Welt arbeitete. Das Vorwort unseres gemeinsamen Buches *Por una autonomía del Habitar* (Logroño: Pepitas de Calabaza, 2018) konnten wir im zusammen mit Klaus Teschner herausgegebenen Trialog-Heft zur Habitat III-Konferenz in Quito (Heft 124/125, 2016) vorab drucken. Turner betont darin die unveränderte Gültigkeit eines auf lokale Selbsthilfepraktiken gründenden Paradigmas für den Wohnungsprozess und sucht nach Kriterien für ihre Messbarkeit: Inwieweit treten die Prinzipen der Subsidiarität, der nötigen Vielfalt und der Ökonomie in Erscheinung und werden praktiziert, inwieweit werden die drei fundamentalen Bedeutungen von Gemeinschaft (*Community*) unterstützt? Dabei geht es erstens um die Mensch-zu-Mensch-Beziehungen; zweitens um die Stärkung von Gemeinschaften und Nachbarschaften durch solche persönlichen und lokalen Beziehungen; und drittens um die Verwandlung der Gesellschaft in eine *Community of all life*, ein Gemeinschaftsverständnis aller Lebensbeziehungen und –zusammenhänge auf dieser Erde.

Die Sorge um die Zukunft unseres Planeten dominierte das Denken Turners bis kurz vor seinem Tod. Sein Vermächtnis ist in einer Welt, die in einer tiefen ökologischen und sozialen Krise steckt, relevanter denn je. Turners umfangreiches Archiv wurde noch zu seinen Lebzeiten ins Historische Archiv des Col·legi d'Architectes de Catalunya (COAC) in Barcelona aufgenommen. Wir werden unser Möglichstes tun, es zu pflegen und universell zugänglich zu machen, um seine Ideen weiter zu verbreiten und um aus ihnen neue architektonische und soziale Werkzeuge zu entwickeln.

Kathrin Golda-Pongratz, José Luis Oyón
und Volker Zimmermann

Editorial (Deutsch)

Zerstörte Städte müssen nicht nur ihr physisches städtisches Umfeld wieder aufbauen, sondern auch ihr soziales Gefüge (wieder)organisieren, ihre wirtschaftliche Zukunft sichern und in vielen Fällen ihre Ortsidentität (wieder)herstellen. Doch wo fangen sie bei der Planung der Wiederherstellung und des Wiederaufbaus an? Welche Prozesse werden durchgeführt? Welche Akteure sind daran beteiligt, und in welcher Weise beeinflusst das Ausmaß der Zerstörung und die anschließende Planung/Entscheidungsfindung die Zukunft dieser Städte? Inmitten eines anhaltenden zerstörerischen Krieges in Europa sowie im Kontext häufiger Naturkatastrophen auf der ganzen Welt sind die Planung des Wiederaufbaus und der Wiederherstellung Forschungsthemen, die erneute und dringende Aufmerksamkeit erfordern.

Einerseits verursacht ein Krieg große und hochkomplexe Störungen in einer Stadt, die von der Infrastruktur bis hin zu den Lebensgrundlagen der Einwohner reichen. Andererseits scheint der Krieg ein wichtiger Katalysator für städtischen Wandel zu sein. Daher gibt es auf dem Gebiet der Nachkriegsplanung, des Wiederaufbaus und der Wiederherstellung noch viel zu untersuchen. Die vorhandene Literatur hat dieses Thema aus verschiedenen Blickwinkeln untersucht: Architektur, Stadtarchäologie, Kulturerbe, Städtebau, Stadtplanung, kritische Kartografie und Sozialgeografie. Forscher haben die Anzahl und Art von Bombenangriffen auf ausgewählte Städte und die dadurch verursachten dokumentiert und quantifiziert, Wiederaufbaubemühungen, alternative Planungsvisionen und -entwürfe sowie deren Hinterlassenschaften untersucht, und in jüngerer Zeit den Fokus auf die Karten des Krieges verlagert, indem sie ihre Herstellung, ihren Zweck und die Informationen, die sie darstellen und vermitteln, kritisch beschreiben und „lesen". Die vorliegende Doppelsonderausgabe baut auf dieser Arbeit auf, erweitert die bestehende Wissensbasis, vertieft den geografischen Fokus und fördert das Verständnis für die unterschiedlichen Absichten, Strategien und Logiken des städtischen Wiederaufbaus und der Stadtplanung in der Nachkriegszeit sowie deren Hinterlassenschaften in den heutigen Städten. Auf diese Weise liefert sie eine kritische Stellungnahme zur Stadtplanung und zum Wiederaufbau von Städten/Ländern und ihren Gemeinden, die von den Folgen von Krieg und Katastrophen betroffen sind.

Am Beispiel Großbritanniens und Irlands in der Nachkriegszeit erörtert **Congreve**, wie durch das Projekt New Jerusalems eine neue Evidenzbasis entwickelt und den Forschern der New-Town-Bewegung zur Verfügung gestellt wird, die eine bedeutende neue Ressource für die Erforschung beispielsweise der Auswirkungen von Wohnungsbau und Stadtgestaltung auf die öffentliche Gesundheit darstellt.

In ähnlicher Weise untersucht **Sedlmeyer**, wie die jüngsten Forschungen auf dem Gebiet der Schadenskarten des Zweiten Weltkriegs zur Entdeckung einer reichhaltigen Sammlung von unerforschtem Archivmaterial in ganz Deutschland geführt haben. Er untersucht die alternativen Interpretationen, fehlende Informationen und hinterfragt kritisch die Hintergründe, Absichten und Genauigkeit der Karten.

Mathortykh untersucht die Darstellung der Kriegszerstörung und die Planung des Wiederaufbaus und der Wiederherstellung nach dem Krieg mit Hilfe digitaler Formen der Kartierung. Anhand mehrerer digitaler Mapping-Projekte zeigt er, wie die Zerstörung ukrainischer Städte und die allgemeinen Auswirkungen zeitgenössischer Kriege auf urbane Räume nachverfolgt werden können.

Mit Hilfe von GIS und einem Urban-Analytics-Ansatz zeigen **Alvanides** und **Ludwig**, wie Informationen aus vergangenen Schadensaufzeichnungen extrahiert und in räumliche Daten umgewandelt werden können, die mit einem GIS visualisiert und analysiert werden können. Diese Methode ermöglicht es den Forscher:innen, mit den in Karten gefundenen Informationen auf neuartige Weise zu arbeiten und neue Wege zur Analyse von Nachkriegsstädten zu finden.

Bertram untersucht den Wiederaufbauprozess von Belfast, einer Stadt, die durch den Nordirlandkonflikt schwer getroffen wurde und in einigen Teilen immer noch segregiert und fragmentiert ist. Sie bewertet und erörtert die Art und Weise, in der die Wiederaufbaubemühungen darauf abzielten, das Image der Stadt durch eine Vision der „Normalisierung" zu verändern.

Aufbauend auf dem Begriff des Stadtbildes untersucht **Gierko**, wie sich die geopolitischen Grenzveränderungen, die Popowice in Wrocław betrafen, und der anschließende Wille, eine polnische Identität zu (re)konstruieren, auf die nachfolgenden Wiederaufbaubemühungen auswirkten.

Bei der Untersuchung des Wiederaufbaus von Skopje nach dem Erdbeben von 1963 untersuchen **Korolija** und **Pallini** die Debatten und alternativen Szenarien, die für die künftige Entwicklung der Stadt vorgeschlagen wurden, sowie den Zusammenhang zwischen dem Gigantismus geplanter architektonischer Projekte, den technischen Aspekten der Stadtplanung und den grundlegenden Anforderungen der Gegenwart an Notunterkünfte.

Am Beispiel des Konflikts in Aleppo, Syrien, zeichnet **Laue** die Entstehung von formellen und informellen Netzwerken und Kooperationen im Vorfeld von Konflikten und deren Potenzial für den Wiederaufbau nach Konflikten nach. Sie erörtert die Rolle kontinuierlicher internationaler Diskurse und Expertennetzwerke sowie die Notwendigkeit eines koordinierten Austauschs zwischen allen beteiligten Akteur:innen.

Im Kontext der langen Nachwirkungen der Revolutionen des Arabischen Frühlings und des damit verbundenen bewaffneten Konflikts in Benghazi, Libyen, betont **Serag** die Notwendigkeit eines „Interventionsrahmens" und internationalen Engagements und der Zusammenarbeit, die seiner Meinung nach für eine wirksame Planung, Investitionen/Zugang zu Finanzmitteln und den Aufbau auf vorhandenem Wissen/früheren Erfahrungen unerlässlich sind.

Schließlich untersucht **Rizk** durch die Linse des sozialen Kapitals die Steuerung des Wiederaufbaus anhand der Beispiele des Wiederaufbaus in Beirut nach dem Krieg 1992 und des Wiederaufbaus nach der Explosion im Jahr 2020.

Carol Ludwig, Seraphim Alvanides & Franziska Laue

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