

WOMEN DESIGNERS, CRAFTSWOMEN,
ARCHITECTS AND ENGINEERS
BETWEEN 1918 AND 1945



WOMEN'S CREATIVITY SINCE
THE MODERN MOVEMENT

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Series *Women's Creativity*, 1

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Marjan Groot, Helena Seražin, Caterina Franchini, Emilia Garda
with assistance of Alenka Di Battista

Design and layout by

Andrea Furlan, ZRC SAZU

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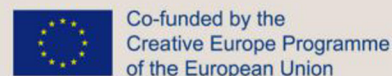
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Helena Niemirowska Syrkus: Graphic analysis of the 'House of Dr Nelken in Warsaw'

In 1920s and 1930s, Warsaw was becoming one of the hubs of propagation of the new architecture, thanks to the geographical contiguity with the Weimar Republic, which allowed the formation of young minds aimed at a blending of architecture, art and music. In this cultural context, a young Helena Niemirowska Syrkus supported the idea that urban planning and architecture, conceived as art forms, had to target at the definition of a language able of expressing the great revolutionary step achieved in the social, economic and political life of that time, through new configurations. According to Helena Niemirowska, who shared the avant-garde thesis, to become an artist the modern architect had to be the basic element of social organization, defining also modern architecture as a synthesis of all the arts creating a new space and aesthetic for the 'New Man'.

Through the drawing you can investigate the meanders of architectural thinking of an elapsed time, so all graphic signs, recognized within this path of investigation, may be part of a corpus of rules, and codified data in the interpretation and reworking design process. The paper proposes a graphic re-reading of the 'House of Dr Nelken in Warsaw' that Helena Niemirowska designed in 1932. The building, on two levels, shows in its form a strict geometric layout and a three parted-subdivision plan in which she defines the functional inside layout both at the ground floor and at the first one. Even in the facades, in line with the geometric rigor inherited from the study of the pure form, conceived as a generator of architectural space, she combines Suprematism and Modern Movement, cultural influences revealed by surfaces, colours and volumes of seemingly static treatment as well as in her other projects.

Keywords: representation, graphic analysis, drawing, Helena Niemirowska Syrkus, Modern Movement

Introduction

The operation of re-drawing, together with the study of the biography of Helena Niemirowska and her cultural and architectural influences, provides a further reading key of this emblematic figure of the cultural movement in Poland, a Polish woman and avant-garde pioneer of the most modern social theories on architecture.

Helena had ranged from the urban planning proposals of Warsaw to the dwellings designed down to the last detail of furniture, from working-class neighborhoods of Tegal Baru to the 'Simultaneous Theatre'.

Helena Niemirowska, also known as Syrkusowa, was an active architect of the fervent years of Modern Movement during the propagation of the new architecture in the Polish capital who conceived an architecture that combined art and music. She aimed to the definition of a language capable of expressing, through new configurations, the great revolutionary step accomplished in the social, economic and political life of that time. She shared the vanguard thesis according which the modern architect, to become an artist, had to rise to the basic element of social organization, defining also modern architecture as a synthesis of all the art forms aiming thus to the creation of a new space and a new aesthetic for the 'New Man'.¹ The revolutionary approach of Helena Niemirowska contrasted with the ostentatious cult of the past, which saw the traditional residence of the Polish gentry and Zakopane style² the matrix from which getting plastic-architectural shapes as expression of national independence.

1 Marta Leśniakowska, "Szymon and Helena Syrkus," Artists in the Design & Innovation category, <http://culture.pl/en/artist/szymon-and-helena-syrkus#notes> (accessed September 10, 2015).

2 The 'Zakopane Style' is a type of architecture inspired by regional tradition of the Polish highlands also known as Podhale. This type of architecture, which incorporates motifs and traditions of the buildings of the Carpathians, was originally conceived by Stanislaw Witkiewicz (1851–1915) critic and art theorist, who used local traditions on richly decorated vernacular architecture, and enriched them through elements of Art Nouveau. Cf. Thomas Da Costa Kaufmann, Catherine Dossin and Béatrice Joyeux-Prunel, *Circulations in the Global History of Art* (New York: Routledge, 2015).

Soon they countered in Warsaw intents of two different generations of architects, in particular, between the need for self-representation of an increasingly authoritarian state and the idealism shaken by the poverty in which the proletariat lived. Indeed, the Polish capital became an extremely lively laboratory of ideas and artistic experimentation, despite the general backwardness of the country, in parallel with the development of Warsaw avant-garde raised by the cultural feature that linked the German Bauhaus, the Dutch De Stijl group and the Russian Constructivism.

Helena Niemirowska

Helena Niemirowska was born in 1900 in Warsaw, architect and urban planner, was considered one of the protagonists of Modernist architectural avant-garde and an emblematic figure of Poland art and architecture. In 1918–1925, intellectual horizons and interests of Helena, spurred by her contacts with Warsaw artists and writers, led her to combine studies of architecture, at the Technical Academy in Warsaw, with drawing lessons by Roman Kramsztyk³ and some studies dealing with philosophy, at the University of Warsaw, in different languages, as she had been able to operate internationally.

In her training, steeped in philosophy and architecture, Helena Niemirowska had approached the first Polish avant-garde to the urban and architectural principles that were defining the basis for a new cultural attitude in the Polish capital. From the cultural influence by Le Corbusier, she took the concept of balanced harmony between architecture and painting, but above all Helena reinterpreted the dictates of the Bauhaus in Poland through the knowledge of the Cubist and Suprematist principles by Malevich and El Lissitzkij, with the aim to sublimate them in spatial and pure architectural elements of the new architecture the Warsaw. In the capital of the reconstituted Poland, the dualism between the internationalist impulses and the need for affirmation of national found identity bound each other also with a natural mechanism of generational transition, that is to the appearance on the scene of a new generation of young architects from 1923–24.⁴

³ Roman Kramsztyk was a Polish painter of Jewish origin. He was born in 1855, lived and worked in Paris since 1922. He was one of the pioneers of the New Classicist movement of the twenties and thirties. In 1922, he settled in Paris, coming back every year in Poland. In the same year he co-founded the Rhythm (RYTM) Association of Polish Artists, whose members propagated the classic style in the Polish art of the twenties. His paintings were exhibited at the 'Art and Technology International Exhibition' in Paris in 1937 and at the World Expo in New York in 1939. (Irena Kossowska "Roman Kramsztyk," Artists in the Photography & Visual Arts category, <http://cultures.pl/en/artist/roman-kramsztyk> (accessed August 6, 2015)).

⁴ Among the Polish architects of this period, the most famous were certainly Lalewicz Marian (1876–1944) and Adolf Szyszko-Bohusz (1880–1942). Cf. Lech Klosiewicz, "Il costruttivismo e l'architettura polacca del XX secolo," in Silvia Parlagreco (ed.), *Costruttivismo in Polonia* (Torino: Bollati Boringhieri, 2005).

Helena Niemirowska would become one of the most famous representatives of the Warsaw vanguard, more favorable to innovation supported by the European avant-garde than to the previous generation that, once back at home, after years of training spent in European capitals, had preferred to the searching for national roots. These cultural contrasts between the two generations of architects, were transforming Warsaw into a laboratory of ideas and artistic extremely lively experimentation.⁵ Add to this the presence in Warsaw of some of the most avant-garde trends of the twenties, an important condition that played a key role in the training of Helena, when the European architecture was covered by a network of intense collaborations and of contaminations, in the wake of the artistic ferment that had involved Russia after the Bolshevik Revolution.

The issue that faced Helena Niemirowska to the inseparability of art from social problems is best expressed in architecture through one of her most emblematic projects, the 'Symultaniczny Theatre', example of simultaneous and unbuilt theater, in which the architectural space becomes a place for discussion, involvement and full participation of the spectator to social issues.

In 1924 she co-founded, together with her husband Szymon Syrkus, the first Warsaw vanguard, 'Blok', i.e. the Block of Polish Constructivists Suprematists Artists, but in 1926, the will to place architecture at the center of research and creation, plus some internal disagreements, led the majority of the members of the 'Blok' to join with Symon and Helena Syrkus in creating a new artistic and cultural group: the 'Praesens'.⁶ The program of the Polish neo-avant-garde group highlighted on the relationship between architecture, sculpture and painting, which took part together to a new composition through which the urban scale of the residential buildings systems and for collective life found a different way of architectural expression.

Topics covered in the modernist quarterly 'Praesens' on the social functions of the new architecture also sprang as a result of the international exhibition on the residence that Helena had visited in Stuttgart in 1927, during which she had gained the experience of the 'contemporary apartment' (*Wohnung der Neuzeit*) and of the residential Weissenhof neighborhood, built by the German Werkbund.

The summer residence in Warsaw, exactly in Rakowiec, was inspired to the same principles, between 1930 and 1939, with the steel structure for the modularization of spaces, demonstrating the new architectural trend on standardization, on the one hand, and on the rhythmic plasticity, on the other

⁵ Alfredo Boscolo, *Le trasformazioni urbane di Varsavia nel Novecento: Una guida bibliografica* (Roma: Carocci 2005), 87–88.

⁶ The Praesens group: Katarzyna Kobro, Jozef Bohdan and Lachert Szanajca were among the first to join the Praesens, then joined also Barbara Brukalska, Stanislaw Brukalski, Andrzej Pronaszko, and Marian Jerzy Malicki. Cf. Alfredo Boscolo, *Le trasformazioni urbane di Varsavia nel Novecento: Una guida bibliografica* (Roma: Carocci 2005), 95.

one.⁷ Helena conceived architecture as a discipline that can defuse the malaise that pervaded the poorest layers of the population of the big cities, less and less willing to accept the terrible living conditions of the industrial suburbs.

The participation of Helena Niemirowska was particularly active in all the meetings of the CIAM, starting with the second Congress held in Frankfurt in 1929, organized in line with the issue on compact apartments.

In 1946, her husband and she moved to the United States, then in England, teaching at the New School of Social Research in New York, the New Institute of Design in Chicago, at Harvard University, at Cambridge and Dartmouth College.

In the following years, she was increasingly involved in the activities that saw the young modern Polish architects interested in the formulation of a new, modern image of Warsaw. Therefore, between 1948 and 1954 she was vice-president of CIAM, fighting for the establishment of functionalist principles in Stalinist Poland and obtaining a certain success.⁸

In 1949, she was called by the Warsaw Institute of Architecture and Design and in 1955 became professor at the Warsaw University of Technology, obtaining in 1979 the title of Professor Emeritus. She was also an active representative of the Jewish Women of Poland, indeed, after the Second World War she became the first president of the 'League of Jewish Women', helping in hiding to escape to Israel many Polish children.

Helena Niemirowska's Projects

Some of the built and best-known projects show the trend of Helena Niemirowska to the interest that ranged from building scale to detail one, establishing a symbiotic link between the architectural space and the furniture, of which she often dealt in her projects.

We identify this kind of attitude in the project of the 'House in Warsaw' in 1937, in which the key element is the curved line that derogates from the regularity of the building, conceived according to the cubic structure. In the 'Two-family House in Sosnowcie', of the same year, where the sinuous line marks the geometry of one facade, she works with a proportionality in connection with the square and the rectangle.

7 Roberta Chionne, "Blok e Praesens: Dagli ideali del costruttivismo alla sperimentazione funzionale," in Silvia Parlagreco (eds.), *Costruttivismo in Polonia* (Torino: Bollati Boringhieri, 2005), 157–198.

8 Lodovico Belgioioso, "Il C.I.A.M. di Bergamo e Le Corbusier," in Giovanni Denti, Andrea Savio and Gianni Calzà (eds.), *Le Corbusier in Italia* (Rimini: Maggioli Editore, 2007), 61.

In the 'Tegal Baru District', in 1969, the last extant and unbuilt work of Helena, she deals with the dwelling.

Actually, from the 'Two-family House in Sosnowcie' more than three decades have been passed and despite we can find persistent themes such as regularity, ribbon windows, harmonic ratios related to the square and the pure geometric forms, there is a remarkable change.

Indeed, the reference is mostly modernist. The geometry prevails on the definition of the form and the reference to the architectural volume of the Modern Movement has undergone the interpretation of the Polish vanguard, the modularization and, therefore, the democratization of the compositional thought.

The dwelling Taylorization was one of the possibilities that Helena Niemirowska had caught since 1925, with the aim of adequately exploit the new available technologies. Nevertheless, one of the projects that best describes the socio-architectural aspect of the Polish architect is the 'Symultaniczny Theatre', in 1927, also called 'Theatre of the Future': a simultaneous theater that would allow you to address the different issues of the theater scene, through advanced technologies and kinetic effects.

The main objectives pursued by Helena were flexibility, freedom of movement and the union of the theatrical scene with the audience: the theater was conceived as a whole with the spectators, thus derogating from the traditional separation stage/audience. The project, conceived together with Andrzej Pronaszko⁹ and designed according to the theoretical principles of the 'Total Theatre' by Walter Gropius of 1927,¹⁰ the idea was to create a space with separate areas of activities, where you can perform various actions. The theater was deprived of the stage, the performances for the spectators were defined through a free configuration consisting of a circular base which determined a rotational movement. The stage of this architectural-scenic machine was able to rotate and taking different configurations depending on the arrangement to be realized.

9 Andrzej Pronaszko (1888–1961) was a Polish painter and stage designer, one of the leading exponents of the Young Poland movement and the Polish avant-garde of the twenties and thirties. During the occupation of Poland was a member of the Polish resistance and director of the Department of microphotography at the Bureau of Information and Propaganda of the Home Army. After war Pronaszko became professor at the Academy of Theatre of Warsaw (Akademia Teatralna), Cf. David Crowley, *National Style and Nation-state: Design in Poland from the Vernacular Revival to the International Style* (Manchester and New York: Manchester University Press, 1992), 107–109.

10 The idea of the Total Theatre emerged in 1927 from the collaboration between Walter Gropius and Erwin Piscator. The aim was to develop a project linked to the concept of a theater that would overcome the traditional structure of the stage sets and produced a building that combined all parts of the theater: scenic depth, proscenium and the central area of the scene. The idea of Gropius for the realization of this structure was that of a movable and rotating plate, which could be moved during a theatrical performance to create the different scenography's situations. In addition to the mobility of these rotary layers, together with the auditorium, it was very important for Gropius that the mechanism for the production and operation of the theatrical spaces would extended to the installations of light frame, Cf. Silvana Sinisi and Isabella Innamorati, *Storia del teatro: Lo spazio scenico dai greci alle avanguardie storiche* (Milano: Mondadori Bruno, 2003), 229.

Graphic analysis of the 'House of Dr Nelken in Warsaw' (1932–33)

The project that here is taken into account through a graphical interpretation of existing archive drawings is the house of Dr John Nelken in Kostancin (Warsaw), designed by Helena Niemirowska in 1932–33 (to date existing in Uzdrowskowa 5, Konstancin-Jeziorna) with a particular interest on the dwelling project that also included the furniture and other functional details (Fig. 1).

The archive drawings on which are based the redrawing and graphic interpretation include two photos of the building and two plans (of the ground floor and first floor).

The one-family house on two levels rests on a color-differentiated base respect to the wall surface of the architectural body treated with a white cement coating. We can identify the same differentiation element, between the base and the entire architectural body, as to emphasize the function of each architectural part in relation to the entire volume, in other coeval projects, like the 'House of Dr. Bernstein in Konstancin' (1931), in dwellings in Saska Kepa (1937) or in the working-class neighborhood in Rakowiec realized between 1936 and 1938 for the WSM (*Warszawska Spoldzielnia Mieszkaniowa*) or 'Cooperative for construction of dwellings of Warsaw' using a wooden frame and masonry coating.

The outer skin of the house is defined by a system of openings, which alternates solids and voids in a gradual manner. Indeed, from the surface in correspondence of the main entrance, which has a transparency for half of the entire side, you can observe a fully glazed elevation rising from subtractions of volumes (Fig. 2). A terrace on the second level develops longitudinally to only one

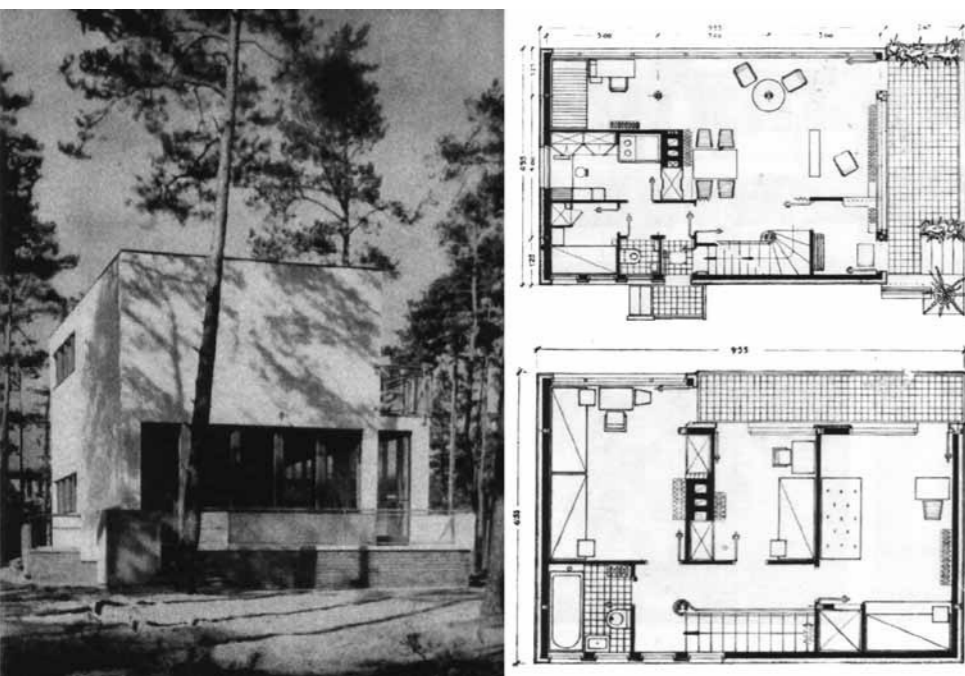


Fig. 1. House of Dr. John Nelken in Kostancin (Warsaw), by Helena Niemirowska in 1932–33.

side, stopping abruptly in rear elevation, where the blind surface has only one window, aligned with the other ones of the entirely glazed façade (Fig. 3). The lateral elevation has a repetition of four square windows for half of the wall, highlighting even more this distribution of transparency in the vertical surfaces delimiting the architectural body (Figs. 4 and 5).

The first floor is raised of 75 cm, indeed, the base on which the whole building rises defines a difference in height exceeded at the main entrance with five steps leading to a terrace developed for the entire façade with the sequence of windows and by other five steps at the side entrance (Fig. 6).

The main entrance opens into an antechamber, a holing of the sidewall, allows the visual communication of the interiors. Helena Niemirowska delimits each space through a door, as if she wanted to force the functional definition of environments that, through the movement of 'transition', takes on more importance.

The action of enter and exit into a space perceives the rhythm of the movement and for that reason, the system of three-door at the side entrance marks the moments of the displacements of the visual-compositional sequence that going towards the inside, leading the occupant to an unveiling of architecture (Fig. 7).

The ground floor has a large open space with two fully glazed sides, where Helena puts the dining room, the living room and another private space used as the studio. In the ground floor plan is detectable a scanning of the spaces which, opposed to the opening into the living area, articulates smaller volumetric intervals in which Niemirowska obtains, in an anticlockwise reading a kitchen, a lumber-room and a bathroom (Fig. 4).

At a deeper glance, you notice how the 'slowness' of the going toward the living space, the reflection and studio space, acquires more two-dimensional importance than to the rhythmic 'speed' of service rooms. The entire plan can be inscribed within a double diatessaron (ratio 9:16), marked on the long side by 5 semicircles that identify the stride of the ground-floor terrace (Fig. 8). On the smaller side, a major sixth (ratio 3:5) identifies the spaces described above that are opposed to the opening of the living, inscribed in a tuning fork (1:2). The entire living area, excluding the terrace, all inscribed in a diagonea (ratio $1:\sqrt{2}$).

The plan of the first floor has only two longer glazed sides, in particular there is a correspondence with the golden ratio ($1:\phi$) which on the shorter sides identifies sequences of windows on two opposite facades and a diagonea that, on the long side identifies the glass surface overlooking the terrace. Finally, the division in three parts of the spaces placed in the center of the first floor is detected by a diapason diapente (ratio 1:3), while other harmonic ratios are identifiable in other areas of the plan, as in the case of a diapason diapente, a golden section and a diapente (ratio 2:3) in correspondence of the service rooms (Fig. 9).

Even the elevations have studied according to other harmonic ratios: a diapente at the longer side, in which the terrace is placed; and a second minor (ratio 15:16), in correspondence of the side with only one window, which results to be 1/4 of the entire height of the building and placed exactly in half façade.

The graphic analysis, led by defining harmonic ratios, enriches the knowledge of architectural body, is synthesized through a critical reading acted with the hermeneutic practice of redrawing. This analytical approach sheds light on the sequence, development and volumetric composition of spaces, both in plan and on three dimensions, facilitating the understanding of the material and spiritual elements that converge into the composition of space (Fig. 10 a, 10 b).

Since redrawing archive plans, the graphic analysis was also conducted through the development of more 'moments' of the drawing. The graphic construction of elevations and sections made possible to provide new spatial and metric data of the Helena Niemirowska's project. Indeed, the accuracy of these orthogonal projections communicates with a purely theoretical field of the drawing, which is that of the spatial imagination and graphic communication, in order to provide information on both the technical level-composition and on that evocative and architectural one.

While the orthogonal projections form the grammar of drawing through the development of plan, elevation and section, the graphic survey uses the vision into the architectonic space examined by exploded and isometric cutaway views. The former let to delimit the Helena's project according to layers and then through a correspondence, in height, of the two levels of the building, allowing an "interlocking" reading of the architectural parts composing the project. The graphic surveys put together the accuracy of the section with the spatial force of isometric view that slices architecture in parts of a whole impressed in the memory of the knowledge previously acquired.

More elaborates participating in the graphic survey are realized through 3D modeling software able to build a new digital space of Helena Niemirowska' project. The moment of rendering, subsequent to the phases of redrawing, constitutes a key reading rising from the new digital techniques that moves within a virtual space in which perspectives at a height of 1,70 m around the building, bring into relationships lights and shadows of the architecture: the moment in which the material becomes plastic and unlimited dialogue with light.

For the same reason the isometric view rendered and perspective sections dissect an architecture that interacts with the virtual infinite space of tridimensional modeling, marking a culmination of graphic interpretation and a new starting point of the investigation of the architectural project.

In the vision of Helena Niemirowska architecture maintained a fundamental social meaning, since it would change the structure of the society on the ground of the social life's large organization. The industrialization of the building was linked to the standardization of single elements, as well as

design compositions, no longer centered on single dwelling, but aimed at enhancing the repeatability of the modules.

Furthermore, her research was aimed to conceive a type of dwelling easily reproducible in an industrial manner and modifiable according to the need (or taste), by resorting to a sort of internal mobility obtained through the adoption of a movable partitions system. Her pursuit was aimed at the definition of a standardized dwelling-type that had the ability to grow and at the same time, to multiply itself in various combinations. Such a conceptual approach, it was not actually very far from the many voices, which in this regard were rising from many areas in Europe in the twenties, especially in the eastern part of the continent economically underdeveloped that, because of its backwardness, produced some of the more radically revolutionary art movements.

Through the architectural thinking of Helena Niemirowska graphic investigation described you want to show only one of the infinite possibilities of architecture interpretation.

Another piece of the history of Polish modern architecture, which, through the inquiring eyes of contemporary subject, it is brought to light, in a suspended condition of the project during the time of Helena Niemirowska and relocated in a rotating circle that represents the time. A plan, an isometric view, a perspective section and a render, space of imagination that in uncertain condition of interpretation affect, with force, on the rock of the drawing.

Figures:

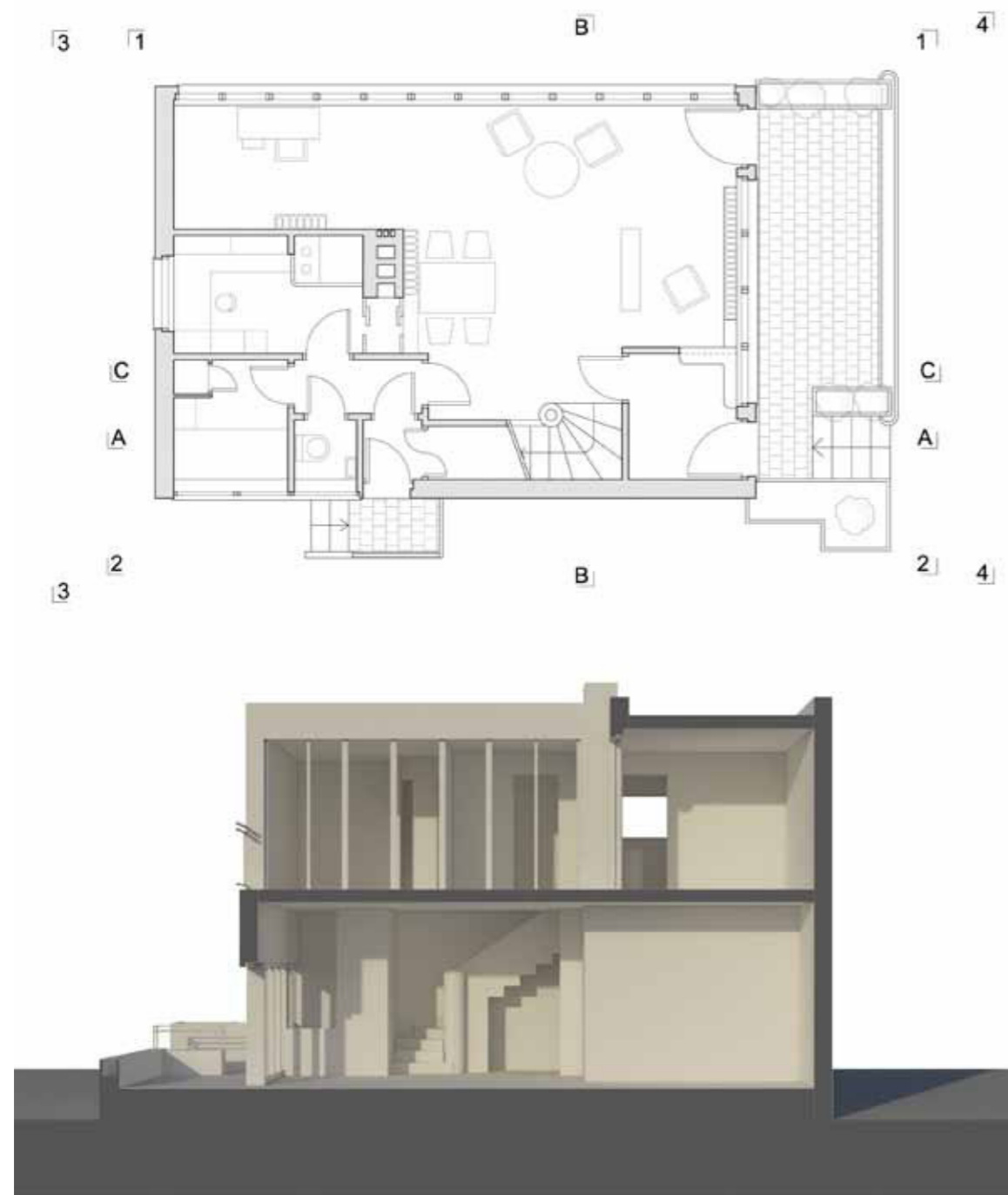


Fig. 2. Plan of the ground floor and perspective section.

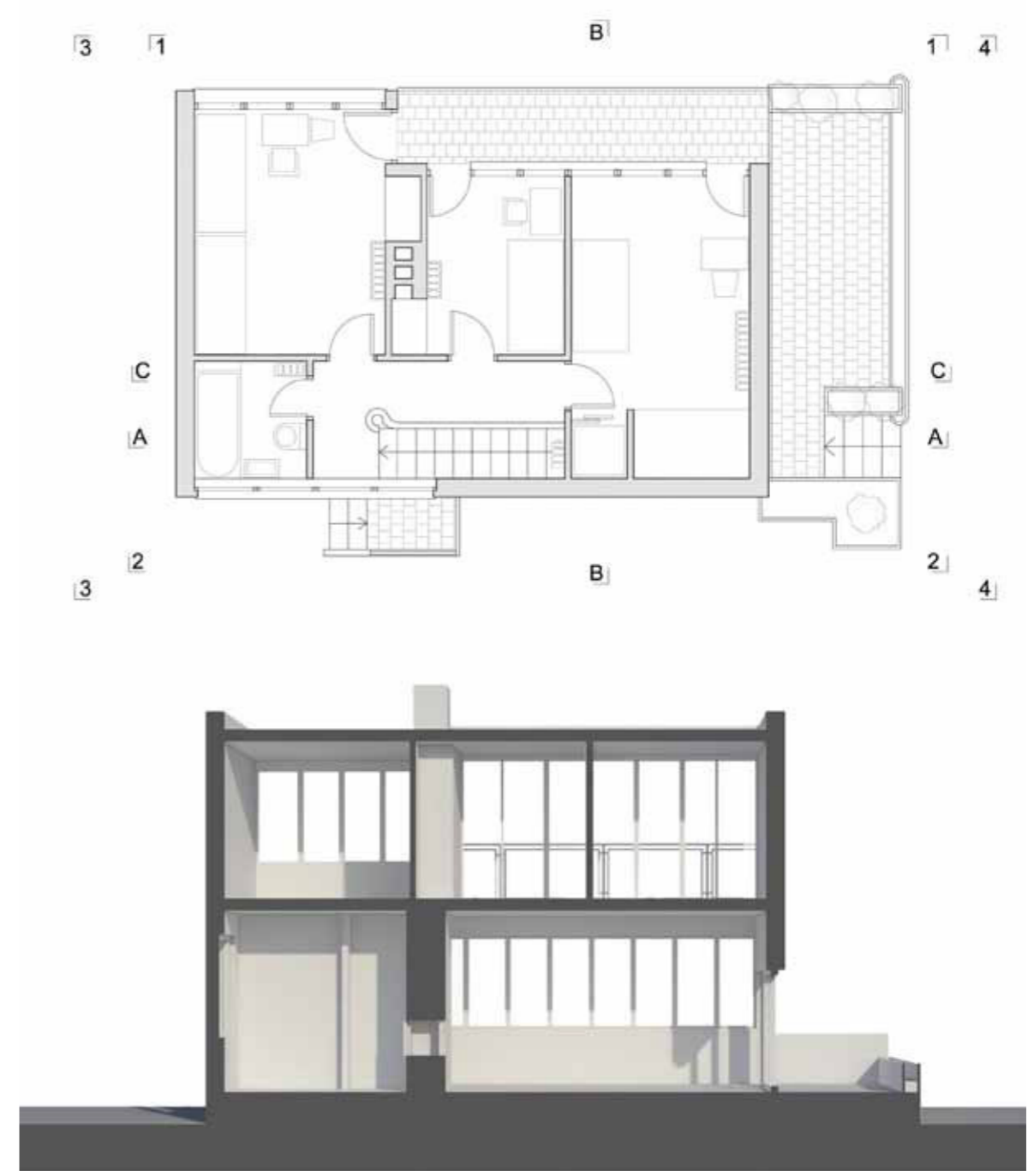


Fig. 3. Plan of the first floor and perspective section.

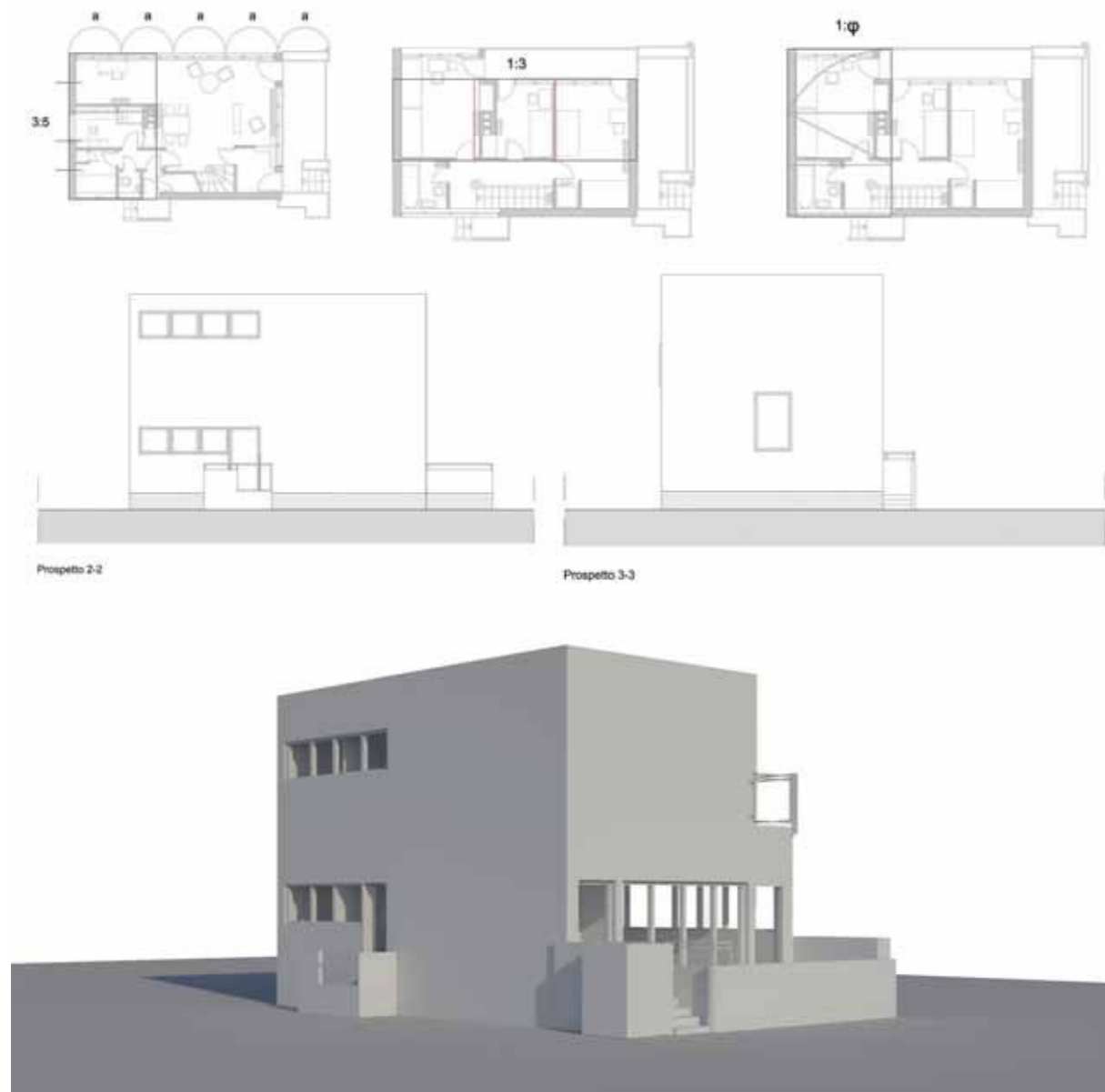


Fig. 4. Harmonic ratios of the ground floor and first floor, two elevations and perspective view.

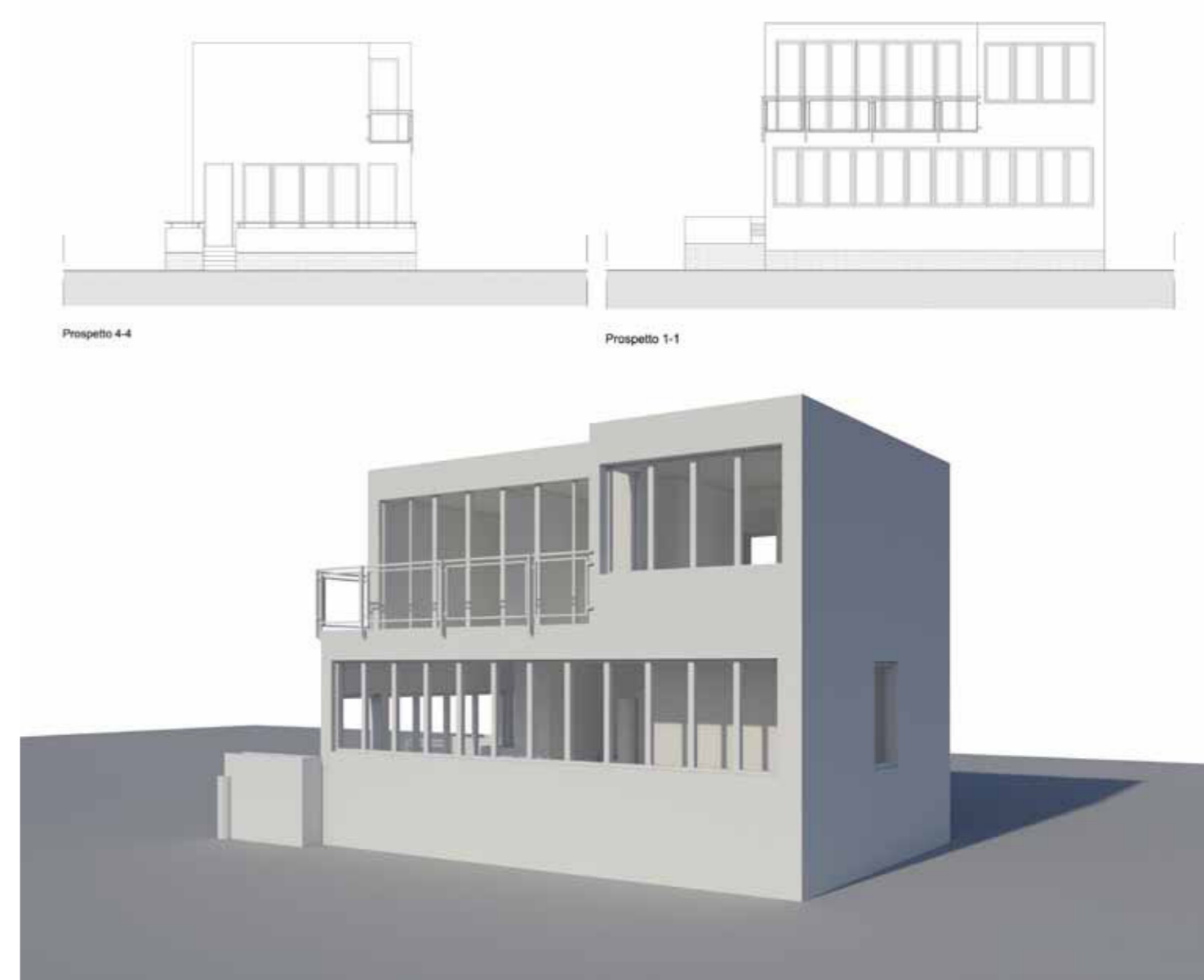


Fig. 5. Two elevations and perspective view.

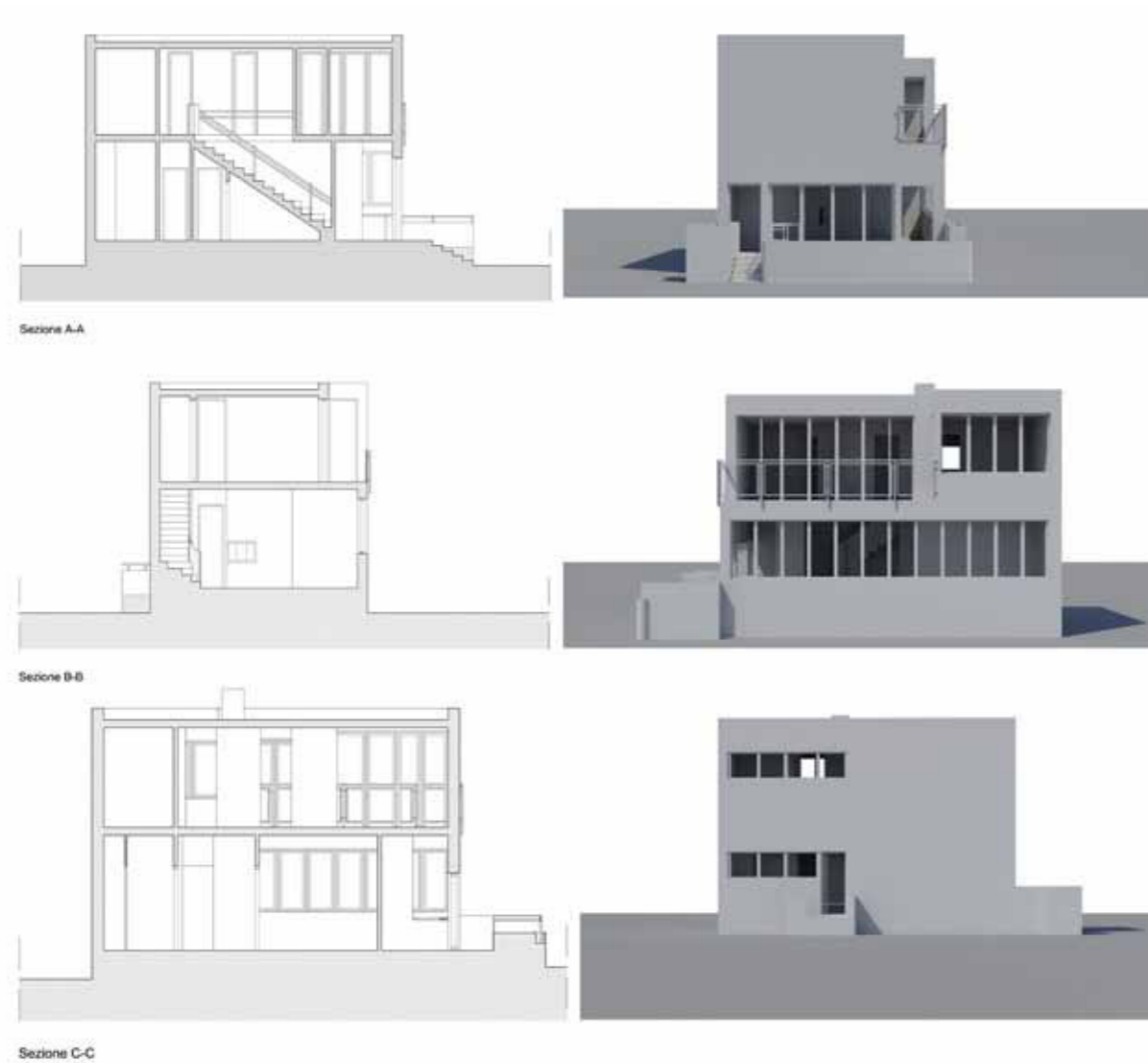


Fig. 6. Sections and rendering.

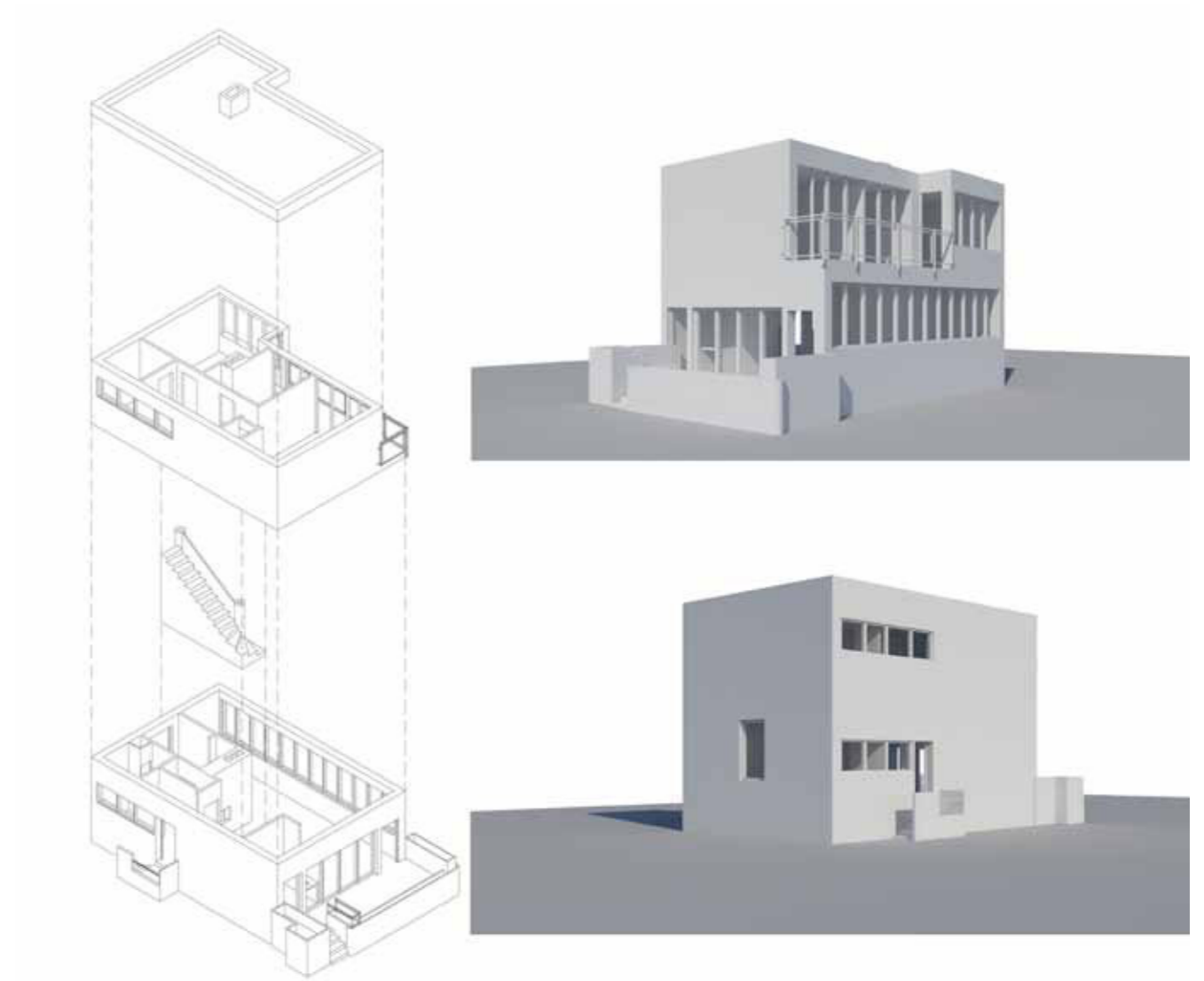


Fig. 7. Exploded and perspective views.

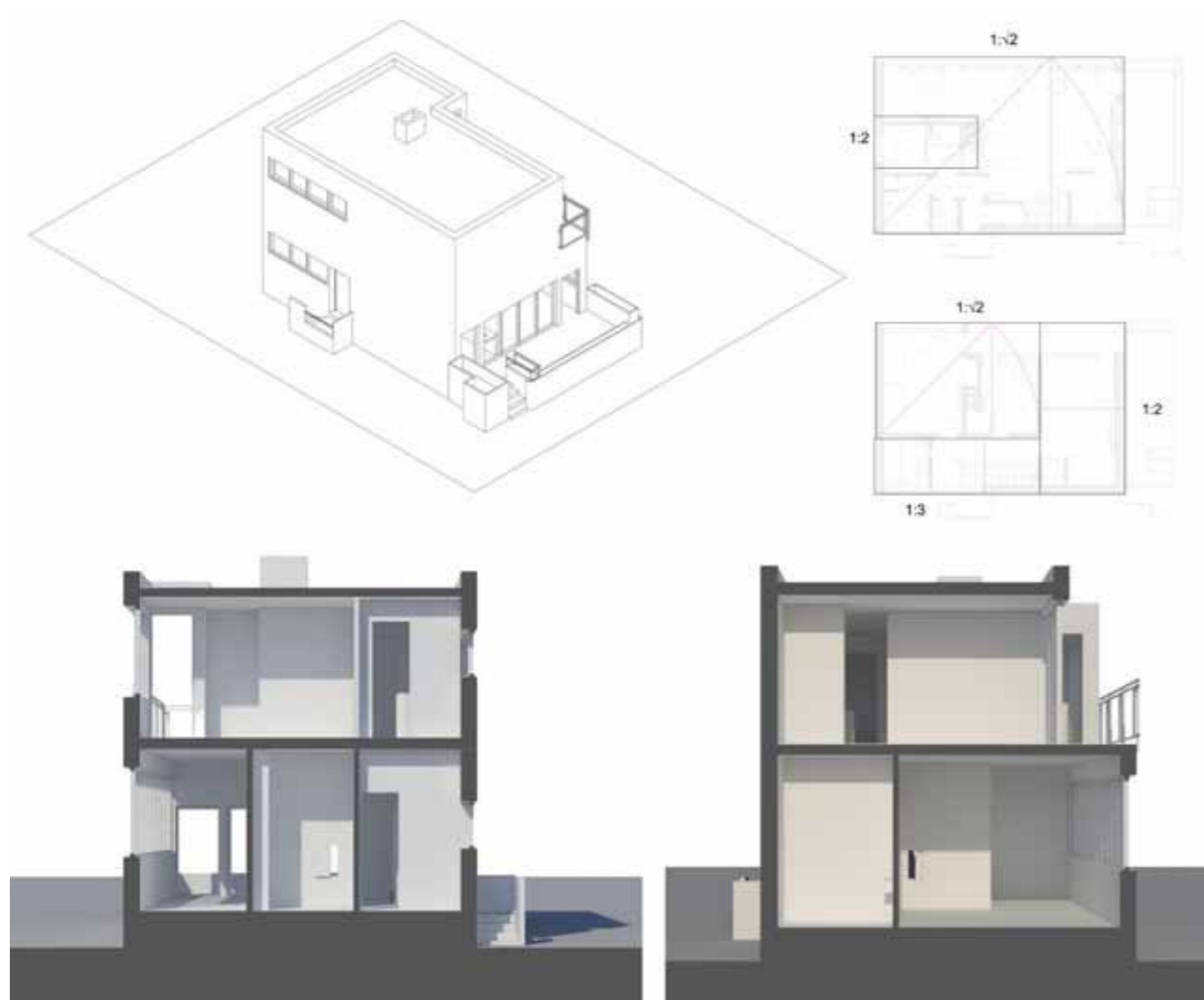


Fig. 8. Isometric view, harmonic ratios of the ground floor and first floor, and two perspective sections.

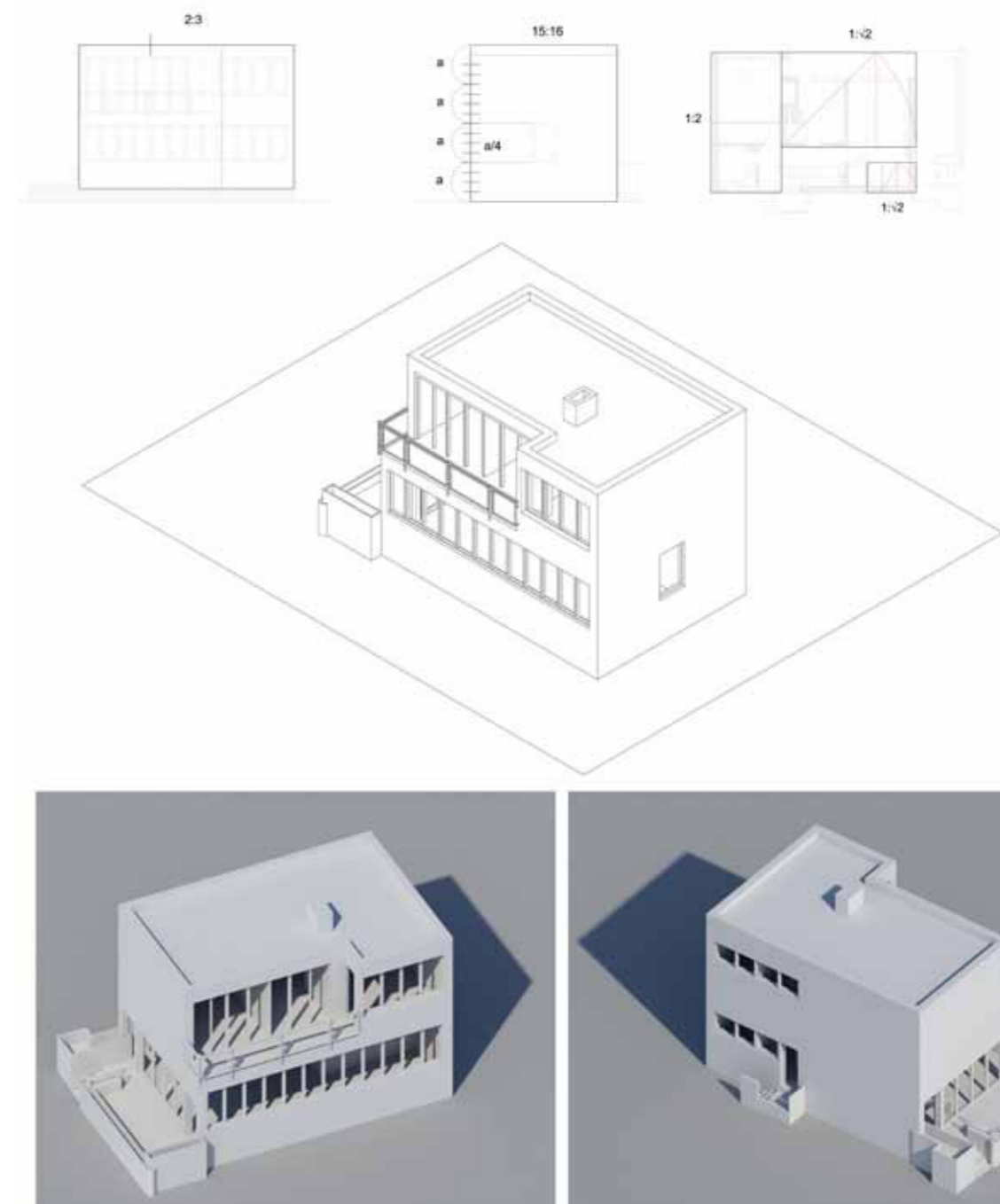


Fig. 9. Harmonic ratios of two elevations and first floor, isometric view, and two renderings.

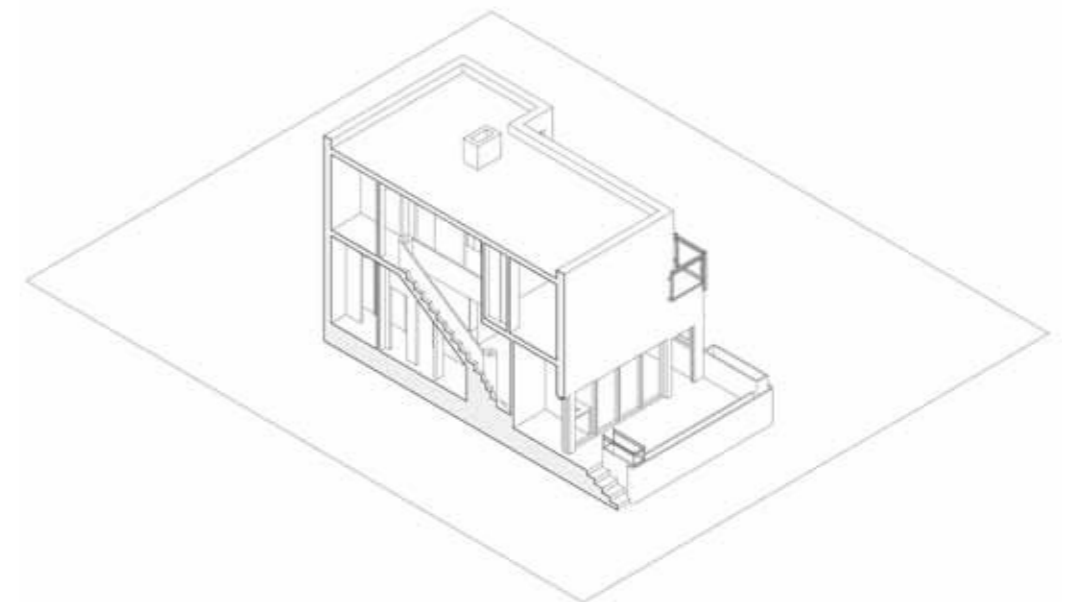
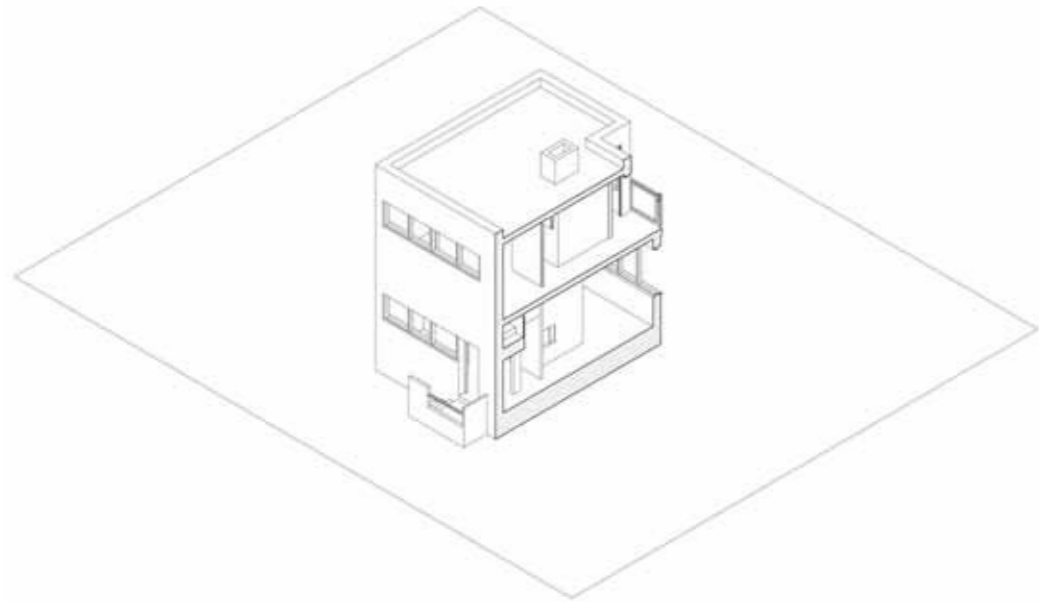


Fig. 10 a. Isometric section and isometric view.

Fig. 10 b. Isometric section and isometric view.

Starlight Vattano

Università degli Studi di Palermo, Dipartimento di Architettura D'ARCH
University of Palermo – Department of Architecture



Starlight Vattano (1987), PhD, Architect. She graduated in Architecture in 2011, with a thesis entitled "Eileen Gray, an elusive subject. Graphic interpretations of the Centre de Vacances". PhD in Architecture, University of Palermo, Department of Architecture. She published and presented her articles at several international Conferences about Representation of unbuilt Architecture dealing with the study of women pioneers' projects of the Modern Movement. She is also interested in visual studies and relationship between graphical movements and geometric shapes. She undertook a period of visiting research at the Escuela de Arquitectura of Malaga and at the Faculty for the Built Environment of the University of Malta.

E-mail: starlight.vattano@unipa.it

