From Streets-in-the-Sky to a Castle in the Air

Development and Decline of a Concept (1952-1980s)

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Abstract

After World War II, various architectural theories were proposed for urban development in order to tackle the societal issues and housing issues arising from the post-war trauma. 'Streets-in-the-sky', proposed by the English architects Alison and Peter Smithson in 1952, was one of the concepts that emerged in the post-war era and advocated the core values of human association and identity in the city. The Smithsons conceived the concept as a solution to the lack of public space on ground level due to the proliferation of automobiles, envisaging a vibrant uplifted public life. Hence, the notion gained critical acclaim in the early 1960s since it was also a response to the rigid urban planning of CIAM, prioritized community as a critical fragment in design and no long treated human as functioning machines. Nevertheless, the notion received increasingly negative feedback as more housing following this concept was built and gradually became viewed as a castle in the air. Scholars and the public no longer perceived the idea as a feasible design solution for the society. This thesis will deconstruct the concept through historical and socio-political lenses using three reference projects: Golden Lane Competition, Park Hill Estate and Robin Hood Gardens. The thesis investigates also the external and internal forces that turned 'streets-in-the-sky' into a castle in the air. The paper would be divided into three parts to understand the development and decline of the notion. What were the driving forces that fostered the formulation of 'streets-in-the-sky'? How did architects implement this architectural theory into practical usage? What were the factors that led to negative public perception of the notion? Although the original ideas were not able to materialize as perfectly as expected in the 1960s, the urban values and historical values are inherited and engender an immense impact to later city development as vertical connection cores and elevated walkways re-appeared in metropolises in the recent decades.

Keywords

streets-in-the-sky, Alison and Peter Smithson, social housing, uplifted public life, human association, identity

Introduction

'Streets-in-the-sky' is a concept proposed by the English architects Alison and Peter Smithson in 1952 for the Golden Lane housing design competition in the City of London,[1] and expanded into a town planning typology in their writings from 1957.[2] The concept aims to re-establish community bonding and local identity in postwar Britain, in response to the rigid urban planning upheld by CIAM. Although the Smithsons were not awarded the Golden Lane commission, the concept was later widely adopted in council housing in England in the 1960s to 1970s. Despite critical acclaim early in the 1960s,[3] the concept gradually received an infamous reputation, and eventually became abandoned for use in housing.[4] The scholarly criticism it received targeted both its theoretical basis and its implementations. In 1961, Jane Jacobs argued that 'streets-in-the-sky' was based on a utopic idea, since it was impossible to exclude basic ground context from authentic street life.[5] On the other hand, Alice Coleman, a British geographer, criticized 'streets-in-the-sky' from a practical perspective for the widened access decks becoming a criminal escape route in 1985.[6] These scholars gave the impression that 'streets-in-the-sky' was merely a castle in the air, an unrealistic impractical dream of some architects. Nevertheless, due to the densification of cities, 'streets-in-the-sky' re-appeared recently in some metropolitan cities, albeit in different forms such as connection cores between high-rise buildings.[7] This proves that the concept of 'streets-in-the-sky' is still relevant in contemporary times, and lessons should be drawn from its past successes and failures. Despite plenty of critiques on 'streets-in-the-sky', there is not yet a complete and coherent account of the history of the concept. This research paper thus fills the gap, retracing the urban and historical value of 'streets-in-the-sky'.

This research studies the concept of 'streets-in-the-sky' through three aspects: (1) its theoretical origin, (2) its practical implementation, and (3) its fall due to changing public reception. Through these three aspects, this paper aims to understand the Smithsons' contribution towards the development of communal life in council housing in England since the 1950s through the concept of 'streets-in-the-sky' and explore the reputation transformation of the concept in the following years.

The research is based on three case studies, the first of which explains the theoretical origins of the concept, and the remaining two are examples of implemented 'streets-in-the-sky'. The first case study is the unbuilt submission by the Smithsons for Golden Lane Competition (1952). It is significant as the concept of 'streets-in-the-sky' was first coined in this design scheme with widened elevated walkways, and its unbuilt, speculative nature illustrates well the theoretical intentions of the Smithsons. The second case study is Park Hill in Sheffield, designed by the city council's architects, and completed in stages from 1959 to 1965. It is a critical case study as it was the first built housing project inspired by 'streets-in-the-sky', a recipient of Ministry of Housing and RIBA awards, and a Grade II* listed building.[8] The third case study is Robin Hood Gardens in London designed by the Smithsons themselves, completed in 1975. Its importance lies in that it was the only built 'streets-in-the-sky' housing project designed by the Smithsons themselves, supposedly the most precise translation of the concept into real projects.

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[1] João Cunha Borges and Teresa Marat-Mendes, "Walking on Streets-In-The-Sky: Structures for Democratic Cities," *Journal of Aesthetics & Culture* 11, no. 1 (2019): 1596520, https://doi.org/10.1080/20004214.2019.1596520.
[2] Alison Margaret Smithson and Peter Smithson, "Cluster City: A New Shape for the Community," *Architectural Review* 122, no.730 (November 1957): 333-36.
[3] "Building Revisited: Housing at Park Hill and Hyde Park, Sheffield," *The Architects' Journal* 142, no. 3 (July 21, 1965): 157–70, https://www.proquest.com/trade-journals/building-revisited-housing/docview/1617832737/se-2?accountid=10673.
[4] Christopher W. Bacon, "Streets-in-the-Sky: The Rise and Fall of Modern Architectural Urban Utopia" (PhD thesis, University of Sheffield, 1982), https://etheses.whiterose.ac.uk/3014/.
[5] Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY: Random House, 1961), 42.
[6] Alice Coleman, *Utopia on Trial: Vision and Reality in Planned Housing* (London: Shipman, 1985), 22.
[7] Rafael Gomez-Moriana, "Reassessing the Street-In-The-Sky in Times of Coronavirus," Criticalista, June 26, 2020, https://criticalista.com/2020/06/26/reassessing-the-street-in-the-sky-in-times-of-coronavirus/.
[8] Sheffield City Council, "Sources for the Study of Park Hill and Hyde Park Flats," June 2018, https://www.sheffield.gov.uk/home/libraries-archives/access-archives-local-studies-library/research-guides/park-hill-flats.

The paper is structured according to these three aspects into three chapters. The first chapter is descriptive, focusing on the theoretical side of the concept. It relies on qualitative literature review of secondary sources, in particular the original submission for the Golden Lane Estate, and the Smithsons' theoretical publications, e.g. *Urban Structuring*. It discusses the origins of the concept, its meaning and constituent components, and the timeline of its emergence, illustrating how it began as a housing strategy but expanded from 'street' level to 'city' level into a large-scale multi-district urban scheme.

The second chapter establishes a comparative analysis, focusing on the practical side of the concept. This chapter makes use of qualitative image/plan analysis of published scaled drawings and photographs, and literature review of secondary accounts of Park Hill and Robin Hood Gardens in books like Glendinning's *Mass Housing*. These materials illustrate how the concept was implemented in built projects, and how the implementation compares with the original theoretical intentions. It explains how the grand vision from the Smithsons was inherited into practice, studying the discrepancies between concept and practice through an examination of the statutory regulations and the social background in post-war Britain.

The third chapter then queries how the concept interacted with the public through the built projects and in the media. It discusses the initial public perception of the idea and the subsequent evaluations of the concept's effect in media and by scholars throughout the decades, and identifies the turning points, using quantitative data from the secondary source of *The Park Hill Survey* conducted by the social worker Mrs. Joan F. Demers in 1962, and a qualitative analysis of critiques published in journals including *The Architects' Journal*. This chapter describes how the reputation changed throughout the decades, from the critical acclaim that led to the wide adoption in English council housing in the early stage, to the infamous reputation that led to demolition of elevated walkways in some projects after the two deaths in the Broadwater Farm Riot in 1985. It also explores other motives which gave rise to the infamous reputation of this concept. Discussions of the subsequent developments at the case studies in the conclusion will also make use of primary photographic materials collected during a site visit to Park Hill in December 2021.

There are two major limitations. The first limitation is related to site visit, which was only conducted for Park Hill. Since the western block of the Robin Hood Gardens was already demolished in 2017, site visit is not possible, and research must rely on historical documents. The transformation of Park Hill into private housing also barred the extent of site visit to the public areas only, and primary study of the interior spatial and living quality was not feasible. The second limitation relates to the lack of photographic materials of the case studies outside architectural journals, which tend to depict clean, empty spaces rather than the daily life of residents. Some are available in the architects' archives, the UK's National Archives or Sheffield City Archives, but are not accessible due to the spatial and temporal constraints of this research, especially since traveling is difficult during COVID-19. As a result, image analysis of public life on the access decks remains of interest for future research.

The abundance of multi-storey housing that lack bonding among their residents in recent decades prove that Alison and Peter Smithson asked a relevant question: will street life disappear? Nevertheless, a discrepancy emerged between the proposed theory and in real life since various critical elements, including existing site context as well as social atmosphere, were being neglected during the concept implementation. Although 'streets-in-the-sky' was abandoned in the later development of housing estate design in England in the 1960s, it is not just a castle in the air and is still relevant 60 years after it was defined. Its urban values and contributions stayed along and possibly affected the urban development in other countries and other periods of time.

Chapter 1 | The Origin of the Concept

The notion of 'streets-in-the-sky' was first revealed in the Golden Lane Estate competition in 1952 and presented to CIAM 9 in Aix-en-Provence with further elaboration on the theory in 1953.[9] The concept was first proposed in a housing design competition and was primarily applied in social housing subsequently by different architects in the form of residential collective space on access decks. However, the Smithsons' vision extended into an urban scheme of connected elevated streets. This chapter traces back to the Smithsons' criticism of contemporary town planning theory and practices, and of English vertical housing design in the post-war period, to explain why the Smithsons proposed 'streets-in-the-sky' as both an architectural and an urban solution.

Tracing back to the modernist movement in the early twentieth century, ideologies of functionalism and rationalism were introduced in architecture and urban planning design, aiming for efficient city reconstruction in order to settle the political turmoil and social upheaval during the post-war period. The Charte d'Athene, developed by Le Corbusier based on the fourth CIAM conference in 1933 and his own theory of Radiant City, was published as a universal urban planning guiding theory in 1943.[10] It revealed a grand vision of a new city, urging to achieve slum clearance, develop a network for mass transport as well as segregate programmes according to functional zoning. Despite the fact that the standardization methodology facilitated city reconstruction, the Smithsons perceived it as an obsolete and unsatisfactory town planning system since human association and identity was not taken into account.[11] The Smithson's positioned architecture had the responsibility to identify the actual 'social pattern' and the 'human structure' in each individual place by virtue of conducting surveys before implementing a theoretical solution into planning.[12] Hence, the Smithsons also stated that 'theory and practice must be tied to local culture and local problems if a useful, meaningful and beautiful built form was to emerge.'[13] Since the architectural products from the early modernism period are all formulated and looked identical, 'identity' was barely being discovered and substantially resulted in a lack of sense of belonging among the inhabitants. That was also the reason why in the book of *Ordinariness and Light*, the Smithson's noted that 'each generation feels a new dissatisfaction, and conceives of a new idea of order'.[14] Moreover, the notion of the Garden City movement and the Rationalism of the 1930s were no longer suitable in the 1950s. The young architects perceived a sense of detachment between the architecture and the real-life situation; therefore, the architecture gradually became meaningless.[15]

Against the background of these town planning theories that constituted cities with functions, the Smithsons began to reconsider what the fundamental building blocks of a city were. Referring back to the Charte d'Athene, the Smithsons criticized that the text delivered an expression of inhuman conditions in living, treating human beings as machines by merely dividing the city into 'four functions': life, work, leisure and transport infrastructure. Taking transport infrastructure as an example, automobiles began to be popular among the public in the twentieth century, the transport network invaded the urban development of the ground floor and the pattern of streets transformed. 'Life-of-the-streets' gradually faded away and the inhabitants no longer had a public space for gathering or chit-chatting. Meanwhile, the content of the Charte d'Athene was too diagrammatic to implement the concept into reality. As a consequence, the Doorn Manifesto, a response statement of the Charte

[9] João Cunha Borges and Teresa Marat-Mendes, "Walking on Streets-In-The-Sky: Structures for Democratic Cities," *Journal of Aesthetics & Culture* 11, no. 1 (2019): 1596520, https://doi.org/10.1080/20004214.2019.1596520.
[10] Christopher W Bacon, "Streets-In-The-Sky: The Rise and Fall of Modern Architectural Urban Utopia." (1982), 81.
[11] Alison Smithson and Peter Smithson, *Ordinariness and Light: Urban Theories, 1952-1960, and Their Application in a Building Project 1963-1970* (Cambridge, MA: MIT Press, 1970), 126.
[12] Peter Smithson, William Holford, and Arthur Ling, "Planning Today," Architectural Design, June 1957, pp. 185-188.
[13] Bacon, "Streets-In-The-Sky: The Rise and Fall of Modern Architectural Urban Utopia.", 82.
[14] Smithson and Smithson, *Ordinariness and Light*, 104.
[15] Smithson and Smithson, *Ordinariness and Light*, 104.

d'Athene, was published by Team 10, of which the Smithsons were members, in 1954. Different from Charte d'Athene, the manifesto proposed to consider every community in a specific environment in order to perceive the pattern of the human association.[16] It was noticeable that community and city planning obtained an inseparable relationship from the perspective of the Smithsons.

Figure 1. Ossulston Estate in Camden, London, built in 1927-31, council housing. (Levita House, Somers Town. cc-by-sa/2.0 - © Stephen McKay - geograph.org.uk/p/2762895.)

Figure 2. Myrtle Gardens in Liverpool, built in 1937, courtyard-type council housing (Liverpool Record Office, Liverpool Libraries, appeared in Agkathidis and Gutiérrez, "Public High-Rise Blocks," 7-8)

Figure 3. Churchill Gardens in Westminster, London, result of competition of 1946, *Zeilenbau*-type council housing ("Flats in Antrobus Street, Pimlico, SWI, for the Westminster City Council," *The Architects' Journal* 112, no. 2910 (December 7, 1950): 481–87)

Another major factor that fostered the notion of 'streets-in-the-sky' was vertical housing design in the post-war period. Council housing is social housing built by local authorities with public funds. Development of council housing began in Great Britain following the 1919 Housing Act, also known as the Addison Act. Council housing initially adopted traditional typologies such as cottage houses in suburbs.[17] The 1930 Housing Act that allocated funds by the number of people housed encouraged the construction of flats, leading to the rise of new typologies of apartment buildings, including that of courtyard buildings and *Zeilenbau*.[18] Ossulston Estate in London (Figure 1), Myrtle Gardens in Liverpool (Figure 2) and Churchill Gardens in Westminster (Figure 3) were typical of council housing of that era. These housing estates were between 5-8 storeys high and featured narrow access galleries and equally narrow balconies. This design layout did not encourage vertical communication and connection with neighbors, which, in a sense, deprived the families of an essential community life.[19] Despite the presence of galleries connecting neighboring flats, the narrow widths limited communication between neighbors on the same floor to a simple nod, and resulted in poorer social bonding as well as human association among the dwellings.[20] In response to these typical urban housing typologies at the time in England, the Smithsons reconsidered the necessities of the inhabitants and came to a conclusion that mass housing complexes should facilitate residents to form their own community.

After the Smithsons recognized the issues identified in both city and building level in the post-war period, they decided to re-explore the intrinsic quality of the street and transformed the idea into an urban solution, incubating 'streets-in-the-sky'. The formation of the concept started from reviewing the significance of the 'streets'. A research on the social pattern emerged from Byelaw Streets was recorded in *Urban Structuring*, indicating that a sense of safety and social bond arose spontaneously in such a densified area when an obvious but simple pattern of the street was formed. The street was situated in between approximately two rows of 20 terrace houses with backyards which were facing oppositely. The formation of these 'slum' streets demonstrated that access was not the only function of the street,

[16] Alison Margaret Smithson and Peter Smithson, *Urban Structuring: Studies of Alison & Peter Smithson*, ed. John Lewis (London: Studio Vista, 1967), 18-19.
[17] Anne Power, Hovels to High Rise: State Housing in Europe since 1850 (London: Routledge, 1993), 181.
[18] Asterios Agkathidis and Rosa Urbano Gutiérrez, "Public High-Rise Blocks in Britain: A Brief Review of Their Historic Context," in Sustainable Retrofits: Post-War Residential Towers in Britain, 1st Edition (London: Taylor and Francis, 2018), 3-8, https://doi.org/10.4324/9781315537344.
[19] Smithson and Smithson, *Ordinariness and Light*, 50-51.
[20] Smithson and Smithson, *Ordinariness and Light*, 50-51.

meanwhile it also provided a platform for social expression.[21] This example in the book explored the relationship between house and streets, and hence manifested the vitality of the preliminary idea of the 'life-of-streets' in society. In addition, the book also stated that '... a community should be built up from a hierarchy of associational elements and tries to express the various levels of association - the house, the street, the district, and the city'.[22] 'Streets', being part of the primary components of the city, are closely related to both public life and private housing. Streets were thus chosen by the Smithsons as a starting point to address the urban and housing issues they observed.

The vision of the 'streets-in-the-sky' was derived from re-investigating the core value of 'streets'. It envisaged to adopt the existing spirit into a newly designed elevated street typology. Hence, the notion also fostered the development of effective group spaces, serving a role of identification and enclosure, aiming to recreate the vibrant street life.[23] Cities should not be planned in advance, parallel to current social situation, yet it should grow bit by bit according to the societal evolvement.[24] In the meantime, the Smithson recognized the disappearing street life and an absence of social bonding as the main issues at that era. Therefore, they envisaged revitalizing the form of the old communities through a modern methodology, instead of conceiving a brand-new theory groundlessly.

The idea of 'streets-in-the-sky' was first conceptualized in the Golden Lane Estate competition in 1952, in which the design emphasized the essence of identity and human association. The concept could be structured in three prime aspects: (1) its form, (2) the interior streets, and (3) its expansion. The building layout of the Golden Lane Estate was inspired by indicative graphics sketched by Paul Klee, a Swiss-born German artist talented in the styles of expressions and cubism.[25] The sketches resembled the rasping legs of a grasshopper, which symbolized a message of connection and movement, and hence transformed it to an idea of new building order (Figures 4-5). Accordingly, a similarity between the sketches and the building floor layout could be observed since all residential blocks were connected with the spine.

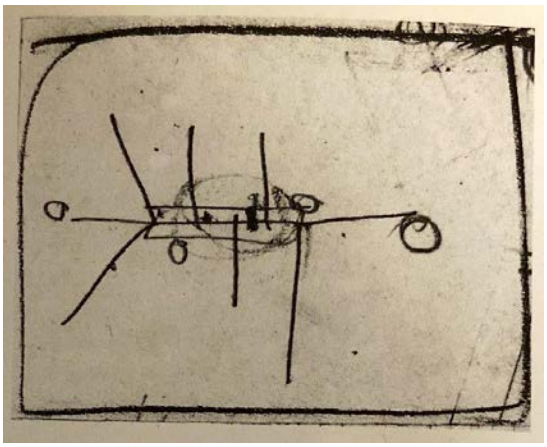

Figure 4. Originating ideogram of street-twig as a unit of the district. (Smithson and Smithson, *The Charged Void: Architecture, 84.)*

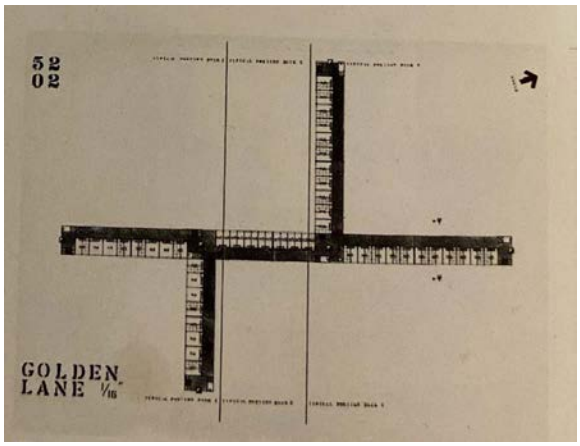

Figure 5. Typical Deck Plan of Golden Lane in 1952. (Smithson and Smithson, *The Charged Void: Architecture, 84.)*

The second major component of the idea was the 'interior streets', which connected with the individual dwellings, was also widely known as the elevated decking for the uplifted public life. The Smithsons envisioned the decking design situated in the high-density residential complex would perform as a

[21] Smithson and Smithson, *Urban Structuring: Studies of Alison & Peter Smithson*, 15.
[22] Smithson and Smithson, *Urban Structuring: Studies of Alison & Peter Smithson*, 15.
[23] Smithson and Smithson, *Ordinariness and Light*, 52.
[24] "Planning Today", 186.
[25] Marcel Franciscono, "Paul Klee," in *Encyclopedia Britannica*, December 14, 2021, https://www.britannica.com/biography/Paul-Klee.

connection core. ‘Streets would be places, not corridors or balconies’, stated in *The Charged Void: Architecture*[26], and thus the decking in the Golden Lane could be divided into two typologies. The ordinary decking system served as a circulation purpose and expected a large number of people would pass through and utilize the space whereas another one functioned as a thoroughfare that led to a leisure complex with shops, post boxes, and telephone kiosks, etc. The comprehensive elevated decking system design fostered social entities and emphasized the need for identity.

Last but not least, the ultimate goal of ‘streets-in-the-sky’ was to achieve a cluster city. This following sketch (Figure 6) demonstrated a study of the formation of the street deck complex and how it could facilitate as a vertical connection network through the city. Since the vertical circulation were interwoven with the complex street pattern, it demonstrated the concept was not intended merely to focus on the building scale, yet also applied in a city scale. These elevated walkways were envisioned as a connection bridge between the different neighborhoods and thereby-re-establish the bonding in the city through creating a new uplifted public life.

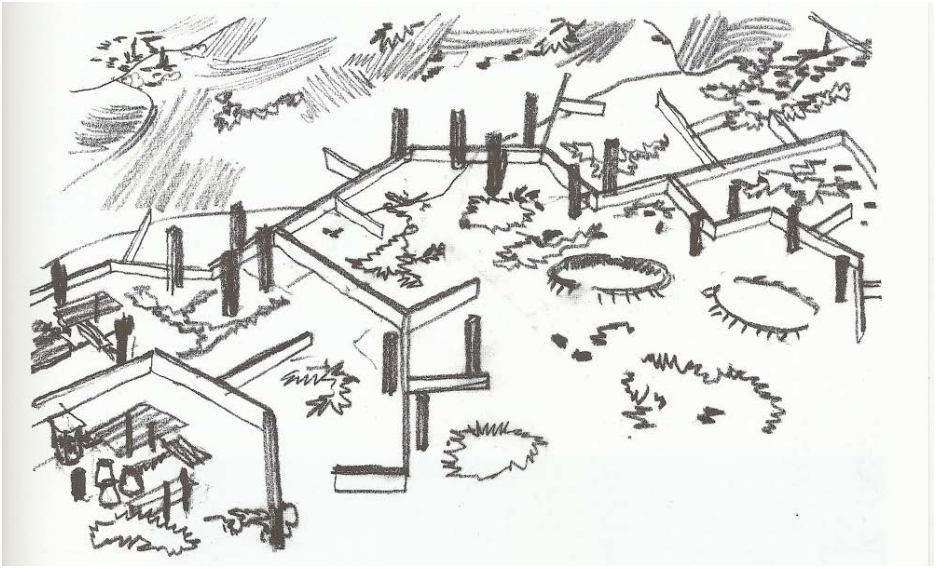

Figure 6. Study sketch of street deck complex for Golden Lane in 1952, (Smithson and Smithson, *Urban Structuring: Studies of Alison & Peter Smithson*, 27.*)*

[26] Alison Margaret Smithson and Peter Smithson, *The Charged Void: Architecture* (Monacelli Press, 2002), 86.

Chapter 2 | The Implementation of the Concept

Theory and practice do not always align. Such was the case of 'streets-in-the-sky. The Smithsons proposed a grand vision in the idea of 'streets-in-the-sky', aspired to forge it as a primary element to develop the 'cluster city', conceived as a new typology of urbanism of human association and re-discovery of identity. Nevertheless, the idea had never been applied in a large-scale urban fabric; in contrary, the development of the idea was merely constrained to the level of individual buildings. Therefore, this chapter investigates the implementation of the concept in detail, analyses how the fragments from the original concept were inherited into the realized project and identifies the major discrepancy in between. The following were the two case studies selected to conduct a comparative analysis with the Golden Lane competition: (1) Park Hill Estate and (2) Robin Hood Garden. The former project was the first social housing complex that transformed the concept into a realized project, meanwhile, it was also Britain's first completed scheme of post-war slum clearance along with re-housing approximately 1000 inhabitants. The architecture is currently classified as a Grade II listed building status and has recently been renovated into a multi-function residential complex. The latter project Robin Hood Gardens was commissioned to the Smithsons by the Greater London Authority in 1966, which was also the only built social housing estate in their career. Yet, the western block of the Robin Hood Gardens was demolished due to being obsoleted and abandoned in 2017.

The comparison analysis is mainly divided into the following four aspects: (1) the existing site condition, (2) the design aim/goal, (3) the configuration of the massing, and (4) the interior design. The existing site conditions at Park Hill was vastly different from the Golden Lane site, which was empty due to bombardment during WWII. Instead, the old Park Hill district was a slum. The district was identified as one of the most 'undesirable features in the city's present living and working conditions' and gained a notorious reputation of being a center of the crime wave since the 1920s.[27] Accordingly, the initial planning intention for Park Hill Estate was slightly varied with the Golden Lane competition. Not only did it strive to accommodate a large number of inhabitants efficiently and effectively, but also aspired to tackle the inherent social slum issue as well as being forged as an essential element in the urban renewal of Sheffield. Despite the fact that there was a discrepancy between the planning aims, both of the housing projects adopted the 'streets-in-the-sky' as the common methodology. Hence, the architects from both projects also recognized the significant social cohesion value from the 'slum' should be preserved and facilitated as a catalyst to re-establish a sense of community. These projects are aimed to design something more than only a living shelter since social needs are as significant as physical needs.[28]

Although the implementation of 'streets-in-sky' merely remained at the level of the individual building, it indeed attempted to develop the 'cluster' idea within the high dense housing complex. By comparing the site plans of the two projects (Figures 7-8), the configuration of the massing block for the Park Hill project (hatched building clusters in the left) resembled the shape of snakes, and the interlocked configuration created communal courtyards for the inhabitants. The morphology of Park Hill's site plan was analogous to the urban structuring diagram derived from the Golden Lane project, which was recalled as the miniature of the concept of 'cluster city'. Park Hill Estate not merely fostered an internal social entity, but also integrated into the urban fabric of central Sheffield and exemplified as an ambitious inner-city development of its time (Figure 9).

[27] Sir Percy Sillitoe, *Cloak without Dagger* (London: Cassell, 1955), 45; H. Foster, "Some Aspects of the Sheffield Development Plan", in *Sheffield and its Region: A Scientific and Historical Survey*, ed. David L. Linton (Sheffield: British Association for the Advancement of Science, 1956), 243.
[28] William L. Slayton and Richard Dewey, "Urban Redevelopment and the urbanité", in *The Future of Cities and Urban Development*, ed. Coleman Woodbury (Chicago: University of Chicago Press, 1953), 297.

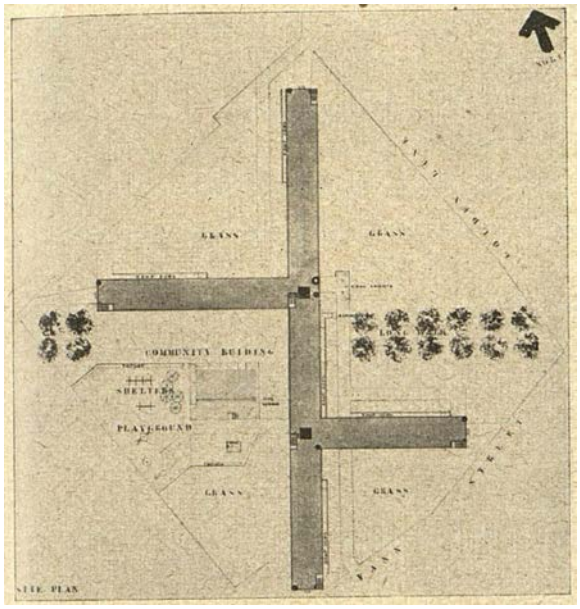

Figure 7. Site Plan of Golden Lane Competition in 1952, Joe Gilbert, ("Golden Lane Competition: A Selection of the Unsuccessful Entries." *The Architects' Journal* 115, no. 2977 (March 20, 1952): 358–62.)

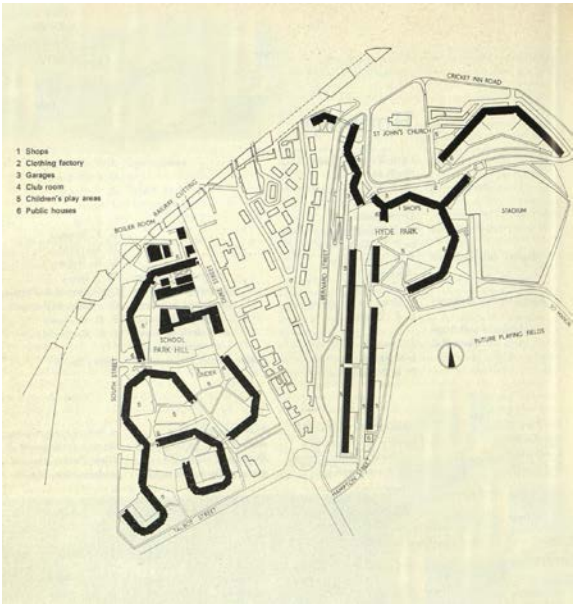

Figure 8. Site Plan of Park Hill in 1961 ("Building Revisited: Housing at Park Hill and Hyde Park, Sheffield." *The Architects' Journal* 142, no. 3 (July 21, 1965), 157–70. https://www.proquest.com/trade-journals/building-revisited-housing/docview/1617832737/se-2?accountid=10673.)

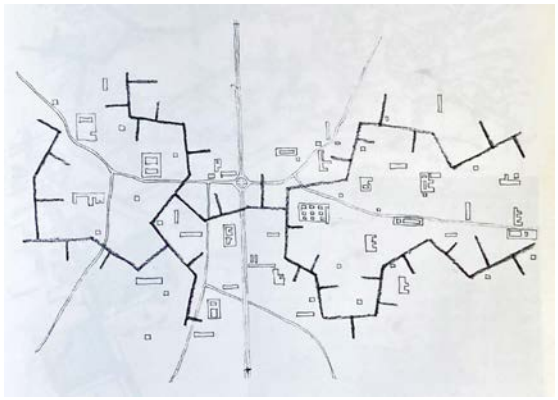

Figure 9. Urban structuring diagram in which Golden Lane-type housing interweaves between the existing context in 1952 (Smithson and Smithson, *Urban Structuring: Studies of Alison & Peter Smithson*, 27.)

The notion of 'streets-in-the-sky' aimed to create a new typology of public life through the elevated walkways. By comparing the visionary photomontage of the Golden Lane competition (Figure 10) with the daily life photos of the Park Hill Estate, it was notable there was a similarity between them. Both projects contained three-meter-wide interior street decks, which were wide enough to enable various activities to occur concurrently instead of merely serving the function of a corridor. A series of daily activities could be observed from the photographs (Figures 11-14), for instance, a young girl took a glance at the exterior views, meanwhile, a group of housewives gathered on a doorstep with some chit-chat (Figure 12). In another photo (Figure 14), it was notable that the street deck provided adequate space for milk delivery, which also hinted the street deck had the potential to function like a traditional street on the ground, yet omitted its physical limit, such as safety issues from traffic. Moreover, these daily activities did not only happen in the street deck but also the connecting bridges between the different housing estates (Figure 13). In order to inherit the community spirit from the Byelaw Streets

comprehensively, public life was not only envisaged in the elevated walkways, but also in the inner courtyard located on the ground floor by providing retail area as well as playground facilities. The comparison analysis demonstrated the initial ambition of 'streets-in-the-sky' was being implemented in the Park Hill Estate successfully and indeed developed into a more all-embracing design approach. The concept was not limited merely to the elevated street decking since the essence of the notion was to re-discover the human association as well as identity in the city through architecture.

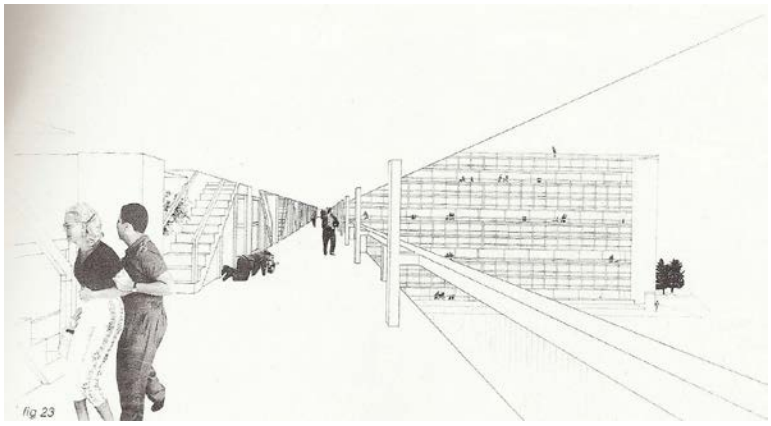

Figure 10. Photomontage of the street deck in Golden Lane in 1953, Alison Margaret Smithson and Peter Smithson, *The Charged Void: Architecture* (Monacelli Press, 2002), 87.

Figure 11. Daily activity in the street deck, Mayne, Roger. *Park Hill Estate, Sheffield*. 1961. 6191px x 4109px. Mary Evans Picture Library, https://www.maryevans.com/search.php?prv=preview&job=5192947&itm=9&pic=12021285&row=3.

Figure 12. Daily activity in the street deck, Mayne, Roger. *Park Hill Estate, Sheffield*. 1961. 6191px x 4109px. Mary Evans Picture Library, https://www.maryevans.com/search.php?prv=preview&job=5192955&itm=2&pic=10430523&row=1

Figure 13. Daily activity in the street deck, Mayne, Roger. *Park Hill Estate, Sheffield*. 1961. 6191px x 4109px. Mary Evans Picture Library, https://www.maryevans.com/search.php?prv=preview&job=5192955&itm=1&pic=10421820&row=1.

Figure 14. Milk Delivery in the street deck, Mayne, Roger. *Park Hill Estate, Sheffield*. 1961. 6191px x 4109px. Mary Evans Picture Library, https://www.maryevans.com/search.php?prv=preview&job=5192955&itm=35&pic=10635189&row=2

After the completion of Park Hill Estate, 'streets-in-the-sky' rapidly became an omnipresent element of urban life in Britain, and numerous massing housing designs adopted 'decking' as the primary design approach. [29] In 1972, the Smithsons eventually encountered an opportunity to embody their theory into a real-life social housing project - Robin Hood Gardens. One might assume that, as the original proponent of the 'streets-in-the-sky', the Smithsons would translate the concept precisely into practice in Robin Hood Gardens, yet it transpired conversely. Comparable to the location background of the Park Hill Project, the site context of Robin Hood Gardens was situated in the Poplar district alongside the river Thames, which was reckoned as a heavily industrial area with severe crime-ridden issues as well as problematic housing management.[30] Referring to the site research diagram carried out by the Smithsons (Figure 15), the essence of the site context was incompatible with human habitation. Industrial buildings scattered nearby, e.g. factories and power stations, provided a context deviating from the human scale, and the surrounding busy traffic routes, as well as ship docks, further cut off the site from this already undesirable context, leading the Smithsons to read the site as a transitional district. As a result, the Smithsons prioritized 'protection' as a major theme, whereas gave less attention to the social linkage and identity in the city which has previously been mentioned in the Golden Lane project.

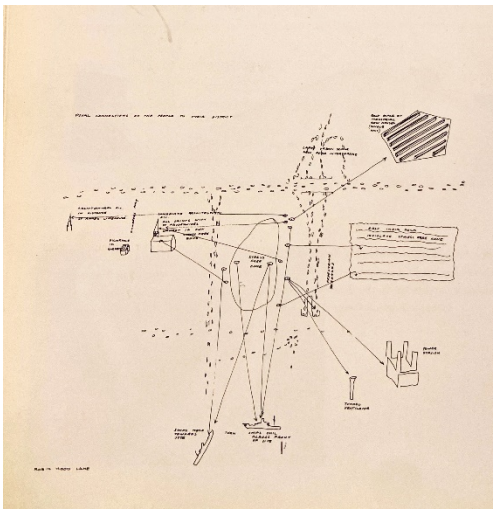

Figure 15. Diagram of visual connection of the people to their district (Smithson and Smithson, *The Charged Void: Architecture, 298.)*

[29] John Grindrod, *Concretopia: A Journey around the Rebuilding of Postwar Britain* (London: Old Street Publishing, 2013).
[30] Mark Crinson, *Alison and Peter Smithson* (Swindon: Historic England, 2018), 69.

Initially, the Greater London Council appointed the Smithsons to design a social housing complex for three small sites along Manisty Street. The sketch (Figure 16) depicted the initial concept of the estate was to coalesce the three separated sites as a cluster of buildings and linked up with a shopping street in the center. Nevertheless, the GLC modified the plan in 1965 and merely redeveloped the southern site as Robin Hood Garden, meanwhile retaining the northern site unchanged due to traffic arrangement. The site plan (Figures 17-18) illustrated the proposed social housing design has wiped off the existing street pattern and building clusters, hence subsequently replacing it with a large-scale housing estate. Unlike the Golden Lane Project, the housing units were not all tied together since the estate was divided into two mega blocks without any connection bridges in between. Hence, the parentheses geometry of the two massing blocks with an implementation of the large green inner space (Figure 19), which formed a self-enclosed community and established a 'stress-free zone'. The initial idea was to provide a tranquil environment for the inhabitants; accordingly, the housing blocks were arranged as a defensive wall toward the external world as well as protection of the inner public space. Yet, its solidity design was regarded as a termination of the project, refusing all kinds of expansion possibilities in the future time which was contrary to the notion of Golden Lane.[31] In the end, the configuration of the architecture induced a sense of detachment from the city.

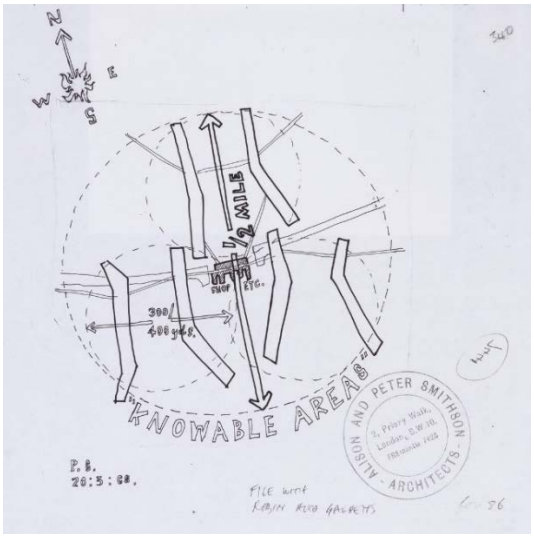

Figure 16. Site Plan Diagram for original design by Peter Smithson (Smithson and Smithson, *The Charged Void: Architecture*, 299.)

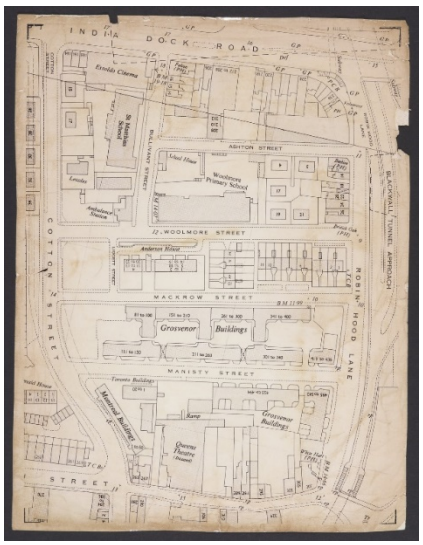

Figure 17. Site plan before development of Robin Hood Gardens (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. Folder BA184. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456585?n=4)

[31] Crinson, *Alison and Peter Smithson*, 71.

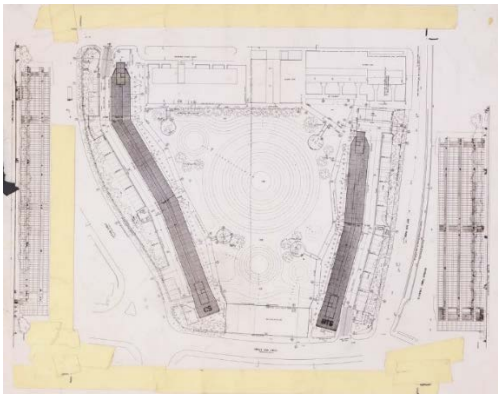

Figure 18. Site Plan and road elevation by Christopher Woodward and Kenny Baker in 1967 (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. Folder BA184. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456585?n=5)

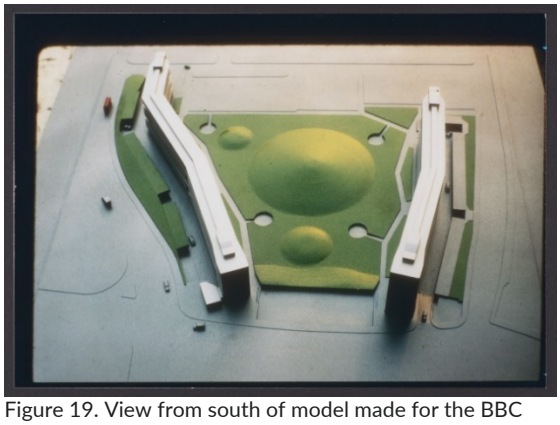

Figure 19. View from south of model made for the BBC television presentation by Peter Smithson in 1970 (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. Folder BA188. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456608)

Despite the fact that the formal feature of elevated walkways, inherited from the Golden Lane scheme, appeared on every third floor, the 'streets-in-the-sky' spirit of access decks as streets vanished in Robin Hood Garden. In the perspective of the ideology formation, the elevated walkways in the Golden Lane were conceived as a social linkage between the inhabitants, yet in the Robin Hood Garden, it was oriented toward the clamorous urban environment and envisaged as a bridging element among the city view and the doorway of the living units (Figure 20). The notion of visual communication between the inhabitants of different blocks and floors was abandoned.

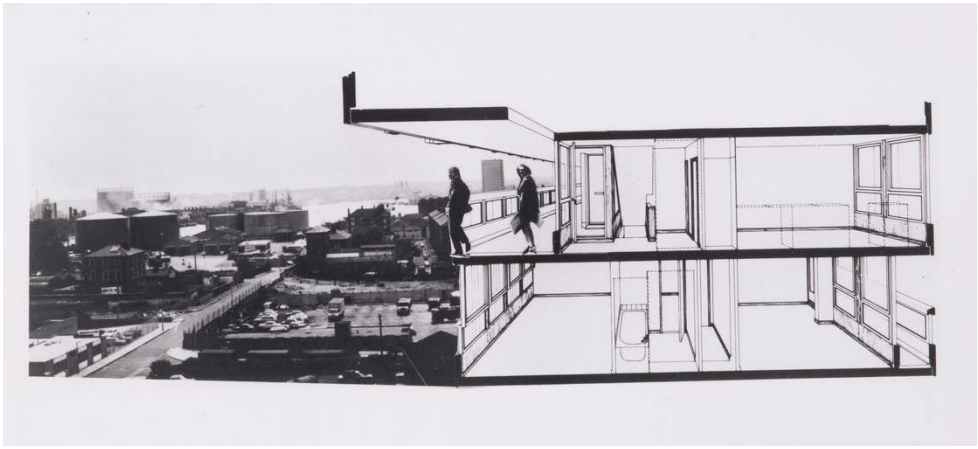

Figure 20. View from south of model made for the BBC television presentation by Peter Smithson in 1970 (Smithson and Smithson, *The Charged Void: Architecture*, 303.)

On the other hand, the interior design and the material usage differed from the Golden Lane montage. First of all, the width of living decks was way narrower and was defined by individual doors and openings instead of staircases (Figures 21-22). Additionally, the solid concrete blocks and milky glass replaced the initial idea of the transparent railing to facilitate a noise barrier system.[32] Hence, the photos depicted an impression of desolation from the decking due to an absence of decoration or pot plant outside the housing units. These various pieces of evidence proved that street decking in Robin Hood Gardens merely served as a conventional corridor with mono-living function, instead of a new typology of public life.

[32] Liran Malka, "Alison and Peter Smithson: The Shifts of Ideas from the Golden Lane Proposal to the Robin Hood Gardens (1952-1972)," April 2014, https://www.academia.edu/6856434/ALISON_and_PETER_SMITHSON_The_Shifts_of_Ideas_from_the_Golden_Lane_Proposal_to_the_Robin_Hood_Gardens_1952_1972.

Figure 21. Girls walking on a 'street-in-the-sky' in Robin Hood Gardens, 1972. (Photograph by Sandra Lousada. From The Smithson Family Collection.)

Figure 22. View from an elevated walkway in Robin Hood Gardens. (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. APS_BA193_0011 (seq. 11). Folder BA193. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456620?n=11)

Other parts of the housing design also manifested that human association and identity proposed from the notion of 'streets-in-the-sky' were being neglected. A slope of rising grass located in the inner yard was designed as an urban oasis and facilitated as a leisure purpose for the inhabitant. Nonetheless, the two stories high hill became an obstruction between the two building blocks, which diminished the visible linkage for the inhabitants from the lower levels (Figure 23). In addition, private balconies were placed on the inner side of the building, enabling surveillance and visual connection toward the grassed public space. Nevertheless, communication with the neighborhood next door was inhibited since there lacked common space for them to gather. Last but not least, the acoustic wall fence isolated the housing estate from the surrounding context, and hence its appearance induced an image of prison which barely associated the social housing complex as a community bonding platform (Figure 24). The design of Robin Hood Gardens tended to take notice of tackling the physical issues from the site context, yet disregarded the genuine social needs.

Figure 23. Hump of lawn blocked the view from the lower floors. (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. APS_BA200_0005 (seq. 5). Folder BA200. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456695?n=5)

Figure 24. The exterior acoustic wall fence. (The Alison and Peter Smithson Archive. Gift of Smithson Family, 2003. Robin Hood Gardens. APS_BA196_0002 (seq. 2). Folder BA196. Frances Loeb Library, Harvard University Graduate School of Design. https://nrs.lib.harvard.edu/urn-3:gsd.loeb:101456641?n=2)

Chapter 3 | The Fall of the Concept

At a housing scale, 'streets-in-the-sky' was envisioned as a system to enhance the living quality of the public by reinforcing their sense of identity toward the community as well as human association. In the early stage, positive comments about public life were recorded in *The Park Hill Survey*, which was carried out by Mrs. Joan F. Demers in 1962. Hence, deck access complex with wide walkways, which was derived from the concept of 'streets-in-the-sky', was adopted as one of the most common prototypes of social housing in England during the 1960s. Nonetheless, in the later stage, the public perceived these deck access complexes as notorious housing typology and hotbeds for criminals. Therefore, this chapter investigates the causes behind such radical change in public perception, thus decoding the fall of the concept.

In the 1950s, housing management in Britain was chaotic since there was a critical issue of housing decay and rapid development of slum areas followed by the end of the second world war. The living conditions and the hygiene standard were undesirable, for instance, 37% of the living units in England lacked a bathroom in 1953.[33] In order to clear slums, urban municipalities were empowered to expropriate land and buildings from private landlords at below market value.[34] Municipalities were also granted additional radical power to resolve the social issue through constructing social housing estates. The need for speed and quantity, coupled with a single landlord/developer per municipality, boosted a wave of post-war mass housing complexes of increasing densities and heights under comprehensive housing planning since the 1960s.[35] Park Hill, being the pioneer of deck-access complex and completed in 1961, received numerous positive feedbacks from the tenants and the scholars in the early stage. This phenomenon could be explained in the following two aspects: (1) its influence on the City of Sheffield and (2) the transformation of the living quality.

In the article from *The Architects' Journal* published in 1964, the Park Hill estate was described as a special landmark in Sheffield with a contribution to society. The community spirit was noticeable among the Park Hill, the inhabitants often arranged activities and charity fundraising to help the elderly. Hence, the residents also possessed a sense of belonging since they would defend their living place when they faced criticism from outsiders.[36] The social linkage between the inhabitants was the initial aspiration for the Smithsons to conceive the notion of 'streets-in-the-sky', who attempted to design 'something more than mere accommodation'.[37]

The emergence of the Park Hill Estate engendered positive impacts toward the city of Sheffield, in both social perspective and urban fabric development. The polygon geometry of Park Hill contributed to a sense of form to the city. A famous British architect James Stirling commented '...the scale of building does indicate a correct twentieth century mechanism which is also in proportion with the hills and ridges that give the town its unique character' in the article.[38] Meanwhile, the housing estate hence transformed as a visual and functional linkage between the redevelopment of the Sheaf Valley area and the city center.[39] Early establishment of the Park Hill Estate aided to establish a good public perception toward the notion of 'streets-in-the-sky' since it was propelling the development and improvement of the city, instead of standing alone as an individual piece of architecture.

[33] Miles Glendinning, "Council Powers: Postwar Public Housing in Britain and Ireland," in *Mass Housing Modern Architecture and State Power - a Global History* (London: Bloomsbury Visual Arts, 2021), 148.
[34] Glendinning, "Council Powers," 148.
[35] Glendinning, "Council Powers,"146.
[36] "Housing at Park Hill, Sheffield," *The Architects' Journal* 139, no. 3 (January 15, 1964), 148.
[37] T. Crosby, "Multi-storey Housing for Sheffield," *Architectural Design* (June 1955), 192.
[38] "Housing at Park Hill, Sheffield,", 149.
[39] "Housing at Park Hill, Sheffield," 148.

The improvement of the living standard was another significant reason for positive responses from the public. One of the articles from *Urban History* also reported that tenants were delighted with their accommodation since the environment of the social housing estate was lavish compared to their previous slum dwelling. In the postwar period, the development of social housing estates was all constrained under the supervision of the Ministry of Housing and the Central Housing Advisory Committee (CHAC).[40] The organization set out minimum standards for the dwelling unit by taking account of dimension, light penetration, and layout design, etc. It also aimed to standardize the hygienic and living quality to provide basic needs for the inhabitant to ensure their health as well as well-being. Therefore, in *The Park Hill Survey* of 1962, 62% of the interviewees were invited to live in the Park Hill Estate, meanwhile, two-thirds of them were satisfied with their dwelling. [41] The inhabitants not only were satisfied with the hardware provided by the building, for instance, comprehensive heating and hot water system but also appreciated the growth of community bonding in the elevated walkways. The deckings had become a gathering venue for the neighborhood, allowing various activities to occur concurrently. In addition, public life also extended to the ground level due to the constitution of a variety of shops and public spaces, which soon facilitated a vibrant social center. [42] Grenville Squires, former Park Hill caretaker, also mentioned in an interview that people could live for weeks without leaving Park Hill, and hence the shops were not merely facilitating the residents in Park Hill, but indeed for the locals living in Sheffield since it was reckoned as a good local shopping center. By summarizing the evidence mentioned above, the early stage of Park Hill fulfilled both physical and social needs for the inhabitants and the locals nearby in the 1960s, which established a good reputation for the housing estate as well as the notion of 'streets-in-the-sky'.

Despite some early evidence of the merits of Park Hill and other deck-access housing projects, urban issues highlighted by Jane Jacobs in her 1961 book *The Death and Life of Great American Cities* gradually appeared in further development of the English deck-access council housing. From New York, Jane Jacob criticized the top-down planning in the city replacing the urban street pattern and destroying the existing complex community life. She also challenged the notion of 'streets-in-the-sky' since she believed street life could not exist without a basic context, thus there was no substitution for the traditional streets. [43]

In the later development of the Park Hill, vandalism and maintenance issues gradually emerged among the housing estate due to the deterioration of the social atmosphere in the 1970s. The public began to perceive the deck access housing as a criminal hotbed, thus such low-profile locations were perfect for drug dealing or other illegal trade.[44] Another historical event that provoked the downfall of British modernist housing architecture occurred in 1968. A gas explosion accident occurred in the Ronan Point council estate in Newham, East London, resulted in a collapse of an entire corner of the architecture. This accident led to four death cases and seventeen injury cases. Throughout the investigation of the accident, the engineers discovered a problematic joint connection between the vertical walls since the workers had replaced some of the concrete with newspaper during construction, which eventually induced such disasters.[45] In view of the fact that pre-fabricated concrete panels used in the construction of Ronan Point were also widely used in other post-war housing projects, the safety concern of living in tall tower blocks aroused among the public. Hence, the public believed the design principle of modern architecture should take account of the responsibility for the Ronan Point accident, albeit the architects

[40] Matthew Hollow, "Governmentality on the Park Hill Estate: The Rationality of Public Housing." *Urban History* 37, no. 1 (May 2010), 117–35.
[41] "Building Revisited: Housing at Park Hill and Hyde Park, Sheffield." *The Architects' Journal* 142, no. 3 (July 21, 1965), 157–70.
[42] John Grindrod, *Concretopia: A Journey around the Rebuilding of Postwar Britain* (London: Old Street Publishing, 2013).
[43] Jane Jacobs, *The Death and Life of Great American Cities*, 42.
[44] Grindrod, *Concretopia*, 225.
[45] Tim Verlaan, "The Downfall of British Modernist Architecture," Failed Architecture, April 15, 2011, https://failedarchitecture.com/the-downfall-of-british-modernist-architecture.

were barely involved in the building construction procedure. This also initiated the hesitation toward modernist housing development.

Robin Hood Gardens was completed three years after the collapse disaster, meanwhile, it was also one year ahead of the economic crisis in England. Contrary to the Park Hill Estate, Robin Hood Gardens was perceived as flawed since the beginning. [46] This phenomenon could be concluded into two main reasons: (1) the design of the building and (2) the social background during the late 1960s. Charles Jencks, a famous American landscape designer and architectural historian, wrote a critic about the Robin Hood Gardens in 'The New Paradigm in Architecture'. He described Robin Good Gardens as an archetypal reference of the failures of modernism. Hence, it was sarcastic that the design concept of the dwelling has disobeyed the social values that the Smithsons had always advocated and persisted all along. The core values of 'Place, identity, personality, homecoming' were diminished in the design, on the contrary, the atmosphere of 'self-isolation' was manifested in the building.[47] In the potential listing report of Robin Hood Gardens, the design of Robin Hood Gardens was also recognized as a heroic failure, monumental yet inhumane.[48] The architects focused in visualizing their abstract architectural ideas rather than understanding the genuine needs of the residents and providing a decent living condition. The reinforced concrete that had been widely adopted in brutalism architecture also caused a maintenance issue. Figure 25 depicts the extensive spalling of concrete due to the corrosion of reinforcement, which manifested the material chosen by the Architects was not sustainable.

On the other hand, the brutalist architecture faced a challenging moment in the late 1960s due to an immense transformation of sociopolitical conditions.[49] The decade of economic downturn induced various social issues, for instance homelessness, anti-social behavior, and ubiquitous vandalism in the city. This also forged the social housing, including Robin Hood Gardens, into a 'ghetto' of housing for the lower classes and reduced the standard housing in the dwelling. [50] In 1994, architectural critic Robert Maxwell and Italian architect Vittorio Gregotti carried out a site visit in Robbin Hood Gardens. They criticized that the jolly street life in the street-decks did not occur as expected, yet the condition of the corridors was dreadful since broken milk bottles were scattered around and a smell of urine was in everywhere. In addition, the inhumane living condition was also illustrated in the elevation photograph of Robin Hood Gardens (Figure 26), some of the windows were covered up with the timber board and wireframe net due to vandalism. By integrating all kinds of signs, the prototype of deck access housing engendered more issues in both social and practical aspect, rather than solving them.

[46] Peter Stewart Consultancy, "Robin Hood Gardens: Report on Potential Listing," July 2007, https://www.whatdotheyknow.com/request/48673/response/124022/attach/23/Robin%20Hood%20Gardens%20COI%20Report.pdf.
[47] Peter Stewart Consultancy, "Robin Hood Gardens," 10.
[48] Peter Stewart Consultancy, "Robin Hood Gardens," 19.
[49] Crinson, *Alison and Peter Smithson*, 78.
[50] Peter Stewart Consultancy, "Robin Hood Gardens," 9.

Figure 25. The exterior facade showed the corrosion in the concrete reinforcement. (Peter Stewart Consultancy, "Robin Hood Gardens," 9.)

Figure 26. The exterior façade covered up with timber board. (Photograph by I-Wei Huang. From Alamy Stock Photo, March 2017.)

The Broadwater Farm riot incidents in 1985 acted as the last strike to deck-access housing and led to the tail-end of an era of 'streets-in-the-sky'. Broadwater Farm, with elevated concrete walkways following the 'streets-in-the-sky' concept, had been known as a 'hard-to-let ghetto'[51] and a 'gathering ground for [the council's] problem tenants'.[52] On 6th October 1985, following the death of an inhabitant during a police search at home, a riot broke out in Broadwater Farm. [53] The mob threw petrol bombs and other objects from the elevated walkways (Figure 27),[54] and in the confrontations, Police Constable Keith Blakelock was killed by the mob while his team was retreating through the stairs from an attempt to climb up to the elevated walkways.[55] This riot led to heated debate about the design of deck-access housing with wide elevated walkways,[56] and eventually the elevated walkways were demolished for the rehabilitation of the community.[57] After the incident, the public perceived the deck-access housing as a criminal hotbed and a problematic architecture typology. Both brutalist social housing and welfare state had come under concerted attack which ultimately led to the fall of the notion of 'streets-in-the-sky'.

Figure 27. The chaos on the elevated walkways of Broadwater Farm in the aftermath of the riot. (Photograph by Lian Herbert/Getty Images. Reproduced from "What Caused the 1985 Tottenham Broadwater Farm Riot?" *BBC News* (BBC, March 3, 2014), https://www.bbc.co.uk/news/uk-england-london-26362633.)

[51] "RIBA Blames Council for Riot 'Ghetto,'" *The Architects' Journal* 182, no. 42 (October 16, 1985): 49.

[52] Cecily Jones, "Broadwater Farm Riots," in *The Oxford Companion to Black British History*, ed. David Dabydeen, John Gilmore, and Cecily Jones (Oxford: Oxford University Press, 2007).

[53] Jones, "Broadwater Farm Riots".

[54] Timothy Brain, *A History of Policing in England and Wales from 1974: A Turbulent Journey* (Oxford, England: Oxford University Press, 2010), 112.

[55] Tony Moore, *The Killing of Constable Keith Blakelock: The Broadwater Fram Riot* (Hampshire, UK: Waterside Press, 2015), 147–54.

[56] "RIBA Blames Council for Riot 'Ghetto,'" 49.

[57] Chirag Trivedi, "Transforming Broadwater Farm," *BBC News*, October 6, 2005, http://news.bbc.co.uk/1/hi/england/london/4308018.stm.

Conclusion

When the Smithsons proposed ‘streets-in-the-sky’ in 1952, they made important criticisms of town planning theories and practices of the previous decades led by CIAM. The lack of (1) human association and (2) identity in the urban fabric were typical flaws of the functionalist design principles of that time. Their evaluation of the importance of ‘streets’ echoed even with the New Urbanists such as Jane Jacobs in the United States in the 1960s. The Smithsons also rightly identified the proliferation of automobiles and mobility as a major trend in the upcoming decades, and thus the need for housing and urban design that resolve the lack of public spaces on the ground level. The Smithsons’ reinterpretation of ‘streets’ into ‘streets-in-the-sky’ was a reasonable proposition that addressed both the problems with the old paradigm and the trends of the future. This new typology of residential public space was to advocate a vibrant street life not only on ground level but also expanded vertically, scattering within the common areas of the dwelling. The Smithsons even imagined expanding the idea of ‘streets-in-the-sky’ into an interconnected urban network of elevated walkways called ‘cluster city’.

The vision of implementing the notion of ‘streets-in-the-sky’ in the urban scale in the form the Smithsons imagined was unequally implemented in real life, yet ‘streets-in-the-sky’ had an immense impact to the development of social housing in Britain during the 1960s. Park Hill and Robin Hood Gardens illustrate well how difficult it was to implement the concept with all its intentions rather than the mere formal feature of access decks. Even though Robin Hood Gardens were designed by the Smithsons themselves, it did not completely translate the idea of ‘streets-in-the-sky’ since the concept of ‘protection’ from noise pollution and the dreary neighborhood took precedence in the hierarchy of designing decisions, resulting in a self-enclosed residential complex. These design decisions induced a disjunction with the urban context, thus contradicting with the core values of ‘streets-in-the-sky’ of human association and identity. In comparison, it could be argued that Park Hill inherited and manifested the spirit of ‘streets-in-the-sky’ better than the Smithsons’ Robin Hood Gardens. The wide elevated walkways provided communal spaces to the inhabitants and connected with the hilly topography in Sheffield. The design of a complex of shopping streets and communal spaces also expanded the human association between inhabitants and the locals. Albeit the original idea of the ‘streets-in-the-sky’ in the urban scale was never completely materialized, the development of Park Hill could be perceived as an elongation of spirit of the ‘cluster city’.

The public perception toward the two built housing projects were also a critical element to understand the values of the notion of ‘streets-in-the-sky’. Despite the fact that the design concept of both Park Hill Estate and Robin Hood Gardens were derived from the same theoretical basis, the reputation of these two projects were significantly different. According to the figures from *The Park Hill Survey*, Park Hill Estate gained various positive feedbacks in the early of the 1960s since there was an immense improvement of living quality by comparing with the previous slum area. The inhabitants were satisfied with the new pattern of social life and the architecture itself until the emergence of practical matters, such as lack of maintenance. Nevertheless, Robin Hood Gardens was perceived as a notorious social housing project and recognized as a failure from early on. A report carried out by the Peter Steward Consultancy, which was hired by the municipality for heritage assessment purpose, criticized the design was inhumane and neglected the actual need of the society. Apart from the flaws in the design of Robin Hood Garden, the radical transformation of the public perception toward these projects could be explained by societal background change since the late 1960s. Hence, three dominant moments that induced the fall of the notion were also listed respectively: (1) the gas explosion accident in Ronan Point in 1968, (2) the economic crisis in 1973 and (3) the Broadwater farm riot in 1985. These incidents helped render the concept of ‘streets-in-the-sky’ as a castle in the air, as visions that over-promise on paper and under-deliver in practice, even if the incidents were not directly caused by ‘streets-in-the-sky’ housing. Through looking from the historical perspectives, architecture and social political history were mutually

related and would evolve according to the passage of time. By analyzing the critical incidents as well as gathered the public perceptions according to chronological methodology, the concept of 'streets-in-the-sky' was more able to immerse in the urban development in the 1950s and potentially be obsolesce for the 1970s due to the sociopolitical condition at that era. The fluctuated public perception manifested that development and evolution were necessary in executing the architectural theory. Taking Park Hill Estate as reference, rather than duplicating the same design detail from the Golden Lane project, the architects recognized the needs from the locals and considered 'human association' as the essential value of the notion of 'streets-in-the-sky'. Thereby, they envisaged the community life not only in the elevated walkways, but also expanded the spirit to the ground level. Time passed; the Park Hill Estate was renovated into a multi-function residential complex recently (Figure 28) to preserve the idea of 'streets-in-the-sky' in the most effective situation. Therefore, evolvement was a significant criterion to let the notion capable to stand the test of time.

Figure 28. Current state of Park Hill in December 2021 with externally unaltered blocks on the left, blocks under renovation in the middle, and renovated blocks on the right. (Photograph by Author).

Although the notion has not materialized in the most desire way, its urban value did engender a great impact to the current fabric development design in the cities. On an urban scale, the Smithsons' sketches of the 'cluster city' might look diagrammatic and utopic, but the issue of ground space being design for transportation remains relevant today. From gigantic shopping complexes aiming to substitute the traditional open shopping streets, to extensive underground pedestrian networks connected to Metro stations in cities like Tokyo, attempts to re-create pedestrian experience outside ground level still remind the influence of concept through history and in present days is key – 'streets-in-the-sky'. The implementation of the notion also no longer remains in the level of residential but expands as a connecting junction between various architectures in the city. Taking Hong Kong as an example, it was renowned as a city without ground since the footbridge's networks are well designed and the public could travel for many miles, walking from dwelling to a shopping mall without passing through the natural ground.[58] These elevated bridges recalled the widen decking proposed in the Golden Lane Project. Hence, the concept of the elevated public life is being re-established since various unintended activities always occur on the bridges simultaneously and became a new spot for the people to gather. Nonetheless, the 'streets-in-the-sky' is a theoretical concept from the past, the proposed core values are still applicable to the current urbanism development and many city development ideas are derived through reflecting and refining from the concept.

[58] Adam Frampton, Clara Wong, and Jonathan D Solomon, *Cities without Ground: A Hong Kong Guidebook* (ORO Editions, 2012).

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