1592 HOUSES IN THE FOREST. BRUNO TAUT AND THE WALDSIEDLUNG ZEHLENDORF IN BERLIN

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Faced with the shattering European post-war scenario, Bruno Taut wrote: "If one succeeded in directing these forces into another, more beautiful channel, then the Earth would really be a good apartment"^{*}. Utopian yet moved by a genuine social vocation, Taut will make his statement a reality in the design of the Waldsiedlung Zehlendorf in Berlin \hat{x} , also known as Waldsiedlung Onkel Toms Hütte or Papageiensiedlung. This social housing complex, built between 1926 and 1932, stands out for its careful composition between built and natural environments, characterised by the presence of a vast pine forest. Indeed, the designated urban development area lies on the edge of the Grunewald forest A. The site includes a large woodland consisting mainly of pine trees, giving the settlement its unmistakable character, but also of other tree species such as oak, weeping willow and silver birch. Indeed, the term Waldsiedlung (Forest Settlement) recalls the compositional relevance of the forest landscape, perfectly integrated into the urban and architectural design of the complex. For this reason, the image of the Waldsiedlung Zehlendorf is still strongly characterized by its forest-permeating open spaces and gardens, to be preserved as an intrinsic part of this built heritage.

After surviving National Socialism and World War II, the Waldsiedlung Zehlendorf was aesthetically disfigured in the postwar period when the colors on the façade were removed. In 1982, the complex was declared a geschützter Baubereich l and the first restoration work began. Added to the Berlin Monument List of 15 May 2001 t, the Waldsiedlung Zehlendorf has been acknowledged not only as a *Denkmalbereich*^{*} for the uniqueness of its urban and architectural design, but also as a Gartendenkmal for the outstanding value of its open spaces. Moreover, the housing estate has been recently proposed to be listed as UNESCO World Heritage, as the seventh Siedlung der Berliner Moderne # I, similar to Taut's Gartenstadt Falkenberg (1913-1916) * . Among the values underlying this proposal $\[\] \widehat{X}, \]$ the most relevant in the context of this volume are: key Value D, acknowledging the further development of the Gartenstadt concept to large-scale settlements and key value E, recognizing the achieved balance between urban, architecture and open space design. Likewise, points 7, 8, 9 respectively considering the creation of living space with Licht, Luft und Sonne * as the new norm; the innovative housing development from garden cities to large housing estate concepts; the wide offer of Außenwohnräumen in the form of private gardens and shared open green spaces.

It is important to frame the historical context in which this complex was developed. The First World War had left Europe in

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a state of decay and despair. Certainly, there was a need for practical solutions to ensure efficient and affordable housing development, but there was also as much need for a new aesthetic vision guided by moral standards. Bruno Taut was convinced that architecture had to correspond, first and foremost, to human needs, for not only the physical but also the psychological and moral effects it could bring about in people. It is to the desire to bring cheerfulness and vitality through new buildings that Taut aspires when – not frightened by the derisory name *Tuschkastensiedlung* ***** A attributed to the Gartenstadt Falkenberg – he decides to realize another colorful residential complex ***** 1.

The Waldsiedlung Zehlendorf, commissioned by the Gemeinnützige Heimstätten-, Spar- und Bau Aktiengesellschaft (GEHAG) $\$ $\$ in 1926, was built in a total of seven construction phases until 1932, for a covered surface of 34.46 hectares $\$ $\$. This social housing complex is especially innovative and extraordinary for the way the urban development project has been embedded within the local forest landscape. In fact, Taut was inspired by the site's topography and pine forest, which spontaneously became a fundamental element in his design. Together with Taut, architects Otto Rudolf Salvisberg and Hugo Häring were engaged to design the housing typologies, whereas the landscape architect Leberecht Migge $\$ was involved in designing the open spaces. The construction of the complex was carried out by Bauhütte Berlin and the Allgemeine Hausbau AG (AHAG) of Adolf Sommerfeld $\$ $\$.

Without a given overall plan, the first two settlements' design and construction stages (1926-1927) saw the collaboration of Bruno Taut and Martin Wagner, who had been nominated city planning officers of Berlin in 1926. Bruno Taut made by far the most significant contribution to the construction of the estate, developing the urban design by drawing charming outdoor environments, setting intriguing and suggestive perspectives. An excellent example of Taut's stunning settings is the so-called *Kiefernhof, offen* \times I, a wide courtyard resulting from the large overall forms of the long house rows being lightened up with snapped-off end-houses.

The Waldsiedlung Zehlendorf is one of the largest housing projects of the Weimar Republic, with a total of 1915 residential units, of which 1106 are storey apartments and 809 are single-family row houses \Re^{*} . Due to economic reasons, the architectural project for the single-family row houses is limited to two residential types, leaving the way open for the design of unprecedented solutions in the intermediate spaces between built-up and open areas. Indeed, despite the limited number of architec313

tural typologies, the composition is anything but monotonous, thanks to the juxtaposition of elements on staggered planes in an engaging interplay of light and shadow, solids and voids, open and private spaces.

Actively fostering social and ecological connections through an approach that strongly emphasizes relations between neighbors as well as between people and nature, the Waldsiedlung Zehlendorf settlement can be seen as an icon and pioneering project of eco-social housing. In his architectural design, Taut introduces the need to establish a relationship of balance and reciprocity between his 1529 residential units \Im and the surrounding open spaces, considered as part of the architectural design itself. The forest becomes a compositional element, integrated into the functional and aesthetic aspects of the project. The forest vegetation accompanies the inhabitants to their front door, establishing a fluid relationship between the external and internal environment. Not to be omitted are the consideration of the vegetation as a protective filter between the city and the residential complex and the innovative attention to climatic aspects. Indeed, to ensure optimal sunlight and ventilation for the flats, the architects laid out the majority of the residential rows in a north-south orientation. Aesthetics and modern functionality achieve an outstanding compositional balance, where nature and man-made features are linked to each other with intuition and sensitivity.

One year before the end of the construction of the Waldsiedlung Zehlendorf, in the fall of 1931, Martin Wagner founded the research group *Das wachsende Haus* \Re , including, among other prominent German architects, Bruno Taut and Leberecht Migge. The group, faced with the challenge of standardization and prefabrication for housing, investigated a new house concept with significant consideration of outdoor areas, integrating them within the design process \Re . So, based on functional connections, interior and exterior spaces were placed in direct relation \Re 1. This concept, developed by the most influential architects of Germany at the time, reconsidered the value of the house as a place for living and well-being, with a biological understanding of the built environment \Re 1.

The *Das wachsende Haus* concept, developed over the time frame in which the Waldsiedlung Zehlendorf was built, is reflected in a few improvements made to the design of the complex. For example, in order to increase the residential value of the single-family row houses, it was decided from 1928 onwards to implement the initially-provided open wooden pergola into an enclosed terrace. This was built with a glass roof according to var314

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ious standard designs, including different solutions with materials such as wood, steel, glass and zinc plate.

The ownership of the properties in the settlement is currently distributed between approximately 800 private owners and 1,100 rental units, which are now managed by the private company Deutsche Wohnen. Both owners and tenants, of which many have now been living in the complex for decades, still appreciate the Waldsiedlung Zehlendorf as a high-quality residential area in nature. Indeed, the residents are so proud of the green atmosphere of their listed ensemble in the Grunewald that they have set up a neighborhood initiative to promote the monument's conservation and increase the eco-social quality of life in the settlement according to climate standards. The community group was founded in 2007, holding its first meeting in Ladenstraße \hat{X} *, named, not coincidentally, *Bruno Taut Laden*. In June 2010, it became a nonprofit organization named Verein Papageiensiedlung e.V. (Parrots Settlement Association). For the upcoming centenary of the settlement, an active part of the residents is planning to render it carbon-neutral in the next century, under the motto Die nächsten 100 Jahre (The next 100 years), making it a model project for the compatibility of monument protection and climate protection.

In 2019, the Verein Papageiensiedlung launched the Klimafreundliche Papageiensiedlung (KliP; Climate-friendly Parrots Settlement) project. A citizens' survey, several meetings and various workshops have given rise to diverse KliP project groups, such as the Gruppe Grün (Green Group), which is concerned with climate-friendly gardening, or to groups focusing on climate-friendly mobility, CO2 reduction by implementing thermal insulation, solar power systems, heat pumps. To make the project even more ambitious, one group has upgraded KLiP to KliQ, standing for Klimafreundliche Quartier KrummeOnkelOskar, extending from the Oskar Helene Heim station to the Krumme Lanke station, thus including all climate-relevant private and public actors from a radius of about one kilometer around the Ladenstraße center.

Bruno Taut, Otto Rudolf Salvisberg, Hugo Häring, Waldsiedlung Zehlendorf Berlin Zehlendorf, Riemeisterstraße Frisierkunst, Berlin, 1926-32. © Peter Kuley, CC-BY-SA-3.0.



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∦ Deutscher Werkbund Berlin e.V (ed.). Bruno Taut. Meister des farbigen Bauens in Berlin, Verlagshaus Braun, Berlin 2005, p. 10.

Ŷ The name Onkel Toms Hütte derives from the homonymous U-Bahnstation (underground station) opened within the housing complex in 1929 as part of the U3 underground line connecting today Zehlendorf and Dahlem via Wittenbergplatz.

╢ The term was used as a form of popular mockery referring to the bright parrot-colours applied on the façades.

Λ The Waldsiedlung Zehlendorf is located in Berlin-Zehlendorf, on both sides of the Argentinische Allee, between the streets Onkel Tom Straße, Sprungschanzen Weg, Holzungsweg and Am Fischtal.

According to the definition given by the DWDS, "area of a city that is protected as an ensemble" (my translation).

Amtsblatt Berlin Nr.29 vom 14 Juni 2001. *

According to the Landesdenkmalamt Berlin's Erläuterung zur Denkmalliste (Explanation regarding the list of monuments), a Denkmalbereich (Monument area, ensemble, overall complex) is a plurality of built structures including streets and squares connected to them as well as green spaces, open areas and water surfaces, the preservation of which is in the public interest (my translation).

According to the Landesdenkmalamt Berlin's Erläuterung zur Denkmalliste, a Gartendenkmal (Garden monument) is a green space, a garden or a park, a cemetery, an avenue or any other witness to garden and landscape design, the preservation of which is in the public interest. A Gartendenkmal may include built structures and be integral parts of monument areas: furthermore, it can include accessories and furnishings insofar as they form a unit of monumental value with the garden monument (my translation).

Т Deutscher Werkbund Berlin e.V (ed.), Bruno Taut, cit., pp. 30-31.

*****¥ It is thought to be the combination of these seven social housing estates, including the Waldsiedlung Zehlendorf, to have contributed decisively to the improvement of housing and living conditions in low-income residential blocks in Germany and elsewhere.

** ff ff *Gartenstadt Falkenberg*, curated by Landesdenkmalamt Berlin.

₩Ω Waldsiedlung Zehlendorf 3D Tabelle Vergleichsanalyse, curated by Landesdenkmalamt Berlin.

The contemporary guiding principle of providing affordable housing with "light, air and sunshine" is also promoted by the commissioner (GEHAG).

*∧ For the first time, Taut used such intensive colours as an ornamental element for an entire housing estate. What has now become a trademark of the estate has been heavily criticised at the time, leading to the housing estate generally being known as the Tuschkastensiedlung (Paintbox settlement).

For this reason, Taut has often been defined as the Meister des farbigen Bauens.

₩Ŀ The Gemeinnützige Heimstätten-, Spar-und Bau Aktiengesellschaft (GEHAG) was established in 1924 to reorganise the housing estate after the First World War and one of the best-known societies for social housing until 2007.

₩* Landesdenkmalamt Berlin (ed.), Vorschlag für das deutsche Tentativverfahren 2021-2023 Waldsiedlung Zehlendorf. Érweiterung der Welterbestätte "Siedlungen der Berliner Moderne," https://www.berlin.de/landesdenkmalamt/welterbe/welterbepotenziale/ waldsiedlung-zehlendorf-1179346.php, accessed August 27, 2022, p. 1.

*[Migge's design was inextricably linked to a growing residential landscape, which the architect described in his publication *Die wachsende Siedlung nach biologischen Gesetzen* of 1932, the year in which the construction of the Waldsiedlung Zehlendorf was completed.

*****L Winfried Brenne Architekten, Berlin-Steglitz Untere Denkmalschutzbehörde (eds.), Waldsiedlung Zehlendorf Onkel-Toms-Hütte, Untere Denkmalschutzbehörde Berlin-Steglitz, Berlin 2006, https://nbn-resolving.de/urn:nbn:de:kobv:109-opus-99256, accessed August 27, 2022, p. 6.

ΩΥ Deutscher Werkbund Berlin e.V (ed.), Bruno Taut, cit., p. 123.

2* In addition to single-family row houses, the settlement is also characterised by multi-storey apartments in order to keep rents and house prices low thanks to a high degree of land use.

XX Taut designed a total of 1106 multi-sto-rey apartments and 486 single-family row houses out of the 1915 residential units of the Waldsiedlung Zehlendorf. See Winfried Brenne Architekten (ed.), Waldsiedlung Zehlendorf Onkel-Toms-Hütte, cit., p. 120.

S∥ In opposition to the spacious and sump-tuously furnished villas still proposed by renowned architects such as Mies van der Rohe in the early 1930s, Martin Wagner was moved by the conviction of the need for a rationalisation of residential accommodation making use of simple, prefabricated structures to meet the demand for housing.

F. van Andel, Woningbouw in tijden van crisis. De groeiwoning als antwoord?/ Housing in Times of Crisis. Is the 'Growing House' the Answer?, in "DASH. Delft Architectural Studies on Housing, Housing exhibitions," 9, 2013, pp. 4-17. doi: https://doi.org/10.7480/dash.09, p. 10.

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317 2 L **X** L The *Das wachsende Haus* concept offered the possibility of expanding the building outwards, considering the design of open spaces as an integral part of the living space of the house.

Q L Particularly innovative within this movement is the development of ideas and proposals to ensure the self-sufficiency of the inhabitants, such as the creation of small greenhouses for growing vegetables in private gardens.

X Unfortunately, a major fire in the Ladenstraße destroyed this meeting place in 2020 and the working group moved to the vacant former hairdresser's shop in Riemeisterstraße, where a Klimabüro (Climate office) was established.