



LA CASA

ESPACIOS DOMÉSTICOS
MODOS DE HABITAR

ABADA EDITORES

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ESPACIOS DOMÉSTICOS MODOS DE HABITAR

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La riqueza de soluciones tipológicas de los años veinte: Viena y Fráncfort

A Wealth of Typological Solutions from the Twenties: Vienna and Frankfurt

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Resumen

De entre las experiencias europeas en el periodo de entreguerras, “La Viena roja” (1919-1934) y “el nuevo Fráncfort” (1925-1933) desarrollan las soluciones tipológicas más convincentes para dar respuesta a la creciente carestía de vivienda y las terribles condiciones de higiene de aquella época. Los pequeños apartamentos vieneses y los inmuebles unifamiliares de Fráncfort corresponden a dos alternativas diferentes, si bien complementarias, de tipologías de vivienda. El objetivo de este artículo es el de dibujar una comparativa a través de casos de estudio redibujados con el mayor grado de homogeneidad entre estas diferentes composiciones arquitectónicas acorde a los siguientes criterios: dimensiones, superficies y organización espacial. Ambas soluciones son el resultado de un acercamiento moderno y racional al diseño de viviendas asequibles, a través de la propuesta de nuevos estándares de confort, la mejora de las condiciones higiénicas y una nueva cultura de vida.

Palabras clave: vivienda colectiva, Viena, Fráncfort, tipología, estudio comparativo

Bloque temático: El proyecto doméstico como núcleo de la modernidad: casa singular y vivienda colectiva, del Movimiento Moderno al siglo XXI

Abstract

Of the European housing experiences from the interwar period, das rote Wien (Vienna, 1919-1934) and das neue Frankfurt (Frankfurt am Main, 1925-1933) developed the most convincing typological solutions for responding to the rising housing shortage and terrible sanitary conditions. In this perspective, the Viennese small apartments and the Frankfurt single-family house correspond to two alternative but complementary dwelling types. The objective of this paper is to draw a comparison, employing novel re-drawings of dwelling plans with the highest degree of graphic homogeneity, between these opposing architectural arrangements according to the following criteria: dimensions, surfaces and spatial organisation. Despite their evident differences, both are the result of a modern and rational approach towards designing affordable housing as well as for promoting new comfort standards, an improvement of the hygienic conditions, and a new living culture.

Keywords: mass housing, Vienna, Frankfurt, typology, comparative study

Topic: *The domestic project as the heart of modernity: the single, one-off house and collective housing, from the Modern Movement to the 21st century*

Introduction

The social housing policies during the inter-war years produced several architectural experiences in different cities in Europe in order to address the housing issues deriving from the speculative system of the 19th century.

Among the architectural initiatives of the Twenties, two main models can be identified which, beyond their peculiarities, however conceived the relationship between architecture and the city as the connection between spatial organization and social practice.¹ The so-called *Das rote Wien* (Red Vienna) is a particularly significant example (Tafari, 1980), while in the urban initiative *Das neue Frankfurt* (New Frankfurt) «the link between the municipal urban policy and architecture reaches a level rarely equalled in other German cities».² Specifically, both cities adopted two alternative urban models of mass housing:³ on the one hand, the large courtyard block (*Hof*) in Vienna, on the other hand, the row houses in slab formation (*Siedlung*) in Frankfurt. In this sense Vienna and Frankfurt are the extreme polarities of the history of social housing in Europe in the first decades of the 20th century.⁴

Both cities developed their housing policies by considering the relationship between urban morphology and typology. Despite the two models being located on opposite spectrums, the design of different dwelling types is always linked to the research for the most adequate dimensions for the modern housing. This is linked to a typological evolution from the point of view of organization and distribution of the domestic spaces. Both had the common objective of solving the housing shortage and, at the same time, of improving the quality of urban dwelling.

The issue of the dwelling size is evidently linked to studies on comfort and convenience and represented a collective vision of society. For this reason, the typological research in the inter-war years marks a new paradigm, literally a new chapter in the history of the social housing.

Few studies provide a typological analysis through a comparative approach.⁵ This paper proposes to analyse the main typological principles, clearly stated in the housing programs, and to examine a select number of case studies, in order to highlight the differences between the program's intentions and the complexity of the projects' solutions. It offers specific analytical tools, in order to compare the typological solutions between different urban contexts with the highest possible degree of homogeneity.

1. Typological principles

Two publications concerning the housing policies had a crucial role in revealing the importance of typological research in the design process of new and modern dwellings. In Vienna, *Die*

¹ Philippe Panerai, Jean Castex, Jean Charles Depaule and Ivor Samuels, *Urban Forms: the Death and Life of the Urban Block* (Oxford: Architectural Press, 2004).

² Panerai, Castex, Depaule and Samuels, *Urban...*, 90.

³ Gert Kähler, *Wohnung und Stadt: Hamburg, Frankfurt, Wien: Modelle sozialen Wohnens in den zwanziger Jahren* (Braunschweig: Friedr. Vieweg & Sohn, 1985).

⁴ Alessandro Porotto, "Logement de masse: Vienne et Francfort" (PhD thesis, École Polytechnique Fédérale de Lausanne, 2018), <https://infoscience.epfl.ch/record/255946>.

⁵ The most complete comparative studies about Vienna and Frankfurt are Kähler, *Wohnung...*, and Porotto, "Logement...".

*Wohnungspolitik der Gemeinde Wien*⁶ was published at the end of the second five-year plan for housing policies; in Frankfurt, Ernst May presented the constructed *Siedlungen* and elaborated projects in the architectural review *Das neue Frankfurt*.⁷

The common starting point concerns the precarious conditions of the urban fabric and dwelling that the speculation system had given rise in the second half of the nineteenth century. Therefore, it is important to note that the logic behind two respective architectural ideas was based on an in-depth knowledge of urban conditions and the set of problems related to housing. In this perspective, it is clear that both architectural experiences considered the dwelling type as the most efficient instrument for constructing the city and for addressing the poor hygienic conditions of urban fabric. As a consequence, the typological research carried out in Vienna and Frankfurt corresponded to the success of urban policies: at the same time, the adopted architectural model and the degree of typological variations were intended to satisfy housing demand from a quantitative and qualitative point of view.

The *Hof* and the *Siedlung* models constitute a radical position that involves a set of fundamental distributive and compositional principles, which were capable of rationally responding to the housing issues.

In the Viennese residential buildings,

Das Gangsystem ist ausgeschlossen worden, jede Wohnung ist von der Stiege aus zugänglich, da höchstens vier Kleinwohnungen in jedem Stockwerk an einer Treppe liegen. Die Anzahl der Treppenhäuser ist demnach auch größer. Jede Wohnung enthält den mit Wasserspülung versehenen Abort im Wohnungsverschluß, tunlichst von dem ausgeführten kleinen Vorraum aus zugänglich. In jeder Küche ist ein Auslauf der Wasserleitung vorgesehen. Es gibt keine indirect belichteten Aufenthaltsräume mehr. Auch die Küche hat fenster unmittelbar ins Freie, auf die Straße oder in den großen Hof. In den Familien der Minderbemittelten hat die Küche als Aufenthaltsraum größte Bedeutung. Um so wichtiger sind gute Beleuchtung und leichte Durchlüftbarkeit.⁸

These principles can be defined as a “spontaneous” reaction dictated by the critical observation of the pre-existing city and, above all, by new housing and societal needs.

On the contrary, the Frankfurt typological study is linked to the *a priori* choice of the building type itself: «The ideal residential form, as the most natural, is the single-family house. It guarantees domestic peace and an intimate life to the family [...] Only this dwelling type allows every single house to be directly connected with a garden,...».⁹ Therefore, the attention is focused on the spatial articulation, in order to «first of all conceive harmonic plans».¹⁰ For this

⁶ Gemeinde Wien, ed., *Die Wohnungspolitik der Gemeinde Wien. Ein Überblick über die Tätigkeit der Stadt Wien seit dem Kriegsende zur Bekämpfung der Wohnungsnot und zur Hebung der Wohnkultur* (Wien: Gesellschafts und Wirtschaftsmuseum, 1929).

⁷ Ernst May, “Fünf Jahre Wohnungsbautätigkeit in Frankfurt am Main”, *Das neue Frankfurt* 4, n.° 2-3 (1930).

⁸ [Translation by the author: The construction system with a corridor was excluded, so each dwelling can be reached from the staircase, because each floor has at most four small apartments. Consequently, the number of staircases is higher. Each dwelling is provided with a toilet with water flush, which can be accessed by a small entrance. The kitchen is provided with a water conduit. There is no longer any indirectly lit living rooms. The kitchen windows face out directly onto the open towards the road or towards the large inner courtyard. With the poorer families the kitchen is of great importance as a collective room. Which is why good lighting and ventilation are so much more important]. Gemeinde Wien, *Die Wohnungspolitik...*, 45.

⁹ May, “Fünf Jahre...”, 36.

¹⁰ May, “Fünf Jahre...”, 37.

reason, the rigorous typological study published in the pages of *Das neue Frankfurt* assumes the connotations of an experimental open-air laboratory. The guidelines for defining dwelling types confirmed the “scientific” character of the whole approach used in Frankfurt:

1. Die Gesamtanordnung der Räume zueinander ist so gestaltet, dass der hauswirtschaftliche Prozess mit einem Mindestaufwand an Kraft entwickelt werden kann...
2. ... muss die Wohnung so beschaffen sein, dass sie ihn auch gefühlsmäßig befriedigt. Dies wird nicht nur durch die Art der Ausbildung der einzelnen Räume und ihrer Anordnung zueinander erreicht, sondern in ganz besonderem Masse durch Hereinsaugung von Licht und Sonne in die Wohnung.
3. Die Grundrisse aller Mehrfamilienhäuser sind so orientiert, dass möglichst alle Schlafräume Morgensonne, der Wohnraum Nachmittagssonne empfängt...
4. Der Wohnraum als Hauptaufenthaltsraum der Familie wird auch in den Dimensionen eindeutig zum Hauptraum gemacht...
5. Die Küche selbst erhält Einbauten, die eine rationelle Ausnützung des geringen zur Verfügung gestellten Raumes sichern. Die Anordnung der einzelnen Teile geschieht nach den Grundsätzen sinngemäßer Küchenwirtschaft...
6. Das Zusammenschlafen von Eltern und größeren Kindern in einem Raume muss durch Bereitstellung einer genügenden Zimmerzahl ausgeschlossen werden.
7. Die Dreizimmerwohnung ist die Durchschnittswohnung für die Masse der Minderbeimittelten. Sie kann schon in einer Größe von 44 qm in einwandfreier Beschaffenheit hergestellt werden [...]. Dieser Typ sieht für Eltern und Kinder besondere Schlafräume vor...
8. Keine Wohnung sollte ohne eigenen Abort gebaut werden [...] Bad und Waschgelegenheit sollten wenn irgend möglich zwischen die Schlafzimmer gelegt und von diesen mittels Kommunikationsflures zugänglich gemacht werden.
9. Jeder Wohnung soll ein Keller und eine Abstellkammer zugeteilt werden...¹¹

The instructions expressed by Ernst May in 1930 as well as the standardization of housing typologies produced a total of 21 dwelling types, as well documented in the drawings published in *Das neue Frankfurt* and featured in the famous exhibition *Die Wohnung für das Existenzminimum* at the second International Congresses of Modern Architecture held in Frankfurt in 1929.¹²

The typological guidelines, developed in Vienna and Frankfurt, were not only fundamental in improving social housing from a theoretical point of view. To understand the importance of the type within housing policies, it is also essential to observe how much the general statements of

¹¹ [Translation by the author: 1. The distribution of rooms is such that domestic economy processes are carried out with the least expenditure of energy... 2. ... the dwelling must be arranged so that it is also emotionally satisfying. This will not depend only on the shape of the rooms and their respective position, but especially on the penetration of light and the sunlight in the dwelling. 3. The groundplans of all multi-family houses are oriented so that possibly all the bedrooms receive the sunlight in the morning and the living rooms receive the afternoon sunlight... 4. The dimensions of the main family living room emphasize its importance in contrast with the other rooms... 5. The kitchen is fully equipped, allowing the rational exploitation of the limited space available. The organization of single parts is based on a rational use of the kitchen... 6. The need to avoid parents having a shared bedroom with their adult children is fulfilled by the construction of a sufficient number of rooms,... 7. The three-room dwelling is the average model for the mass of less well-off people. It can be designed perfectly in an area of 44 m². This type features separate bedrooms for parents and children... 8. No dwelling should be without a toilet [...] The bathroom should be between the bedrooms and be accessible through a hallway. 9. Each house should have a cellar and a storage room...]. May, “Fünf Jahre...”, 38.

¹² See the exhibition catalogue: Internationale Kongresse für Neues Bauen, ed., *Die Wohnung für das Existenzminimum* (Frankfurt am Main: Englert & Schlosser, 1930).

housing programs correspond to a great variety and typological flexibility, as well shown by most of the built solutions (Figure 1).

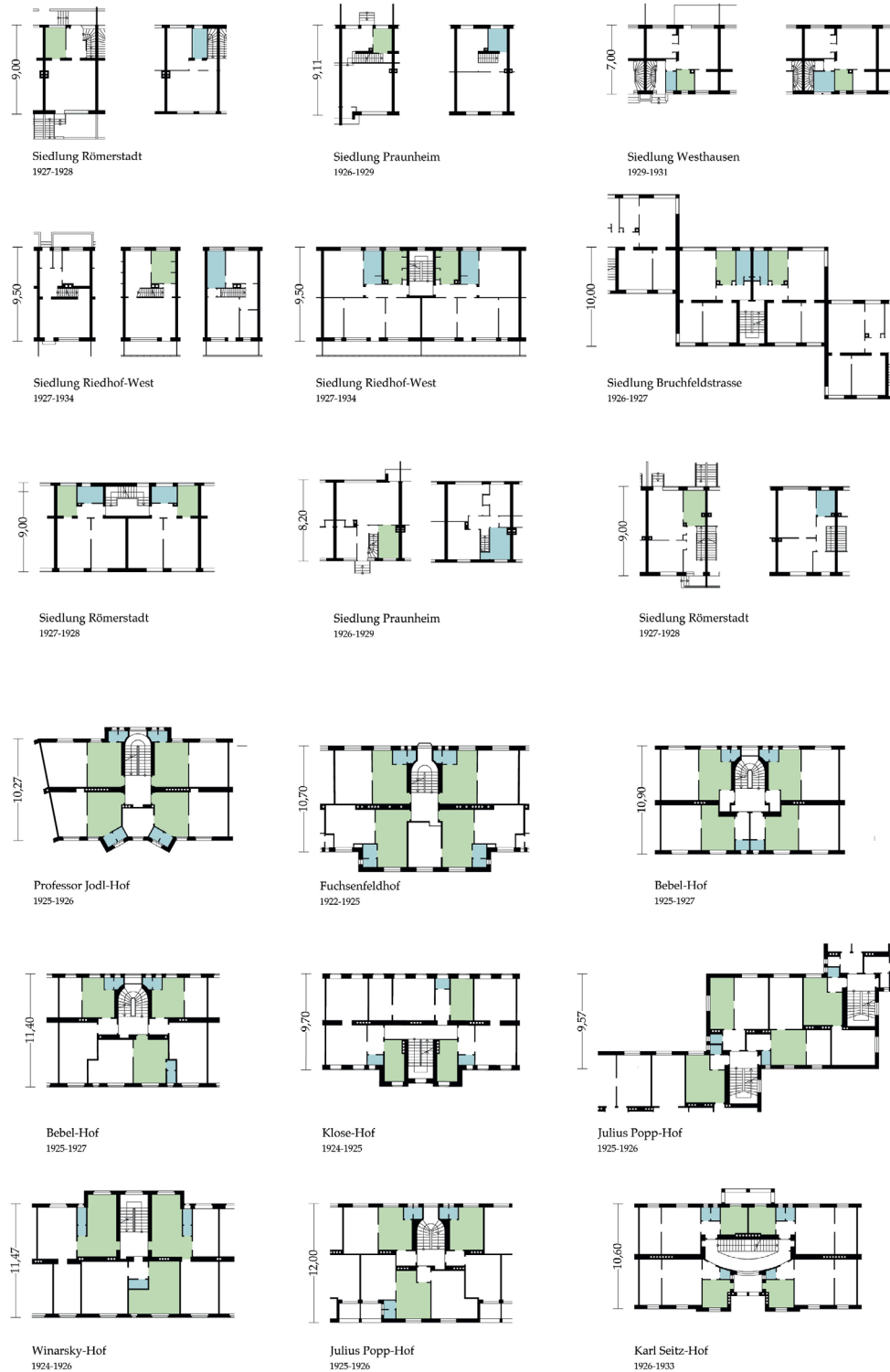


Figure 1: Typological comparison between Vienna and Frankfurt examples
Source: A. Porotto (2018)

2. Dwellings, sizes and types: a comparative perspective

Based on the wealth of typological richness characterizing the achievements of the two experiments, the analysis focuses on the comparison of some carefully chosen examples.

The basic assumption is that the achievements in Vienna and Frankfurt constitute a typological research that enable their intrinsic qualities to be highlighted. Indeed, all the examples in Vienna and Frankfurt present remarkable solutions from a distributive and spatial-organizational point of view, in particular for their clarity of the arrangement, that enable the solution of situations that show a high level of complexity.

In Vienna the typical unit of the Viennese Bebel-Hof (1925-1927), designed by Karl Ehn, shows a recurring pattern in the realized *Höfe*. Each staircase distributes four single-orientated apartments, which therefore respect the continuity of the central structural wall (Figure 2).

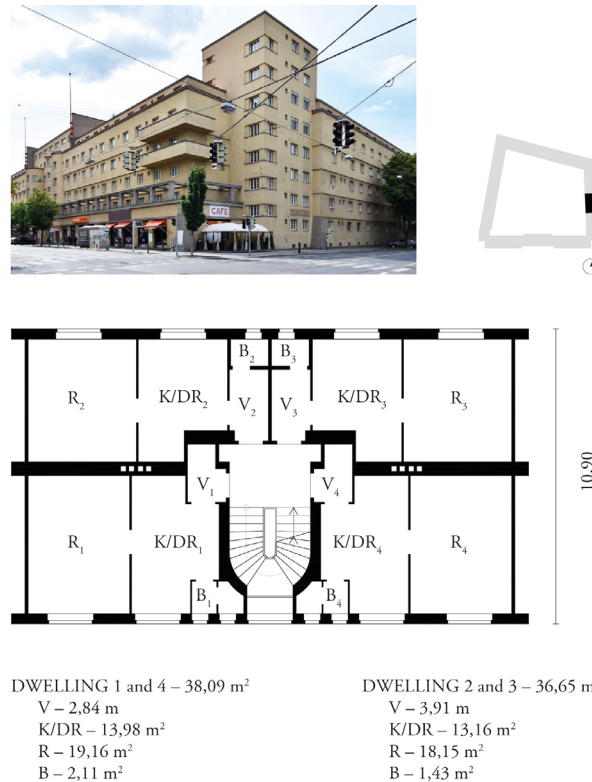
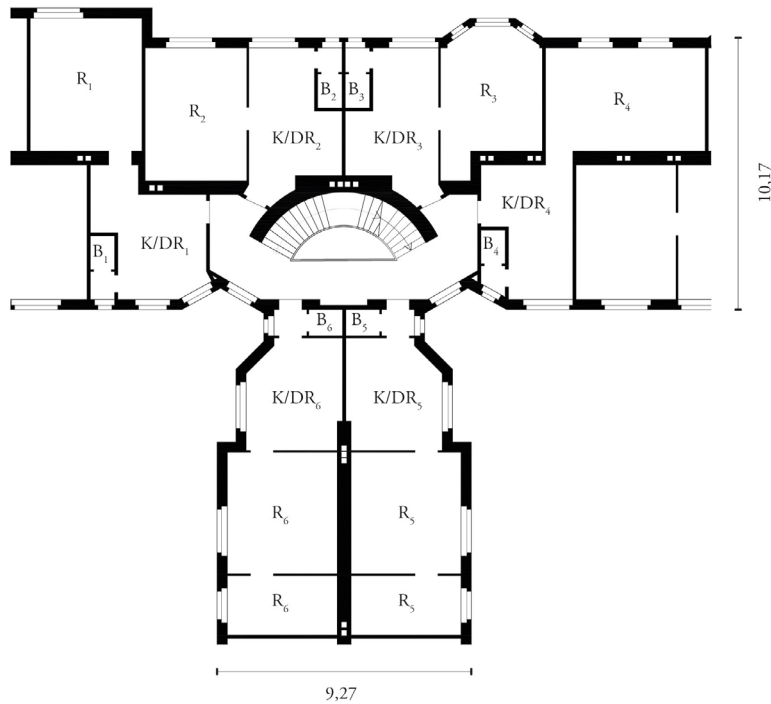


Figure 2: Bebel-Hof (1925-1927), Vienna
Source: A. Porotto (2018)

The small entrance or *Vorraum* distributes the kitchen-living room and, in sequence, enables access to the bedroom. The only variation that can be noticed is in the positioning of the toilets. Indeed, in the courtyard-side apartments the toilets are accessible through the kitchen area, while in the street-side apartments, the toilets are distributed directly by the entrance space. In all cases, they are positioned along the facade to benefit the natural ventilation.

From a distributive point of view the Schüttau-Hof (1924-1926), designed by A. Rodler, A. Stutterheim and W. Tremmel, is probably a unique example of the Red Vienna experience (Figure 3).



DWELLING 1 – 38,90 m²
 K/DR₁ – 16,22 m²
 R₁ – 20,54 m²
 B₁ – 2,14 m²

DWELLING 2 – 36,24 m²
 K/DR₂ – 15,69 m²
 R₂ – 18,53 m²
 B₂ – 2,02 m²

DWELLING 3 – 35,44 m²
 K/DR₃ – 15,69 m²
 R₃ – 17,73 m²
 B₃ – 2,02 m²

DWELLING 4 – 39,41 m²
 K/DR₄ – 14,59 m²
 R₄ – 22,79 m²
 B₄ – 2,03 m²

DWELLING 5 and 6 – 44 m²
 V₅ – 1,56 m²
 K/DR₅ – 13,88 m²
 R₅ – 18,35 m²
 R₆ – 8,98 m²
 B₅ – 1,24 m²

Figure 3: Schüttau-Hof (1924-1926), Vienna
 Source: A. Porotto (2018)

Where the built volumes form a “T”, the staircase distributes six apartments per floor without renouncing the criteria of hygienic improvement laid down in the housing guidelines. Despite the complexity of the system, this space is provided at the corners, on the courtyard side, with two windows that allow natural lighting and ventilation. The apartment types demonstrate a high-level of typological diversity: each floor consists of two double-exposed apartments and four single-orientated apartments, two of which face onto the street, and the other onto the inner

courtyard. Here the presence or not of the *Vorraum* has an essential role in the dwelling arrangements. Not only for the high number of dwellings distributed per floor, the *Schütttau-Hof* is also remarkable for the clarity of the system designed to solve a situation characterized by a high level of complexity.

In Frankfurt the single-family house of the *Siedlung Römerstadt* (1927-1928), designed by Ernst May, H. Boehm, W. Bangert, C. H. Rudloff, F. Schuster and others collaborators, probably the most famous *Siedlung* of *Das neue Frankfurt* experience, is based on typological principles opposed to those of the Viennese apartments. This terraced house consists of two floors (Figure 4).

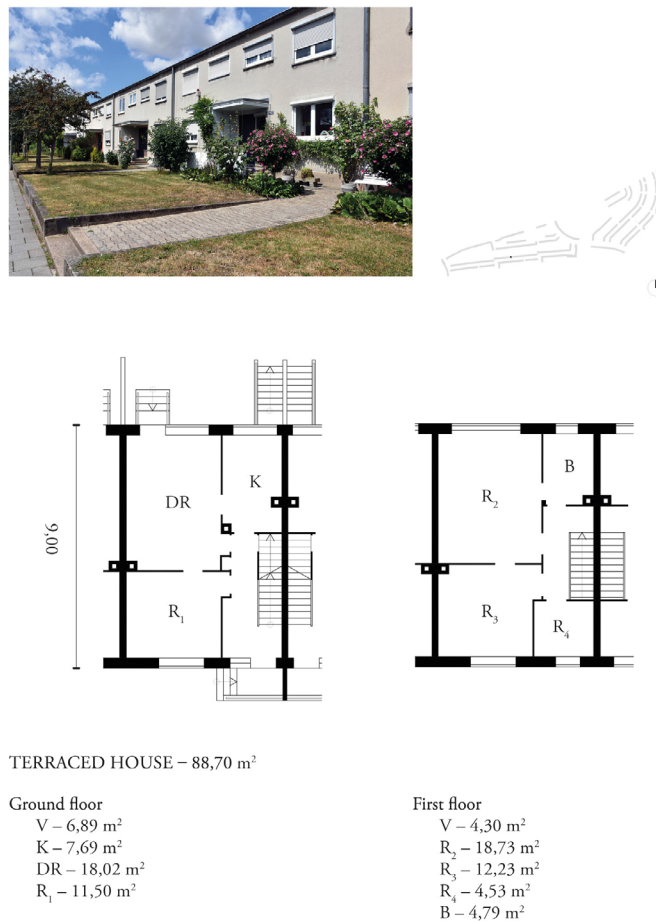


Figure 4: *Siedlung Römerstadt* (1927-1928), Frankfurt
Source: A. Porotto (2018)

The access is on the south side in an entrance-distribution corridor which becomes the core of the spatial arrangement. Indeed, all the rooms can be accessed from this space, eliminating the *enfilade* sequence seen in the Viennese examples. A room used as an office is located to the south, while to the north the dining room is directly connected to the garden and the Frankfurter kitchen designed by Margarethe Schütte-Lihotzky. The general principle of separation of the parts is in this case solved, thanks to the introduction of a corridor allowing an efficient spatial distribution. Here it should also be noted that direct circulation between the rooms and the kitchen is also provided for. This arrangement is also repeated on the first floor: the corridor

distributes the bathroom, the parents' bedroom, the children's bedroom and another small bedroom.

The projects realized in Frankfurt are composed of the so-called *Mischbebauung* (construction mix), which combines single-family houses and high-rise buildings in the same layout. Hence in this case we can notice the different approaches to the design of the apartment types.

Their features in the Siedlung Bruchfeldstrasse (1926-1927), designed by Ernst May, H. Boehm and C. H. Rudloff, are completely different to the Vienna examples. The staircase is positioned in the middle and symmetrically distributes two apartments per floor (Figure 5). The apartment includes an entrance vestibule that is also the main distribution space. For these reasons, the internal composition is very simple: one side of the apartment holds the dining room, the Frankfurter kitchen and the bathroom, the other side holds the parents' and the children's room.

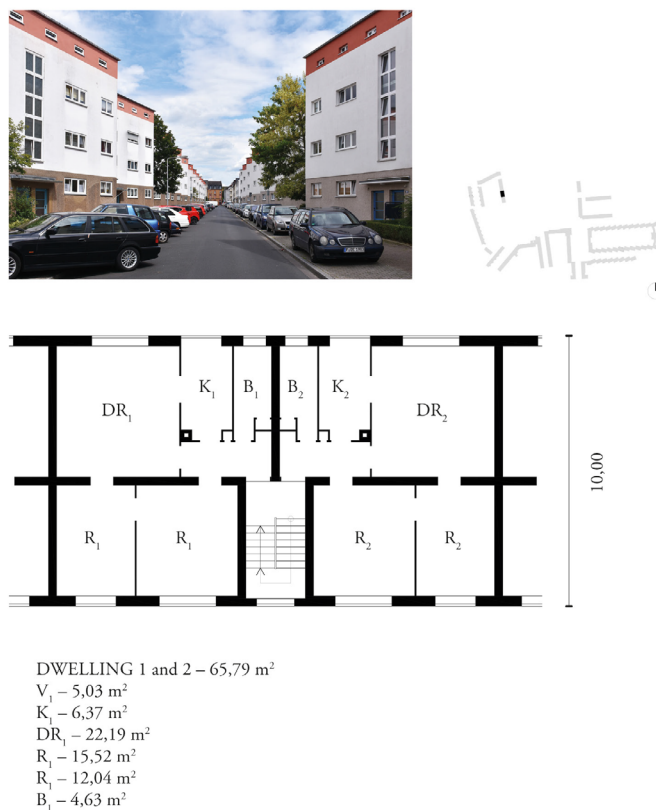
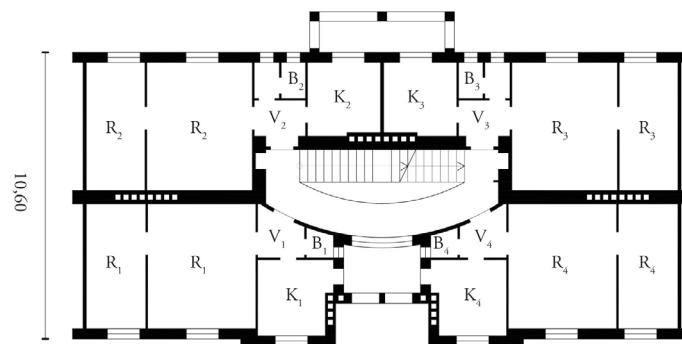


Figure 5: Siedlung Bruchfeldstrasse (1926-1927), Frankfurt
 Source: A. Porotto (2018)

The solutions are effective in respecting the principles underlying the improvement of comfort and the rational organization of the domestic space. We can identify two cases in order to highlight the highest points of the rationalization processes carried out in both cities.

In the Karl Seitz-Hof in Vienna (1926-1932), designed by Hubert Gessner, the main distribution system provides four apartments per floor (Figure 6). All the apartments consist of a *Vorraum*, a ventilated toilet, a kitchen, a room and a bedroom. This configuration implements the general guidelines for the Viennese Höfe. However, we note some innovative elements: firstly, the *Vorraum* performs the essential role of defining the spatial arrangement; secondly, the kitchen is designed as an autonomous space in contrast with the multifunctional *Wohnküche*; thirdly, each

dwelling has a loggia designed as an extension of the dwelling into the courtyard. This example clearly shows how the Höfe or courtyards can also meet and integrate certain architectural criteria that characterize the Frankfurt plans, without neglecting the fundamental features enshrined in the Viennese principles.



DWELLING 1 and 4 – 40,21 m²
 V₁ – 3,16 m²
 K₁ – 7,43 m²
 Z₁ – 18,49 m²
 KA₁ – 10,28 m²
 B₁ – 2,48 m²

DWELLING 2 and 3 – 41,84 m²
 V₂ – 2,87 m²
 K₂ – 7,64 m²
 Z₂ – 18,52 m²
 KA₂ – 10,18 m²
 B₂ – 1,00 m²

Figure 6: Karl Seitz-Hof (1926-1932), Vienna
 Source: A. Porotto (2018)

In Frankfurt the Siedlung Westhausen (1929-1932), designed by Ernst May, H. Boehm, W. Bangert, E. Kaufman, F. Schuster and others collaborators, consists of rows featuring the same terraced house, in which the level of standardization and research towards the *Existenzminimum* reaches its highest point (Figure 7). Indeed, the goal of typological design is to reduce the construction and rent costs, by decreasing dimensions, but aboveall by radically rationalizing the arrangement.

To address the economic problems of that time, the terraced house was conceived and designed for two families, with one apartment per floor. However the house has a flexible system that allows the apartments to be modified to create a two-storey, single-family house. Therefore, the reduction in dimensions is accompanied by a new feature that corresponds to an additional quality of the Siedlungen houses: their typological flexibility. In the configuration with one apartment per floor, the arrangement is repeated on each level. The apartment entrance provides access to the bathroom and to the dining room which also functions as a distribution space to the kitchen, the children's and the parents' bedroom.

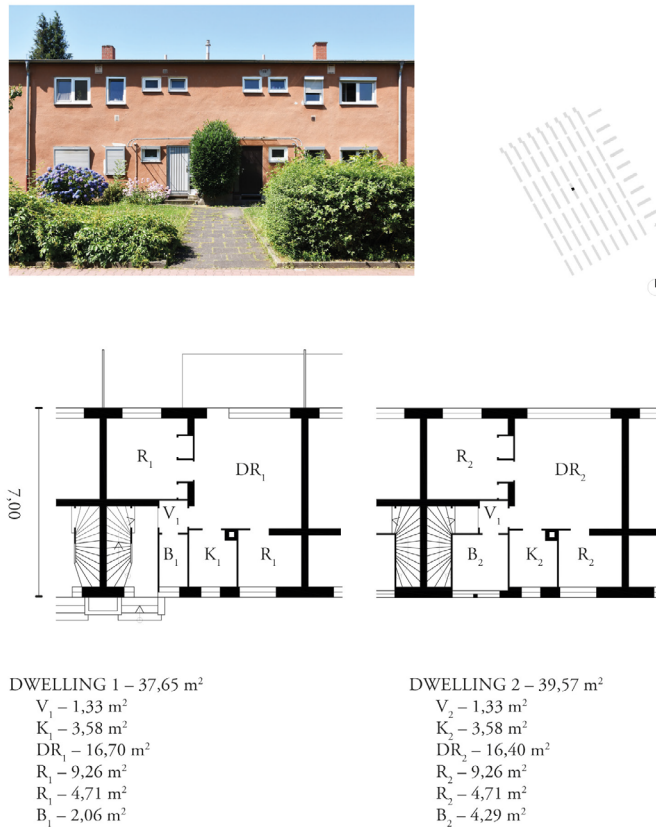


Figure 7: Siedlung Westhausen (1929-1932), Frankfurt
Source: A. Porotto (2018)

It is a fact that the rationalization and principles of the *Existenzminimum* contribute to a significant decrease in the surface area of each part compared to the previous examples, in particular the distribution of space is drastically reduced to avoid unusable space. Westhausen's apartment is strictly calibrated by a dimensioned and proportionated scheme that allows no exceptions, but only the opportunity to transform the house into a single family dwelling, in order to regain the same qualities of the other *Siedlungen*. In contrast, in Vienna, the small apartment does not provide for any change in compositional principles. By introducing precise architectural elements the logic offers new spatial qualities inside and demonstrates that Viennese apartments have a degree of flexibility that lies in their waiving the implementation of a fixed framework of pre-established schemes.

Due to the similar dimensions and some similar features, these two types are able to offer the same qualities and comfort, while remaining models in opposing spectrums. In both cities, the typology is the basic unit for achieving a social model based on human dignity. In this perspective, from an object of liberal-capitalist speculation of the bourgeois era, the dwelling becomes the social instrument of the fundamental right to housing.¹³

Despite the obvious differences, the two models, as well as many other dwelling types, marked in both cities a profound "revolution" concerning the *Wohnkultur* (living culture): the dwelling comfort is not limited to the family, but includes an entire social class. Both experiences

¹³ Kähler, "Wohnung...", 159.

produced the most significant examples of the Twenties in their field and paved the way for a modern vision of social housing architecture.

3. Conclusions

The comparison of the 1920s housing models in Vienna and Frankfurt made in this paper doesn't aim to determine which one prevails over the other, on the contrary it proposes a key to interpretation without any prejudices. In addition to the large number of typological solutions and variations compared to the general guidelines, the detailed analysis highlighted two fundamental aspects.

The first is that in both cases typological research has a very specific objective: housing rationalization. In Vienna, this constitutes the search for arrangements that can come close to the most modern criteria of the time, while in Frankfurt, rationalization concerns the "efficiency" of housing. Indeed, the compositional logic must be designed in parallel with the reduction of construction costs and the rent itself.

This first hypothesis implies the second: the dimensions, surfaces and proportions of the rooms play an essential role in the project from a typological point of view. Despite their opposition, Höfe and Siedlungen aim to offer different dwelling types characterized by the most appropriate dimensions for a modern living culture. The comparisons showed that the different solutions focus on the arrangement and distribution of domestic space. All the examples propose a qualitative improvement of the dwelling through a spatial configuration based on rational logic.

The term "mass housing" should not only be perceived in quantitative terms, in order to build dwellings for "the greatest number" of people, but also as allowing the inhabitants to access and enjoy a quality of life deriving from the very housing features and solutions.

The typological comparison of some examples built in Vienna and Frankfurt indicate that the history of architecture has transmitted a distorted view of the great mass housing experiences of the Twenties. Indeed, architectural history books offer us a limited understanding of mass housing projects, especially with regard to typology. In particular, architectural critics have never shown any specific interest or they have completely discredited the typological solutions realized by the architects of Red Vienna, claiming implicitly that the modern terraced houses in Frankfurt were more advanced from an architectural and typological point of view. For example, Oswald Mathias Ungers explains that

Apartment layouts meet minimal requirements and barely satisfy tenants' needs. The architecture is often banal and borders on the inferior. The methods of structural engineering employed are almost primitive and below the progressive standards of that era [...] Only by pre-World War I standards do they seem advanced.¹⁴

Or, according to Manfredo Tafuri,

L'organizzazione delle cellule [...] dimostra un profondo disinteresse per la ricerca tipologica. Gli alloggi del Karl Marx-Hof, come quelli della maggior parte degli Höfe viennesi fra le due guerre, del resto, si basano su una successione di vani del tutto empirica e ricca di inconvenienti funzionali. Alla qualità e alla densità dei servizi collettivi [...] corrispondono sorprendenti carenze nella distribuzione e nell'attrezzatura degli alloggi. Le distanze prese dalla cultura che informa il "movimento moderno" e le ricerche sul tema dell'Existenzminimum da esso condotte pesano non

¹⁴ Oswald Mathias Ungers, "The Vienna Superblocks", *Oppositions*, n.° 13 (1978): 83.

poco sui progettisti viennesi. Lo Hof, in tutte le sue varianti, non sembra ammettere standard fissati a priori; il basso coefficiente tecnologico che caratterizza la realizzazione del programma viennese ha un suo correlato nella definizione tipologica...¹⁵

Assessments based probably on ideological criteria do not *a priori* reflect the real impact made by these modern housing experiences. It can be noted that the domestic quality in both cities represents not only an improvement of housing compared with the conditions before 1918, but it also constitutes the genesis of modern housing in terms of dimensions, spatial configuration and interior equipment and facilities. A clear analysis is provided by Carlo Aymonino, who states:

Il "minimo" è anche una questione di misure, di dimensioni, ecc. ma non in senso assoluto (tecnico, ad esempio o strettamente biologico), bensì relativo a delle condizioni genericamente "civili" o comunque indispensabili non tanto alla sopravvivenza quanto a un'esistenza sociale [...] In questo senso il valore reale di un alloggio non deve essere commisurato alla superficie, ma al numero dei letti che può contenere. (Intendendo per letto non il semplice mobile, ma il rapporto tra questo e un vano che lo renda fruibile in modo indipendente) [...] È la "razione di abitazione" che diviene lo standard cui commisurare ogni impostazione edilizia correttamente intesa; ma la razione di abitazione trova l'altro parametro della propria "necessità" nella composizione numerica del nucleo familiare. Sono i due parametri a condizionare e definire l'alloggio minimo come rispondente alla necessità di indipendenza abitativa di ogni nucleo.¹⁶

It is important to stress again that small rational dwellings do not coincide with a simple decrease in size. The organization of space and equipment are the standards whereby maximum comfort is attained. Thanks to the comparative study, we understand that for Vienna and Frankfurt the surfaces of the rooms have been determined in the most appropriate dimensions for the correct use of space in order to improve its use as well as the quality of domestic life. This approach doesn't belong to any speculative logic and refuses the application of quantitative data in a mechanical way.

In Vienna and Frankfurt, typological research is the basis of a rational process capable of controlling and intervening on different scales. «The process is articulated as a "summation": the more rooms make up a dwelling, the more dwellings form a typological unit (building), the more typological units develop a complex, and the more complexes "are" the city».¹⁷

Typological research is therefore the direct instrument with concrete effects on the scale of the private sphere of the house, but also on the scale of the city. In Vienna, typological research is

¹⁵ [Translation by the author: the organization of the housing units [...] shows a great lack of interest in typological research. The apartments of Karl Marx-Hof, like those of the majority of the Viennese Höfe between the two wars, consist of a succession of rooms that is completely empirical and characterized by functional disadvantages. The quality and importance of community facilities [...] are matched by surprising deficiencies in the distribution and equipment of apartments [...] The Hof, in all its variants, does not seem to accept *a priori* fixed standards; the low technical level that characterizes the buildings of the Viennese programme leads to typological deficiencies]. Manfredo Tafuri, ed., *Vienna Rossa: La politica residenziale nella Vienna socialista 1919-1933* (Milano: Electa, 1980), 94.

¹⁶ [Translation by the author: the "minimum" is also related to an issue of measures, dimensions, etc., not in absolute terms (technical or specifically biological, for instance), but rather of "civil" conditions in general terms or in any case essential not so much for survival as for social existence [...] In this sense, the real meaning of a dwelling must not be proportional to the surface area, but to the number of beds it can contain. (I am not talking about a bed as a simple piece of furniture, but about the relationship between the bed and the room that makes it independently accessible) [...] "Housing ration" becomes the norm for every correct building design, but housing ration finds another parameter of "necessity" in the numerical composition of the nuclear family. Both parameters influence and define the minimum dwelling as a response to the necessity of housing independence for every nuclear family]. Carlo Aymonino, ed., *L'abitazione razionale: Atti dei congressi C.I.A.M. 1929-1930* (Padova: Marsilio, 1971), 81.

¹⁷ Aymonino, *L'abitazione...*, 82.

based on a housing type belonging to the city culture and urban fabric (the large courtyard block), while in Frankfurt it corresponds to the adoption of a model that is considered a priori as the only solution to the housing issue (the terraced house as the ideal type). These choices form a clear image that corresponds to a clear position related to the housing, the city and the society. Consequently, in the Höfe and the Siedlungen the purpose is the search for the most appropriate architectural and typological elements, in order to translate their position into urban reality. For this reason, the dwellings conceived and built for the Höfe and the Siedlungen base their spatial logics on concrete, even technical, components that are intrinsically part of everyday life.

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