

A Concrete Defense:
Assessing the Welfare State's Application of Brutalism and Le Corbusier
in Postwar London, 1945-1977

Courtney Schum

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Fassil Demissie, Urban Studies

Valentina Tikoff, History

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Professor Fasil Demissie, Public Policy, Advisor
Professor Valentina Tikoff, History, Second Reader

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I was in Marseille my dad this August. We had just completed a hike up one of the city's tallest hills and were snapping a few photos of the vista when my dad said something that really irked me. "It was a shame," he said, "that this Mediterranean port city should have its beauty marred by a series of concrete tower blocks lining the surrounding foothills." For whatever reason, that comment stuck with me. Blanket criticism of Brutalism frustrates me *ad infinitum*. While the style does not adhere to the language of Europe's pre-modern architecture, it occupies a key role in the trajectory of modernism and encapsulates the values of a specific time in the continent's history, and thus is fully deserving of a place in the architectural canon. It is not the formal aesthetic elements of brutalism that make it good; rather, this style is what happens when ideals of efficiency and modernity are put into action, a physical manifestation of the most pervasive 20th-century ideologies. Europe is continent of constant change, surviving and growing through millennia of destruction and reconstruction. Architecture is perpetually fascinating to me because it provides the most detailed and accessible record of the sociocultural forces that dictated how we have lived and why.

Sadly, Brutalism has come to bear the weight of misplaced criticism. For the sake of full disclosure, I love Brutalism. It blends form and function in a way few styles do. That being said, I request that readers disregard my personal stylistic preferences when considering my argument, because it is not the formal aspects of Brutalism that are to blame for its widespread dislike. My Honors Senior Thesis, "A Concrete Defense: Assessing the Welfare State's Application of Brutalism and Le Corbusier in Postwar London, 1945-1977," seeks to prove that Brutalism has been capable of prolonged relevance and admiration in its cities, so long as it was applied to the appropriate building

venture. The style is most closely associated with ill-fated welfare housing tower blocks, even though that is the area in which it shines most dimly. The true potential for Brutalism lies in urban cultural institutions. To better illustrate this point, I have chosen specifically to analyze the Brutalist heritage of London, a city that bears a particularly textured history with the style. I will examine two case studies, Ernő Goldfinger's Balfron and Trelick Towers and Denys Lasdun's National Theatre. Because their welfare housing blocks largely failed, so did Brutalism by mere association. However, buildings like the National Theatre made subtler references to the past in favor of a celebration of contemporary British culture. While public housing is a relic, cultural buildings adapt to an evolving society.

Through my research, I have pinpointed four explanations for Brutalism's troubled legacy with London housing specifically. I also offer reasons why the National Theatre and similar projects eschewed and/or addressed these pitfalls. Firstly, much of the theory behind public housing was misappropriated from outdated and foreign intellectuals, namely Le Corbusier. Britain's tastes were not tailored to the style. Next, these idealistic theories were put into place by an unfit welfare government. Thirdly, construction methods in times of crisis were not of a quality that could support these structures. Finally, the planners behind housing projects were given license by the building councils to express their artistic impulses while generally ignoring the needs of the buildings' users.

My project will reflect the interdisciplinary nature of the Honors Program because my research allows me to synthesize my varied interests in art, design, sociology, history, and economic theory. The physical structure of Brutalism resulted from demands

simultaneously artistic, philosophical, economic, social, and practical. My queries are hardly unique to this project; I have actually explored the topic of housing design theory in a number of academic fields. Cities are living documents of change, and their buildings are exhibits of how the socio-political landscape can evolve. The visual study of built worlds piqued my interest several years ago while researching Bauhaus theory for an AP European History class. Throughout the completion of my double minor in Sociology and History of Art & Architecture, it has been the interplay of urban planning and design that has particularly engaged me. I further explored the tribulations of American mid-century public housing projects two years ago as part of the Power, Constructions of Deviance, and Social Control course in the Sociology department.

I approach my research from a variety of perspectives. My advisor, Professor Fassil Demissie of the Urban Studies department, is deeply versed in architecture and city organization. He has guided me towards a number of print sources as well as introduced me to the ProQuest dissertation search engine. I have been taking full advantage of the literary resources at both the DePaul library and those within the I-Share network. I am pleased with the balance I have struck between primary and secondary sources. Too often in my past research projects have I relied upon existing analysis of historical documents. While reading through secondary sources, I have been careful to make note of any relevant primary sources cited by the author, so that I might consult those directly later on. In addition, I have begun collecting a number of photographs from the period, as well as writings from influential architects of the time, Walter Gropius and Le Corbusier included. I can confidently say that the arguments made in this thesis are rooted in original interpretation of source material and supported by secondary criticism. As for my

method of research, I started the beginning of Winter Quarter with a broad focus, originally intending to analyze modern architecture in four different European countries (I realized now that this would have a herculean task). The more I read, the more apparent it was that I needed to narrow my focus to a specific country with a wealth of specific cases studies. Britain proved to be just that. The seeds of an argument presented themselves during my discussion sessions with Professor Demissie and continued to develop I as developed outlines and drafted sections.

The finished thesis project takes a conventional written form, complemented by images. The body of the project will total around forty pages, along with footnotes and a works cited. As mentioned, I intend to avoid simply restating the existing ideas of scholars and authors; instead, I will develop my own framework through which to make a unique argument. I seek to produce a thesis that is artfully written, textured with rich vocabulary, and competently supported with diverse examples. In a few years, I will pursue a Masters in History of Art & Architecture. If successful, this project will serve as an illustration of my aptitude for rigorous written analysis of buildings and the built environment.

Introduction

So, what is Brutalism? Alexander Clement, author of *Brutalism: Post-War British Architecture*, states that the style is “characterized by large, sometimes monumental, forms brought together in a unified whole with heavy, often asymmetrical proportions.”¹ In lay terms, Brutalist architecture is identifiable by its rough, solid exteriors rendered in a natural-colored beige concrete. Large geometric blocks are arranged to simultaneously maximize the efficiency of interior space and achieve an exterior sculptural form. At this point in the trajectory of European modernist architecture, applied ornamentation was seen as inefficient and disruptive to the function of the building. Instead, the weight of the concrete alone provided visual drama. Take, for example, the Brunel University Lecture Centre in London, which opened in 1967 and is pictured below.



Figure 1 Brunel University Lecture Centre, London, opened 1967.

¹ Clement, Alexander. *Brutalism: Post-War British Architecture*. Ramsbury, Marlborough, Wiltshire: The Crowood Press Ltd, 2011, 7.

The architects Sheppard, Robson, and Associates have created a building essentially composed of concrete boxes. However, despite its simplicity of basic forms, the scale and composition of the building offer visual impact. It expands as it ascends, creating a form that is both intimidating and effortlessly balanced.

The years between 1945 and 1977 saw the sweeping construction of daring new Brutalist projects in Britain. Architecture like Brutalism is intended to inspire awe. It is massive and blocky, evidence of considerable confidence on the part of the architect. Few examples, however, still maintain the reverence they once did. This is especially true for the mass housing projects. Buildings that once embodied all that was modern, efficient, and fashionable are now urban eyesores, the result of poor construction quality and inability to recreate a community sensibility. Just look at Alison and Peter Smithson's Robin Hood Gardens. This was a housing venture confident in its potential to reimagine urban living for a modern society. This project was the physical manifestation of the Smithson's greatest effort, creating "streets in the sky." Upon its opening, critics and the architects alike were excited by its reimagining of communal urban space and its scientific approach to human socialization. However, crime rose as upkeep slacked. Residents were hardly as enthusiastic as the architectural elites were.² It now sits in disrepair, awaiting renovation.³

² Balters, Sofia, "AD Classics: Robin Hood Gardens / Alison and Peter Smithson," *ArchDaily*, August 18, 2011, accessed June 8, 2016, <http://www.archdaily.com/150629/a-classics-robin-hood-gardens-alison-and-peter-smithson>.

³ Karp, Mackenzie, "Ethnic Lost: Brutalism and the Regeneration of Social Housing Estates in Great Britain" (Master's thesis, University of Oregon, 2015).



Fig. 2 Robin Hood Gardens, London, opened 1972.

It must be made clear, however, that the failure of Brutalist housing projects should not be treated as shorthand for the limitations of Brutalism as a whole. Nor should it discount the power of concrete to produce beautiful things. There exist several Brutalist buildings in London that appear as fresh today as they did mid-century, illustrating that thoughtfully designed Brutalism does deserve space in the modern city.

I am not alone in this thinking. There is a trend amongst contemporary architectural journalists and scholars of defending Britain's Brutalist heritage, especially in the face of private property development. For example, Liz Hoggard in an article for *The Telegraph* entitled "Why We Must Learn to Love Our Brutalist Architecture," admits that "growing up in the 1970s in the West Midlands," concrete represented "flyovers and walkways, badly designed shopping arcades and piazzas," the result of misguided forays into utopianism. The author has come to appreciate the style, however, as more people should.

“The key thing about concrete,” says Hoggard, referring to fellow author and Brutalist expert, Christopher Beanland, “is it can span great distances (enabling architects to construct stronger and more spacious buildings) and be stretched into wild shapes, from ziggurats and beehives to flying saucers.”⁴ Furthermore, upon the 2015 announcement that the aforementioned Robin Hood Gardens would not be granted English Heritage status (and thus have no protection from demolition), University of Kent Reader Timothy Brittain-Catlin took to *CNN’s The Conversation* to voice his opinions. “Robin Hood Gardens represents more in civic or even national history than a freak piece of architecture,” he writes. “It is part of a story about what the public realm is, or could be, and how post-War British politics and governance deployed buildings to remake citizen's lives and horizons.”⁵ Brittain-Catlin brings up a salient point—independent of aesthetics, Brutalism should be accepted in the British architectural canon. The word “canon” is used in this paper to denote the group of buildings scholars and lay people have popularly (if not officially) deemed historically relevant and/or worthy of praise. Most people casually acquainted with British culture would agree that the Houses of Parliament and the Victoria and Albert Museum fall into this category. They are indeed works of extreme architectural finesse, as well as fixtures in London’s historical identity. Readers of this paper, however, are asked to also consider the role Brutalism has played in shaping that same identity. Yes, public housing like the Robin Hood Gardens and the Balfour and Trevellick Towers was largely unsuccessful, but London is lucky to have them because they

⁴ Hoggard, Liz, "Why We Must Learn to Love Brutalist Architecture," *The Telegraph*, January 28, 2016, accessed May 30, 2016. <http://www.telegraph.co.uk/art/artists/why-we-must-learn-to-love-brutalist-architecture/>.

⁵ Brittain-Catlin, Timothy, “Brutal Beauty: The Rich Heritage that Means these Buildings Must be Saved,” *CNN*, November 27, 2015, accessed May 30, 2016. <http://www.cnn.com/2015/11/27/architecture/why-brutalist-architecture-must-be-saved/index.html>.

demonstrate the complexities, contradictions, and cultural relevance of Brutalism as a whole. The style is fascinating because, at its best (the National Theatre), it brings people together socially and nationalistically; at its worse (the Balfour and Trevellick Towers), it is historical documentation of the strained socio-political landscape after World War II.

To illustrate this point, I analyze London's Trevellick and Balfour Towers, designed by Hungarian architect Ernő Goldfinger. As mid-century idealism melted into late-Century boom and bust, the tower blocks have lost the Modernist mystique they had upon their openings. I contrast Goldfinger's housing estates with The National Theatre, a palatial concrete temple etched in London's cultural and architectural heritage. It stands as a testament to the idea that Brutalism can in fact thrive in London if built under the proper circumstances—in this case, those circumstances involved a cunning and considerate architect and an environment well suited for its construction. These projects are in many ways opposite applications of the same material (concrete), but that opposition helps to determine the four main factors required for a successful British Brutalist venture: the misappropriation of theory as chiefly supplied by Le Corbusier; the welfare environment at the time; the physical quality of the building itself; and the relationship between the architect and those for whom he is building.

By comparing one example that represents everything cringe-worthy about welfare Brutalism and one that still manages to attract eager nightly visitors, I conclude that the formal elements of Brutalism are not why people have disdain for it. The National Theatre proves that concrete arranged smartly and applied to the appropriate project can make for a building whose functionality and appeal lasts into posterity. Goldfinger's housing work had a number of design flaws unrelated to the concrete (its

location and construction methods, to name a few). Unfortunately, people tend to conflate those inefficiencies with the style as a whole, doing a massive disservice to designers like Denys Lasdun. Brutalism has proved a better option for cultural structures in London than for housing, and it can be argued that Brutalism would have flourished more widely if more buildings like the National Theatre existed in the city. However, because Brutalism so famously represented a British welfare housing system that failed to fulfill its own potential, the style suffered by association.

The Buildings as Primary Sources

These buildings serve as the primary sources through which I have come to better understand both the British architectural and political landscapes after World War II. I mentioned earlier that my personal feelings towards the Brutalist aesthetic are irrelevant to this paper, a statement I should qualify. While this thesis will delve far below the concrete surface, I would be lying if I said that my desire to know more about Goldfinger's and Lasdun's work did not come from an intense visual reaction of appreciation for both of them.

The Trellick Tower was one of the first structures in London that made an impression on me during my time there. I was riding on the M4 motorway from Heathrow into Central London when the shuttle driver pointed it out. He made his negative feelings about it known, which only made me want to know more. As one can see from the photo below, the Trellick Tower stretches far above its surroundings. The Goldfinger towers, built in 1967 and 1972 respectively, were and are emblematic of the London City Council housing preferences at the time: a tall, prefabricated tower block with on-site amenities and a lack of applied ornamentation to distract from its practical

purpose. The tower's trademark feature is its detached elevator shaft connected to the main building by elevated walkways. Designed as a means of reducing mechanical noise within the units, it fulfills the Modernist dictum that form should follow function.⁶ In other words, the shape of the building should be secondary to the practical needs of it. The result is visually striking and squarely avant-garde.⁷ The photo below shows what truly dominating figures this building is in its environs.



Fig. 3 Trellick Tower, opened 1972. Seen here amongst its North Kensington environs.

The Trellick, rising in its own special sort of triumph over the west London motorways, sufficiently piqued my curiosity for Brutalism. I really want to love these

⁶ Grindrod, John, *Concretopia: A Journey Around the Rebuilding of Postwar Britain* (Brecon, United Kingdom: Old Street Publishing Ltd, 2013, 324).

⁷ Goldfinger, Ernő *Trellick Tower* (1972. London, United Kingdom).

buildings. Unfortunately, upon further research, my better judgment has led me to admit the failure of these towers to achieve their purpose of transforming London living. That is not to say that their aesthetic quality is for naught. “There was something hyper-masculine and provocative, almost warlike” about the towers, writes John Grindrod, author of *Concretopia: A Journey Around the Rebuilding of Postwar Britain*.⁸ The towers’ detached lift shafts and airborne walkways leave exactly the idiosyncratic image a Brutalist building should.

The Balfron Tower, the first of the two constructed, opened 1967 in working-class East London. It reached twenty-seven stories high and was one of the tallest tower blocks in Europe at the time. The concrete panels came pre-cast, as was the style. It was primarily a choice of practicality to separate the elevator from the body of the building and connect the two with suspended walkways. This reduced the mechanical noise heard by residents and provided ease of electrical wiring.⁹ This functional, yet blunt, design choice is what etched this building and its sister in the minds of Londoners. Each is not one but two spires jutting into the sky, “designed to create maximum impact on the skyline,” in the words of John Grindrod.¹⁰ The image below helps one understand the sheer scale of this building and the bravado with which it rises vertically. In a predominantly low-rise city like London, this was brash.¹¹

⁸ Grindrod, John, 324.

⁹ Elwall, Robert, *Ernö Goldfinger* (London, Academy Editions: 1996, 94).

¹⁰ Grindrod, John, 324.

¹¹ Goldfinger, Ernő. *Balfron Tower* (1972. London, United Kingdom).



Fig. 4 The Balfron Tower's detached elevator shaft from below.

The Trellick Tower opened five years later in 1972. By many accounts, it was Goldfinger's magnum opus. Unlike the Balfron, this structure contained a number of amenities: a nursery, doctor's office, and shops. The Trellick was even taller (by five stories to be exact) and more dramatic than its eastern sister. The detached shaft was again present, but this one came complete with a cantilevered boiler room at the very top, as if to further communicate the ability of the architect to master his own physics.¹²

Construction began in 1966, but its doors did not open until 1972. Reactions were mixed. Generally popular were the interior spaces. The Greater London Council had dictated nine dwelling types to accommodate the elderly, young single individuals, and families. These are laid out in the following floor plans:

¹² Elwall, Robert, 98.

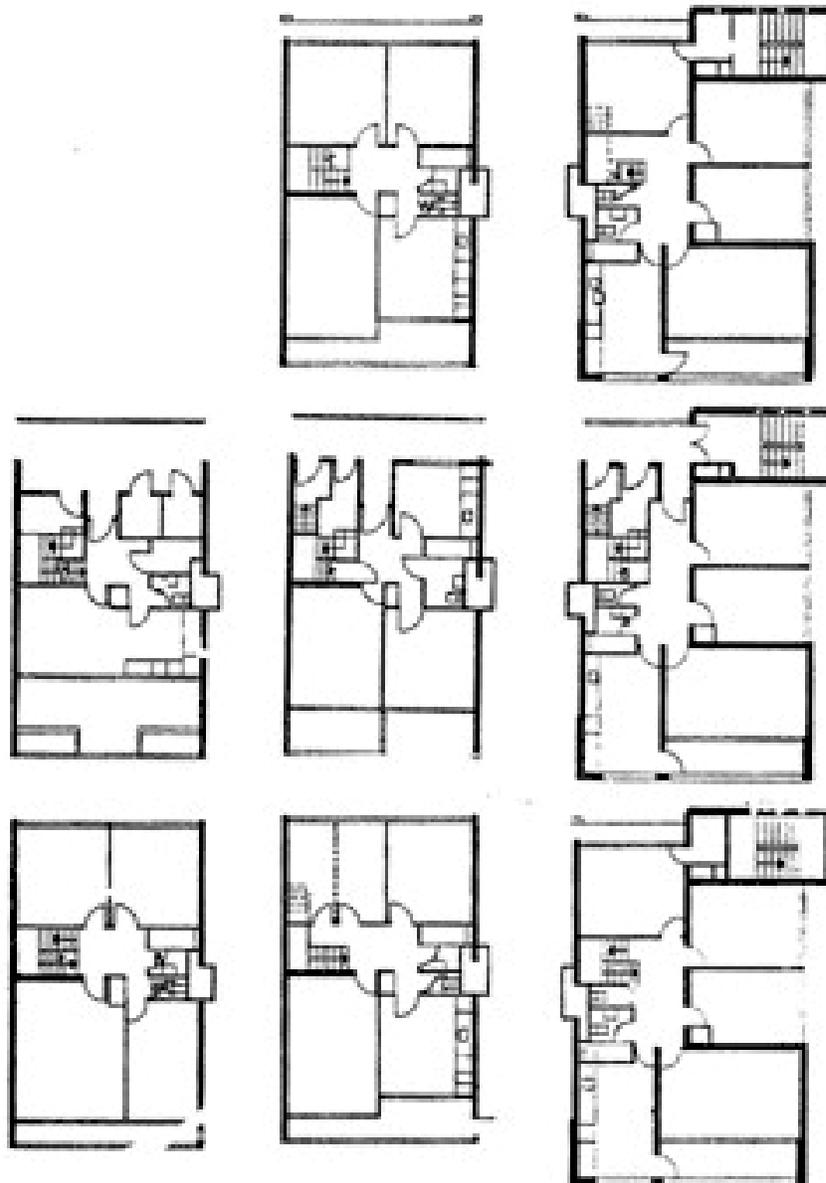


Fig. 5 The Trellick Tower’s basic floor plans, which Goldfinger hoped would promote a multifarious resident population.

All of this variety and modernity of design, however, could not undo the fact that, by the time of its opening in 1972, the Trellick was “an anachronism, residential high-rise

having falling into political, social, and architectural disrepute,” to quote *Ernő Goldfinger* author Robert Elwall.¹³

Fortunately, there exists a number of buildings that have managed to eschew becoming the anachronisms Elwall laments. One of which is Denys Lasdun’s National Theatre, a structure that proves Brutalism is not doomed to waste away in the disdain like so many of its public housing iterations and can absolutely have a place in London’s architectural heritage. The youngest of three buildings discussed in this paper, it opened in 1977. David Douglass-Jaimes at *ArchDaily* goes so far as to say that it “may be the most beloved Brutalist building in Britain, thanks to its generous public spaces, thoughtful massing, and respect for its surrounding city.”¹⁴

Because architecture is all about the people who use it, allow me to briefly relate my personal experience of the National Theatre. The photo below captures what about it stands out in my memory. It has a cavernous front atrium, which creates a cathedral of coffered ceilings and directional lighting. While the interior architecture is obviously the beige of the concrete, playful furniture lightens the mood, and carpet softens the space.¹⁵ Even if I didn’t have tickets to a performance, I felt comfortable walking into the lobby to get a cup of coffee or browse the bookstore. It is clear that resident Londoners also enjoy this place. Based on my observations of my fellow theatregoers, as well as my personal experience, the National Theatre is a successful building because visitors interacted with

¹³ Elwall, Robert, 98-99.

¹⁴ Douglass-Jaimes, David, "AD Classics: Royal National Theatre / Denys Lasdun," *ArchDaily* 13, no. 1 (September 8, 2015).

¹⁵ Lasdun, Denys. *National Theatre* (1977. London, United Kingdom).

their space, and there was no great rush to leave once the curtain dropped. This atmosphere is a metric by which this paper measures “success.”



Fig. 6 The front atrium of the National Theatre.

Readers will notice that I commented on the interior of the building before even mentioning the exterior. That is because, monumental as it is, the National Theatre remains relatively understated from the outside. The building eschewed Goldfinger's height for horizontal asymmetry and sprawl. The sides are wrapped with cantilevered balconies for guests to stand on as they take in the Thames, seen here below.



Fig. 7 The National Theatre, London, opened 1977.

Whereas Goldfinger's buildings make themselves noticed from miles away, the National Theatre elegantly slides into the surrounding Southbank Arts Centre, which has enjoyed a Brutalist identity since the construction of Royal Festival Hall in 1951. The once neglected strip of land south of the Thames is now its own little concrete amusement park. The entire complex pays respect to its impressive neighbors along the Thames. The

National Theatre keeps a low profile on the right hand side of the below photo, letting St Paul's Cathedral shine across the river.



Fig. 8 The National Theatre (far right) illuminated at night.

When I visited the theatre in September 2015, it was experiencing its own architectural renaissance. It had just undergone a \$120 million renovation by the architectural firm, Haworth Tompkins.¹⁶ The renovation, unequivocally, was a success.¹⁷ It worked because Haworth Tompkins chose to emphasize, not correct, the building's existing attributes. The firm paid especially close attention to lighting. Early criticism of

¹⁶ Foges, Chris, Lydia Lee, and David Sokol, "Luminous Revivals: The Public Realm is Kinder and Gentler in Two Cities where Imposing 20th-Century Structures have Undergone Sensitive Renovations -- And where Creative Lighting Schemes both Define the Architecture and Engage the Community," *Architectural Record* 204, no. 2 (February 2016): 117-24, 126-28.

¹⁷ Lasdun, Denys.

the building pointed to the fact that Lasdun had left the front lobby dark and uninviting. A less impressive renovation carried out in the 1990s over-illuminated the lobby, but Haworth Tompkins preserved and enhanced the sculptural shadows Lasdun had intended.¹⁸ Lighting designer Atelier Ten was tasked with developing a complex arrangement of custom-made LED spotlights, cylindrical downlights, and fluorescent pendant light chandeliers. Each section maintains its own brightness level. The café is bright and convivial, while light is pointed away from the coffered ceiling to preserve its darkness.¹⁹

Structurally, Haworth Tompkins has added breath to the foyer. The front entrance, previously altered by that aforementioned remodel in the 90s, was restored to its original openness as intended by Lasdun.²⁰ The theatre bookstore has been pushed back, revealing more of the front facade to the Queen's Walk outside. The architects also redesigned the foyer to promote social interaction both with and within the space. In addition, the storage rooms were moved to make way for a cafe on the first floor, the mezzanine-level restaurant has been revitalized, and the new Clore Learning Center was installed. A first for the theatre, the learning center allows the public to engage directly with the artists through educational programming.²¹

The National Theatre buzzes with energy. The building is as much a social meeting spot as it is a performance venue. A person would feel no qualms entering the space just to have coffee with friends.²² When Patrick Dillon, an associate architect at

¹⁸ Foges, Chris, Lydia Lee, and David Sokol.

¹⁹ Foges, Chris, Lydia Lee, and David Sokol.

²⁰ Foges, Chris, Lydia Lee, and David Sokol.

²¹ Burger, Lisa, Jay Merrick, and Dillon Patrick, "Building Study: National Theatre, Haworth Tompkins." *Architects' Journal* 241, no. 17 (May 1, 2015): 34-44.

²² Lasdun, Denys.

Haworth Tompkins, was interviewed about the most recent renovation for *Uncube*, he had this to say:

The other thing that guided us was our understanding of Lasdun's original conception of the building. Reading what Lasdun wrote and said about it we were always convinced that the National Theatre was conceived very much as a democratic building, standing out against the previous theatrical tradition that was all about class, status and hierarchy. Lasdun was trying to make a piece of city that would welcome people in.²³

Historically, theatres are a place reserved for a bourgeoisie with disposable money and time. The National Theatre's multi-functionality allows for a (moderate) transcendence of socio-economic barriers.²⁴ Ironically, it is a public space in ways that Ernő Goldfinger's public housing never was. The Balfron and Trellick Towers mentally and physically hemmed people into their social space; the National Theatre reimaged and reinvigorated it. After all, there is a skatepark in its undercroft.

²³ Dillon, Patrick, "Treading the Concrete Boards: The Renovation of London's National Theatre." Interview by George Kafka. *Uncube* (blog), entry posted September 29, 2015, accessed May 17, 2016, <http://www.uncubemagazine.com/blog/16064817>.

²⁴ Lasdun, Denys.



Fig. 9 The Southbank Centre Undercroft Skatepark, which has managed to remain despite increasing commercialization of the area.

It was during my visit to the National Theatre that I began ruminating on how one defines architectural success. I eventually came up with a three-pronged definition, the qualifications of which are original to this paper and based off of my personal interactions with the buildings. First, a successful building is one that is currently in equal or better physical condition than the day it opened. Second, it is still used for its original purpose. Third, it is enjoyed and appreciated by its local community. I saw this in action at the National Theatre.

Now that this paper has established how these buildings serve as primary sources and it means to be architecturally successfully, it will move into a critical discussion of the four main factors that contributed to British public housing's foibles with Brutalism. The next several pages will explain that Britain was not an apt backdrop for public

housing's theoretical underpinnings; the British welfare state was ill equipped to take on projects of that scale; the construction methods were poor; and the architects prioritized ideology over functionality. To offset the negativity, however, the next several pages will also explain how the National Theatre avoided those pitfalls, proving that Brutalism in its essential form is not to blame.

Factor 1: Brutalism's Contentious Relationship with Britain and Le Corbusier

Though contemporary scholarship associates Britain with the European Brutalist tradition merely due to the number of buildings present, Brutalism and its broader style, High Modernism, have roots elsewhere. At the heart of my argument is the idea of misappropriation, particularly of Swiss architect Le Corbusier's ideals. Brutalist housing relied too heavily on theoretical underpinnings, which were appropriated from Le Corbusier, misinterpreted by their purveyors, and grafted onto a city not suitable for their viability. Brutalism (especially the British examples) makes reference to a number of 20th-century ideologies, including constructivism, futurism, and nationalism. However, several decades, a world war, and national boundaries separated the original development of these theories on the European continent from their application on Britain. The years after the First World War were marked by disillusion and a belief in the artist and ideologue to reform existing political systems. The years after the Second World War, however, had more practical needs, including housing thousands of people. All of a sudden, the interwar theory of societal betterment through design (which by many accounts had not fulfilled its promise) was dug up out of necessity by a government that could not properly support projects of the scale they launched.

Prior to the 1930s, economic policy in Britain favored a laissez-faire approach to planning. John Maynard Keynes' 1936 introduction of interventionist economics would put into motion some minor welfare-esque building projects, but these mostly existed in the realm of slum clearance and lacked aesthetic quality.²⁵ Their progress was halted by the economic and industrial demands of World War II. It was not until about 1945 that the blank slate left by blitzkrieg bombing would provide an opportunity for the adoption of the Brutalist style in earnest by national planners.

In the years between the First and Second World Wars, High Modernism (otherwise known as the International Style) spread the gospel of steel-and-glass around the Continent. The first rumbling of Brutalism coincided with this era, ushered in by the godfather of Brutalism himself, Le Corbusier. The Swiss-born architect rose to recognition in the European interwar years, a period characterized by political disillusionment and an insistence upon the revolutionary potential of art. The 1920s and early 1930s saw the emergence of a culture that glorified art and the artist in the restructuring of a fractured European society—think Italian Futurism, Surrealism, and Russian Constructivism. It was at this time that Le Corbusier published his most influential work, which continues to inspire today's architects. Le Corbusier was hardly alone in his appreciation for Modernism. The interplay of Le Corbusier and the Bauhaus, under the leadership of Walter Gropius, is well documented.²⁶ Gropius is of course credited with the development of the International Style. For him, a home was a factory of human life.²⁷ As early as 1910, Gropius decried the degradation of building quality

²⁵ Harwood, Elaine, *Space, Hope, and Brutalism: English Architecture, 1945-1975* (New Haven, Connecticut: Yale University Press, 2015), x-xi.

²⁶ Clement, Alexander, 11-12.

²⁷ Herbert, Gilbert, "The Dream of the Factory Made House," in *Housing and Dwelling*, edited by Barbara

and neglect for “good proportions and practical simplicity.” Le Corbusier and Walter Gropius shared a preference for recurring forms, uniformity in the built environment, and prefabricated elements.²⁸ In the late 1920s, Walter Gropius, along with a number of influential interwar architects, would join Le Corbusier at the *Congrès International d'Architecture Moderne* (CIAM), a conference held in Switzerland with the expressed intent of establishing the standards of the modern architectural culture.²⁹

Though formally trained in the European academic style of architectural conventions of the 1900s, it was the rationality and geometry of Greco-Roman temples that Le Corbusier cites as his primary influence.³⁰ One should not mistake, however, the architect’s reverence for ancient buildings as a preference for historicism. Le Corbusier openly expressed considerable disdain for his embellished Parisian milieu. In his seminal 1924 *The City of Tomorrow and Its Planning* (or, *Urbanisme*—the English translation would be released in 1929), Le Corbusier lamented that Beaux-Art Paris appeared to have been designed by the “Pack Donkey”—an aimless, stupid animal with no concept of human efficiency or need. The planning of Paris evokes nature, he argues. Nature is accidental, “but a modern city lives by the straight line, inevitably.”³¹ In addition to the rejection of unnecessary ornamentation, Le Corbusier proclaimed the superiority of geometric shapes, the result of “a mastery of means at our disposal, clear vision, order,

Miller Lane, 240-7, (New York: Routledge, 2007), excerpt from *The Dream of the Factory Made House: Walter Gropius and Konrad Wachsmann* (Cambridge, Massachusetts: The MIT Press, 1984), 39-57.

²⁸ Gropius, Walter. “Program for the Founding of a General Housing-Construction Company Following Artistically Uniform Principles,” in *Housing and Dwelling*, edited by Barbara Miller Lane, 238-40, (New York: Routledge, 2007), reprinted from *The Bauhaus: Weimar - Dessau - Berlin - Chicago* (Cambridge, Massachusetts: The MIT Press, 1969), 20-1.

²⁹ Clement, Alexander, 10.

³⁰ Clement, Alexander, 10.

³¹ Le Corbusier, *The City of Tomorrow and Its Planning*, translated by Frederick Etchells, third ed. (Cambridge, Massachusetts: The MIT Press, 1971), 16.

the satisfaction of the mind, scale, proportion.”³² Geometry and straight lines would produce permanence and timelessness, but only if the existing Baroque, Neoclassical, and Beaux-Arts elements were discarded.³³

The best visual representation of Le Corbusier’s ideals exists in his Voisin Plan, published contemporaneously with *The City of Tomorrow and Its Planning*. In 1924’s *The Center of Paris*, he envisions a Paris in which only five percent of ground is covered by buildings, the remaining ninety-five dedicated to motorways and open green space. The boulevards of palatial low-rise buildings would be replaced with a smattering of multi-purpose, X-shaped high-rises (seen below on the right) and canyon-like green streets (left).

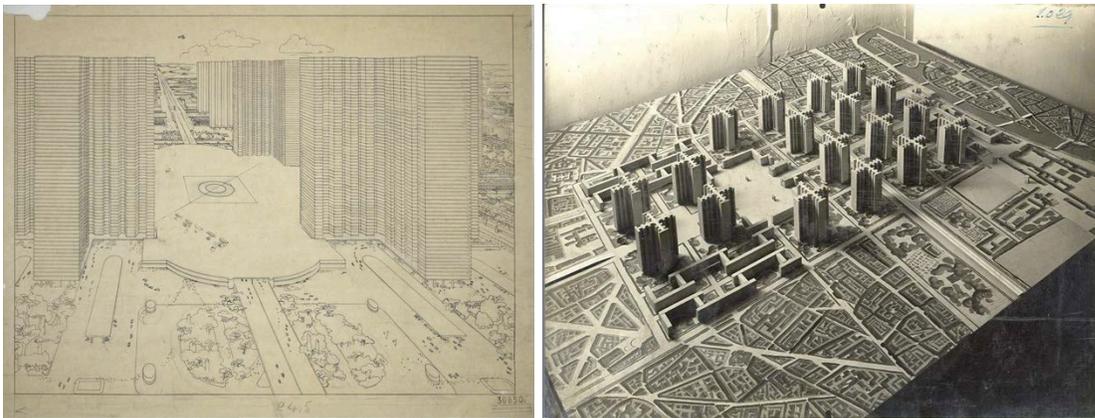


Fig. 10 Le Corbusier’s Plan Voisin, 1929.

Le Corbusier lovingly describes his city as one that “rises vertical to the sky, open to light and air, clear and radiant and sparkling.”³⁴ For a variety of obvious reasons, the Voisin Plan would never come to be. However, it remains integral to the study of British

³² Le Corbusier, *The City of Tomorrow and Its Planning*, 40.

³³ Le Corbusier, *The City of Tomorrow and Its Planning*.

³⁴ Le Corbusier, “The City of Paris,” In *Housing and Dwelling*, edited by Barbara Miller Lane, 350-2 (New York: Routledge, 2007), reprinted from *The City of Tomorrow* (Cambridge, Massachusetts: The MIT Press, 1971).

Brutalism. Architects like Ernő Goldfinger would borrow directly from the plan, both aesthetically and theoretically, in their design for tower housing blocks. They faltered, however, in their attempt to incorporate the buildings into their surroundings. Le Corbusier was adamant that, for his vision to thrive, it would have to replace the existing environment, ushering in a totally new era of the city's identity. It was all-or-nothing architecture.

English translations of Le Corbusier's texts were distributed beginning in the late 1920s. This coincided with the immigration to Britain of several Eastern European architects, educated in the modernist tradition. One of which was Hungarian-born, French-trained Ernő Goldfinger, who would arrive in 1933.³⁵ Looking at Le Corbusier's work, it is hard not to see where Goldfinger was getting his inspiration. His towers' origins lie not in London, but in Marseille. That is where Unité d'Habitation stands, and it is the closest Le Corbusier would ever come to building the Voisin Plan. Notice how it bears the same repetition and clarity of form as the X-shaped towers of the Voisin. Also, take note of the surrounding green space and open-air car park tucked underneath the raised first floor.

³⁵ Clement, Alexander, 16.



Fig. 11 Unité d'Habitation, Marseille, opened 1952.

He describes the building as such:

Each apartment contains two floors connected with an interior staircase. The day room with a height of 4.80 m extends over 2 floors. A large window of 3.66 x 4.80 m allows a full view of the beautiful surrounding landscape. The kitchen equipment contains a four plate electric range with oven, a double sink with automatic garbage disposal, refrigerator and working table. The kitchen unit is air conditioned by the central system. The sound insulation consists of lead sheets put in between the separating walls of the apartments. Along the interior road on level 7 and 8 lies a shopping centre, containing a fish, butcher, milk, fruit and vegetable shop as well as a bakery, a liquor and drugstore. Furthermore there is a laundry and cleaning service, pharmacy, barbershop and a post office. Along the same corridor lies the hotel accommodation and a restaurant snackbar

with special service to the apartments. The 17th and last floor contains a kindergarten and a nursery, from where a ramp leads to a roof garden and a small swimming pool for children.

Besides the garden and the terrace, the roof contains a gymnasium, an open space for gymnastics, a 300 m sprinters' track and a solarium with a snackbar.³⁶

Unité d'Habitation was conceived in 1945 and finally opened in 1952 under the auspices of the French government. The architect was fully convinced that this would rid France of the need for towns, because everything a person could need was right there. Goldfinger was unabashed in his admiration of Le Corbusier. He had borrowed heavily from Unité d'Habitation in his own proposed project from the 1933 CIAM. Trained in France, Goldfinger preferred the Continent's avant garde approach to architecture, one which referenced the rationality of Greco-Roman structures and one to whom "...purity of geometry and clarity of planning is less important than more picturesque architectural values and the nature of site and locality."³⁷ While nothing is inherently wrong with Goldfinger's architectural approach, it is important to note that his influences were not British, something inherently problematic when building British homes.

In 1933, Goldfinger assumed the position of Secretary of the French Delegation of the CIAM 9 and proceeded to develop his own never-built proposal.³⁸ Just like the Voisin Plan, Goldfinger's twenty-three-story housing block represents the interwar period of radical possibility that fresh military demands would thwart in the decades to come. Supported by ground-level pilotis, the building would simultaneously house humans and business. 200 people, primarily women and children, would utilize the building's

³⁶ Le Corbusier, "Unité d'Habitation, Marseille, France, 1945," address presented on the occasion of the handing over of the Unité d'Habitation, Marseille, France, October 14, 1952. *Fondation Le Corbusier*, accessed May 25, 2016. <http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5234&sysLanguage=en&itemPos=58&itemCount=78&sysParentId=64&sysParentName=home>.

³⁷ Stamp, Gavin, "Goldfinger: The Early Years," in *Ernő Goldfinger* by James Dunnet and Gavin Stamp, 9-14 (London: Spin Offset Ltd, 1983), 10.

³⁸ Stamp, Gavin, 11-13.

nurseries and schools during the day, while 700 people of various backgrounds would sleep there at night.³⁹ The geometric quality of the design (seen below) was dictated by the architect's preoccupation with distilling human motion down to horizontal and vertical pathways, as detailed in a 1941 article for the *Architectural Review*.

An urban order which has been devised for musing cannot give satisfaction to people whose bare existence, hence their everyday habits, depends on speed. The time factor must be seriously taken into account in the conception of scale in architectural and urban order. The speed of travelling horizontally, which affects the spacing of buildings, and also the speed of vertical travel (in lifts, escalators, etc.), which influences the height of buildings, must both be considered.⁴⁰

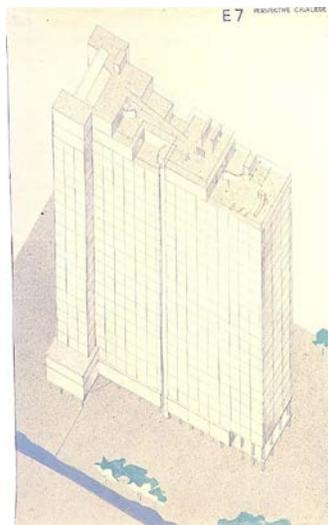


Fig 12 Goldfinger's CIAM 9 proposal.

The Inconsistencies in British

Brutalism

It is important to make the distinction between the Brutalism Le Corbusier was heralding and what was happening in England. Amongst architectural historians, the style associated with Britain in the mid-century is specifically referred to as “New Brutalism.” Reyner Banham first used this term in 1955 in reference to Alison and Peter Smithson, two Brutalists whose own trials and tribulations in the planned housing sector frankly deserve their own study. Without going into too much detail, the couple was members of

³⁹ Elwall, Robert, 40.

⁴⁰ Goldfinger, Ernő, “Urbanism and Spatial Order,” in *Ernő Goldfinger* by James Dunnet and Gavin Stamp, 53 (London: Spin Offset Ltd, 1983).

the 9th Congress of CIAM in 1953. While they admired the framework for Modernism provided by Le Corbusier, they were interested in updating it for contemporary England and imbuing it with a greater sense of humanism. The two split off from the core of the Congress to form Team 10 (or Team X), and turned their focus to a Brutalism for the UK.⁴¹ Their contributions include the Robin Hood Gardens, amongst a number of other housing projects. Commenting on their work in the *Architectural Review*, Banham asserted this:

Nevertheless, this concept of *Image* is common to all aspects of The New Brutalism in England, but the matter in which it works out in architectural practice has some surprising twists to it. Basically, it requires that the building should be an immediately apprehensible visual entity, and that the form grasped by the eye should be confirmed by experience of the building in use. Further, that this form should be entirely proper to the functions and materials of the building, in their entity. Such a relationship between structure, function and form is the basic commonplace of all good building of course, the demand that this form should be apprehensible and memorable is the apical uncommonplace which make good building into great architecture.⁴²

Basically, Banham dictates that a truly modern building in the 1950s must present a cohesive image to the viewer. She should be able to walk away with a clear memory of the building's form and structural materials, which remained identifiable to their raw state.⁴³

There exist inherent flaws in the concept of New Brutalism, however. As Anthony Vidler explains in a contemporary article from the *Architectural Review*, New Brutalism reduces the style that Le Corbusier pioneered down to a mere set of aesthetic criteria. The planner used *beton brut* (rough-finished concrete) as a functional attribute of Unité

⁴¹ Kaminer, Tahl, *Architecture, Crisis, and Resuscitation: The Reproduction of Post-Fordism in 'Late-Twentieth-Century Architecture* (New York: Routledge, 2011), 26.

⁴² Banham, Reyner, "The New Brutalism," in *Alison and Peter Smithson: A Critical Anthology*, edited by Max Risselada, 112-23 (Barcelona: Ediciones Poligrafa, 2011), previously published in *Architectural Review*, December 1955, 354-61, 120.

⁴³ Karp, Mackenzie.

d'Habitation. Goldfinger and the Smithsons did so for the sake of visual impact.⁴⁴ The interpretation was wrong, and so was the audience. As mentioned that Brutalist towers were not the product of popular demand. Rather, Modernism reigned supreme amongst the cultural elite of mid-century British architects. One must be careful not to conflate the two. At the forefront of the Modernist intellectual scene in Britain was the *Architectural Review*. When architect and critic James Richards took over as editor in 1935, he was determined to steer the content towards an exclusively modern sensibility. He hoped to establish Modernism as the standard for all English building thereafter. He claimed that, up until the 1930s, there were no rigorous “regular appraisals of new buildings as they were put up,” nor was there “incentive...to discriminate between good and bad quality in modern buildings.”⁴⁵ During his editorship, the journal was among the most influential architectural publications, amassing a following of young architects in the 1930s and 40s. These were the same practitioners who would go on to be contracted by the postwar government and take their theories with them into their public ventures.⁴⁶ While Brutalism (or New Brutalism) reigned supreme with readers of the *Architectural Review*, the average resident of London City Council housing was not reading academic journals. Goldfinger claimed to be designing for all classes of Londoners, but he and his theory were elitist.

The problem with this approach lies with a concept known as “imageability,” a term coined at this time by American author and urban planner, Kevin Lynch. His

⁴⁴ Vidler, Anthony, “Troubles in Theory V the Brutalist Moment(s),” *Architectural Review* 235, no. 1404 (Feb 2014): 96-101.

⁴⁵ Higgott, Andrew, *Mediating Modernism: Architectural Cultures in Britain* (New York: Routledge, 2007), 33-41.

⁴⁶ Higgott, Andrew, 33-41.

seminal book, *The Image of the City*, questioned the top-down approach his contemporary planners took towards recreating street life in planned housing. The Smithsons, for example, famously used the term “streets in the sky” to describe their hopes of imbuing elevated corridors with communal sensibilities, famously citing the East London photography of Nigel Henderson. Depicted below, Henderson had an eye for capturing Londoners in states of sociability and play.



Fig. 13 and 14 London street scenes of the 1950s, captured by photographer Nigel Henderson.

Lynch pointed academic attention towards a phenomenon everyone has experienced: “a good environmental image gives its possessor an important sense of emotional security. He can establish a harmonious relationship between himself and the outside world.”⁴⁷ Londoners have a particularly acute notion of the proper aesthetic features of their city, as Christopher Beanland details in “Concrete Buildings: Brutalist Beauty:”

⁴⁷ Lynch, Kevin, “The Image of the Environment,” in *The Image of the City*, by Lynch (Cambridge, Massachusetts: MIT Press, 196), 4.

Brutalism is the most urban architecture there is. But if you slice open the arteries of most Britons, we bleed the bucolic. In the Industrial Revolution, people were shoved into factory work in foul, seething spots. Cities became infernal in their heads. Even today's city-dwellers offset far less gritty surrounds with twee vintage, farmers' markets, crafting, dreams of suburbs. Brutalism is not the architecture of afternoon teas and cricket; cuddles and picnics. It's uncompromising, bold, modern, metropolitan...⁴⁸

Imageability, so called by Lynch, develops through a reciprocal process by which “the environment suggests distinctions and relations, and the observer—with great adaptability and in the light of his own purposes—selects, organizes, and endows with meaning what he sees.” New stimuli might be introduced, but it will not cause a disturbance if it conforms to the familiar.⁴⁹ Try as it might, Goldfinger’s architecture would never eclipse British preferences. Traditionally, the British taste for architecture has been historicist. The British like to refer back to the vernacular trends of the Regency and Victorian eras. They also generally prefer low-rise housing centered on the garden.⁵⁰ Architecture has no hope of inciting national pride when does not reflect the nation. The Balfour and Trevellick Towers, along with British Brutalism en masse, disrupted both the physical environment and the cognitive one imagined by Londoners. Just look at how jarring the Trevellick Tower is next to its quaint neighbors.

⁴⁸ Beanland, Christopher, "Concrete Buildings: Brutalist Beauty," editorial, *The Independent*, accessed May 17, 2016, <http://www.independent.co.uk/arts-entertainment/art/features/concrete-buildings-brutalist-beauty-9057223.html>.

⁴⁹ Lynch, Kevin, 6.

⁵⁰ Clement, Alexander, 12.



Fig. 15 The northeast façade of the Trelick Tower.

Kevin Lynch's principle can also be considered in terms of the National Theatre. Fortunately for the building, performance venues are unencumbered by the imageability of home. Whereas home is a requirement, theatres are spaces whose usage is optional, so their aesthetic quality is more elastic. The concept of home is inextricably tied to conservative values, but Brutalism is an architectural style radical by nature. One could make the argument that, if a person has tickets to a play, she is probably already accepting of the artistic risks taken by the theatre's architect.

This brings up the issue of adaptation versus appropriation. Denys Lasdun claimed that he was not a disciple of Le Corbusier. However, I would argue that Denys Lasdun had more in common with Le Corbusier than he realized. Without even trying, Lasdun achieved something Goldfinger never did. Goldfinger grafted an outdated, French

theory onto a society unsuited for it; Lasdun updated it for a modern context and an appropriate audience. He upheld Le Corbusier's efficiency of movement and plasticity of place through concrete; but, more importantly, he built an artificial environment for London socialization to thrive naturally. His building might only be a couple stories high, but its cafes, bookstore, learning center, and performance venues evoke those illusive "streets in the sky."⁵¹ Lasdun adapted the core principle underlying much of Le Corbusier's writings—that buildings should inspire interaction, motion, and activity.⁵² Yes, Goldfinger's work looks like Le Corbusier's, but aesthetic similarity does not equal a sufficient interpretation. Goldfinger appropriated; Lasdun adapted. The second life the National Theatre is currently experiencing post-renovation will ensure its relevance into posterity. If there was one thing Le Corbusier sought, it was permanence.

Factor 2: Brutalism's Adoption by an Inefficient Welfare State

Aside from the obvious practical need of architecture to house Brits displaced by the war, the built environment was entrusted with molding the British national identity after the nation's victory. Brutalism is blunt, solid, and permanent. The style's rejection of superfluous decoration was decidedly modern at the time, making clear that this was a structure with purely efficient intent. A Brutalist housing block would include a complete menu of amenities—grocery stores, playgrounds, primary schools—producing a fully contained community prime for top-down government supervision.⁵³ Widely considered

⁵¹ Lasdun, Denys.

⁵² Le Corbusier, *The City of Tomorrow and Its Planning*, 171.

⁵³ Risebero, Bill, *Modern Architecture and Design: An Alternative History*, (Cambridge, Massachusetts: The MIT Press, 1983), 230-237.

bastions of a post-war welfare, such buildings now symbolize the limits of idealism in architecture to optimize or modernize daily life.

One cannot fully understand the British welfare state's architectural preferences without understanding what pressures and challenges that state was experiencing. Britain was a major target of Axis bombing during the Second World War, and its capital bore the brunt of the destruction. Through systematic nightly blitz bombing, the Nazis succeeded in destroying whole expanses of the city between September 1940 and May 1941. While Britain did not see a level of destruction on par with that of Germany or Poland, civilian deaths totaled 60,595, and the number of people rendered homeless 500,00—hardly insignificant figures.⁵⁴ The densely populated working-class areas of East London were disproportionately affected, leaving thousands of the city's most impoverished without homes. London was facing the impending loss of neighborhood identity. Londoners took immense pride in the capital's architectural and communal personality and felt urgency for its preservation. In addition to the presence of local businesses that double as shared public spaces (pubs, laundrettes, et cetera), a proper London neighborhood should promote the social citizen, one who maintains a sense collective responsibility for the wellbeing of the community. It was thought that the built environment functioned as a means for social control of the collective national identity.⁵⁵ This moment of crisis presented the British government with a tabula rasa: the

⁵⁴ Larkham, Peter J, *Planning for Reconstruction after the Disaster of War: Lessons from England in the 1940s*, Publication no. 6, Urban Perspectives Series (Birmingham: University of Central England).

⁵⁵ Hollow, Matthew, "Governmentality on the Park Hills Estate: The Rationality of Public Housing," *Urban History* 37, no. 1 (May 2010): 117-135.

opportunity to expand their influence over private civilian life, a principle that would become central to the Anglophone welfare sensibilities.⁵⁶

If the introduction of the National Health Service ushered in an era of healthy, regulated British bodies, state-sponsored architecture should have come to represent a newer, stronger, more permanent United Kingdom. As mentioned, Keynesian economic theory rose to popularity in the 1930s and experienced renewed interest after the war. John Maynard Keynes, a British economist, argued that the free market as it were had no natural method for achieving price stability or full employment. Government intervention was appropriate to ensure these goals, and lack thereof would only perpetuate a cycle of boom and bust.⁵⁷

As Mark Swenarton, Tom Avermaete, and Dirk van den Heuvel explain in *Architecture and the Welfare State*, state intervention emerged as a result of the “social question” raised by industrialization: how can a nation manage its new middle-class and subsequent social inequality? As manufacturing transformed the Western European economy, welfare held the potential for wealth distribution and social reorganization. Scholars often refer to the years between 1945 and 1975 as a golden age of sorts for the British welfare state. This time period roughly corresponds to the end of World War II and the rise of welfare-adverse neoliberal politicians, culminating in the election of Margaret Thatcher in 1979. It is marked by a scientific approach to the fulfillment of living needs, state-sponsored design competitions, collaboration between architects and

⁵⁶ Swenarton, Mark, Tom Avermaete, and Dirk Van Den Heuvel, eds. *Architecture and the Welfare State* (London: Taylor & Francis, 2014), 1-20.

⁵⁷ Jahan, Sarwat, Ahmed Saber Mahmud, and Chris Papageorgiou, "What Is Keynesian Economics?" *International Monetary Fund*, reprinted from *Finance & Development* 51, no. 3 (September 2014): 53-54, accessed May 25, 2016. <http://www.imf.org/external/pubs/ft/fandd/2014/09/basics.htm>.

social scientists, and the glorification of the architect as a master planner and innovator.⁵⁸

Ernő Goldfinger was one of those planners. Goldfinger was one of a group of architects commissioned to work privately under the Greater London Council (the local government entity responsible for city planning), an initiative launched in 1961 to accelerate rebuilding.⁵⁹ The relative increase in artistic liberties experienced by state-backed architects at the time was reflected in the daring work of the 1960s. It also meant that egotistical designers were able to experiment with their own pseudo-scientific theories on the new residents. This collaboration is responsible for Brutalism's unshakeable association with state-funded works.

That being said, the story of the British public housing is more complicated than the preceding paragraphs might lead one to believe. "Unparalleled planning activity was, in fact a failure," laments Birmingham School of Planning and Housing professor Peter J. Larkham.⁶⁰ The welfare state, for most of its roughly thirty-year existence, lacked the resources and bureaucratic organization needed to carry out public housing ventures of the scale intended. Building materials were rationed well into the 1950s, and landownership was sharply divided between public and private entities, precluding most projects of considerable size.⁶¹ But more importantly, the British government did not maintain a level of administrative organization required to house the people they needed to house. While a limited Ministry of Work and Planning was established in 1943, its formation was widely seen as an attempt to boost morale more so than actually execute

⁵⁸ Swenarton, Avermaete, and Van Den Heuvel, eds, 13-14.

⁵⁹ Harwood, Elaine, 88.

⁶⁰ Larkham, Peter J, *Planning for Reconstruction after the Disaster of War*, 11.

⁶¹ Larkham, Peter J, *Planning for Reconstruction after the Disaster of War*, 9.

projects. Immediate responses to wartime damage were primarily handled by local council authorities. By the time that national resources were filtered down to the local level, not much remained.⁶² The actual involvement that the state took in British housing was hardly extensive. Experimental public housing was met with general enthusiasm immediately after the Second World War. It dovetailed with the Labour government's health, social security, and educational initiatives as a means of promoting British nationalism and wellbeing in the 1940s. Thirty years later, however, Londoners were denouncing these relics of an inefficient welfare state.

As Peter Malpass argues in an article in the *European Journal of Housing Policy*, when the Labour Party was elected in 1945, they largely upheld the housing scheme established by the wartime government in 1943, which established the city and town council building system. Yes, housing ventures sprung up with rapid speed across Britain at this time, but one should be careful to not conflate the act of building with the ideology of reform. Local housing authorities concentrated their efforts on the immediate fulfillment of need. Le Corbusier and his contemporaries campaigned for the complete overhaul of how and why we build.⁶³ This degree of theoretical shift was only possible through top-level government intervention. Academically, this is referred to as Authoritarian High Modernism, a flawed approach to project-based governance that will be discussed later on in this paper.

Moreover, the Conservative Party reclaimed power less than ten years later in 1954 and brought with them considerable aversion towards the very concept of welfare

⁶² Larkham, Peter J, *Planning for Reconstruction after the Disaster of War*, 6.

⁶³ Malpass, Peter, "Fifty Years of British Housing Policy: Leaving or Leading the Welfare State?" *European Journal of Housing Policy* 4, no. 2 (August 2004), 216.

housing. “Their position was built around criticism of lack of individual choice, the wastefulness of universalism and the heavy burden of welfare on the economy,” writes Malpass. Keep in mind that 1954 is less than half way through the time period this paper is covering (1945-1977). Despite this stretch of time representing the most intense period of welfare activity in Britain, the hope that public expenditure would provide high quality, functional, and modernist dwellings remained a pipe dream for most of those thirty years. “The primary forces shaping housing policy,” Malpass explains, “...were not the ideas and principles normally associated with welfare, and that from the mid-1950s housing was already moving further away, towards a more market-based system.”⁶⁴ The free market forces held a firmer grip on housing than on health and social security, two other pillars of the modern welfare state. Malpass notes that housing differs because it represents a sense of well-being achieved through conspicuous consumption and a certain income level. Even in the “golden age” of the welfare state, social renting remained closely associated with the working classes, never permeating the wider population to become a facet of national identity.⁶⁵

There is a reason that more of Le Corbusier’s proposed projects were not realized. His theoretical influence on architectural history seems to outweigh his material contributions. This can be boiled down to a simple concept called Authoritarian High Modernism, as detailed by James C. Scott in his book *Seeing Like a State*. Authoritarian High Modernism is the allowance of a population for increased state control in the name of progressive social projects.⁶⁶ While elements of this are present in most liberal and/or

⁶⁴ Malpass, 217.

⁶⁵ Malpass, 222.

⁶⁶ Scott, James C, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, Connecticut: Yale University Press, 1998), 1-8.

welfare regimes, a specific socio-political framework must be in place for Authoritarian High Modernism to flourish without a fascist takeover. This framework consists of a simplified and efficient government structure wherein a roles of leader and subject are clearly delineated, an optimistic modernist ideology and reverence for scientific advancement exist, an authoritarian state is willing to assume the power required, and a populace willing to grant it to them. Unsurprisingly, times of war and crisis create a fertile environment for Authoritarian High Modernism.⁶⁷

Similarly unsurprising is Le Corbusier's adherence to this line of thought. He was pruning this theory of architecture and planning after the First World War, a time of disillusionment ushered in by violence formerly unprecedented. Where existing political systems had failed, artists and ideologues relished in their new role as "designers of the new world order."⁶⁸ Utopianism is not inherently evil, but, for people like Le Corbusier, radical modernism leaves no room for dissenting thought or relics of the past. The planner's inherent genius will find a solution for wealth distribution, public health, and moral queries.⁶⁹

Le Corbusier did not manage to implement his theory to its full extent in his home nation of France; there was no way his radical modernism would work in Britain. Try as he might, Ernő Goldfinger was not living under a political system that had the resources or level of organization in place for sites like the Balfron or Trellick Towers to work. Yes, Britain was in crisis after World War II, but not one that would foster a regime with resources sufficient to carry out plans on the scale Le Corbusier had in mind.

⁶⁷ Scott, James C, 1-8.

⁶⁸ Scott, James C, "Introduction," 5.

⁶⁹ Scott, James C, "Authoritarian High Modernism," 87-102.

That is not to say that the National Theatre's relationship with the welfare state ran smoothly. In fact, bureaucratic incompetence almost thwarted the project. In fact, it has had basically the opposite trajectory as the Balfour and Trevellick Towers. It opened in 1977 after fourteen years of bureaucratic delay. Originally commissioned in 1964 to house a new Royal Opera House near where the London Eye now stands, the project lost its parliamentary funding in 1966. The following year the project was re-launched several yards north to the site of the burgeoning Southbank Arts Center. By the time construction was finally completed, the High Modernist caché had waned. The British economy was experiencing a downturn and rapidly accepting neoliberalism. This tone-deaf, decade-old, state-funded project just reminded Brits that the welfare state was not what it used to be. Concrete was out.⁷⁰

It is valid that someone might question if it is even accurate to call the National Theatre a product of the welfare state. It had no direct impact on the health, education, social security, or housing of the British. However, it promotes and celebrates British culture (and subsequently, national pride) in a way that does not look to revolutionize British life. Goldfinger placed too much social responsibility on his architecture; the National Theatre keeps its singular purpose in mind.

Factor 3: Poor Construction Quality in Times of Crisis

Concrete appealed to the welfare state because it is cheap, durable, and easy to manufacture, all qualities desirable when a nation is facing massive housing shortages, unparalleled wartime debt, and an industrial manufacturing system overhauled for the

⁷⁰ Douglass-James, David.

production of combat needs.⁷¹ In its hardened state, concrete bears much of the same qualities of stone, but with the added value of moldability. The postwar period saw an increase in the technological possibilities of concrete, the most important of which was introduction of visual concrete specification, which allowed architects to standardize the surface finishes and eliminated streakiness.⁷²

Furthermore, the adoption of prefabrication techniques was a major driving force in the spread of Brutalism across the United Kingdom, because it meant that standardized segments of one building could be manufactured off-site, then assembled on-site quickly and inexpensively. The method most commonly used originated in Scandinavia by a firm called Larsen & Nielsen and entailed factory-manufacturing panels to include doors, windows, and utility ducts. Here panels can be seen being moved into place.

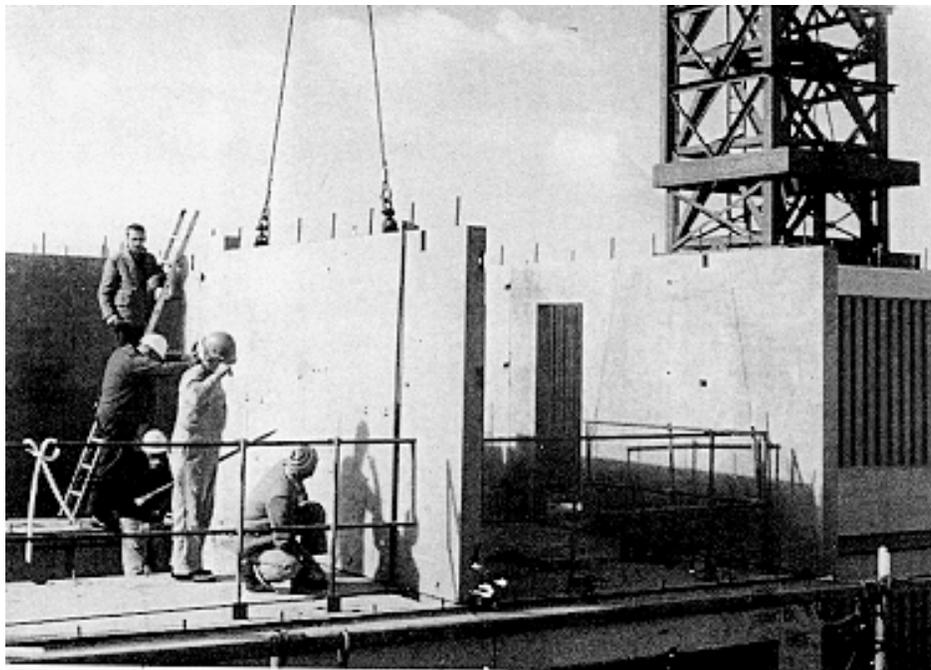


Fig. 16 The Larsen-Nielsen system in action.

⁷¹ Harwood, Elaine, ix.

⁷² Mara, Feliz, "What Is It About Concrete?" *Architects' Journal* 235, no. 16 (May 3, 2012): 30-33.

Unfortunately, the British applications frequently lacked the technical precision of their Scandinavian origins. This begat some tragic results, as we will soon see.⁷³ British welfare housing is notoriously poorly constructed. Frankly, this is to be expected. The government needed housing, and it needed it quick. This points to the inherent flaw of attempting nationalistic goals of crisis management with architecture.

John Grindrod cites 1968 as the turning point, or, as he put it “the year that the decade-long boom in high-rise flat building across Britain came to an abrupt and tragic end.”⁷⁴ Just one day after Goldfinger moved out from his Balfron apartment, a gas leak in another tower block would lead to an explosion and public panic. The burst was caused on May 16, 1968 when a resident of Ronan Point in Canning Town switched on her stove. Four people died in the subsequent collapse of the affected section of the building. The photo below shows how the prefabrication led to a clean collapse of one whole side of the building, top to bottom.

⁷³ Harwood, Elain, 86-87.

⁷⁴ Grindrod, John, 323.



Fig. 16 The Ronan Point disaster in 1968.

What is important to note about Ronan Point is that it willfully misapplied the Larsen-Nielsen method of prefabrication. The Danish builders intended the system of pre-cut panels to be applied to six-story building by a team of skilled workers. Ronan Point was twenty-two stories high, assembled by unskilled workers working quickly, and held together with far too few bolts.⁷⁵ Of course it was doomed for trouble. 27,000 tower blocks had been commissioned by the British government in 1964; by 1978 that number would only reach thirty-seven. Following the incident, the media made sure that British

⁷⁵ Grindrod, John, 330-335.

people were aware of tower block vandalism and shoddiness.⁷⁶ Goldfinger's work became an object of backlash; it became a threat by association.

What is also important to note is that the National Theatre was not under the time pressure as housing architecture. There was no major British theatre shortage crisis in the 1960s. This was a building whose construction could take its time (ten years in fact), and Denys Lasdun was an architect who paid attention to critical details. His approach will be explored in the next section.

Factor 4: Master Planners and Their Egomania

Ronan Point fractured the trust between state planners and their constituents. At the time of the collapse, the private contracting scheme by the London City Council had been in effect for over ten years. The public was growing rightfully weary of having their biopolitics (a term coined by famed socialist Michel Foucault) experimented on. The over-reliance on measurable sociological data was a mid-Century holdover from Le Corbusier himself. This proved to be one of his many theories too ideological for realization. It assumed that humans function mechanically and predictably. If their environment was arranged optimally and provided the necessary amenities, a proper social citizen would result. Planners administered surveys to gauge public opinion, but as Matthew Hollow, author of "Governmentality on the Park Hill Estate: The Rationality of Public Housing," noted, the surveys failed to discern clear trends or desirability specific building forms.⁷⁷ Goldfinger, in his idolization of Le Corbusier, ignored the fact that his

⁷⁶ Grindrod, John, 338-339.

⁷⁷ Hollow, Matthew, "Governmentality on the Park Hill Estate: The Rationality of Public Housing." *Urban History* 37, no. 1 (May 2010): 117-135.

theory was outdated and unsupported. Mark Conyers in a report for University College London, stresses that “collaborative planning has the potential to enable a more inclusive dialogue to take place.” This process is called “place-making” and requires “the involvement of a broad range of stakeholders working together to support a long term and holistic vision” of a specific area.⁷⁸ In laymen’s terms, it is the people who live in a place that decide what is best for it.

John Grindrod cites a number of sources close to architect Ernő Goldfinger who describe him as quite the tyrant in his professional life. Allegedly, he would fire people within hours of hiring them—that is, if they had not already quit. Other anecdotes point to his rampant workplace misogyny.⁷⁹ Goldfinger was a man of his own ideals. His massive sister towers, the Balfron and the Trelick, define not only the London skyline, but an era of building forever associated with haphazard, shoddy, and elitist solutions to a question of mass housing. Goldfinger actually briefly moved into the Balfron for two months of 1968 before returning to his posh home in Hampstead. He trumpeted to the press that an architect must live in the home he designed. He did not stipulate for how long.⁸⁰

Goldfinger’s designs for both CIAM and his towers relied heavily on the Modulor, Le Corbusier’s attempt to develop a universal method of measurement similar to that present in musical composition. His 1948 book of the same name explains that the Modulor would be calibrated to a human scale to establish “plasticity, pure and simple” in building. The ground plans for Unité d’Habitation show evidence of Le Corbusier’s

⁷⁸ Conyers, Mark, “Ugly, Lovely Buildings: The Regeneration of Post-war Listed Social Housing Estates” (PhD diss., University College London, 2007), 15.

⁷⁹ Grindrod, John, 325-326.

⁸⁰ Grindrod, John, 324.

By contrast, Denys Lasdun deserves praise for the elegance of the National Theatre's functionality. The building is fully aware of its inward responsibility as a performance venue and its outward identity as a piece of the London skyline. Denys Lasdun collaborated with a committee of theatre experts, including Laurence Olivier, to ensure he addressed all the needs of the theatre's multiple performance spaces. His attention to detail extended down to the positioning of the seats. In the thrust space, for instance, the audience is placed at such a distance from the stage that no two spectators are looking directly at each other.⁸³ Laurence Olivier also saw that Lasdun considered the costume facilities, technical shops, and rehearsal spaces; having them all under one roof is key to a successful production run.⁸⁴ Thus, it is clear that Lasdun's design process differed from Goldfinger's; he accepted the input of those who would be using the building. Goldfinger fostered collaboration, but it often took the form of irrelevant scientific inquiry carried out by someone who would never set foot in the space.

The sheer amount of facilities required immensity, but "through the use of varied massing that breaks down the volume of the complex," Lasdun preserved the surrounding landscape. He opted for horizontality, emphasized by strapping exterior balconies on which the Thames environs can be enjoyed. In fact, the tall fly towers are individually orientated to guide one's eye either towards St. Paul's Cathedral, Somerset House, or the adjacent Waterloo Bridge.⁸⁵

In fact, the concrete itself makes its own nod to the Thames. The particular blend used matched the color of the Waterloo Bridge and was formulated to be waterproof. At a

⁸³ Douglass-Jaimes, David.

⁸⁴ Grindrod, John, 423.

⁸⁵ Douglass-Jaimes, David.

time when concrete was unfashionable but steel was in short supply, Lasdun stood by his design choice. He moulded the concrete in a method known as boardmarking, which left it with a wood-panel texture. This technique usually results in chunkiness, but many architectural critics admit that Lasdun's finesse marries concrete and wood, nature and machine.⁸⁶ Every surface corner of the National Theatre is calculated for maximum effectiveness, visual impact, and respect for its surroundings.

Conclusion

These days, the future of the Balfron and Trellick Towers remains in question. Both were granted English Heritage status at the end of the Twentieth Century, but efforts to rebrand these controversial historical sites have been bumpy. The Balfron was sold to private developers in 2008, losing the very publicness that was once defined it. Residents were forced to relocate, and as of 2015, the building is still awaiting renovation. Cashing in on *Mad Men*-driven trend towards all things retro in the early-2000s, the new owners staged one apartment in the reproductions of the original furnishings and opened it to the public. Proceeds from the ticket sales went towards the regeneration. A few other art installations have been erected on the property.⁸⁷ However, noble as the attempts to engage artistically with the Balfron's history might be, I cannot help to mourn the promise of a radically efficient London that Ernő Goldfinger never quite achieved.

The National Theatre, however, gives us a little glimpse into the world Le Corbusier envisioned. The Trellick and Balfron Towers demonstrate to us how rare of a

⁸⁶ Grindrod, John, 417-419.

⁸⁷ Karp, Mackenzie.

case it is. Overwhelmingly, British architects after World War II could not find their footing with the groundwork Le Corbusier had laid in the 1920s. But, Ernő Goldfinger tried. The Trellick and Balfron Towers are emblematic of Brutalism at its worst—a high-minded ideology tone-deaf to the existing national aesthetic. Fortunately, the National Theatre proves that Brutalism itself is not the problem. Denys Lasdun’s opus on the Thames applied the style in a way that expanded the idea of what concrete mass could do in a metropolis. Though a publicly funded project, its lasting success did not depend on a welfare state whose resources petered out in the late 1970s. When Brutalism is divorced from its associations with public housing, the style relishes in its full potential.

References

Balters, Sofia. “AD Classics: Robin Hood Gardens / Alison and Peter Smithson.”

ArchDaily. August 18, 2011. Accessed June 8, 2016. <http://www.archdaily.com/150629/ad-classics-robin-hood-gardens-alison-and-peter-smithson>.

- Banham, Reyner. "The New Brutalism." In *Alison and Peter Smithson: A Critical Anthology*, edited by Max Risselada, 112-23. Barcelona: Ediciones Poligrafa, 2011. Previously published in *Architectural Review*, December 1955, 354-61.
- Beanland, Christopher. "Concrete Buildings: Brutalist Beauty." Editorial. *The Independent*. Accessed May 17, 2016. <http://www.independent.co.uk/arts-entertainment/art/features/Concrete-buildings-brutalist-beauty-9057223.html>.
- Brittain-Catlin, Timothy. "Brutal Beauty: The Rich Heritage that Means these Buildings must be Saved." *CNN*, November 27, 2015. Accessed May 30, 2016. <http://www.cnn.com/2015/11/27/architecture/why-brutalist-architecture-must-be-saved/index.html>.
- Burger, Lisa, Jay Merrick, and Dillon Patrick. "Building Study: National Theatre, Haworth Tompkins." *Architects' Journal* 241, no. 17 (May 1, 2015): 34-44.
- Clement, Alexander. *Brutalism: Post-War British Architecture*. Ramsbury, Marlborough, Wiltshire: The Crowood Press Ltd, 2011.
- Conyers, Mark. "Ugly, Lovely Buildings: The Regeneration of Post-war Listed Social Housing Estates." PhD diss., University College London, 2007.
- Dillon, Patrick. "Treading the Concrete Boards: The Renovation of London's National Theatre." Interview by George Kafka. *Uncube* (blog). Entry posted September 29, 2015. Accessed May 17, 2016. <http://www.uncubemagazine.com/blog/16064817>
- Douglass-Jaimes, David. "AD Classics: Royal National Theatre/Denys Lasdun." *ArchDaily* 13, no. 1 (September 8, 2015).
- Dunnet, James and Gavin Stamp. *Ernő Goldfinger*. London: Spin Offset Ltd, 1983.
- Elwall, Robert. *Ernő Goldfinger*. London, Academy Editions: 1996.
- Foges, Chris, Lydia Lee, and David Sokol. "Luminous Revivals: The Public Realm is

Kinder and Gentler in Two Cities where Imposing 20th-Century Structures have Undergone Sensitive Renovations -- And where Creative Lighting Schemes both Define the Architecture and Engage the Community." *Architectural Record* 204, no. 2 (February 2016): 117-24, 126-28.

Goldfinger, Ernő. *Balfour Tower*. 1967. London, United Kingdom.

Goldfinger, Ernő. *Trellick Tower*. 1972. London, United Kingdom.

Grindrod, John. *Concretopia: A Journey Around the Rebuilding of Postwar Britain*.

Brecon, United Kingdom: Old Street Publishing Ltd, 2013.

Gropius, Walter. "Program for the Founding of a General Housing-Construction Company Following Artistically Uniform Principles." In *Housing and Dwelling*, edited by Barbara Miller Lane, 238-40. New York: Routledge, 2007. Reprinted from *The Bauhaus: Weimar - Dessau - Berlin - Chicago*. Cambridge, Massachusetts: The MIT Press, 1969. 20-1.

Harwood, Elain. *Space, Hope, and Brutalism: English Architecture, 1945-1975*. New Haven, Connecticut: Yale University Press, 2015.

Herbert, Gilbert. "The Dream of the Factory Made House." In *Housing and Dwelling*, edited by Barbara Miller Lane, 240-7. New York: Routledge, 2007. Excerpt from *The Dream of the Factory Made House: Walter Gropius and Konrad Wachsmann*. Cambridge, Massachusetts: The MIT Press, 1984. 39-57.

Higgott, Andrew. *Mediating Modernism: Architectural Cultures in Britain*. New York:

Routledge, 2007.

Hoggard, Liz. "Why We Must Learn to Love Brutalist Architecture." *The Telegraph*,

January 28, 2016. Accessed May 30, 2016.

<http://www.telegraph.co.uk/art/artists/why-we-must-learn-to-love-brutalist-architecture/>.

Hollow, Matthew. "Governmentality on the Park Hill Estate: The Rationality of Public Housing." *Urban History* 37, no. 1 (May 2010): 117-135.

Jahan, Sarwat, Ahmed Saber Mahmud, and Chris Papageorgiou. "What Is Keynesian Economics?" *International Monetary Fund*. Reprinted from *Finance & Development* 51, no. 3 (September 2014): 53-54. Accessed May 25, 2016.

<http://www.imf.org/external/pubs/ft/fandd/2014/09/basics.htm>.

Kaminer, Tahl. *Architecture, Crisis, and Resuscitation: The Reproduction of Post-Fordism in Late-Twentieth-Century Architecture*. New York: Routledge, 2011, 26

Karp, Mackenzie. "Ethnic Lost: Brutalism and the Regeneration of Social Housing Estates in Great Britain." Master's thesis, University of Oregon, 2015.

Larkham, Peter J. *Planning for Reconstruction after the Disaster of War: Lessons from England in the 1940s*. Publication no. 6. Urban Perspectives Series. Birmingham: University of Central England.

Larkham, Peter J., and David Adams. *The Post-War Reconstruction Planning of London: A Wider Perspective*. Publication no. 8. Working Paper Series. Birmingham: Birmingham City University, 2011.

Lasdun, Denys. *National Theatre*. 1977. London, United Kingdom.

Le Corbusier. "The City of Paris." In *Housing and Dwelling*, edited by Barbara Miller

Lane, 350-2. New York: Routledge, 2007. Reprinted from *The City of Tomorrow*.
Cambridge, Massachusetts: The MIT Press, 1971.

Le Corbusier. *The City of Tomorrow and Its Planning*. Translated by Frederick Etchells.
Third ed. Cambridge, Massachusetts: The MIT Press, 1971.

Le Corbusier. *The Modular: A Harmonious Measure to the Human Scale Universally
Applicable to Architecture and Mechanics*. Translated by Peter de Francia and
Anna Bostock. Second ed. Cambridge, Massachusetts: The MIT Press, 1954.

Le Corbusier. "Unité d'Habitation, Marseille, France, 1945." Address presented at the
occasion of the handing over of the Unité d'Habitation, Marseille, France, October
14, 1952. *Fondation Le Corbusier*. Accessed May 25, 2016.

<http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5234&sysLanguage=en&itemPos=58&itemCount=78&sysParentId=64&sysParentName=home>.

Lynch, Kevin. "The Image of the Environment." In *The Image of the City*, by Lynch.
Cambridge, Massachusetts: MIT Press, 1960.

Malpass, Peter. "Fifty Years of British Housing Policy: Leaving or Leading the Welfare
State?" *European Journal of Housing Policy* 4, no. 2 (August 2004): 209-27.

Mara, Feliz. "What Is It About Concrete?" *Architects' Journal* 235, no. 16 (May 3, 2012):
30-33.

Risebero, Bill. *Modern Architecture and Design: An Alternative History*. Cambridge,
Massachusetts: The MIT Press, 1983.

Scott, James C. *Seeing Like a State: How Certain Schemes to Improve the Human*

Condition Have Failed. New Haven, Connecticut: Yale University Press, 1998.

Swenarton, Mark, Tom Avermaete, and Dirk Van Den Heuvel, eds. *Architecture and the Welfare State*. London: Taylor & Francis, 2014.

Vidler, Anthony. "Troubles in Theory V the Brutalist Moment(s)." *Architectural Review* 235, no. 1404 (Feb 2014): 96-101.

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Figure 1 Rowlinson, Ian. Brunel University Lecture Center, London, UK; Architects: Sheppard, Robson and Employees / John Heywood (1965–67). Photograph. Hyperallergic. December 21, 2015. Accessed May 30, 2016. <http://hyperallergic.com/262860/sending-out-an-sos-to-save-our-concrete-brutalist-monsters/>.

- Figure 2** Cadman, Steve. Robin Hood Gardens, London, UK; Architects: Alison and Peter Smithson (1966–72) (photo by Steve Cadman/Wikimedia,2008). Photograph. Hyperallergic. December 21, 2015. Accessed May 30, 2016. <http://hyperallergic.com/262860/sending-out-an-sos-to-save-our-concrete-brutalist-monsters/>.
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- Figure 5** AD Classics: Trellick Tower / Ernő Goldfinger—Flat Plans. Illustration. *ArchDaily*. August 28, 2011. Accessed May 30, 2016. <http://www.archdaily.com/151227/ad-classics-trellick-tower-erno-goldfinger>.
- Figure 6** English Heritage. National Theatre, South Bank, London, 1969-76. Photograph. *Heritage Calling*. September 8, 2014. Accessed May 30, 2016. <https://heritagecalling.com/2014/09/08/6-buildings-celebrating-100-years-of-denys-lasdun/>
- Figure 7** Libera, Pawel. *Royal National Theatre*. Photograph. RIBA Library Photographs Collection 1976. Royal Institute of British Architects, London, United Kingdom.
- Figure 8** VisitBritain/Pawel Libera. A nighttime view of the illuminated National Theatre from Waterloo Bridge, with London's South Bank and city skyline in view., South Bank, London, London, England. Additional Credit: Society of London Theatre. Photograph. Accessed May 30, 2016. <http://www.gettyimages.com/detail/photo/nighttime-view-of-the-illuminated-national-high-res-stock-photography/133682082/license>.
- Figure 9** Ashley, Sam. Undercroft Skatepark at the Southbank Arts Centre. Photo. *The Telegraph*. September 19, 2014. Accessed May 30, 2016. <http://www.telegraph.co.uk/culture/art/architecture/11108582/Southbanks-skatepark-saved-for-the-long-term.html>.
- Figure 10** Le Corbusier. *Plan Voisin*. Drawing. Foundation Le Corbusier. Accessed May 19, 2016. <http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=6159&sysLanguage=en&itemPos=2>

&itemCount=2&sysParentName=Home&sysParentId=65.

Figure 11 Gurak, Wojtek. AD Classics: Unité d'Habitation / Le Corbusier. Photograph. *ArchDaily*. November 5, 2010. Accessed May 30, 2016.

<http://www.archdaily.com/85971/ad-classics-unite-d-habitation-le-corbusier>.

Figure 12 Goldfinger, Ernő. Design for housing project for CIAM, 1993. 1933. Illustration.

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<http://www.wornthrough.com/2011/05/exhibition-review-london-street-photography/>.

Figure 14 Henderson, Nigel. *Photograph showing children playing, on Chisenhale Road, London*. 1949-1956. Photograph. Tate Archive, London, United Kingdom.

Figure 15 Bullen, Alexandra. *North East Façade*. Photograph. *C20 Society*. May 2014. Accessed May 30, 2016. <http://www.c20society.org.uk/botm/trellick-tower/>.

Figure 16 A System-built High-rise under construction. 1962. Accessed May 19, 2016. <http://www.highrisefirefighting.co.uk/material.html>

Figure 17 Daily Telegraph. Ronan point following explosion. 1968. Photography. *Failed Architecture*. April 15, 2011. Accessed May 30, 2016.

<http://www.failedarchitecture.com/the-downfall-of-british-modernist-architecture/>.

Figure 18 Le Corbusier. *The Modular*. 1945. Illustration. Foundation Le Corbusier.

Accessed May 30, 2016. http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=7837&sysLanguage=en-en&itemPos=82&itemSort=en-en_sort_string1%20&itemCount=215&sysParentName=&sysParentId=65