Facade and Form in Architecture. The Case of Kristo Sotiri's Buildings in Albania

This article is based on concepts that belong to theoretical speculation in the discipline of architecture with a focus on the elements and instruments of architectural composition during the contemporary period. The main purpose is to study the architectural elements of the façade in history and its influence on contemporary architecture. The objective is to focus the attention of architects and academics on the importance of the façade. The preliminary hypothesis is that nowadays the "façade" in architecture is dead. The façade as a compositive element of the architecture is closely related to the periods from the Renaissance to the early 20th century. With modern architecture, the concept of the "façade" begins to "crumble" and after that, it is "eliminated" during postmodern architecture through the process of "Museification". This period also coincides with the drawing of the façade as "elevation" with the principle of central perspective, emphasizing that the facade in architecture is a consequence, dominated by the concept of the central perspective. The following methodology is based on the analysis of some architectural works, in specific moments. These works will be analyzed on iconographic, orthographic, and scenographic levels to emphasize the structural relationship that stands between the interior and the façade. The façade itself will be analyzed in order to define the relationship that lies between the perspective and the composition of the exterior. The conclusions drawn from this section will be used as the methodology to analyze the architectural works of Kristo Sotiri, as a local example to prove the above hypothesis.

Keywords: *Architecture, Composition, Façade, Form, Perspective.*

Introduction and Literature Review

Talking today about the concept of the facade in architecture seems out of time and an out-of-date discussion. However, by giving a closer look at the architectural works built today in all the most important cities, it is clearly shown that there is a disconnection between the facade and the form of architecture. It seems as if there is a "lobotomy" disconnection between the internal form of the building and the facade. Such disconnection is also emphasized by Koolhaas (1994:100)[1] who clearly states that the interior and exterior are already disconnected, thus different identities are built independently from each other. Through this disconnection between the facade and the interior, the built architecture itself disappears. Following the concept of *Concinitas*[2], the building

[1]Ref: Koolhaas (1994:100-101) *The architectural equivalent of a lobotomy - the surgical severance of the connection between the frontal lobes and the rest of the brain to relieve some mental disorders by disconnecting thought processes from emotions. The architectural equivalent separates exterior and interior architecture. In this way the Monolith spares the outside world the agonies of the continuous changes raging inside it.*

[2]Ref: De re aedificatoria, IX.5. *'Quae satis constant, statuisse sic possumus: pulchritudinem esse quendam consensum et conspirationem partium in eo, cuius sunt, ad certam numerum finitionem*

elements are in such a relationship with each other that you cannot add, remove or detach one of them without causing damage to the general "body" of the building. Similar to the human body, which, according to Franco Purini (2019:26), nowadays is looking for new conditions by being transformed by biology, electronic grafts, or transplant surgery that hybridizes the organic with the non-organic, it is seen as well in architecture[3], which for centuries it is built on the metaphor of the compact body that tends to resist time. Nowadays it seeks new formal statuses by applying its "body" transformative processes that separate the constituent elements from each other, including here the interior and the exterior.

In the past, the relationship of the elements of architecture between each other and with the building as a whole has been oriented and guided by principles where these elements are in an "organic" relationship with each other, as shown by the principles of Eurythmia and Symmetria by Vitruvius (1960: 61)[4] but also the one mentioned above of Concinitas by Alberti. Here the word organic means formal relationships that are harmonized, proportioned, and placed in such a way that they match the ratios and proportions of the human body. Likewise, just like the human body that cannot be unformed, incomplete, or mutilated or with parts detached and not related to one another, the elements of architecture built on organic principles cannot be unrelated to each other. Therefore, the word organic in this text has the meaning of a closed whole filled with elements that are proportional to each other and to the whole where you cannot add or remove any element, just like in an organism. In this sense, the separation of architectural elements from each other alters the image of architecture as an organic whole.

Nowadays, this relationship between the constituent parts of the architecture also appears in the disconnection that the facade has with the interior of the architecture, thus presenting us with a syndrome of the problems of contemporary architecture.

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collocationem que habitam, ita uti concinnitas, hoe est absoluta primariaque ration naturae, postularit."

[3]Franco Purini emphasizes in this part of the book "Comporre l'Architettura" published by the publishing house Laterza in Rome-Bari in 2000, the fact that just as the human body is today transformed by many actions that often violate the integrity, also architecture is also compromised through these transformations that affect its "body".

[4]Ref. Marco Vitruvio Pollione, *De Architettura*; book I-VII, (Translation and notes by Silvio Ferri), Fratelli Palombi Editore, Rome 1960, book 1,III,2. In these pages, in the description of the two categories Eurythmia and Symmetria, Vitruvius is not very clear and does not give a description that separates these two words correctly. According to him, eurythmy or harmony is that beauty of the whole that results from the perfect matching of the parts. This is achieved when all the details of a work match symmetrically in height, width and length. We find such a match in the analysis of Palladio's Rotonda where the elements match each other and with the whole both in plan and in cut or view. While Symmetry or proportion is the correct tuning between different parts and their proportional matching with the whole of the picture. According to Vitruvius, the perfect architectural work is analogous to the human body, in which the symmetrical quality of harmony arises from the individual parts: from the forearm, from the leg, from the hand, from the finger, etc. Here the word symmetry should not be understood as an equal reflection of an axis, but as a formal relationship between different elements. This clarification comes from Camillo Sitte in the book Stadtbau, where it is written that in antiquity, symmetry and proportion mean the same thing. Both express a dimensional ratio. For proportion this ratio is geometric, but symmetry expresses the same ratio in numerical terms.

Methodology and Materials

The theoretical problem addressed in this paper is based on the state of composition and construction of the architectural form today. In this period, there is a clear separation between the facade and the interior in the recently built architecture. The origin of this problem is not simply technological but derives from the transformation of paradigms that guide architectural composition and construction.

From the methodological point of view, the research begins with the investigation of the origin of the facade and its evolution in history. Based on historical data, the origin of the facade as an essential component of architecture corresponds to the moment of the invention of perspective in the early Renaissance in Florence. The peak of the facade concept will be reached in baroque architecture, as described in the following paragraphs. While the beginning of the severance of the relationship between interior and exterior will begin with modern architecture and will continue until these days.

After the research on the evolution of the concept of the façade and the analysis of the relationship it has had over the years with the interior, the research goes towards an analysis of several buildings in the city of Durres and in Albania designed by the architect Kristo Sotiri.

The choice of this case study is dictated by his long activity in construction. Kristo Sotiri has been in contact throughout his experience with three fundamental moments in architecture: the period before the First World War, between the two wars, and that of the post second war world. Operating in three important historical moments, the work of Kristo Sotiri carries and expresses different relationships between the facade and the interior, which is clearly a manifestation of different periods that will evolve in the first part of the research.

The organic examination of Sotiri's projects, which is based on proportions analysis and the golden ratio, will play a key role in the analysis of the works he has created. This idea is the fundamental part of the organic architecture that Kristo Sotiri created. From this point on, the investigation into the connections between the components of the facade and their connections to the inside of the selected works will display.

Façade in Renaissance

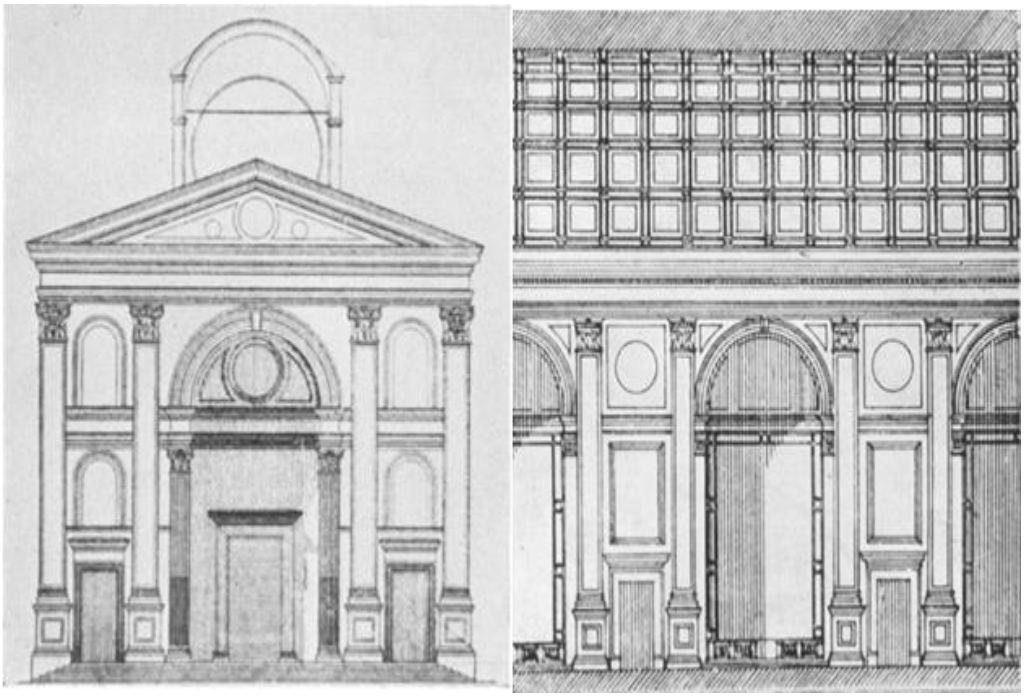
The origin of the façade can be endlessly speculated and can be found in numerous interpretations throughout history. It is generally accepted that the origins of the elements of the façade are related to the period of Romanesque architecture in Europe, where medieval cathedrals were equipped with frontal towers as an "addition" which had the main representation role. In this case, the facade is detached from the interior without considering the creation of a formal relationship with it. This article skips this first moment of the formation of the façade, since in this case this element was built "*in situ*" and was not drawn in

advance before going to the construction site. Moreover, as we stated above, it was built without having a formal relation between the facade and interior but it was the result of an addition.

The first cases of designed façades are closely related to the period of Italian Renaissance architecture. Starting from this period, the facade becomes a strong element of architecture and is built creating a closer relationship between the interior and the exterior. This relation between the interior of the architecture and the exterior facade that appears in the public space is seen in the two main works of Leon Battista Alberti.

The first work relates to the drawing of the Facade of the Church of Santa Maria Novella in Florence and the second to the drawing of the Church of Sant' Andrea in Mantua, (Figure 1) where we see a direct relation between the composition of the interior space and the main facade of the church.

Figure 1. *Left. Sant' Andrea di Mantova Façade. Right. Sant' Andrea di Mantova Longitudinal Section. These figures show a direct relationship between the composition of the facade with the composition of the interior of the longitudinal Section*



Source: WITTKOWER 1940: 16

This structural relationship in the composition of Sant' Andrea in Mantua is also emphasized in Wittkower's studies on Alberti. Sant' Andrea, presents a direct structural relationship between the drawing of the interior and the drawing of the facade of the church. According to Wittkower (1940), the drawing of the façade of the church of Sant Andrea is influenced by the Arch of Trajan in Ancona built in the second century AD by the Roman Senate. In Saint Andrea's project, another essential aspect is found, which is fundamental for the argument addressed, respectively precisely related to the direct relationship that the composition of the

facade has with the internal components of this work. This relationship is also emphasized in the writings of Wittkower (1940) where is seen the correspondence between the composition of the facade and the composition of the longitudinal orthographic view of the interior. The compositional differences between the main facade and the longitudinal interior view depicted in figure 1 make it evident that the structural link between the facade and the interior in this case is based on the concept of similarity.

The second case, the façade of Santa Maria Novella, is drawn according to a geometric rule almost independent from the interior design since it corresponds with two different periods and as a result belongs to two different architectural styles. In this case, Alberti works on an unfinished façade in the Gothic style and completes this façade by including the existing part in the drawing according to the style of Renaissance architecture. The Florentine author adapts the scenography of the façade to the back of the church in Gothic style. According to Wittkower (1940), the facade of the church of Santa Maria Novella can be inscribed in a square. This drawing, based on the geometric figure of the square detaches from the back of the gothic part and even uses volutes to hide the discrepancy between the facade and the height of the naves that were behind.

Façade in Baroque

In the Baroque period, the facade takes on special importance and becomes one of the most drawn elements. This is a consequence of the theatricalization of the architectural form as a consequence of the Catholic counter-reformation made by Concilio di Trento (1545-1563) and of all the dynamic movement accelerated by the scientific context. The purpose of the catholic counter-reformation was to orient believers toward Catholicism which was sought to be achieved through the theatricalization of space and dynamic movement brought to architecture by the use of curved and open lines. In this context are introduced the first works of Baroque[5] architecture starting with Carlo Maderno and continuing with Bernini, Borromini, and Berrettini (Pietro da Cortona)[6]. It is emblematic of the dynamism of the facade of San Carlino (fig. 2) of Borromini, where the façade, beyond being a continuation of the interior architecture, undergoes a detachment at the level of the dome thus showing perhaps the first case where the facade is used as a "theatrical curtain" which is detached from what lies behind. In this case, the façade of San Carlino can be divided into two main levels: the first level corresponds with the entrance, where the dynamism of the façade is the continuation of the internal dynamism of the church, while the second level

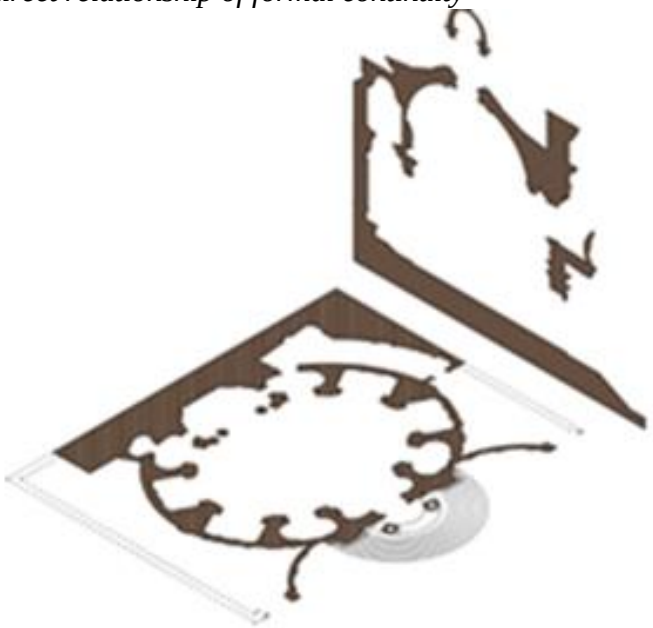
[5]The use of curved lines actually dates back to the Mannerism period, which is represented in architecture by Michelangelo's creations like Porta Pia (1565) in Via 20 Settembre. However, since the Mannerism period is regarded as a transitional period between the Renaissance and the Baroque, it is preferable for analytical ease to analyze the most extreme examples of Baroque architecture, which are represented by the interventions of Bernini and Boromini.

[6]The church of Santa Maria in Via della Pace, which exhibits a formal dynamism where the formal structural relationship between the interior and the facade, built on the principle of continuity, is expressed to the maximum, merits to be mentioned even though it is not a part of the formal analysis of this article.

belongs to the dome where the folded façade has a continuity with the following level but is detached from the rear. In this case, the relationship between the interior and the façade is structurally different from that of Sant' Andrea in Mantua (fig. 3), where this relationship was based on direct resemblance. In the case of San Carlino, the facade is structurally a continuation of the interior. In San Carlino, the concave and convex parts of the façade are a continuation of the folds in the interior space. This approach, where the dynamism of the interior spaces stands out and is reflected in the façade, is a dominant feature in the works of Baroque architecture.

Figure 2. *San Carlino alle Quattro Fontane. Borromini (Bianka Madhi). The figure shows a direct relationship by formal continuity*

Figure 3. *Sant Andrea al Quirinale. Bernini (Bianka Madhi) The figure shows a direct relationship of formal continuity*



The façade of Baroque architecture presents an additional aspect compared to other styles. The baroque façade, unlike the previous periods when it could be conceived as a two-dimensional "plan", is transformed into a three-dimensional volume. The cases when the baroque facade is presented as a three-dimensional volume are numerous. Perhaps, almost all baroque buildings have such a facade, but here we will list Sant' Andrea Della Valle of Maderno, San Carlino of Borromini, Sant' Andrea al Quirinale of Bernini, and Santa Maria Della Pace[7] of Berrettini. All these cases represent a formal dynamism in both planimetry and altimetry. The façade is not a simple two-dimensional plan but is presented as a three-dimensional volume that is in continuity with the interior of the building and has a structural relationship, in the formal plan, with the interior of the building. In the cases mentioned above is the central perspective that determines the whole organization of the composition of the façade and the building. Towards the last period of the Baroque and the transition to the Enlightenment, we have a special case of the composition of architecture, with diagonal perspectives and with several focal points on the same horizon line. It is the case of the compositions of Ferdinando Galli da Bibiena (Purini 2019; Mayor 1945) or the compositions of Piranesi's Prison.[8] Most likely the perspectives realized by Ferdinando Galli da Bibiena and other members of the Bibiena family are direct derivatives of the

[7]Even in the volumetric plan, the facade in this instance formally continues the interior. Santa Maria della Pace's front, which unites the church's two long wings, has the appearance of an arch, complementing the iconographic design of the structure. By presenting the facade as a three-dimensional plastic volume, the formal structure of the interior is maintained.

[8]Beyond the representational design, the Piranesi prisons exhibit a considerable influence from the elaborate formal architecture found in Adriana's mansions in Tivoli. The depictions of the prisons plainly show a direct influence from the light of the Villa Adriana thermal springs in Tivoli, Rome.

perspectives generated by Piazza del Popolo, designed in its current form by Domenico Fontana for Sisto V, in 1585- 1590, in Rome. It is clear that even during the period of Baroque architecture the organization of the form of architecture and the composition of the facade is based on the principles of the central perspective. Towards the end of the Baroque period, we have overcome the composition of the space, and the facade is no longer based only on one focal point but with several focal points that guide the composition.

Façade in Modernism.

For nearly four centuries, art and architecture were dominated by the presence of perspective as a key factor in structuring composition. With the advent of Cubism, we have the destruction of a spatial and logical order structured over perspective as a dominant element. In the origin of modern architecture, according to Gregotti (2011), lies the activity of Cubist painters, such as Cezanne and Picasso. In the paintings of Cezanne - Mont Saint Victore - and Picasso, we do not have a central symmetrical composition or paintings that can be seen from a single point. In cubism, the disruption of perspective determines the composite order of the image. The work is not observed from a single privileged point but must be contemplated in motion. This behavior defines the beginnings of the "fall" of the facade as a key element in the composition of the architectural form. The destruction of the central perspective and the inclusion of the dimension of time in the interior of the composition erases the main decorated façade. The building is presented by a series of sequential views that are seen in motion. In modern architecture, this aspect is underlined by the concept of the "architectural promenade" by Le Corbusier. He emphasizes the fact that an architectural work cannot be observed from one single privileged view, but must be seen in motion. The architectural manifestation of the observation of a moving work is expressed by Gropius's project for Bauhaus. In this case, the building does not have one main view but there are several different views. These views, which are contemplated and experienced in different sequences, build the main itineraries of the composition. In this project, we are not talking about facades that manifest architecture but about itineraries that make it possible to experience form. The same is the situation that is created in Villa Savoye. The ramp, before finishing on the terrace creates an itinerary with internal and external views which present different three-dimensional sequences. As for the composition of the facade, it is clear that it detaches from the relationship with the interior and can be composed as a free element. Moreover, the principle of "free façade" which constitutes one of the pillars of the architecture of the Modern Movement, clearly shows us the complete disconnection between the façade and the interior of the form. Here, the structural relationship between the façade and the interior is similar to that of Sant' Andrea in Mantua and the continuity found in Baroque architecture is completely severed. The only relationship that is formed is in the stylistic/linguistic plan and not in the formal plan. As Rowe (1976) points out, in the comparison between the Mirafiiori villa in Caprarola and the Stein villa in Garches, in the transition from premodern to modern architecture, lies the change of composition from a symmetrical composition organized over the central perspective to an

asymmetrical composition. It is precisely at this moment of the "fall" of the central perspective that consequently the composition of the façade breaks away from the direct relationship it has with the construction of the interior. It is evident that the transition from a central symmetrical composition privileged a certain façade into a non-symmetrical composition. At this point, we can state that the decline of the facade element begins as a central element in the composition of the architectural form. This historical moment in architecture coincides with another important moment for the design of facades, the décor. The facade of modern architecture is stripped of decor and abstractly composed, thus becoming white and anonymous. We can state here that the conception and composition of the facade as a structural element of the architectural form from the Renaissance period to the beginning of the modern period is closely related to the concept of perspective and that with the "fall" of perspective we have the fall of the facade as a structural element of form.

Façade in Post-Modernism.

In the postmodern period[9], the facade is restored and "museified" as a composite element of the form in the past periods of architecture. Postmodern architecture came as a response to the violence expressed by modernism (Kumaraku, L. Hoxha, E. 2021). From this point of view, the response to modernity is also violent and painful. Giving an instinctive and immediate response to the violence of modernity, the most naive and immediate solutions were proposed: if modernism erases the décor, in postmodernistsh we bring the decor again. If Modernism deleted the columns, we return the columns and arches[10]. This is how Charles Moore responds with the Piazza d' Italia in New Orleans to the Italian-American community even though the Italians knew how to respond to the pain caused by modernity more seriously through many post-war projects, most notably that of Mario Fiorentino for Fosse Ardeantine in Rome. In this case, to the violence and pain of war, the Italian architect responds with a silent and anonymous monument but with a high expressive capacity. In this confrontation between a square that seeks to call into action building elements from the past to interpret them in an eclectic way and a naked monument without decor, the quality of the space is not questioned. On one hand, we have almost a "mockery" that seeks to be justified by the use of architectural "totems" and on the other hand, we have the creation of a space that interprets the past and translates pain into a sublime form.

[9]A post-modern condition has emerged as a result of our society's quick structural transformation. There are two ways that architecture can explain this new situation. The first, which was purely ideological, concentrated on how we have changed while unavoidably continuing to act in the same way. In order to fulfill his need for amusement and his need for tragedy, the architect lives in the moment by observing and expressing himself. The second is to look beyond oneself; not only the architect, but also everyone else who lives in, uses, and is affected by building, alters its reality.

[10] Through their writings, Jean Labatut (1899–1986), Charles Moore (1925–1993), Christian Norberg–Schulz (1926–2000), and Kenneth Framton (b. 1930) gradually changed the culture of modern architecture into post–modernism over the course of decades rather than years. Their capacity to spark such a discussion validated the revival of classical architecture as a source of current design inspiration.

In this distinction between a monument and a square, it is important to add the case of the Strada Novissima for the Venice Biennale[11] in 1980 "*La presenza del passato*" organized by Paolo Portoghesi. In this biennial, 20 different facades were exhibited by international architects in a 200-foot corridor. According to Stern (2010) "*Behind each façade, the individual architects displayed their work, as if in a shop*". On Stern's words and the descriptive article of the Biennale, you can find an echo of "consumption" and the "museification" of the concept of the facade and that behind each façade, each architect does not express the relationship that internal architecture has with the concept of the facade but simply expresses the façade in itself. In this case, they are simply facade panels detached from the form. They are "icons" of a past that already found their place in the "personal" museum of Paolo Portoghesi[12]. The 1980 Biennale exhibition, beyond an eclectic purpose of calling from the past a series of architectural styles, achieved the unconscious objective of museifying a facade concept constructed by classical composition rules. From this moment, in the architecture of buildings with international echoes, the facade of the building was considered as a general "skin" that could be worn in any shape and without having a direct relationship with it.

Discussion about the Architecture of Kristo Sotiri in Albania[13]

Approximately 50 years of design work by architect Kristo Sotiri includes the renovation of an Italian church, a monument in Romania, and an Albanian mausoleum. After completing his architectural studies at the Academy of Fine Arts in Venice, Italy, in the year 1904, he obtained his engineering degree from the University of Padua in 1898. According to Miho (2003), his activities outside of Albania, which were mostly located in Italy and Romania, occurred during 1905 and 1920. During this time, Kristo Sotiri created a number of works that include a variety of functional typologies, from residences to casinos, and range from the field of restoration to completely novel structures. Kristo Sotiri has several types of projects that need to be verified on a worldwide level[14], but according to

[11]Strada Novissima is organized and curated by the Film Administration Organization in the Cinecitta laboratories. This road was built with contemporary materials, using artisanal techniques of cinematography. This fact, even though it was considered a weak point of the exhibition, can be interpreted differently now. As a mobile creation, a machine in the terms of antiquity, which gives the urban city a different appearance during different activities, making urban spaces temporary private spaces.

[12]The Biennale, in the words of curator Paolo Portoghesi, is a center for the development and promotion of architectural debate and scholarly research. It serves as a permanent laboratory for a number of manifestations that strengthen ties between institutions, the city, and its surroundings.

[13]The system of government in Albania saw major changes during the first half of the 20th century, which had a direct impact on the architectural design of important buildings. It starts with the Austro-Hungarian invasion, goes on to include the Fan Noli local government, King Zog's kingdom, and continues with the Italian invasion. During this time, Albanian cities underwent a transformation from medieval to European cities.

[14]International works from unofficial sources (from Revista Architettura Italiana):Construction of the Large Bath Facility (Alberto Excelsior) in Lidon, Venice, Italy (by competition); Ossuarium

sources that are yet unidentified, many of the cases are competition projects of various types.

According to Maria Adriana Giusti[15], the aforementioned architect was the most respected authority in Albanian architecture during the period between the two World Wars[16]. Some of the author's works in Albania, which we find unfolded mainly in the book "Kristo Sotiri" (Miho, 2003), are demonstrated with the drawings in figure 4, 5, 6, 7 and figure 8. These projects illustrate the same architectural style. The structures are elegant, harmonious, and preserve the same aesthetic.

Figure 4. *Durres city hall (project)*[17]

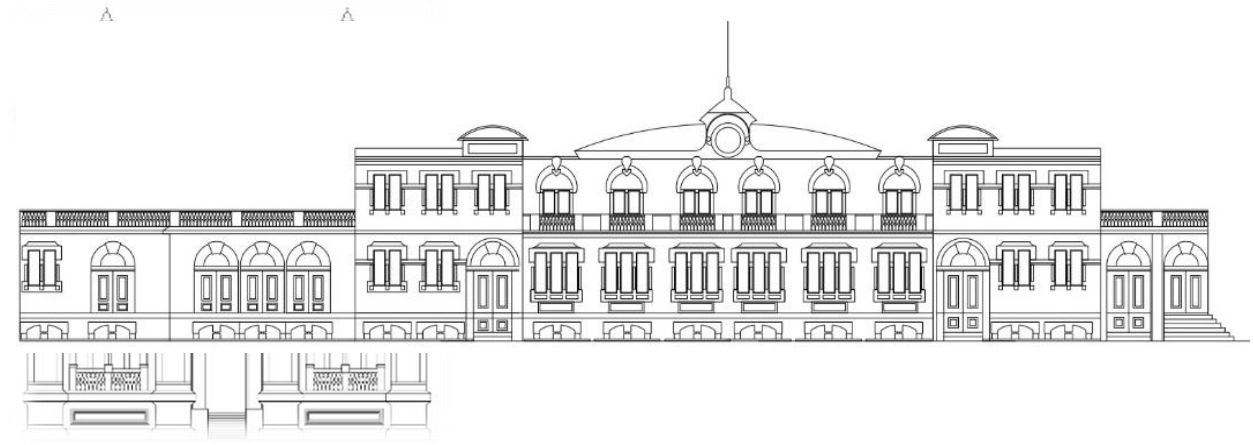


Figure 5. *City Hall of the capital city (Tirana, 1928, project)*

Buildings in Lidon, Venice, Italy (by competition); Some villas, in Lidon, Venice, Italy (by competition); Palace of the Stock Exchange, Genoa (by competition); Grand Palace of Cupole, Genoa, Grand Palace of Cornice, Genoa; Cinema - Theater, Genoa; Ottoman glass, Constanta, Romania; Ottoman Bank, Cairo, Egypt.

[15]Maria Adriana Giusti, the author of the book "Albania: Architettura e città 1925-1943"

[16]Albanian architects exhibited avant-garde values in architectural design, both in terms of plan and volume, as well as the blending of regional and societal customs with the modernist minimalism. In harmony with European styles, Albanian architecture, from 1920 to 1940 incorporated modern global influences.

[17]The existing buildings, facing the center square of the city (including the City Hall's building), reflect the tendency of architecture, according to the rationalist Italian stream of the time, and not a repetition of the Renaissance architectural orders and styles.

Figure 7. *Train station (Tirana, project, version 2)*

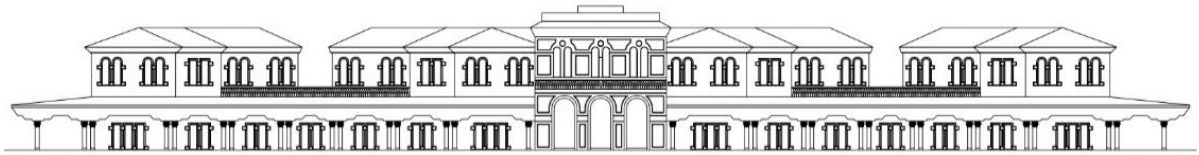
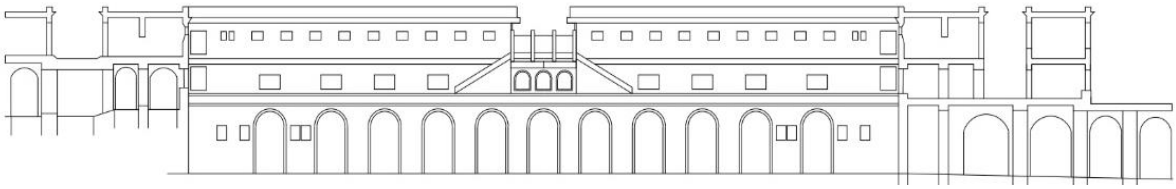


Figure 8. *General prison of Gjirokastra (project, 1927-1928)*



As stated by Giusti in her interview for her studies on the architect Kristo Sotiri, the reason for the non-realization of these projects must be found in the fundamental political and cultural attitudes of the time. Out of these choices emerged the desire to manage an organic and connective tissue process for the construction of cities and the Albanian territory collectively as an entire entity[18]. The projects required to build a cohesive strategy on several scales, including urban, landscape, and architectural scale. For a variety of reasons, the proposals of architects and engineers for solitary projects at the time generally did not meet the requirements for buildings. For instance, the proposal's level tended to be academic, influenced by the "liberty" style, which prevailed at the time, or defined by the "eclectic" style from attempted timid modernists. This statement culminates in the case of the royal Villa of King Zog in the city of Durres. Sotiri designed the project which was later realized (fig.9 *Left*). However, before being put into use, the object was demolished, for unclear reasons, and another project and constructed work was carried out, which corresponds with the existing building (fig.9 *Right*).

[18] Europeans from countries like Austria and Italy were among the most famous architects of the period. Florestano Di Fausto and Armando Brasini, the Italian architect Castellani, and the Austro-Hungarian architects Weiss and Kohler are a few of them. They designed the Tirana city center project. Skender Luarasi, Anton Lufi, Qemal Butka, Omer Fortuzi, Gjovalin Krroqi, and Eshref Frashri are just a few of the Albanian architects that can be mentioned. These outstanding architects contributed during the exact years that European architecture was transitioning to modern architecture.

Fig. 9 *Left*, The first version of "Vila e Zogut" by Kristo Sotiri. Fig. 9 *Right*, The second version of "Vila e Zogut", constructed after the demolition

Photos of the corresponding period (in the mid-1920s), preserved in the Tirana Monuments archive, show a construction site, with structural consolidation problems[19]. The second realized project corresponds with the project of Florestano di Fausto, professionally active in Albania between 1926 and 1933.

Leon Krier's[20] techniques, that involve a variety of ratios and proportions, are used to evaluate Kristo Sotiri's architectural language in five different buildings. The choice of this set of parameters is depended on the context of the site and whether the building's function, private or public[21]. As noted by Korman (2022), in the case of a temple, shrine, or monument, the use of Golden Section[22] is

[19]The hill, starting from the area of Currilve and up to the edge in Porto Romano, presents problems due to continuous landslides.

[20]As mentioned in ¨The Architecture of the façade¨, from Randal Korman, (Korman, 2022), Leon Krier, claims that the use of proportioning systems is rooted in a strongly held belief that, like a musical composition, a building requires harmonization among its parts.

[21]According to Korman (2022), Johannes Kepler (1571–1630) stated that "Geometry has two great treasures; one is the Theorem of Pythagoras; the other, the division of a line into extreme and mean ratio. The first we may compare to a measure of gold; the second we may name a precious jewel." Kepler's "precious jewel" refers to a unique ratio that goes by many names, including the Golden Section, the Golden Ratio, the Golden Mean, and the Divine Proportion.

[22] First described around 300 BCE in his landmark Elements, Euclid defined a proportion derived from the simple division of a line into what he called its "extreme and mean ratio." In Euclid's accounting, "A straight line is said to have been cut in extreme and mean ratio when the whole line is to the greater segment, so is the greater to the lesser." If line AB will be divided in two at point C (the "golden cut"), such that the ratio of line AB to line AC is the same ratio as that of AC to CB. As such, they are proportionate.

considered more appropriate, referring to Leon Krier's philosophy, while on residential or service buildings, is regarded as more suitable the use of small integer ratios such as 1:1, 1:2, and 1:3.

In each case study, the relationship between the façade and plan is examined in order to see the formal and structural connection that they establish with each other. Only in the first case in the Mantha Jorgji´s Apartment, the analysis will unfold in the façade itself as part of an ansamble of facades, forming the main boulevard in the city of Durres, as it is presented below.

Mantha Jorgji´s Apartment, Former Art Gallery, (Durres)

Mantha Jorgji's Apartment is an important component of the image of the city, because is a part of the façades collection of one of the most historical boulevards of Durrës, known as the "Trade Street" (*Rruga Tregtare*)[23]. After the earthquake of 1926, which destroyed many of the existing one- or two-story buildings, as presented in figure 10, the "Trade Street" (*Rruga Tregtare*) was shaped in its final stage, with a structure that is conserved still nowadays, (fig. 11).

Figure 10. *Left, An aerial view of the Boulevard and the city after the earthquake of 1926. Right, A closer view of the Boulevard after the earthquake of 1926*

[23]This route, at the time, started in the former Konak neighborhood, at the actual harbor's location, where the old town square once stood, and it ended at Durrës' northern entrance gate.

Figure 11. *Left, The city's main street showing the complex of buildings' facades*[24]*. Right, Image of Mantha Jorgji's Apartment*[25]

A - Analytic model

The former Art Gallery is represented by a two-story building with an attic, conceived on a symmetry axis with one central composition. Referring to Krier's studies, since the building is a residence and service building, it uses small integer ratios, 1:1.

The ground floor is conceived of three shops with two entrances each, all of the same size. The first floor is also composed of three parts, corresponding to the following three shops, with three balconies with balusters. The central axis of the composition is emphasized by three windows on the middle balcony, in contrast to the two side sections, that have two windows. The attic is also composed of three windows. There is a presence of décor on the windows and balconies of the first and second floors.

The structure stands out from the ensemble of other facades due to the ornaments and the various undulations in the decor, the strong symmetry, and the

[24] The "Mercantile Street" that played a very important part in the network of streets. This street was already well defined in the 1928 and began from the southeast at the gate of the harbor and went straight northwest, up to the City Hall square.

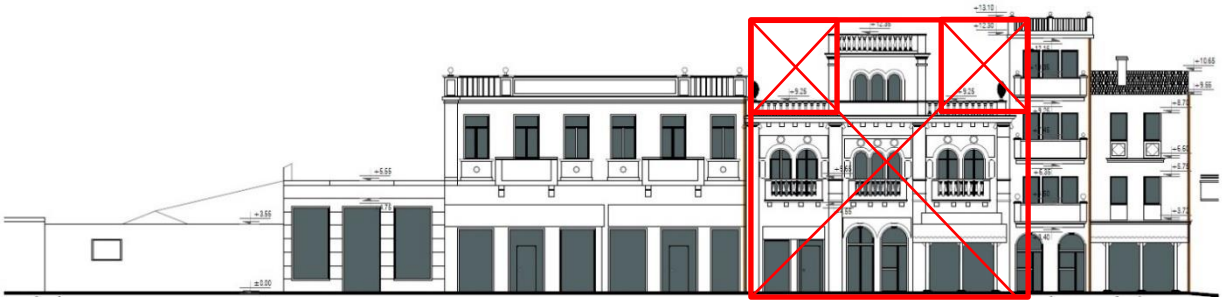
[25] Along the sides of the "Mercantile Street", there are buildings that reach the border of the sidewalk creating the image of the corridor street. Some of these are in a NeoClassical or Eclectic style (built before 1926), but others reflect a modern architecture influenced by Italian rationalism (built after 1926).

formal stability. The constructed structures near Mantha Jorgji's apartment also visually mimic the diptych and triptych of the windows[26].

B - Geometric diagrams

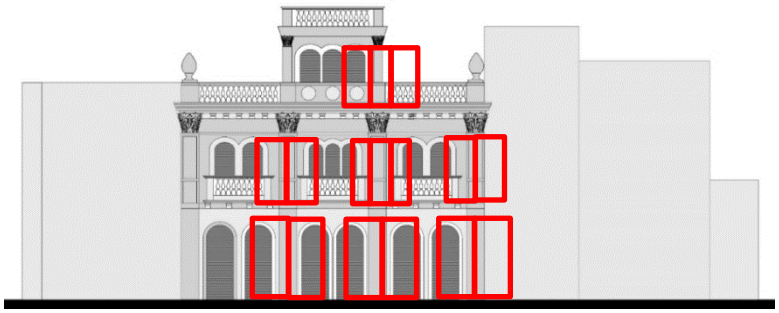
As can be seen from figure 12, it is applied the 1:1 ratio, as a residential and service building.

Figure 12. *The existing situation of the boulevard*[27]*. Drawings from Durres Municipality, Urban Planning Department*



In the façade, as illustrated in figure 13, are demonstrated the triptych windows in the center and the edge diptych windows, which highlight the central axis of symmetry.

Figure 13. *Drawings of Mantha Jorgji´s apartment (Bianka Madhi)*



[26]Rossi claims in "Architecture of the City" that examining an urban artifact is equivalent to studying an artistic creation as long as we talk about the uniqueness of the building. Although they are material structures and do condition the material, they do not structure the material. Urban artifacts' quality, originality, analysis, and definition are all strongly tied to this aspect of art. In order to study the artifact, one must first characterize its form, function, and difficulties.

[27]According to Rossi, in his book "Architecture of the city", architecture by nature is collective. Since ancient times, it was created to provide people with a better environment in terms of climate, and with aesthetic creations in mind. The contrast that exists between the particular and the universal, the individual and the collective, represents the construction of the city, that is, the architecture.

Kristo Sotiri's house project (Tirana)

A - Analytic Model

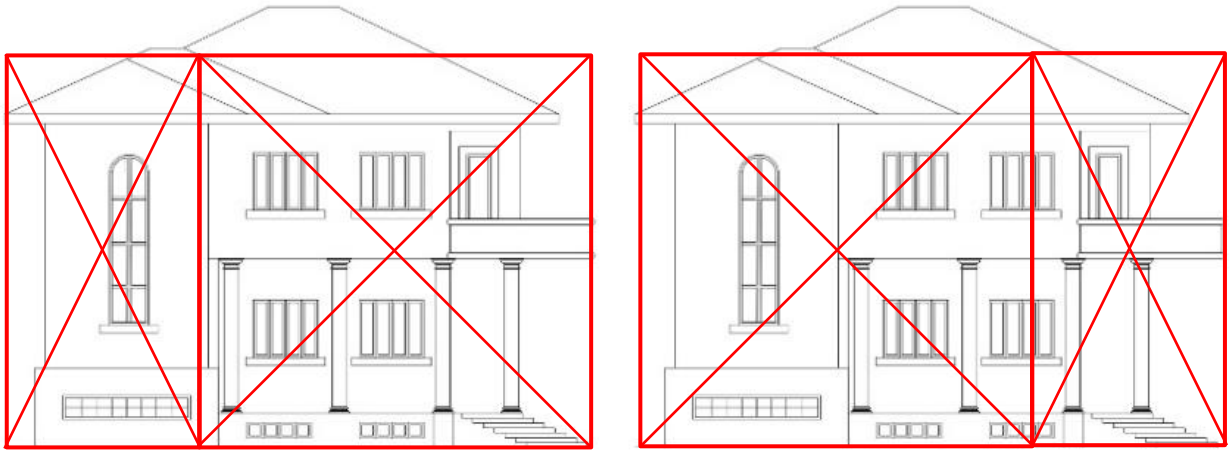
This case is a representation of one of the architect's house projects[28]. The author never intended for the central axis of symmetry to be preserved when designing this work. The entrance and the stairs, which serve as the two primary points of the plan, are also the two main moments of the façade which differ from the other part of the building.

A circular shape at one of the extremities of the plan breaks up the straight, clear lines that structure the design. On the facade as well, simple, straight forms predominate. Except for the double colonnade, which adds the requisite monumentality to the point of entry, where there is no visible embellishment of any type. The entrance is placed on the side, "hiding" from the central view. This particular of the architect exemplifies the architect's inventiveness and adds intriguing value and ambiguity to the overall object. The arched staircases make it particularly clearer that the object's facade lacks an axis of symmetry but nevertheless maintains the ratio 1:2. In the plan, even though the ratio 1:1 is preserved, the symmetry is disrupted and the plan is disorganized.

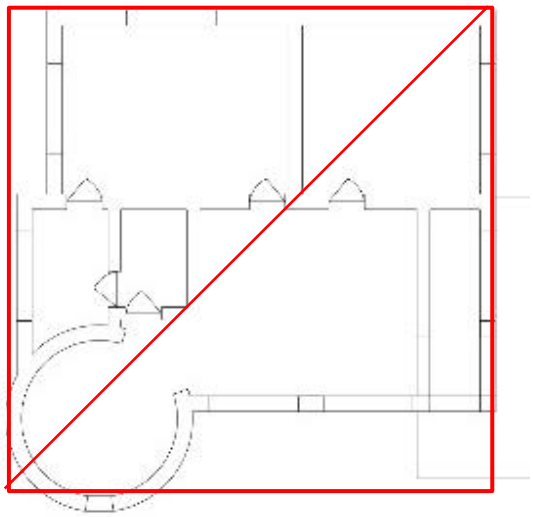
B - Geometric Diagrams

In the façade and in the plan, the concepts of residential structures with tiny integer ratios, such 1:1 and 1:2, are illustrated in figure 14 and figure 15.

Figure 15. *Building Plan. Ratio 1:1. Drawings from "Kristo Sotiri", Koço Miho*



[28]The architect designed and utilized a number of private villa-style homes in the towns of Tirana and Durres, according to Koco Miho's book "Kristo Sotiri". The "Villa Flower" on Durres Beach is one of the iconic homes that is still known by its original name.



1 : 1

Residential house (Tirana)

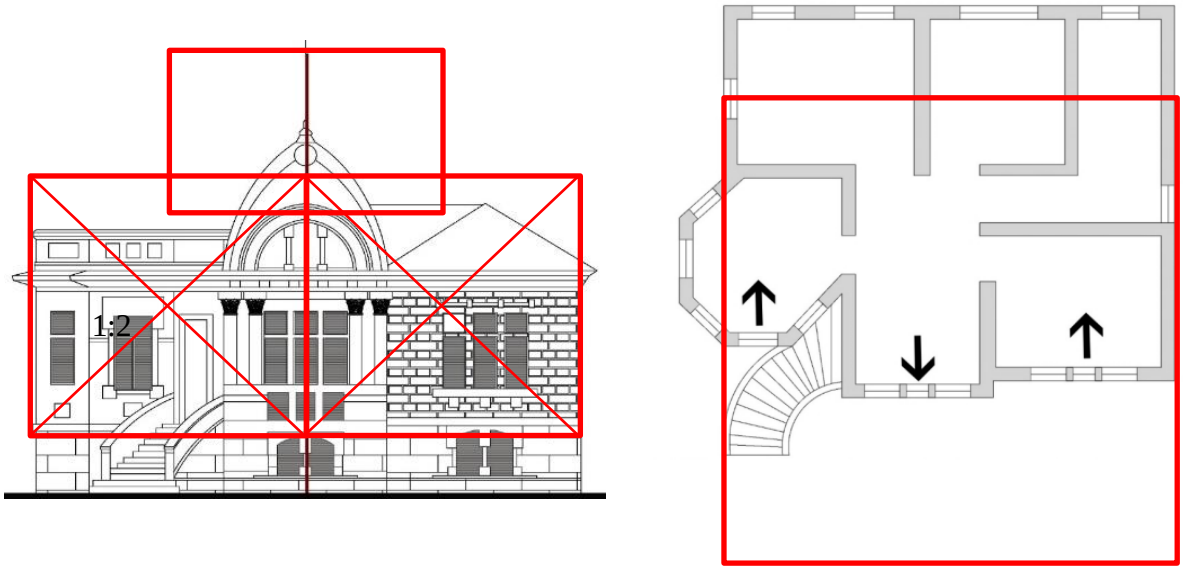
A - Analytic model

In this residential home the spaces are arranged in a flexible composition. Minor alterations in the form's composition that disrupt the plan's symmetry are directly reflected in the facade. Particularly, the arched entrance staircase is not in the middle but rather on the left. A cause-and-effect relationship and close connections are created between the layout and facade. They appear to balance and support one another. There is not a single-point viewable as a center symmetrical composition in this specific case. The beginnings of the facade's "fall" are defined by this behavior as a crucial component in the construction of the architectural form. The composition's main decorated façade is eliminated by the destruction of the composition's central perspective. In this object, these processes are clearly visible. The characteristics of modernism have started to emerge, and they are deeply entwined with those of Renaissance and Baroque architecture.

The primary core front is highlighted with a volume that extends in front of the two side wings. On the left, is composed an arch-shaped volume with seven angles, followed by the steps in the entrance. Following the right side, displays a typical rectangular shaped volume. There are three key components in the facade. Several decorative motifs and materials are used to treat the left and right portions. On the left, a terrace is used to close the facade in verticality, and from the right, a roof with two slopes is used. Even in this instance, the central axis is highlighted by a symmetrical dome that only rises in height, as it can be seen in figure 16.

B - Geometric diagrams

Figure 16. *Left, Façade. Ratio 1:2. Drawings from "Kristo Sotiri", Koço Miho. Right, Plan. Ratio 1:1. Drawings from "Kristo Sotiri", Koço Miho*



The residential units in the three cases discussed above use the ratios 1:1 and 1:2.

Below, is exposed how the Golden Section Ratio and the Golden Section Spiral concepts are utilized and perfectly match in the next two examples, which are monumental objects with specific public roles.

Palace of the Princesses (Tirana)[29]

A - Analytic model

The building[30] is L-shaped, with one side longer than the other and with an arched wing. The facade's misplaced axis of symmetry is a result of the structure's L-shape. On both sides of this axis, the spaces A, B, and C are duplicated, and space D is located at the end of one side. On all floors, the rhythm of windows repetition has remained the same. It is monumentalized with front arched staircases and a triangular roof front, which is equal to spaces A+A. Here, the building's pediment draws attention to the axis of symmetry and elevates the

[29]The National Library has been housed in the Palace of the Princesses in Tirana. This structure served as the National Library of Albania from 1945 to 2020 and it was among the best ones available. It had a sizable library of 15,000 books towards the conclusion of World War II.

[30]Two significant historical occurrences in Tirana and Albania are intimately tied to this building. On November 26, 1912, the city of Tirana's independence flag was raised on the square in front of it, ending 500 years of Ottoman sovereignty. Abdi Toptani, Muhamed Pazari, Ibrahim Agalliu, and Shefqet Ndroqi, four nationalists, raised this flag. The headquarters of the Albanian temporary administration, which was established by the Congress of Lushnja, were housed in this structure on February 11, 1920, when Tirana was designated as the nation's capital.

structure's entryway. The entry (fig. 17 *Left*) has been conceived in a planar shape, almost as a complete circle, as can be seen in figure 19. The building's main entrance, (fig. 17 *Right*), stands out as the most significant feature of the entire structure considering how the layout and facade are connected. Due to the tension between the left and right wings of the structure, the arched shape of the plan appears to emerge on the façade, and entirely unfolds at the point of entry. Since the rest of the structure is composed of straight lines, this arch is the only formal structure applied in the plan (fig. 18). The identical phenomenon occurs also in the façade. In this case, the facade and the floor plan follow one another. The rest of the building shares the same consistency between the plan and the façade with straight, simple lines and no significant contrasts.

Figure 17. *Left, Arched entrance to the building. Right, Central view*

B - Geometric diagrams

Figure 18. *The Plan. Drawings from "Kristo Sotiri", Koço Miho*

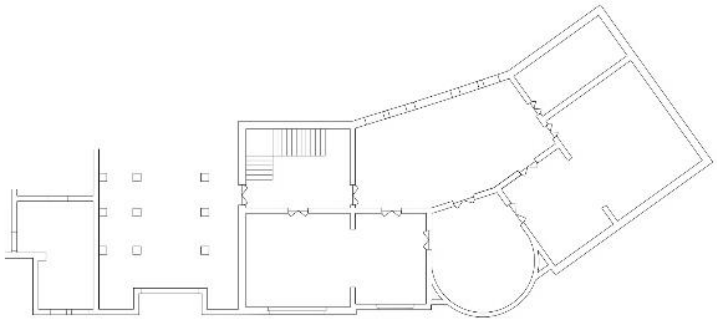
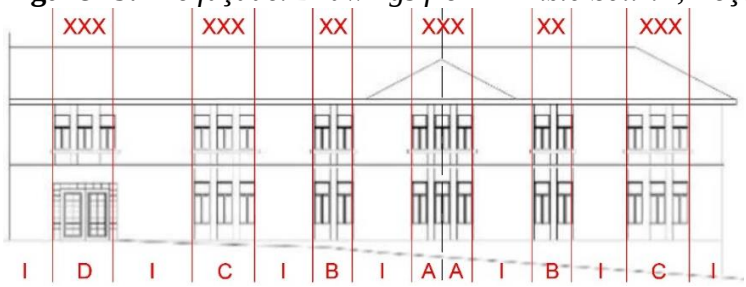
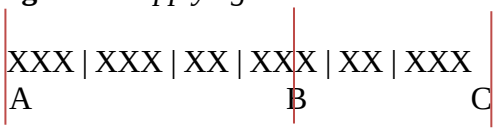


Figure 19. *The façade. Drawings from "Kristo Sotiri", Koço Miho*



The facade layout (Fig. 19) has been coded by our research. A closer examination of the areas A, B, C, and D reveals the following: A+A=C; A+A=D (C=D). 1/3 C = 1/2 B = 1/3 (2A). There is another space I, which is equal, between spaces A, B, C, and D. The facade can be described as having the following arrangement of spaces: I D I C I B I A A I B I C I. Multiples of X (by X we refer to the space of a window) can be found in each of the spaces A, B, C, and D. A=X + 1/2X; B=XX; C=XXX; D=XXX. Since I is the same, if we simplify the space I:

Figure 20. *Applying the Golden Section Ratio in the Facade*



While by trying the Golden Section Ratio[31], (Fig. 20), the calculations are as follow: AB/AC = AC/CB = 1.618. In the case of this building, we have: 9.5/6.5 = 16/9.5. 1.46=1.68 (which is so close to Golden Section Ratio[32] 1.618).

The Mausoleum of the Martyrs, Durres

A - Analytic Model

The Mausoleum of the Martyrs, as the architect's final creation, was a novelty at the time [33]. It is a one-of-a-kind, never-before-done piece of art for three reasons. First, in the case of this mausoleum, the martyrs' remains are kept in niches (Fig. 21), or more precisely, in the interior wall facade of the building, rather than deep underground. Second, this is Albania's first vertical mausoleum[34], making it a unique and special case. In accordance with Miho (2003), the architectural metaphor, which depicts a mother opening her arms to embrace her

[31]The numerical value is the irrational number 1.6180339887…, which continues indefinitely and is represented by the Greek letter φ (Phi pronounced "fly"). The standard numerical representation of this ratio is 1:1.618.

[32]Applying this ratio to a plane figure such that the short side is 1 and the long side is 1.618 produces a Golden Section Rectangle, perhaps the most studied and revered of all geometric figures.

[33]Works in the city of Durres: Municipality of the city of Durres, (project); Mantha Jorgji's apartment; Residence Jovan Goga; Residence of the Kosova brothers; Residence of the Kalamishi brothers; Royal Villa of Durres, 1926; Vila Lule, Durres beach; Mausoleum of the Martyrs.

[34]The word mausoleum (from Greek μαυσωλείον) derives from the Mausoleum at Halicarnassus (near modern-day Bodrum in Turkey), the grave of King Mausolus, the Persian satrap of Caria, whose large tomb was one of the Seven Wonders of the Ancient World

children who have died in battle, expands in the heart of the city at the time, with a focus on the main street's axis. During the end of the First World War, this metaphor of a mother encircling her children in her arms was widely utilized in Italy, as seen in the main sculpture in the atrium and “la casa dei Mutilati” by Marcello Piacentini. Bernini and Pope Alexander VII adopted such operation for the colonnade of St. Peter's Square. The formal basis of the Museum is this metaphor, which derives from 17th-century Spanish Baroque Ideas.

In this case, the facade extends within the floor plan (Figure 22) and vice versa. The plan's arched design and front staircase serve to further emphasize the axis of symmetry that predominates. The arch has two stairs that lead up to the height of two stores at each of its ends. The facade is the central focus that determines the whole organization of the composition. The façade is not portrayed as a two-dimensional plan, but rather as a three-dimensional volume that is joined to the building's interior. But this object's oddity is that, despite maintaining the fundamentals of the Baroque style, it strongly reflects the early era of modernism. In can be identified the components, such as: pure concrete and the conspicuous absence of embellishments or decorations. This object thus represents the transition of the artist's architectural work and carries characteristics of the various architectural styles in which the author lived and created.

The edifice is absolutely devoid of any embellishments, bas-reliefs, obelisks, sculptures, or monuments, in contrast to other towns' martyr cemeteries. The Mausoleum of the Martyrs[35], which was constructed in 1947, during the development of modernism in Europe[36], was influenced by that style[37], because of the author’s academic studies in Italy. It is made entirely of concrete and lacks ornamentation[38]. Stairs and columns are two compositional features on a building facade that are directly tied to the building's construction.

Four of "Le Corbusier's[39] five principles of contemporary architecture" are applied in this building: pilots elevating the building off the ground; a free plan that allows the architect to modify the inner walls as necessary; horizontal

[35]Starting with the big plaque at the building's entryway that represents the country's heroes and has graves engraved on it inside, the museum exhibits a number of significant items that illustrate the history of struggle and sacrifices. Visitors can stroll around the structure and then relax in the garden outside, which is decorated with the names of individuals who died in Nazi concentration camps.

[36]A provocative contemporary (1981) facade that exemplifies a virtuoso integration of a blended modernist/postmodernist building within a traditional context can be seen in the Banca Popolare by Carlo Scarpa. Completed after his death (1978) by Arrigo Rudi, the building is situated between two preexisting Neoclassical structures facing onto a nondescript public square (Piazza Nogara) situated within the historic center of Verona.

[37]The architectural movement known as Italian Rationalism, which first appeared in Italy in the 1920s and 1930s, might be compared to this work. This functionalism-inspired movement, which lasted into the 1970s, was associated with the International Modern Movement.

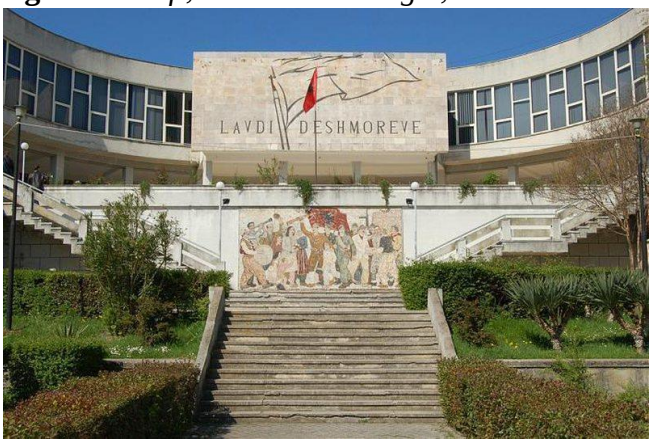
[38]Recently, the Modern Movement returned to tradition after abandoning the extremes of the avant-garde current and rethinking its lessons. The buildings from the fascist era successfully accomplish the core principles of the new Italian architecture of the time, which were functionality, minimalist ornamentation, the built-economy concept, and the rational use of materials.

[39]Le Corbusier has operated with a proportioning system based exclusively on human dimensions and the Golden Section. He called this system Le Modulor, the contraction of the two words module d’or (“golden module”).

windows that run the whole length of the building's main front; and a free composition of the façade that is now entirely unattached to the building's framework.

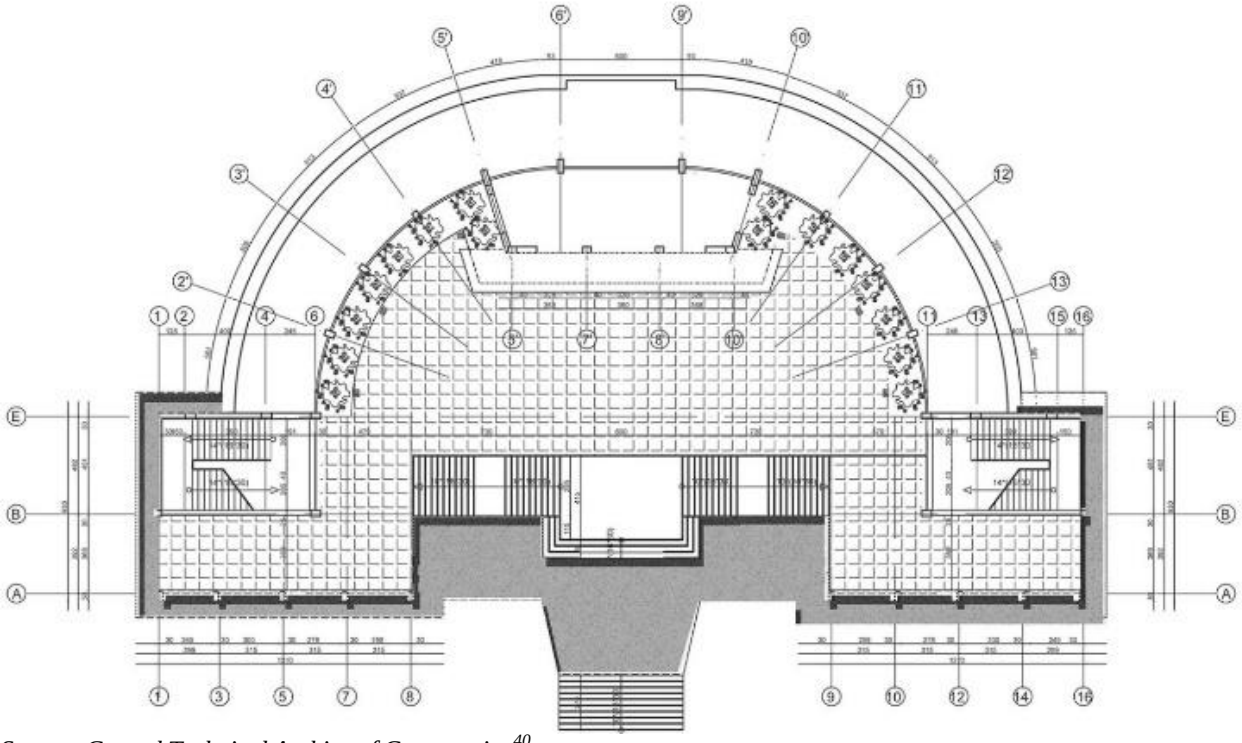
According to Le Corbusier's design principles, the ground level is designed with vegetation, as the terrace.

Figure 21. *Left, Central view. Right, Inner view*



B - Geometric diagrams

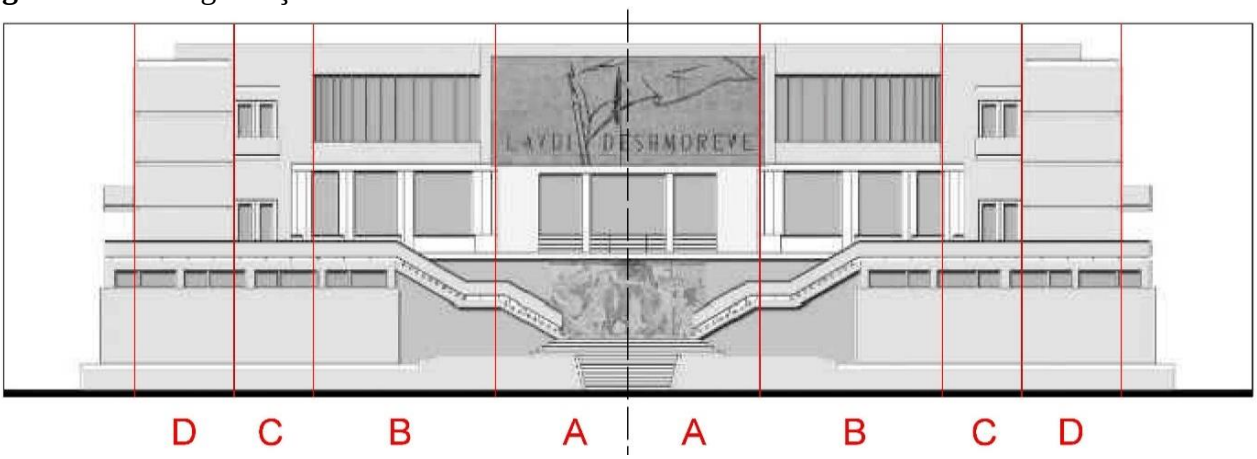
Figure 22. *Plan of the building*



Source: Central Technical Archive of Construction[40]

[40] National Institution: Central Technical Archive of Construction

Figure23. Building´s Façade

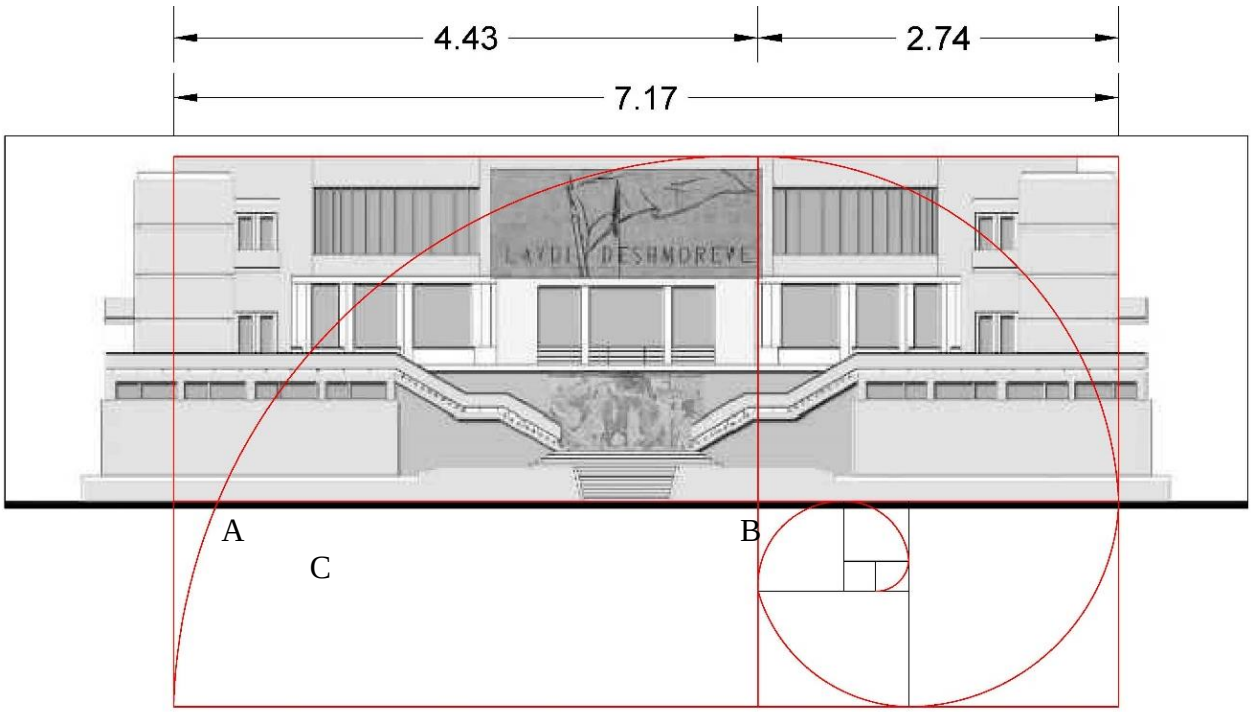


Source: Central Technical Archive of Construction

The building is U-shaped, with an arc and two small wings on the sides. The façade (Fig. 23) has an axis of symmetry in the middle. On both sides of this axis of symmetry, the spaces A, B, C and D are duplicated.

If it is applied the Golden Section Ratio, where: AB/AC = AC/CB = 1.618, there is: 4.43/2.74 = 7.17/4.43. 1.616=1.618 (close to Golden Section Ratio 1.618).

Figure 24. *Applying the Golden Section Spiral to the facade*



The Golden section spiral[41] (Fig. 24) is a figure that approximates a logarithmic spiral that can continue inward and outward to infinity. It can be applied in any building, regardless of its scale, while it can be applied in a massive object, as in the case of the Museum of Martyrs, or in a structural component with smaller dimensions. The golden section ratio, golden section spiral, or even other ratios like 1:1 and 1:2, as observed, are fully applied in the facades of Kristo Sotiri's works. The use of such techniques suggests the esthetic appearance of the building in harmony with other contextual objects. These buildings have surpassed the effects of time and remain historical for a specific context, since they take into consideration the composition of the façade as the key component of building the image of the city.

Through the examples mentioned above, it has been possible to determine how different floor plans and facade proportions relate to one another in the aforementioned structures. Various instances have been given to show how the plan and the facade operate harmoniously. Each object contains characteristics from a particular historical period in which the architect Kristo Sotiri resided. It's crucial to recognize how different features of these periods have been embodied in the same structure. For instance, in the case of the Residential House in Tirana, there is presence of Renaissance decorations, and also the breaking of the axis of symmetry, as the beginning of modernism. Likewise, the Martyrs' Mausoleum, presented with a virtual three dimensional view in figure 25, combines the pronounced symmetry of Reinassance, the vibrating continuity of the Baroque, and the brutalism of Modernism.

Figure 25. *Virtual view of the Mausoleum. Image from (Bianka Madhi)*

[41]The Fibonacci sequence and the golden spiral are manifest in nature in numerous ways and seemingly at all scales. For example, the arrangement of the seeds on the face of a sunflower or the structure of a hurricane and the spiral arms of a galaxy.

Conclusions

At this point, after this excursion that expresses the relationship between the facade and the interior and the description and analysis of the case studies, the perspective as a drawing tool of space has explicitly influenced the composition of the elements of the facade[42]. This is evident in the work of Sant' Andrea in Mantua and the works of Baroque architecture. From the Renaissance to the para-modern architecture, which corresponds to the "rise" and "fall" of the instrument of perspective, we have at least two structural relations between the facade and the interior form. The first structural relationship is "the similarity" where the composition of the façade and that of the interior space are similar. The second structural relationship is "the continuity" that is formed between the interior form and the facade in Baroque architecture. Here we can re-emphasize the fact that, in Baroque architecture, this influence is even greater and that the facade becomes perhaps the most important element for the composition of the form. During this period the space differs from a planar element to a three-dimensional plastic element. It is with modern architecture that the decline of the façade element begins as an element that has a structural relationship between the façade and the interior space. This happens because the central perspective is not used as an instrument for drawing the architectural form but a new instrument begins to be used, axonometry. Although, as mentioned above, there is a similarity in the stylistic/linguistic plan but not in the formal one. In the postmodern period, the element of the facade "dies" and is "museified" in the Venice Biennale of 1980.

The process of "museification" of an element clearly shows that the "object" in question belongs to history and does not have a specific role in the contemporary period. In fact, after the 80s, we see that the facade is transformed into wrapping, skin, envelope, etc. All these words point to an element that has lost the formal relationship between inside and outside and this affects the dimension of architecture in its essence: in the element with which architecture is expressed. Today it is always more important to return attention to the study of this relationship and to the reconstruction of the form of architecture.

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[42] In his book, Modern Architecture (1896), Otto Wagner implored his students to understand that: The composing architect has to pay great importance on the effect of perspective; that is, he must organize silhouette, the massing, the projection of the cornice, the distortions, the sculptural line of the profile and ornaments in such a way that they appear properly emphasized from a SINGLE VANTAGE POINT [Wagner's emphasis]. This point will, of course, be that location where the work can be viewed most frequently, most easily, and most naturally.

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