

Article

## ‘The Towers of Terror’: A Critical Analysis of Ernő Goldfinger’s Balfron and Trellick Towers

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### Abstract

When J. G. Ballard published his masterpiece *High-Rise* in 1975, many readers in London automatically identified the apartment building that is the protagonist of the dystopian novel as the infamous Trellick Tower at Kensal Town, certainly one of the most controversial and ambiguous figures of British architecture after World War II. Designed by Ernő Goldfinger, the tower, which had recently been completed, was already considered a symbol of the brutality of contemporary architecture, to the point of gaining the nickname ‘Tower of Terror’ coined by its own inhabitants. Actually, in public opinion the nearly twin sister of the earlier Balfron Tower at Poplar embodied all the ills of urban planning and of the housing policies of the post-war reconstruction. The large size of the project, the uniformity of its facades, the presence of bulky stairwells separated from the main volume, connected by elevated bridges and brandishing the big chimneys of the heating system, the complex apartment layouts on multiple levels, and the intensive use of fair-face reinforced concrete are the factors that shape the extraordinary character of this work of architecture, examined in a relatively small quantity of critical writings, despite the building’s widespread notoriety. The Balfron Tower, commissioned in 1963, and the Trellick Tower commissioned in 1966 have become, for better or worse, icons of British public housing policy, and today they are inseparable parts of the London cityscape. Critical analysis of the original project documents reveals how the typological and constructive reflections at the end of the 1960s had reached a level of extreme sophistication and quality, also in the development of large social housing complexes created for the urban proletariat. Thanks to their outstanding constructed quality and the efficacy of their residential typologies, the towers have stood up to the destructive fury of the last few decades, even becoming Grade II\* listed buildings. In recent years, they have gone through a remarkable process of social and generational turnover, coveted as investment properties and involved in processes of real estate speculation.

### Keywords

Balfron Tower; Brutalist architecture; Ernő Goldfinger; high-rise buildings; social housing; Trellick Tower

### Issue

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### 1. Introduction: A Good Angry Architect

There are good and bad architects. I’m a good architect. (Ernő Goldfinger, as cited in Warburton, 2006, p. 6)

Ernő Goldfinger was born in Budapest in a middle-class family of timber merchants, the owners of forests and

sawmills in Transylvania, then a ‘circle’ of the Austro-Hungarian Empire (Major, 1973). When the empire collapsed, Ernő Goldfinger was sent to continue his studies at Le Rosey, an exclusive college in the Swiss Alps. In the early 1920s he moved to Paris to study architecture at the École des Beaux-Arts. During the years of his training in Paris, he came into contact and developed close ties with leading European architects, from

Le Corbusier to Auguste Perret, whom he always considered his mentor. He spent time in avant-garde cultural circles and was particularly acquainted with some of the outstanding figures of the Rive Gauche, such as Fernand Léger, Amédée Ozenfant, Max Ernst, Man Ray, Georges Braque and Tsuguharu Foujita. After a short but intense experience working in the studio of Auguste Perret, he received his first commissions and completed some remarkable works, mostly interiors of stores and offices. His first commission of a certain importance in England came in 1926, a facade in glass and steel for the Helena Rubinstein store in Mayfair. It was in Paris, however, that he met the love of his life, the English artist Ursula Blackwell. In 1933 Ursula and Ernő were married. That same year, as secretary of the French delegation, he took part in the CIAM (*Congrès Internationaux d'Architecture Moderne*) congress on the SS Patris II cruise ship. After his return, the couple moved to England. Ernő opened a professional practice and Ursula made an active contribution to the intellectual life of London, from their prestigious apartment in the 'modernist' complex of Highpoint I, just completed based on a design by Berthold Lubetkin. Erudite and refined in terms of talent, wealthy and elegant by background, as soon as they arrived in England Ursula and Ernő became regular fixtures of the London intellectual scene. Their surprising fluency in many languages, quite rare in England at the time and an earmark of refined cosmopolitan culture, made them a point of references for many visiting architects. They had long-term ongoing contacts with Eric Mendelsohn and Ludwig Mies van der Rohe. In spite of these close personal relationships with the most important architects and artists of his generation, Ernő Goldfinger would remain an outsider, both with respect to the circles of English Modernism and to the circuit of major commissions. That fact of the matter is that Ernő Goldfinger was often far from diplomatic.

During the war he worked mainly on small projects, including many furniture prototypes, some villas, store interiors and window displays. In 1937, thanks to the personal assets of Ursula, they built what was to be considered their masterpiece: the three houses on Willow Road facing the park of Hampstead Heath. Harshly criticized for its 'unconventional' image seen as lacking in respect for the architecture of the Georgian neighbourhood, in 1996 this complex became the first 'modern' building acquired by the National Trust.

Ernő and Ursula had just moved to Willow Road when the war began. The first year was marked by the German invasion of Poland and the westward advance that would culminate in 1940 with the evacuation of Dunkirk and the surrender of Paris. When Winston Churchill delivered his famous "This Was Their Finest Hour" speech announcing that the battle of France is over and that the battle of Britain is about to begin, London was already being fire-bombed. Ernő had not enlisted, but was on civil reserve duty, and Ursula was in the nursing corps. The couple, between a benefit auction for the Red Army and some sur-

realist projects for the Industrial Camouflage Research Unit that had set up shop in their office, worked on a committed pamphlet that already predicted the form of the future city. It was titled *Planning Your Neighbourhood*, and was printed in 1944 by the Army Bureau of Current Affairs. With a good deal of optimism, the two presented their proposal for the reconstruction of areas "heavily damaged through enemy actions and overcrowded and disfigured by slums" (Abercrombie & Forshaw, 1943). The proposal, with particular reference to the Shoreditch district, contains maps, aerial photomontages, and many diagrams designed to visualize the features of the new city, a city "for home, for work, for play," but above all the idea was that anyone, young and old across different social classes, would enjoy living in the "vertical city" (Blackwell & Goldfinger, 1944).

The vertical city, in fact, was Ernő Goldfinger's main fascination, almost a fixation. The dream of a city of skyscrapers was a constant in the visions of architects in the years between the two World Wars. Le Corbusier's iconic image of the contemporary city of three million inhabitants (*ville contemporaine de trois millions d'habitants*) and of the *Plan Voisin* for Paris at the Pavillon des Temps Nouveaux, with 18 and 24 sixty-story skyscrapers, had been envisioned over twenty years earlier, but had remained merely a drawing on paper. Their premises contained the provocative awareness that it was a choice that could not be made in the realm of immediate possibility. The pre-war CIAM main attention was not on the debate on the height of the settlements but on the proposal of *Existenzminimum* units. On his lecture at CIAM II, Walter Gropius touches directly the theme of the high-rise building for the working class:

Internal structure of the industrial family makes it turn from the one-family house to the multi-storey apartment house, and finally toward the centralized master household...the biologically important advantages of more sun and light, larger distances between neighbouring buildings, and the possibility of providing extensive, connected parks and play areas between the blocks. It thus appears necessary to develop the high-rise apartment building technically, incorporating into its design the ideas of the centralized master household. (Mumford, 2000)

Nevertheless, the material and moral devastation wreaked by war was to make the 'total visions' of radical architects seem much closer to reality than they did just a few years earlier.

Ernő Goldfinger's commitment for the 'vertical city' would return, one year later, in 1945, when he was hired by Penguin Books to coordinate an important mass-market publishing project: the informative publication of the colossal plan for the reconstruction of London presented to the London County Council by Sir Patrick Abercrombie (Abercrombie & Forshaw, 1943), during the bombing of 1943. The project, known as the Potato Plan



**Figure 1.** Illustration from Colin Ward's *The Child in the City* (Ward, 1978).

due to its characteristic cartographic representation, was an injection of labour(ist) hope as an antidote to the program of austerity and deprivation the Conservative Prime Minister Winston Churchill had urged throughout the war. In one of the darkest moments of English history, the city council had approved a visionary, gigantic project. The future metropolis would contain at least 10 million inhabitants and would rise over the ashes and ruins of the agonized capital city. The associated maps illustrated the reconstruction and revitalization of the city by districts, in a 'city of villages,' through localized and specific interventions. The plan called for the construction of local centralities of individual character, density no less than 100 inhabitants per acre, liberation of public space and the concentration of commercial and administrative functions. The edition coordinated by Ernő Goldfinger had the aim of informing the population exhausted by wartime destruction about the basic principles behind the vision of the new capital. The operation, alongside the construction of eight new satellite cities and the tracing of a 'green belt,' called for an arduous reorganization of many residential zones, some of which had only been partially destroyed by the bombs. In practice, many Victorian neigh-

bourhoods of terraced houses would be reconstructed in keeping with a new scheme that involved the conservation only of the monumental buildings, while the services for the population would be inserted in urban parks, with housing organized in apartment blocks of varying height. The faith and enthusiasm with which Ernő Goldfinger promoted the plan of Sir Patrick Abercrombie were total. The general public was emphatically presented with sketches and diagrams of radical 'reconstruction' of the damaged zones of the city. With the motto of "Putting Theory into Practice," as an example, the publication illustrated the almost total replacement of the urban fabric of the Borough of Shoreditch, not far from the future location of the Balfour Tower, in keeping with what had been recommended one year earlier in *Planning Your Neighbourhood*. The attached *Survey of the Present Conditions* shows that the wartime destruction was effectively related with respect to the slums, whose recovery was suggested by making a totally clean slate. The goal was to uproot the dense Victorian city known around the world thanks to the etchings of Gustave Doré (Jerrold & Doré, 1872), in order to install a new idea of the city as quickly as possible. The first priority of the London County Council, after the unexpected Labour victory in

the elections of 1945, was public housing, of course. Time was short and the emergency was clear:

We all know how the great Russian Plans were actually named by the number of years of work they involved—the Stalin Five-Year Plan—so in due course the County Plan must be divided up into periods and, if we secure sufficient means and powers, we can get for the planners a real confidence that each stage will be completed within a limited and stated time. (Carter & Goldfinger, 1945)

But it was not just a housing crisis; it was also a cultural emergency, that of giving a new image to the city as rapidly as possible, to foster optimism and hope, while making a clean break with the England that existed prior to the war, mired in its traditions and incapable of operating on the front lines of international architecture.

In the years following the war, Ernő Goldfinger began to receive important public and private commissions. An active supporter of the English radical left, he was hired by the Communist Party of Britain to reconstruct its headquarters, as well as the offices and printing plant of the party organ, the *Daily Worker*. This same period also saw the construction of the Alexander Fleming House at Elephant and Castle for the Ministry of Health, where Ernő Goldfinger was finally able to develop on a large scale the compositional principles previously applied only in individual buildings of lesser size and complexity. In 1956 he took part in the famous exhibition “This is Tomorrow” at the Whitechapel Art Gallery in London, organized by the Independent Group of the Institute of Contemporary Arts. Just a few months earlier, in December 1955, in *Architectural Review*, the up-and-coming young critic Reyner Banham had published his famous essay *The New Brutalism*, which finally sang the praises of the new generation of English architects, of which the young Smithson couple had become the symbol, for personality and talent. The exhibition was structured so as to present the collaborative efforts of architects and artists in parallel, in the manner of the previous *Parallel of Art and Life* in 1953.

Though his studio designed many buildings, and though Ernő Goldfinger was a member of the Royal Academy of Arts and a regular contributor to *The Architectural Review*, his works are overlooked in most publications, and his name is rarely mentioned among the protagonists of the English scene in the 1960s. The remarks gathered at the time of the publication of his first biography reflect substantial agreement regarding his extroverted, often irascible and arrogant personality, aptly garbed in his refined and unconventional elegance that bore little comparison to either the established generations or their more alternative successors. Brandishing a strong foreign accent, a mixture of Hungarian, German and Polish, he proudly displayed his stateless background, nonchalantly provoking the most wretched and indecorous reactions. Among them one

has gone down in history, namely the argument with Ian Fleming, who perhaps mostly by chance had called the villain of his 007-episode of 1964 Auric Goldfinger, a rather veiled tribute to the despised architect who was his neighbour in Hampstead. Auric was a “fearless, alcoholic, womanising, psychopathic fictional character” (Duncan, 2015), and like Ernő he was of course a Marxist Jew who had migrated from an eastern country and then become a British citizen. Ian Fleming, who in the same novel had saddled his female protagonist with the ribald name of Pussy Galore, was no stranger to sexist and racist pitfalls, and bigoted remarks of all kinds. The affair ended up in court, and above all on the pages of the tabloids. Ernő Goldfinger demanded a sizeable sum for damages, to be contributed to the socialist cause of the *Daily Worker*. The judge awarded him only a few free copies of the novel in question.

In 1963 Ernő Goldfinger was commissioned by the London County Council to design the first large subsidized housing tower, the Balfron Tower in the East End, which five years later would be replicated with the construction of the Trellick Tower (Figure 1) in the north-eastern part of the city. Imagined as the concrete achievement of the dream of reconstruction of greater London over the ruins of the war, the towers were built too late, when the visionary thrust of the initiative had faded, and when it was already clear that the social policy of segregation of the disadvantaged classes in peripheral zones would not be able to tolerate settlements of such size outside institutional control. Violently attacked by the popular press, Ernő Goldfinger’s towers became the symbol in the 1980s of the vanity and cynicism of architects, a scapegoat for the conservative disengagement from urban policies of social integration. Not until the gentrification of the industrial districts of the outskirts of London and the revaluation of public resources were the two towers finally able to achieve their real mission, that of becoming a symbol and model for a ‘different’ idea of the city. Today, protected by heritage regulations, they have cast aside the dreadful nickname of the ‘Tower of Terror’ and have become coveted places for life and work (Figure 2).

During the last years of his career Ernő Goldfinger moved his office into Trellick Tower. When he finally decided to go into retirement, he made certain that his recommendations would have a suitable place in order not to be forgotten. Today over 500 boxes of notes and correspondence are catalogued in the archives of RIBA.

Ernő Goldfinger died in 1987 at the age of 85 in his house on Willow Road, without being able to finally see the later appreciation of his dream of a lifetime: to construct a vertical city.

Ernő Goldfinger’s personality is so fascinating and his character so intrusive that no publication on his work has managed to break away from his personal biography. His character theatrically represents the cliché of the British architect, poised between aristocratic decadence and great social passion (Cadbury Brown, Dunnet,

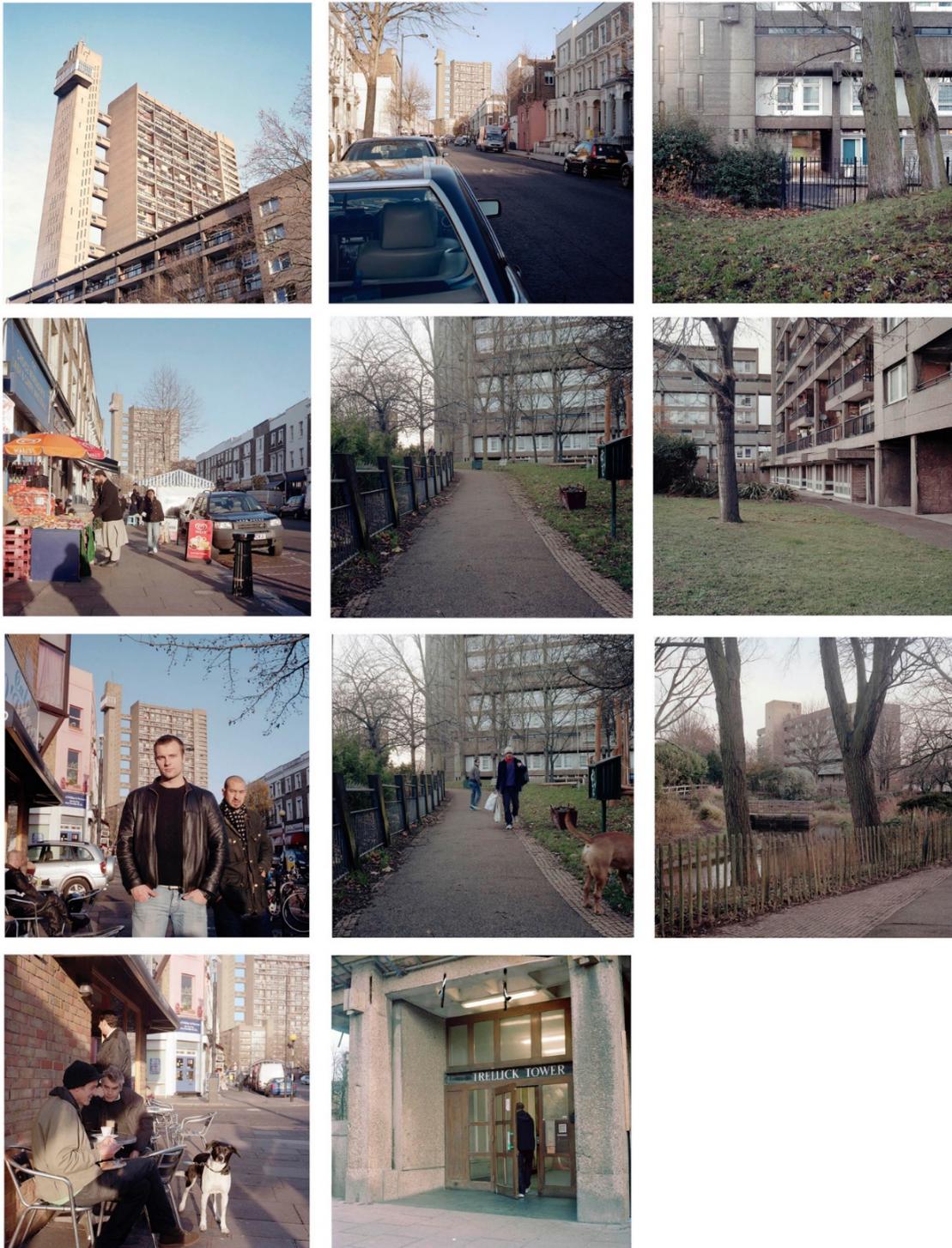


Figure 2. Anna Positano 2012, Trellick and Balfron Towers. Images courtesy of Anna Positano, Genova.

& Winter, 1982; Stamp, 1982). His architecture has often become the stereotypic illustration for political and social debate on residential development and urban policies. This damnation has, until now, kept architectural historians away from an exhaustive treatment. However, it attracted critics, novelists, anthropologists, political and social scientists. A narrative approach of the architect's micro-stories is nevertheless a way to understand

and transmit many reasons for his prodigious architectures. Perhaps more than just another archival research.

It is indeed surprising how much the Ernő Goldfinger's works have been the object of a relatively modest scientific literature (Hofer, 1992) compared to the great notoriety and attention that has always had on the popular press. In the last twenty years little has been published on them (Dunnet & Stamp, 1983; Elwall, 1986;

Major, 1973) with the exception of fleeting passages in some scientific work which, however fundamental, treats the question in general terms (see, among others, Glendinning & Muthesius, 1994; Harwood, 2015; Higgott, 2007; Powers, 2009; Swenarton, Avermaete, & van den Heuvel, 2014). Concerning the preservation and restoration of the Grade II\* listed buildings, only few specific contributions on the two towers have been published to date (Crawford, 2015; Dunnett, 2015; Mark, 2015; O'Rourke, 2001, among few others). A large number of volumes and texts have instead proliferated, some of these almost self-printed, others in form of popular article for glamor magazines, divulging press, coffee table books or non-scientific blogs (Beanland, 2016; Calder, 2016; Campkin, 2013; Chadwick, 2016; Cohen & Rustin, 2008; Hatherley, 2012; Orazi, 2016; Phipps, 2016, among others). It is symptomatic that the main source of easily accessible documents, not only for fans and onlookers but for researchers too, is an open website, part of outstanding doctoral research at the Bartlett School of Architecture ([www.balfrontower.org](http://www.balfrontower.org)).

## 2. Non-Functionalist Realism and Objectivity

Ernő Goldfinger usually presented his projects by concentrating on the analysis of the problems to be solved and the operative methods through which to satisfy primary needs. He described the forms of architecture and the techniques of its construction as tools of efficiency and efficacy. Without compromises, he laid out the reasons for every choice and each solution formulated, leaving no margins for the expressive side of his work. He despised the sophisticated language of art critics, and at the same time he avoided constructing the discussion through intellectual underpinnings. He emphasized the technical and social aspects, without delving into the subjective choices. Throughout the span of his career, besides some letters and specific contributions, he basically published only three essays in a series for *The Architectural Review* (Goldfinger, 1941a, 1941b, 1942), in 1940–1941. They were analytical reflections of a general character on the perception of urban and architectural space, setting out to define a working method on different scales. Though they are interesting for the originality of the approach, they do not explicitly reveal the intellectual universe of their author, and they manifest—together with the inevitable self-citations and considerations on the psychology of perception—the usual figurative repertoire that was the reference for architectural culture in the first years after World War II (Goldfinger, 1948). The many interviews granted to the generalist press (Warburton, 2006) reveal a concrete approach and an explicit intention to raise questions in a 'realistic' and 'objective' manner. Realism and objectivity, after all, are the straight track that constantly guides the work of Ernő Goldfinger, leading to its maximum concrete expression in the construction of the two towers in London. *Realism* is significantly the name of the *Journal of the Artists' Group of the*

*Communist Party* (Berger & Goldfinger, 1955), an organization with which the architect had ties, though he was never an active member, ever since his arrival in England, and for which in 1946 he designed the headquarters and the building of the official party organ, the *Daily Worker*.

The realistic approach of Ernő Goldfinger is without formal compromises or stylistic mediations: The plastic and expressive force of architecture lies in constructive principles and the intrinsic reasons of materials. This is an extreme interpretation of the principles absorbed during the years in Paris in the atelier of Auguste Perret, more than an exalted interpretation of Le Corbusier's collection of essays *Vers une Architecture*, from 1923. The primary, constant principle, from the works of the early years, is the tension between the simplicity of the individual elements, geometric forms shaped by the essential functions to be performed, and the complexity of their composition, an assemblage of mechanical components to be left visible. Ernő Goldfinger stubbornly rejects any decorative element, any superficial cladding, radically pursuing this principle, to the point of categorically excluding any colour, any facing, any treatment that is not the result and expression of the constructive system (Goldfinger, 1955a, 1955b, 1955c). There is a clear tribute to Auguste Perret (Goldfinger, 1954, 1955a, 1955b, 1955c, 1975), about whom Ernő Goldfinger wrote several essays over the years, leaving the translation of his aphorisms incomplete: "He transformed reinforced concrete from a structural system like the steel frame into an organic element of a new architecture with its laws of monolithic continuity, different from any that came before" (Goldfinger, 1956). Works of architecture thus become perfect legible rational machines, in which the parts of the layout, the individual cells, the communal parts, the open spaces, services and installations, conserve their material and formal autonomy. An autonomy that is consistent not only with the useful function, but also with the symbolic mission to be carried out.

Eric Mendelsohn, in a letter in which he sent his congratulations for the series of articles published in *The Architectural Review* in 1940 and 1941, hailed him as a "guard of functionalism, pure and true" (as cited in Walburton, 2006, p. 119) Ernő Goldfinger responded:

With regards to functionalism pure and true I think you are completely mistaken about me, if you associate this term with the efforts of some of your friends. I have been fairly unpopular for the last ten years amongst these very advanced gentlemen as I still believe that architecture is an art, although not of the order termed dynamic propagated by some other friends of mine. (Warburton, 2006)

The non-functionalist realism of Ernő Goldfinger implied the focus on defining the relationship between the concrete necessities of the building and its 'urban decency.' A decency that at the time of the construction of Willow Road had been hotly contested by the commission of the

Borough of Hampstead, and had prompted the protests of the inhabitants of the affluent district, due to its long panoramic ribbon window, the presence of fair-face reinforced concrete and its squared forms. At the end of the 1950s, precisely on the subject of facade design, Ernő Goldfinger pointed out in a letter:

The character of Eighteenth Century domestic architecture resides in the rhythm of its façades: ground floor, *piano nobile* and two or three upper floors. That is to say, the balancing of their horizontal rhythm of function with a vertical system of windows. This no longer exists in modern institutional, commercial or domestic buildings....What is needed is to marry our new structures with our new functional requirements to the fact of urban decency. (Goldfinger, 1958)

The facade is an element of the composition, not the mechanical result of the functions it contains: "It is my belief that the function of a facade, from the aesthetic point of view, is not to 'express' something which is behind it, but to form the enclosing vertical membrane of the street (Goldfinger, 1957a). This is a clear position, intended to reassert the autonomy of the facade with respect to the mechanical function of the building and, therefore, the role of the architect as an artist. In continuity with the urban tradition of London, the facade is thus an element that has to civically belong to the city, designing the rhythm of the streets and defining its decorum.

The composition is thus a process of assemblage of independent, completed elements. Elements whose forms have been studied down to the smallest details, not in order to indulge in the pleasure of geometry as an end in itself, but in order to fully respond to concrete objectives, in which he believed more than in any 'aesthetic consideration.' In this compositional attitude, we can perceive the 'objective' approach to the questions raised by the architecture.

On many occasions, Ernő Goldfinger indicated Auguste Perret as his spiritual mentor, alongside Le Corbusier and Hermann Muthesius as the intellectual reference points for his work.

Regarding Le Corbusier, the debt is evident in the figurative repertoire, the compositional choices, the details, the parts of the construction:

This book [Vers une Architecture] had such an enormous effect on me....Then, it appeared to be something quite different from what we had before. Here was Le Corbusier advocating aeroplanes (sic) and motorcars and whatnots, and this was of course a terrific revelation for me. We are going 'towards' an architecture; that's all it is. Not a new architecture, not an old architecture, but 'towards' architecture. (as cited in Pidgeon, 1980)

As for Hermann Muthesius and *Das englische Haus*, "the most fundamental book on British domestic architec-

ture", he wrote in a letter to Ernst Plischke dated March 1965, the question is less predictable (Warburton, 2006). The stated intent and commitment made in his time by Hermann Muthesius (1904) was to define, with "realism and objectivity," the features of a 'new house,' the fulcrum of a new salubrious 'bourgeois' life, re-introducing from England two specific and original characteristics of German construction: *Raumplan* and *Handwerk*. The legacy left to Ernő Goldfinger by *Das englische Haus*, observing the works of architecture it contains, is not immediately clear. The question demands a reflection which Ernő Goldfinger leaves enigmatically open in an interview conducted by Monica Pidgeon in 1980:

My family was a family of lawyers, doctors, business people. None of them were interested in architecture. But in 1917, when my father came back from the war, in Budapest, he commissioned a wonderful architect to design a house for him, on a plot which we had already on a mountain overlooking the Danube. And in order to interest my father and mother, who had no interest in architecture, he bought them a book called *The English House* by Muthesius. My mother wasn't very interested in it. My father was busy otherwise. It somehow became the centre of my interest. And since 1917 to this very day, I have the three volumes of Muthesius' book which is the most authoritative history of the English house. I didn't know much about what architecture was. (Pidgeon, 1980)

Pidgeon co-edited the first complete monograph on the work of Ernő Goldfinger, released in 1963 by *Architectural Design* (Lowrie & Pidgeon, 1963), containing segments of a long-filmed interview, where lots of space is devoted to the primary book of his background, namely *Das englische Haus*.

*Das englische Haus* was thus acquired in approximately 1916 by Oscar Goldfinger, Ernő's father, to prepare for his meetings with the architect Ágoston, probably the Emil of the *Astoria Hotel* and thermal baths, hired to renovate the family home recently purchased on the slopes of Gellert Hill, just outside Budapest. The book was to pursue Ernő Goldfinger like an enchantment throughout his life, first in Paris and finally, emblematically, in London. In effect, the compositional principle of independent parts that guides the English residential architecture described and illustrated in all its details by Hermann Muthesius is the matrix behind Ernő Goldfinger's 'objective' method.

Muthesius—probably for the first time associated with architecture (Frampton, 1980)—uses the term *Sachlichkeit*. In the histories of art and architecture *Sachlichkeit* is generally translated as 'objectivity,' which leads to not a few misunderstandings (Benevolo, 1960). We should remember that the literal meaning is: "that which belongs to the essence of things," therefore 'realistic,' not to be confused, in any case, with *Wirklich* (Reichlin & Steinmann, 1976). The 'rational objectiv-

ity' admired here is defined by the "absence of style" (Muthesius, 1904) that, for Hermann Muthesius, is a characteristic of the English 'country' constructions, which are the entire focus of *Das englische Haus*. The principle of *Sachlichkeit* is that of "a harmonious elegance based on the functional and the essential" (Muthesius, 1902). In the dwelling we can see that severe and scientific *sachliche Schönheit* derived from principles of practicality and hygiene that the 'modern' architects would admire shortly thereafter, with amazement, in the constructions of the transport and industry. On a par with Ernő Goldfinger, Hermann Muthesius is not fascinated by the functional aspect of the new constructions, or more precisely he is not interested in the external reality produced by the world of the machine. The honest *Sachlichkeit* belongs to the deeper, intrinsic essence of the construction, its acquired meaning and characteristics of generality confirmed in the repetition of forms and habits:

Architecture, like all other artworks, must seek its essence in content to which the external appearance must adapt. We must also insist that its external form serve only to mirror this inner essence, whereby the kind of formal detailing, the 'architectural style,' plays a minor role—if it is not wholly insignificant. (Muthesius, 1902)

This is the principle of *künstlerische Enthaltbarkeit*, which might be effectively translated as 'artistic reticence':

On the path towards the absence of ornament, towards concreteness, bare simplicity, a *Zeitgeist* is explicitly marked, defined by a scientific nature, research, incisive thinking, the framing of the masses in a single unitary order. This is precisely the spirit of our time....Individual labour passes into the background, precisely as the individual has to subordinate himself to the society. Though all this unfortunately produces a loss of individual personality, we must consider the positive advantages that can be gained in other directions. (Muthesius, 1917)

According to Muthesius (1904), the English house fully responds to the problems of mass housing, thanks to its characteristics of essential simplicity: "English houses, as we can see, are reduced to the essential and adapt to any circumstances." Likewise, particularly with reference to the architecture of C. F. A. Voysey, he observes that contemporary architects "limit themselves in simplicity and conserve an imprint of primitivism" (Muthesius, 1904).

These characteristics of essence and simplicity are not determined only by matters of economics and functional efficacy that can be provided by mass production, but also by the widespread involvement of the society in the problem of housing. The antidote to superfluous ornamentation and style is the continuity offered by craftsmen:

The Englishman builds his own house, by himself and only for himself. He does not take aspects of image into consideration, the possibility of holding parties, and nothing could be further from his mind that the idea that the house should display itself, for its external appearance. He avoids drawing attention to the house with eccentric forms or excessive architectural decoration, just as he feels seem out of place in extravagant apparel. (Muthesius, 1904)

The explicit goal of Hermann Muthesius was to bring the concept of the free layout, the *Raumplan*, into Europe, namely the architectural composition as the sum of independent elements. In the case of the residence, the elements are the various rooms.

The second book of *Das englische Haus* begins with a famous quotation, the maxim of Francis Bacon: "Houses are built to live in, and not to look on" (as cited in Muthesius, 1904). This motto sums up the essence of the concept of *Sachlichkeit* and, definitively, well exemplifies the 'elective affinities' between Hermann Muthesius and Ernő Goldfinger.

### 3. Bush-Hammered Concrete and French Fizz

In 1962 Ernő Goldfinger finally received the commission from the London County Council to design and implement a public housing facility on a large, complex scale. The area selected for the project, along Rowlett Street in the industrial district of Poplar, was far from ideal: to the north it contained the access to the busy Blackwall Tunnel, and around it stood formless industrial construction and some disorderly lines of Victorian row houses. Poplar is known for having welcomed a large Scottish community in the previous centuries, attracted by the waterfront operations at the nearby West India Docks. Balfron—the name given to the tower—is in fact a suburb a few kilometers north of Glasgow.

Ernő Goldfinger's plan called for the construction in phases of residential blocks of different heights, organized orthogonally in such a way as to result in a unified complex: the Balfron Tower, two relatively lower volumes—Carradale House and Glenkerry House, respectively 11 and 14 stories in height—and a set of other service buildings and special residences, including a straight volume of two-story homes set aside for senior citizens. While the Glenkerry House is a smaller copy of the Balfron, the Carradale House is composed of two asymmetrical volumes connected by means of the elevator shaft. The three imposing towers, two of which display the chimneys of the heating systems, the four smaller turrets of the service stairs, the elevated walkways for access to the apartments, the raised footbridges for access to the reinforced concrete gates, the houses for senior citizens and the communal facilities are arranged orthogonally and connected to form a collective identity. The arrangement of the volumes constitutes a true urban structure in which different levels intersect and public spaces are organized (Figure 3).

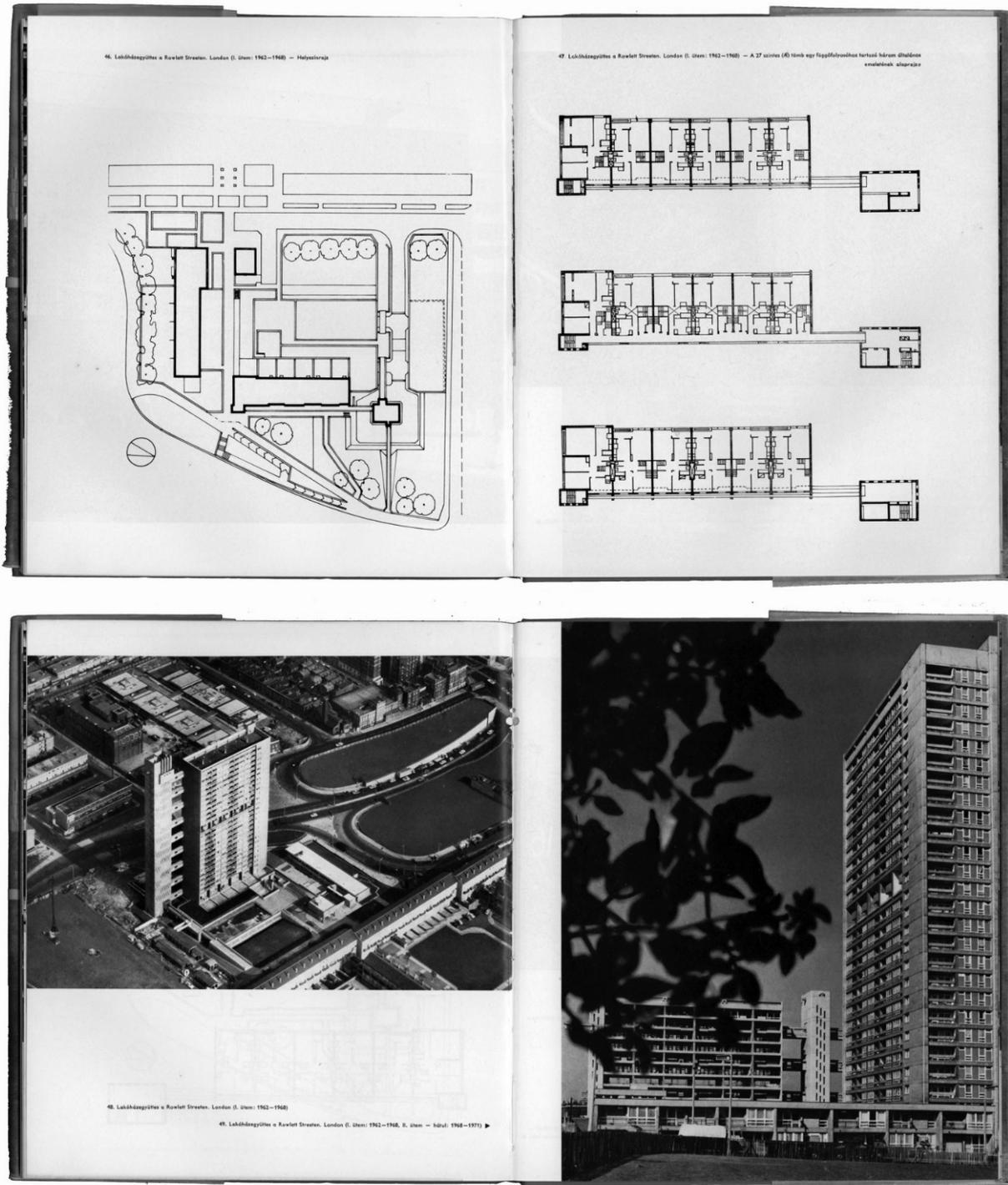


Figure 3. Major M. (1973), *Goldfinger Ernő*, Akadémiai Kiadó, Architectura sorozat, Budapest.

The imposing bulk of the buildings, marked by homogeneous materials and the repetition of equal modules, conveys the martial image of a fortress that stands out with its compact presence against a formless part of the city, where Victorian row houses alternate with empty spaces, infrastructures and industrial sheds.

At the time of construction, the Balfon Tower, with its 27 floors, was the tallest public residential building in Europe. The project was done in three phases, over

a span of eight years, from 1964 to 1972, when across the city in North Kensington a 'twin' was already under construction, the Trellick Tower, commissioned by the Greater London Council in April 1966. Shortly thereafter it was to rise even higher (Goldfinger, 1957).

The Trellick replicates the urban scheme of the Balfon, but in this case the main tower is directly connected to a seven-story volume, rotated by 90 degrees, containing shops on the ground floor (Figures 4–9).

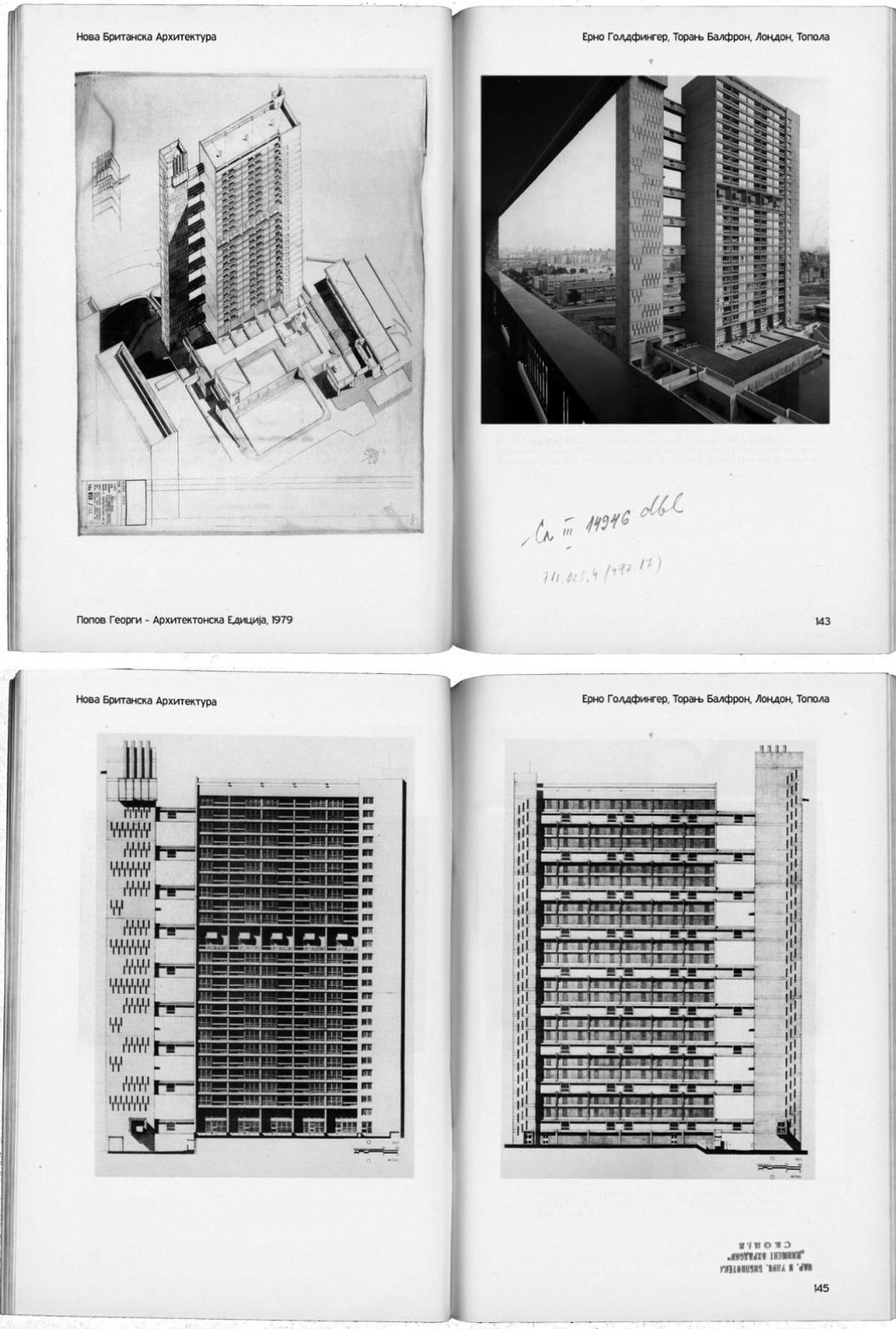


Figure 4. Georgi P. (1979), *Nova Britanska Arhitektura*, Arhitektonska Edizia, Novoselo.

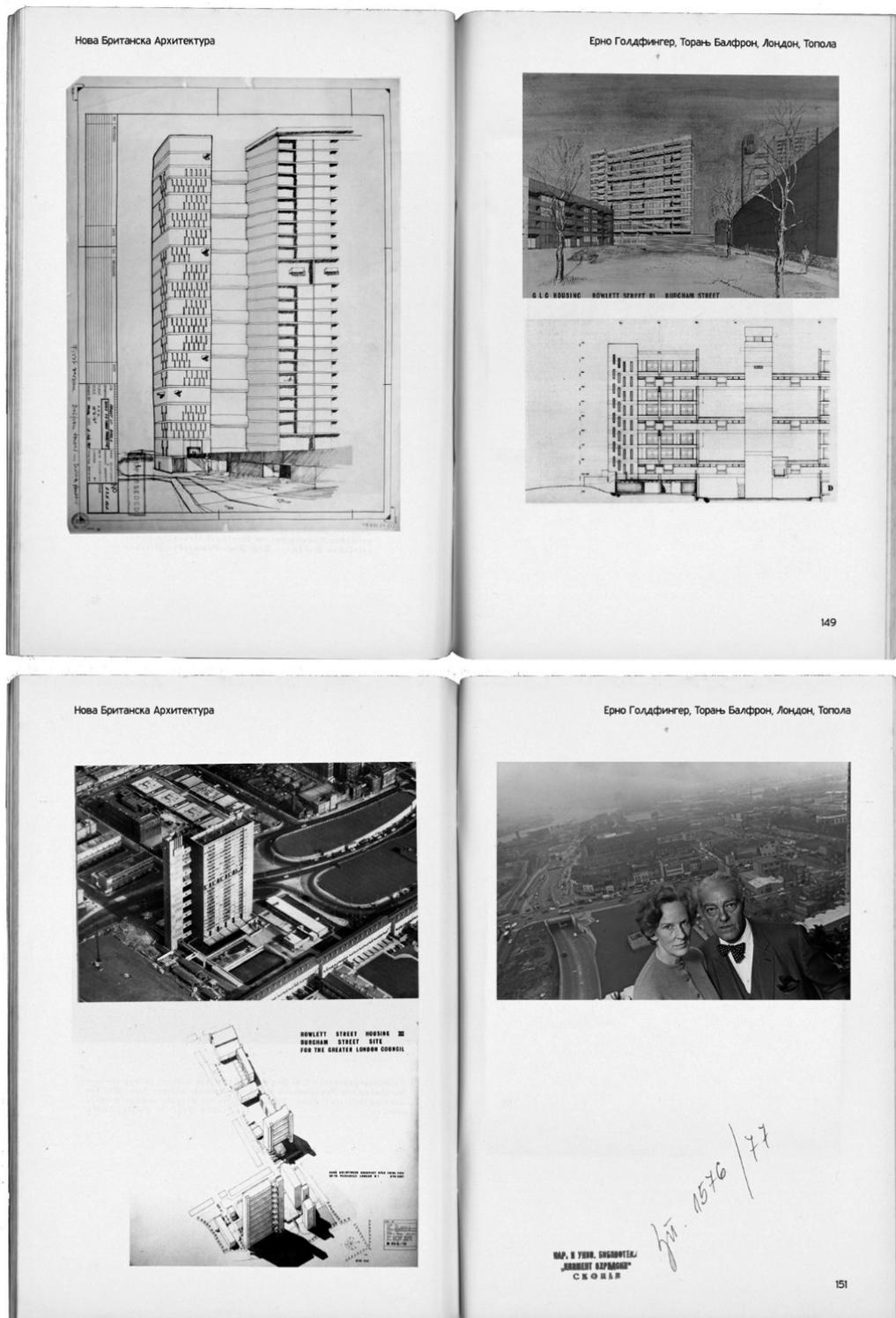


Figure 5. Georgi P. (1979), *Nova Britanska Arhitektura*, Arhitektonska Edizia, Novoselo.

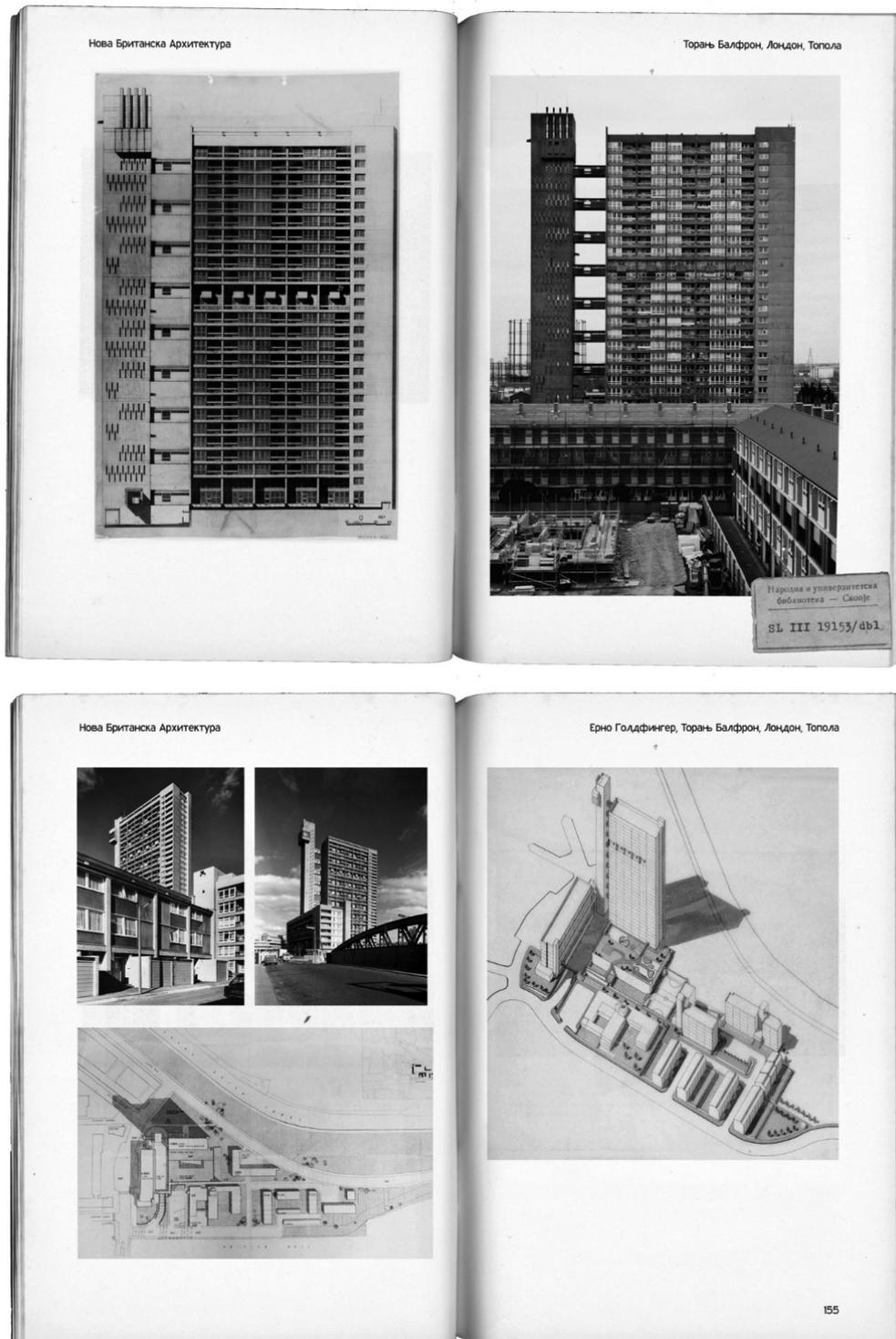


Figure 6. Georgi P. (1979), *Nova Britanska Arhitektura*, Arhitektonska Edizia, Novoselo.

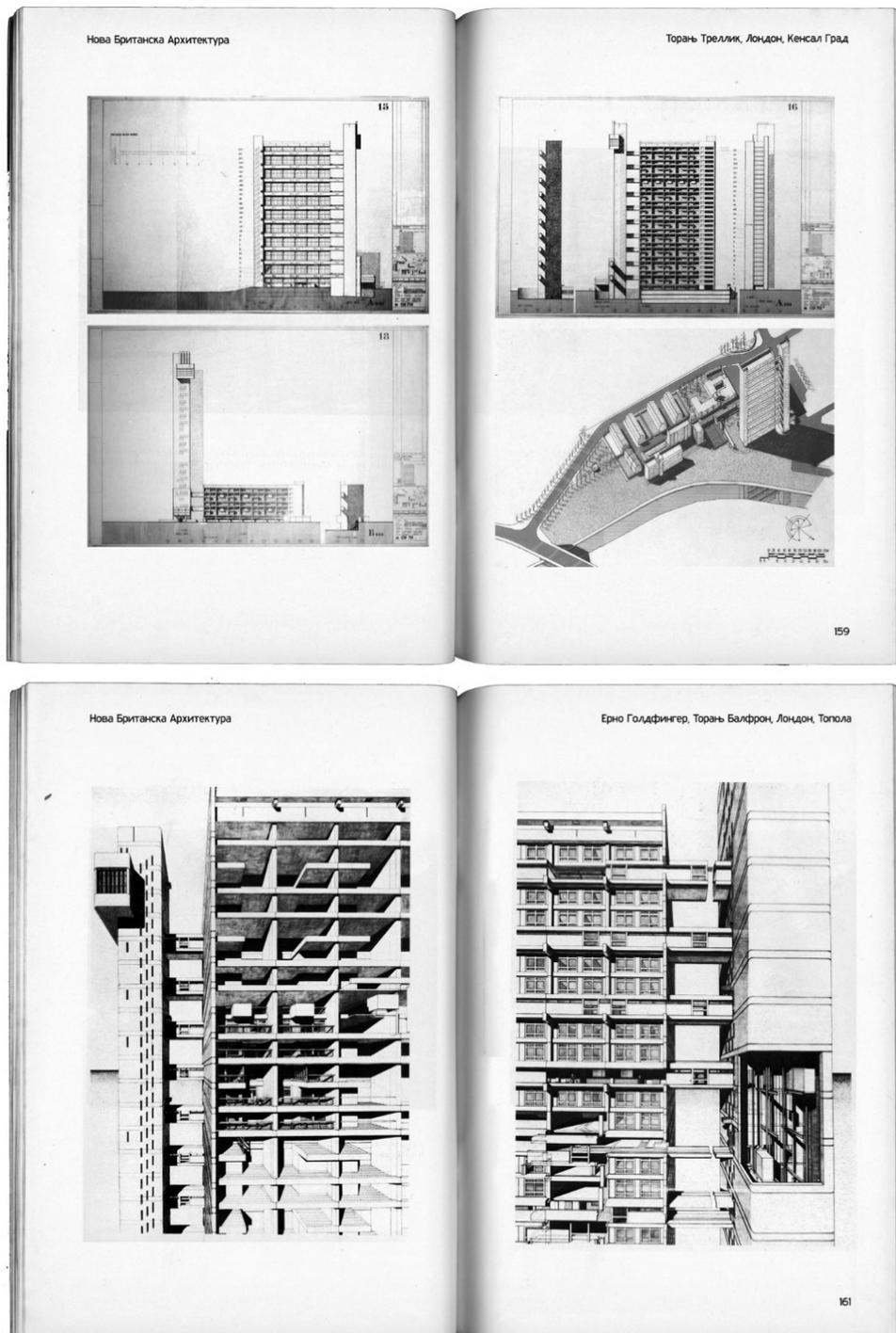


Figure 7. Georgi P. (1979), *Nova Britanska Arhitektura*, Arhitektonska Edizia, Novoselo.



Figure 8. Georgi P. (1979), *Nova Britanska Arhitektura*, Arhitektonska Edizia, Novoselo.

At the foot of the tower Ernő Goldfinger designed and built the Edenham Way Estate, a complex composed of two larger six-story blocks, a series of two-story row houses with pitched roofs, and some communal facilities. The typological and morphological analysis of the towers scheme is exhaustively reported in the *Architectural Journal* (Cadbury-Brown, 1973), where plans, cost records, structural elements, services, finishes and fittings descriptions are copiously repro-

duced and commented by Martin Richardson (1973; Figures 10–15).

The projects by Ernő Goldfinger, at a distance of over twenty years, applied the recommendations of the overall plan of Sir Patrick Abercrombie. They had already been applied in the construction of many developments on the outskirts of London, but without ever achieving such force and character, which only the 'bourgeois' Barbican of Chamberlin, Powell and Bon would be able



Figure 9. Cadbury-Brown H. T. (1973). "Goldfinger," *Architects' Journal*, 157.

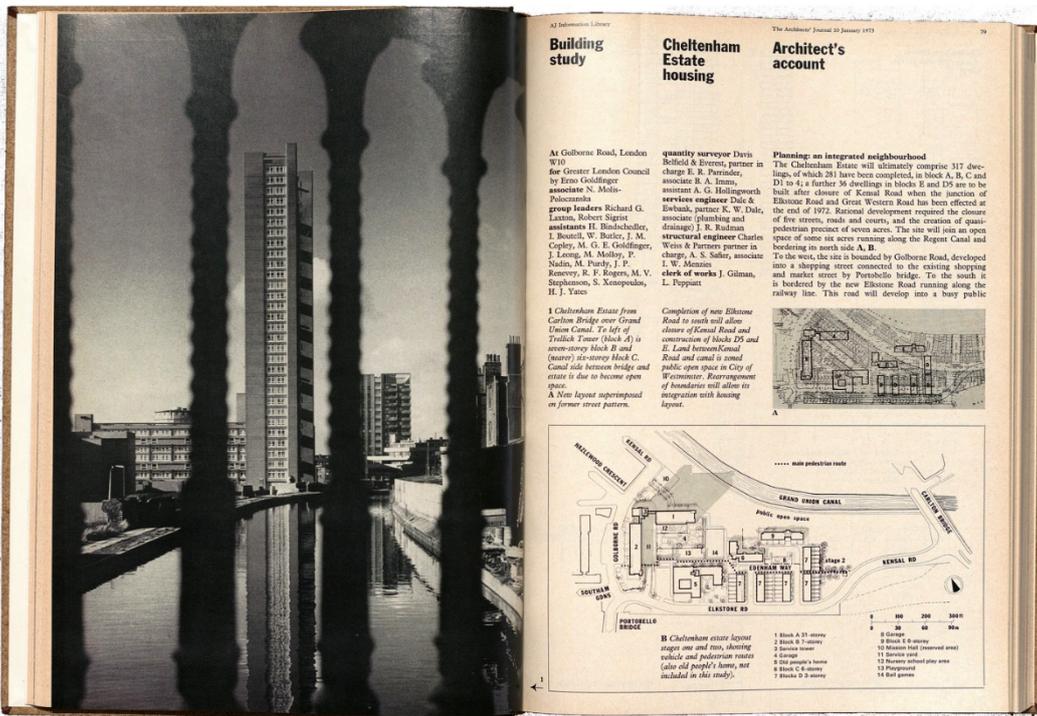
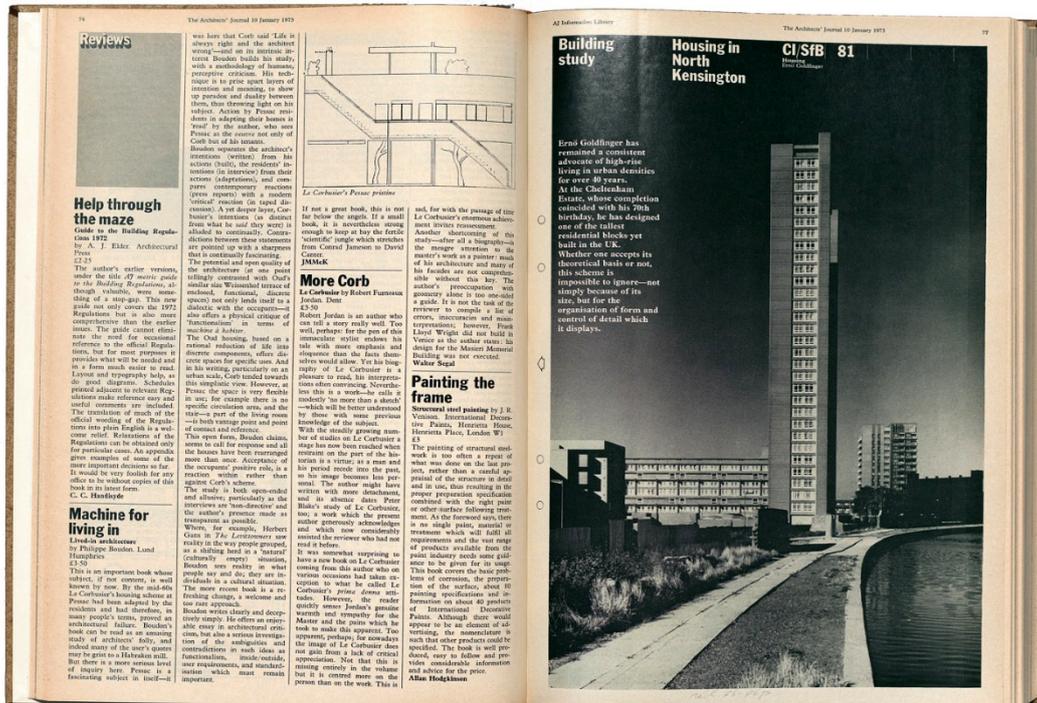


Figure 10. Richardson M. (1973). Cheltenham Estate housing, *Architects' Journal*, 157.

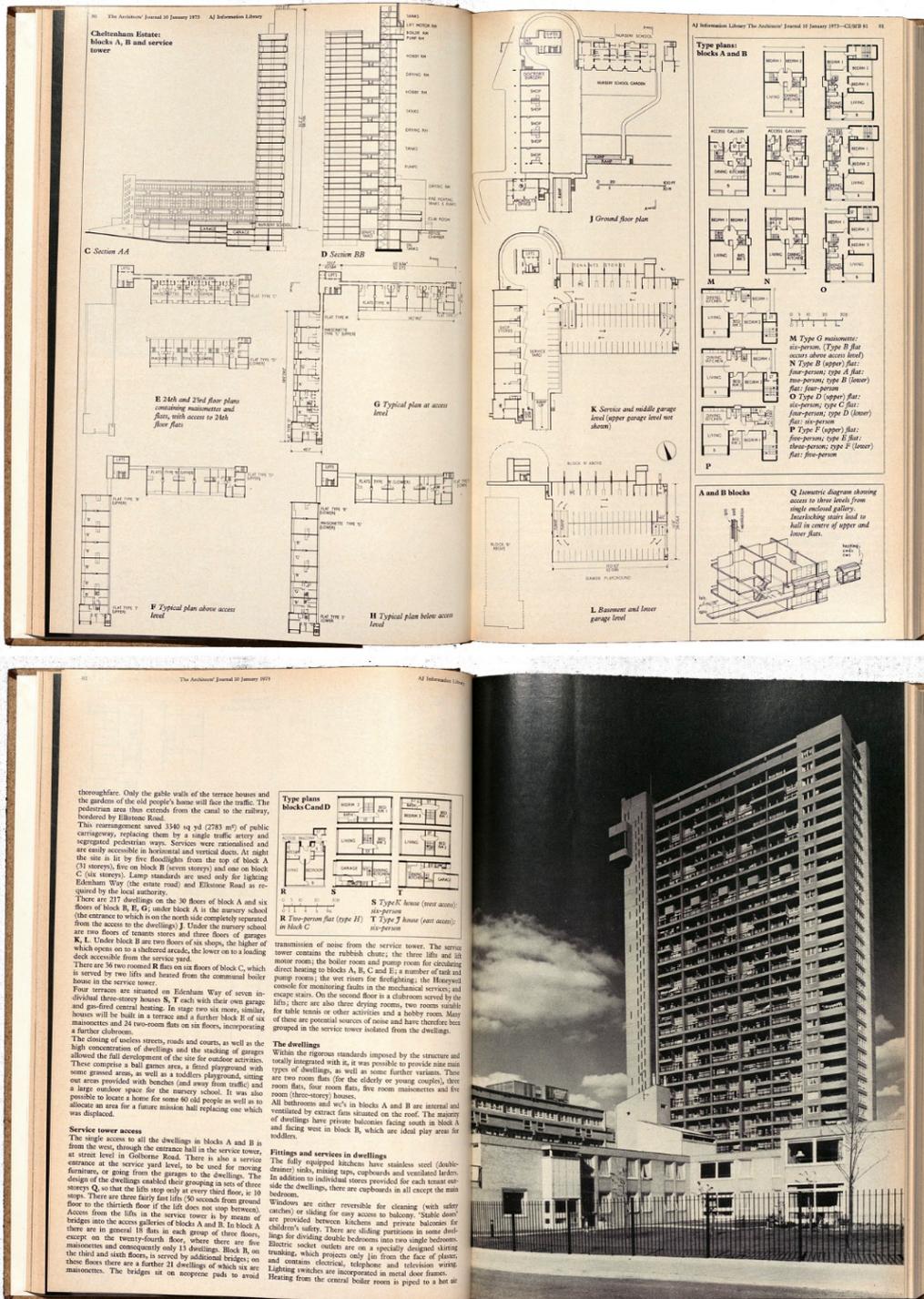


Figure 11. Richardson M. (1973). Cheltenham Estate housing, *Architects' Journal*, 157.

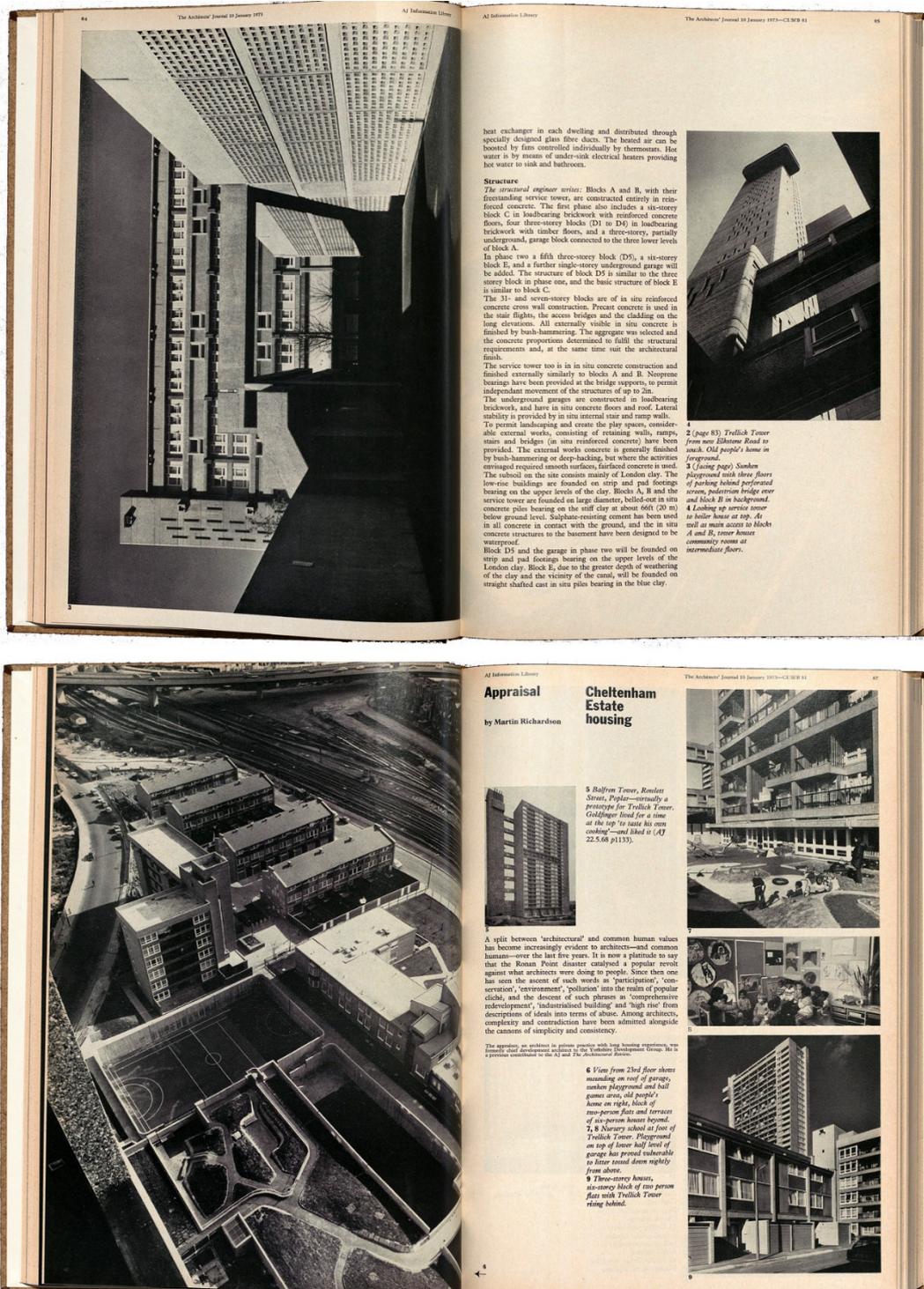


Figure 12. Richardson M. (1973). Cheltenham Estate housing, *Architects' Journal*, 157.

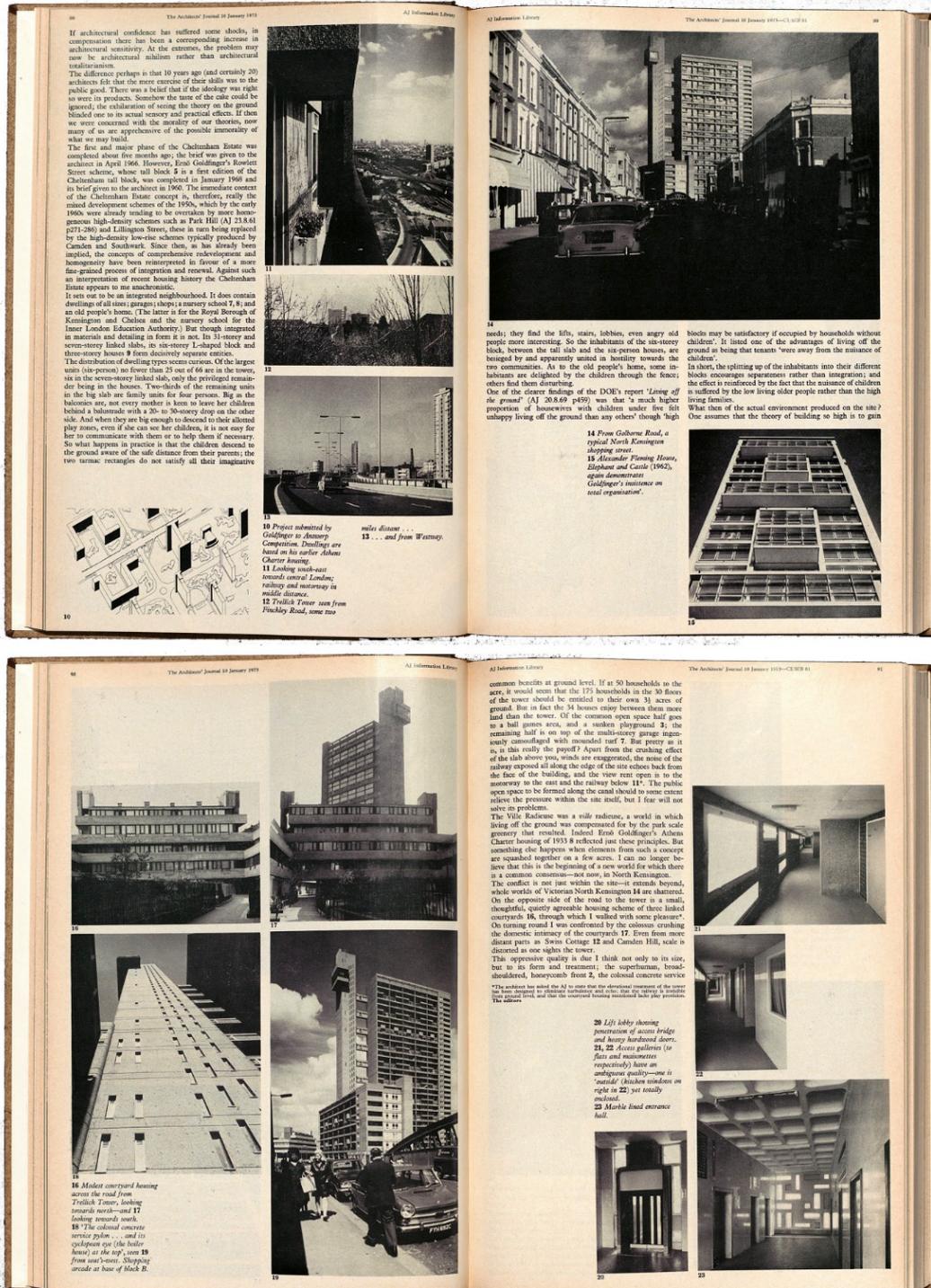


Figure 13. Richardson M. (1973). Cheltenham Estate housing, *Architects' Journal*, 157.

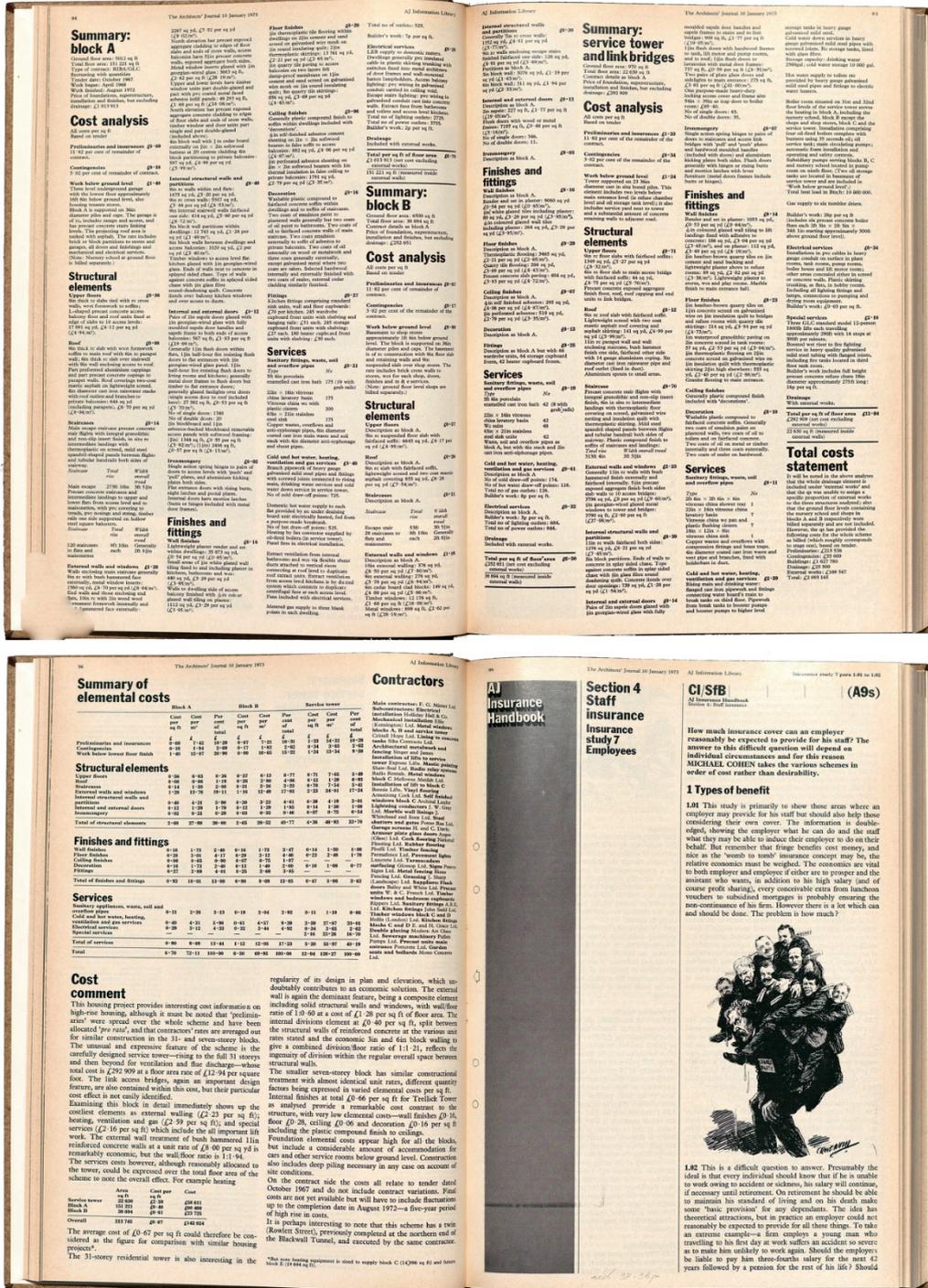


Figure 14. Richardson M. (1973). Cheltenham Estate housing, Architects' Journal, 157.

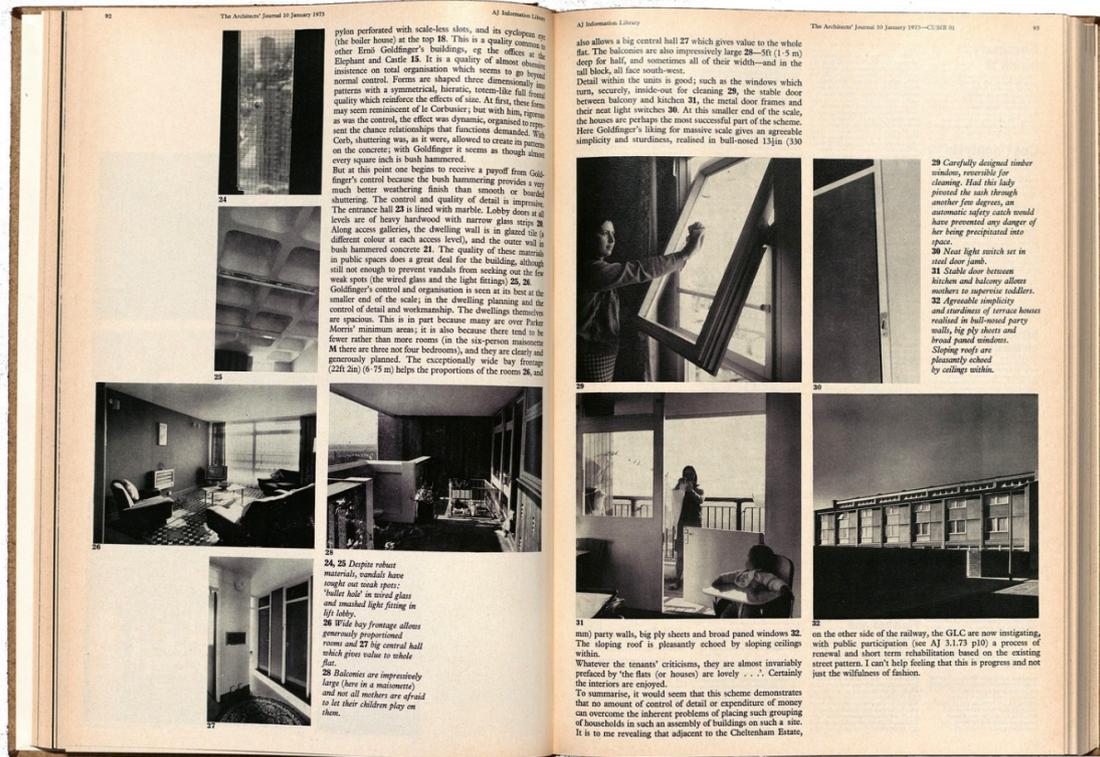


Figure 15. Richardson M. (1973). Cheltenham Estate housing, *Architects' Journal*, 157.

to equal, with its three residential towers and the dense neighbourhood below.

The guidelines developed by Abercrombie—though without a prescribed form—set out to reduce the density of residential settlements through vertical construction. Ernő Goldfinger's design made no compromises: "In ten years London could be a beautiful skyscraper city, and the view from the river be as it was in Wren's London, except that instead of churches you would have skyscrapers towering over lower building" (Goldfinger, 1960). This principle is put into practice in a radical way, without mediation, and without considering the fact that in all probability this could had been the unique achieved episode of an interrupted vision. In fact, he had punctually structured a system that would have been a matrix for the city of the future. The evidence of this can be found not only in the numerous statements about it, but in the ostentatious constructive and expressive similarity between the two high-rise buildings. Ernő Goldfinger had been explicit: "I would like to see London a park city: not, and I emphasise not, a garden city" (Goldfinger, 1960). The dream was always the same: "The whole object of building high is to free the ground for children and grown-ups to enjoy Mother Earth and not to cover every inch with brick and mortar" (Goldfinger, 1968a). Few years later, in January 1973, the opening notes of the presentation of the Trellick Tower on the *Architectural Journal* were explicit too in this regard: "Ernö Goldfinger has remained a consistent advocate of high-rise living in urban densities for over 40 years" (Cadbury-Brown, 1973).

also allows a big central hall 27 which gives value to the whole flat. The balconies are also impressively large 28—5ft (1.5 m) deep for half, and sometimes all of their width—and in the all blocks all face south-west. Detail within the units is good; such as the windows which turn, securely, inside-out for cleaning 29; the subtle door between balcony and kitchen 31; the metal door frames and their neat light switches 30. At this smaller end of the scale, the houses are perhaps the most successful part of the scheme. Here Goldfinger's liking for massive scale gives an agreeable simplicity and sturdiness, realised in built-nosed 13/16in (330 mm) party walls, big ply sheets and broad paned windows 32. The sloping roof is pleasantly echoed by sloping ceilings within. Whatever the tenants' criticisms, they are almost invariably prefaced by 'the flats (or houses) are lovely...'. Certainly the interiors are enjoyed. To summarise, it would seem that this scheme demonstrates that no amount of control of detail or expenditure of money can overcome the inherent problems of placing such groupings of households in such an assembly of buildings on such a site. It is to me revealing that adjacent to the Cheltenham Estate,

29 Carefully designed timber windows, reversible for cleaning. Head that lady pivoted the sash through another few degrees, an automatic safety catch would have prevented any danger of her being precipitated into space.  
30 Neat light switch set in steel door jamb.  
31 Stable door between kitchen and balcony allows mothers to supervise toddlers.  
32 Agreeable simplicity and sturdiness of terrace houses realised in built-nosed party walls, big ply sheets and broad paned windows. Sloping roofs are pleasantly echoed by ceilings within.

on the other side of the railway, the GLC are now instigating, with public participation (see AJ 3.173 p10) a process of renewal and short-term rehabilitation based on the existing error pattern. I can't help feeling that this is progress and not just the willfulness of fashion.

and it was divided into two separate blocks to limit visual impact. Almost foreseeing its fate, Ernő Goldfinger said: “They do everything to get rid of the rural surroundings. They make them a sprawling suburb” (Goldfinger, as cited in Elwall, 1986, p. 77).

The project at Abbots Langley was the first typological experiment with the system that was then intensively applied in the Balfron Tower and further refined in the Trellick Tower. The two complexes in London, to see them in proportion, have 27 and 31 floors, respectively, thus twice the height of the Unité of Marseille. The reference to the typological and organizational model of Le Corbusier is explicit, so much so that the immense facade with loggias can be seen as a clear citation. But the interpretation of the work of Le Corbusier is radical. Ernő Goldfinger selects its primitive elements, stepping aside from any decorative or ornamental features. The lyrical rhetoric of Le Corbusier is translated into a harsh example of everyday realism.

As at Abbots Langley, the feature that sets the character of the project is undoubtedly the elevator tower, containing the services and the technical spaces. It is independent of the volume of the building, and sustains the boiler of the heating system, placed on its summit:

The main characteristic of the building is the separation of living quarters from the services. These latter are housed in a separate tower, connected to the flats by bridges. Thus, all noisy machinery, such as lift motors, water pumps, fire pumps, rubbish chutes, etc., are 100% insulated from the dwellings. (Goldfinger, 1968b)

In this way, all the mechanical installations and chimneys are physically separated from the housing units. In this way, Ernő Goldfinger tries to get beyond the main problem facing residential towers until the end of the 1960s: the noise and vibrations caused by vertical access systems and the central heating equipment, which were not adequately insulated by the horizontal structure. The lifts were thus extremely slow, or they utilized joints with very high installation and maintenance costs, while the chimneys were insulated with thick asbestos panels. The solution had already been tested, though not in such a visible way, at Sheffield in the Park Hill Development of 1957, and where the chimneys alone were concerned, in the blocks of the Alton West Housing Estate at Roehampton in 1952, where the London County Council Architect’s Department built five Unités d’Habitation based on the model of Marseille, later repeated in 1960 at Sceaux Gardens in Camberwell. The heating system with its boilers is housed at the top of the turret. Four forceful metal chimneys emerge from an overhanging volume to underscore the character that is mechanical—like the chimneys of a refinery—and also like an ancient fortress, the quiver of an archer or the command deck of a warship. To solve problems of expansion between the building and this external volume,

Ernő Goldfinger used an innovative system of neoprene joints that manage, without noise and seepage, to absorb the shift of several inches on windy days. The walkways that connect to the circulation corridors every three floors are glazed and contain the electrical and heating conduits. The same system, deemed satisfactory by Ernő Goldfinger, would be used a few years later for the Trellick Tower, this time rotating it by 90 degrees to accentuate the longitudinal thrust of the form. Entry is at a level raised above the ground, by means of a bridge that projects into a lobby lit in the daytime by a geometric composition of coloured windows, the sole ‘artistic’ feature visible from the outside. The concrete armour of the building displays a severe, inflexible character. Inside there are a few concessions: The corridors of all the levels feature continuous facings in ceramic tiles of different colours.

It is explicit that in the Balfron and Trellick the reason for separating the lifts from the building in an independent tower was not only a technical issue but was also based on the expressive desire to forcefully assert the autonomy of the access elements from the residential units (Goldfinger, 1967). This had to do with the famous rhetoric of the ‘village,’ in keeping with the scheme of stacked *maisonette* units, as if they were independent dwellings, while the circulation facilities would stand out as separate factors: the tower to the north, and the open balconies on the western side. The ‘building-as-village’ analogy, also emphasized in the choice of the name, with reference to a Scottish hamlet, and its resulting formal logic of ‘streets in the sky’ had fascinated many architects and would continue to do so. While in the Narkomfin building and the Unités of Le Corbusier all the parts of the composition were ‘absorbed’ inside the constructed block, the famous complex by Denys Lasdun at Bethnal Green, the Keeling House, completed in 1957, had an external central volume to which four *maisonette* residences were connected radially, for a total of 16 stories. The explicit goal of the Keeling House was to define—or redefine—relationships of proximity and neighbourhood of the Victorian horizontal city, which in the vision after World War II was to be replaced by a more ‘aerial metropolis’ of vertical blocks. The good intentions of Denys Lasdun, formulated as an incentive for social exchange through the sharing of communal services, kitchens open to the passageways and visual connections between various units, shortly led to just the opposite effect, triggering situations of conflict and serious awkwardness. This history was soon to repeat itself both at Poplar and in Kensington.

The same idea of ‘social diffusion,’ of the ‘village community’ and the ‘streets in the sky’ was also the antidote proposed—quite ingenuously, in some ways—by Ernő Goldfinger for the anonymity of dormitory districts:

I have created here nine separate streets, on nine different levels, all with their own rows of front doors. The people living here can sit on their doorsteps

and chat to the people next door if they want to. A community spirit is still possible even in these tall blocks, and any criticism that it isn't is just rubbish....These tall blocks are wonderful, in as much as they enable us to bring the countryside into the towns. (Goldfinger, 1968c)

Furthermore:

The nine access corridors form so many East End pavements, on which the normal life of the neighbourhood continues. On 7 of these pavements there are 18 front doors while, on two levels—the ground floor and the 15th floor where there are maisonettes—there are 8 front doors. As far as possible, people from the same area were re-housed together—street by street. (Goldfinger, 1968b)

Nevertheless, in February 1968, the *Guardian* wrote:

Not all architects and sociologists share Mr. Goldfinger's longing for flats, when they are intended for families with children and come in tower block form. Not all tenants of the GLC tower blocks would prefer elevated multi-story living compared with, say, a Hampstead terrace. (J. A., 1968)

The system of typological variation of the flats is regulated by a precise proportional scheme based on an orthogonal grid, in terms of both plan and elevation. The preliminary study drawings show painstaking compliance with a rigid square module of 16 feet 6 inches, which was to remain the basis of every element throughout the construction and design of subsequent projects as well. The imposing facade has a clear, elementary proportional scheme: a double square marked by the system of the residential cells. The balconies of the level of the *maisonettes* are aligned between the two squares, as the sole exception in the southern facade of the building (Dunnet, 1983; Dunnet & Hiscock, 2000).

The rigidity of the Cartesian grid permits exacting control of the precast details, the auxiliary elements and every typological variant. The apartment types, formulated by clustering variable numbers of equal rooms on three levels, precisely reflect the measurements imposed by the scheme, generating a repertoire of constructive details and architectural components of very limited number to create a large variety of types. Windows and doors, facings and wardrobes are designed in great detail in order to optimize and adapt each component to specific necessities, allowing the inhabitants to live in the building while limiting their contribution to what was strictly necessary. The simplicity becomes clear in the functional and circulation elements, the internal staircases of the apartments, the bathrooms and kitchens, which adapt the same system to different requirements and sizes: "The success of any scheme depends on the human factor—the relationship of people

to each other and the frame of their daily life which the building provides" (Goldfinger, 1969). The basic program presented to the GLC called for as many as nine main apartment types, as well as an open number of minor variations to apply depending on specific needs: from two-room units for young couples, at a lower or higher level, of for senior citizens with direct access from the communal corridor, to more complex layouts for larger families, having five rooms organized on different levels.

Ernő Goldfinger described the construction system as follows:

[It] is an in situ reinforced cross-wall structure linked to the service tower by precast concrete bridges at every third floor. The type of structure chosen facilitates the repetitive use of formwork. To speed work on the site all intricately shaped parts of the structure, such as stairs and balcony parapets, are in precast reinforced concrete. The building and tower are founded on 30 in. diameter 60 ft. long cast in situ friction and end-bearing bored piles....The reinforced concrete, where exposed to view on the external elevations, has been bush-hammered to expose the aggregate. All special structures and external concrete walls are constructed in waterproof concrete. (Goldfinger, 1969)

The martial image of the building is conveyed by the bush-hammered surfaces of the precast panels, the rough pattern of the formwork, the vertical loopholes openings and the large wall portions left without openings. Ernő Goldfinger never covered the walls of his buildings with stucco or other cladding materials (Waroff, 1974). This gruff, austere uncompromising quality transmitted by the fair-face concrete and exposed brick, harshly criticized at Willow Road before the war, was eventually able to respond to the demand for purity and rigor on the part of the new generations of architects during the years of reconstruction. Nevertheless, when in 1966 the no-longer young Reyner Banham finally published the long-awaited book on Brutalism (Banham, 1966), he did not deem worth noting any work by Ernő Goldfinger, though the architect had built his house at Hampstead almost thirty years earlier.

For several weeks in 1968 Ernő Goldfinger took up residence, with his wife Ursula Blackwell, on the upper level of the tower to get a first-hand experience of the quality of the building and to directly gather the impressions of its inhabitants (Oldham, 2010). This experiment, often addressed with irony and sarcasm by the press, was described as follows:

In 1968, he and Ursula moved into one of his low-income housing projects, Balfron Tower in East London, for two months to test it out. They threw Champagne parties for their working-class neighbours (for whom expensive French fizz would have been an unimaginable extravagance) and

quizzed them about what it was like to live there. Many of their complaints were subsequently addressed in Goldfinger's work on Trellick Tower. (Rawsthorn, 2009)

The architect remarked:

After completion of the first part of the scheme my wife and I had the opportunity to live for two months in one of the flats in order to gain first-hand experience of the functioning of the building and to observe possible shortcomings. This also enabled me to correct some details of the buildings which by more complicated means of communication is made practically impossible. The method which we used for arriving at the findings was fourfold. The first involved direct observation by ourselves (my wife and myself living in the flat) and communicating with our neighbours. The second part made use of reports from the Tenants' Association, and the third source was the Clerk of Works report. Finally, as an architect, I made observations regarding planning, future planning, and detailing. (Goldfinger, 1969)

The commission for the Trellick project was confirmed in 1966, during the finishing operations of the Balfon. Construction advanced at a fast pace, and Ernő Goldfinger was therefore not able to fully exploit the experience of his 'high-altitude' sojourn, so apart from several variations of little substance the towers were practically twins. In 1975, perhaps not so much by chance, J. G. Ballard installed the conceited architect Anthony Royal on the upper levels of his *High-Rise*, caustically opening a new and dramatic chapter in the history of the 'condominium towers.'

#### 4. Conclusion: Illusion and Disenchantment

The 'height fever' had infected all the major British public administrations starting in the first half of the 1960s, but disenchantment soon set in (Miller Lane, 2006; Rawsthorn, 1965). The accident at the Ronan Point tower marked a turning point: Just two months after the first families took up residence, on 16 May 1968, a gas explosion in a kitchen caused the collapse of an entire corner of the brand new 22-story residential tower in East London. Luckily, at least to some extent, only four people lost their lives, while 17 were wounded; but the impact of the photographs of the ruined tower was devastating. The reaction in terms of public opinion came in no uncertain terms, also instigated by the campaigns of the newspapers, and not just the tabloids (Seifert, 1975), and architecture was accused of negligence in the political responsibilities of management of public housing. The disaster, in effect, rapidly put an end to the short reign of the 'skyscraper' typology. The Trellick, therefore, became the last major public housing 'tower' to be built in England.

The architectural quality of buildings was not able to compensate for the situation of extreme marginality of the districts in which they were constructed. Ten years later, the two towers by Ernő Goldfinger were left isolated in a no-man's-land still occupied by slums and by the insalubrious row houses the towers were supposed to replace. The state of abandon and neglect of the large social housing projects led to unmanageable situations. Public housing blocks had no security services, and the communal staircases, which in the case of the towers connected over two hundred apartments, became true nightmares for the inhabitants. The press exacerbated an already critical situation by emphatically reporting on cases of vandalism, sexual violence, drug dealing, burglaries and muggings in the corridors. Underground parking areas and cellars could no longer be used due to the constant danger of aggression. They were often closed, placed off limits, demolished, as in the case of the Trellick. The cars, parked in a disorderly way around the buildings, were constant targets for hooligans. The heated staircases became shelters for the homeless and places for prostitution. Constant demands for intervention to restore order and safety led to no results. The sensation on the part of tenants of being prisoners in their own homes generated the nickname 'Tower of Terror.' As a predictable result, many of the families that had long been settled in the zones, and had formed their social fabric, began to move out. They were replaced with other tenants considered more problematic, willing to try to survive in a continuously precarious state.

The 'inhuman form' of the large complexes, especially the towers, became the scapegoat for the failures of public policy, the lack of funding for maintenance and—last but not least—the cost cutting that led to compromises of constructed quality. Urbanists and politicians agreed that the problematic issues caused by decades of misguided policies of territorial governance had to be addressed by immediate alternatives. In the end, either 'Right to Buy' programs were called into play, or the envisioned solution was demolition, and the transfer of the remaining heritage into private hands.

The spectacle of the demolition in 1993 of the blocks of Hutesontown, designed by Sir Basil Spence in Glasgow in 1962, was a cathartic moment for television viewers. This audience had finally found a culprit in architecture, and loudly cheered on its capital punishment. The Robin Hood Gardens complex of the Smithsons, terminated in 1972 a few hundred meters away from the Balfon Tower, was also demolished, though with an opposite mood, before it had reached the age of 50. The buildings of the complex had run into the sad fate of not appealing to the appetites of real estate speculators, or to the tastes of the new rising bourgeois classes: young professionals and alternative intellectuals. If the buildings of Ernő Goldfinger in London, or the Park Hill Flats in Sheffield, were saved from the 'wrecker's ball' and managed to shift into an elegant conversion into apartments for the market, it was not so much due to their ar-

chitectural quality as—fundamentally—to their construction quality and their typological flexibility. As for the demolitions of the buildings of Sir Basil Spence and the Smithsons, apart from any practical considerations, considered crimes against the modern architectural legacy, politics took its course and did not stop the bulldozers.

The 1980s were hard years for the towers and their architect, by then almost in his nineties, who had to defend their honour on a daily basis. Having arrived too late to become icons of the avant-garde, and too early to take on cult status amongst enthusiasts, today they represent the symbol of a unique city. London is the ‘scattered city,’ the city composed of many small cities. It was thus aptly described by Steen Eiler Rasmussen (1937) over ten years before the plan of Sir Patrick Abercrombie translated its essence into operative terms, and well before Ernő Goldfinger built his decisive chapter. In a span of eight years, and without any compromises.

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### Conflict of Interests

The author declares no conflict of interests.

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