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Abstract

The Comparative Architecture subject from the MBArch Master of the ETSAB (UPC), proposes, as a learning methodology, the comparison of a series of images by pairs. Throughout the course, students elaborate a set of texts in which they bring out the multiple relationships that are established between two architectural or artistic works highlighting those aspects of both images that otherwise would not

In this matter, the choice of comparable examples, as well as the historical, stylistic, or disciplinary mainstreaming of the works is essential, since they allow establishing relationships that go beyond typological, spatial, or temporal patterns and allow very different discourses depending on the chosen 'opponent'.

The paper will explain, ten key methodologies of Comparative Architecture, a teaching methodology implemented during 10 courses taught from 2010 to 2020. A learning system that is, at the same time, an instrument of analysis and a project tool, which aims to sharpen the gaze and the critical sense of the student.

From the necessary 'archaeological survey' of disassembling the apparent forms to reassembling them through the comparisons made, concepts such as version, analogy, contradiction, deformation, transformation, extension, reference, paradox, reminiscent, or hyperbole, arise. Terms that are found in the connections that are established between the images and that grant a unitary argument to the personal recomposition that the comparative process entails.

As an example, we will explain, among others, the master lines that arise from the mutual enlightening of works such Giuseppe Terragni's Casa del Fascio in Como (1936) and Rafael Moneo's Murcia City Council (1998); the AEG by Peter Behrens (1913) and the Fronleichnamskirche in Aguisgran by Rudolf Schwarz (1930); or the Rotating House drawing by Paul Klee (1921) and the Kal'at Sim'ân Monastery plant in Syria (450-470). Works whose comparison shows the mysterious qualities that brought them

Keywords: comparative architecture, teaching methodology, architectural analysis, architectural design, learning by comparing

Introduction

The Comparative Architecture subject, from the ETSAB MBArch Master (UPC), proposes, as a learning methodology, the comparison of a series of images by pairs. Throughout the course, the students elaborate on a set of texts in which they bring out the multiple relationships that are established between two architectural or artistic works. The teachers give most of the images and, occasionally, the students themselves must present a complementary image or a new couple.

This comparison-based learning system is a powerful instrument aimed at sharpening the students' gaze and critical sense, because the analysis work is not limited exclusively to a single building, but is carried out by opposing it to another. This allows one's characteristics to reflect in the other and relationships to emerge revealing aspects of both that would not have appeared otherwise. It is as if, to study a building, we would approach it from the other's perspective, thus generating a new point of view.

At the same time, this course shows that when we design a building, we also compare. Often, in the process of developing a project - especially in the first steps - we use comparison to set the arguments that justify its dimension, program, composition, form, or relationship with the environment. By comparing we look for certainties or reveal doubts, so that, through the comparison, we canalize our architectural background. Thus, this subject has also the objective of developing its own methodology and knowledge that may be useful for the architectural design process.

The choice of the examples to compare is essential, since the discourses may be very different depending on the selected 'opponent'. A well-known case of comparison between seemingly unrelated buildings is that of Villa Foscari (La Malcontenta) by Andrea Palladio and Villa Stein-de-Monzie by Le Corbusier and Pierre Jeanneret, an exercise in formal abstraction developed by Colin Rowe in "Mathematics of the Ideal Villa "(Rowe, 1999), whose reading is required for this subject. Other important references would be the multiple chained examples displayed in Complexity and Contradiction in Architecture (Venturi, 1999), the cultural links of Lessons on Balance (Cortés, 2006), the specific comparative case studies of The Artisan (Sennet, 2009), or the analytical confrontations of A Genealogy of Modern Architecture: Comparative Critical Analysis of Built Form (Frampton, 2015).

Likewise, the comparison has been part of the pedagogical method of some of the most prestigious art schools with the aim of encouraging greater creativity in the students. Johannes Itten, for example, proposes learning by comparison in his method of materials' analysis from the Bauhaus Vorkurs (1919-1923). According to Itten, all perception occurs by contrasting. Nothing can be seen by itself, but rather a comparison to something with a similar or completely different quality is always necessary (Argan, 1983: 45-47). For this reason, many of the exercises proposed in the subject consist of the arrangement of signs, materials, tones, and colors in contrast to each other. This allows us to appreciate better the intrinsic qualities of shapes and materials, and to stimulate a dialogue between them.

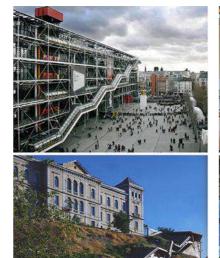








Fig. 1

Three examples from the comparisons proposed in 2015, 2016, and 2017 courses demonstrate the ability of some images, regardless of their context, to activate the mechanisms that link them based on the design strategies or in their formal composition (fig. 1). In the first case, both the stairs of the Georges Pompidou Center in Paris and those of La Granja in Toledo appear as autonomous organisms externalizing their upward structure, to recognize them as essential elements of vertical connection. In the second comparison, the interiors of the Cabarette Aubette in Strasbourg and the Café Una in Vienna are radically transformed through surface operations apparently unrelated to the architectures that contain them. The use, in one case, of panels with geometries and basic colors due to Neoplasticism and, in the other, of ceramic mosaics that reproduce organic patterns of Ottoman inspiration, transforms the perception of existing spaces and surprises the customers-spectators. In the third example, the typological reference to the gabled roofs of traditional architecture constitutes the formal mechanism that unifies the apparent volumetric randomness of the expansion of the Didden Village houses in Rotterdam and

The ten key methodologies of Comparative Architecture

the new building for the Vitra house in Weil am Rhein.

In the Comparative Architecture subject, we follow a series of premises that constitute the ideological and methodological foundations of the course. These keys offer the necessary tools to carry out the comparisons and illuminate the choice of the examples to compare.

1. Relativization

One of the first premises to carry out a comparison is to relativize the identity of the compared objects: each of them is perceived and interpreted in a different way, depending on the proximity or distance that it establishes with the other. Thus we move away from its absolute value, fixing our gaze precisely on those 'relative' aspects that allow us to make a comparison. Sometimes these manifest in some common factor or in some evident difference; other times, these same parameters are hidden and must be made visible.

The comparison, therefore, makes only visible which is comparable, noting the real or fictitious seams, between the analyzed works. In this interesting intellectual and perceptive exercise, the reality is fixed by the binding dynamisms that underlie the relativizing observations of those who analyze the works.

2. Transversality

A comparison should not be restricted to constructions and works of art from the same period or limited to those that show a certain style. The historical transversality of the examples allows us to go through the history of architecture in the intended sense that we want, to highlight or raise those comparable aspects of buildings or productions from different periods. Some important architecture critics have already demonstrated how close classical and modern architectures are in the design project approach (Rassmussen, 1974; Rowe, 1999; Venturi, 1999). Transversality is, therefore, a more flexible and versatile way of approaching architecture, without useless stylistic or temporary barriers.

Bruno Zevi insists that "the modern language of architecture is not the language of modern architecture, but rather the way to go through all art history, discovering its modernity. History has a communicative vocation that can be re-contextualized in a perennial way". (Zevi, 1997). And, in the same way, architects such as Louis I. Kahn, Robert Venturi or Le Corbusier, among others, show us the past through the works of the present, giving "life to the dead as something logical and natural". (Scully, 1999: 09-

On this round-way path in which, as in a game of mirrors, the present is recognized in the past and the past is reborn in the present, the genuine essence of architecture, the authenticity of its original essential and timeless characteristics emerge. This a-historical position that transcends fashions and styles invites you to explore the invariants of the best works of all time that, mostly, are shown as a piece of our contemporaneity.

This transversality through history is manifested in some comparisons throughout practically all the subject's editions (Fig. 2). In the first example, regardless of their temporal distance and stylistic differences, the compositional elements of the halls of the Maison La Roche by Le Corbusier, and the Little Thakeham House by Sir Eduard Lutyens, build two versions of the same space, in which a series of balconies overlook a large interior room, around which the main circulations of the house occur. In the second case, the complexity in the articulation of the outer corners of the Torre Velasca and the inner corners of the San Lorenzo Basilica, both from the assembly or modeling of the structural and cladding elements, shows the decisive ingenuity of two buildings of very different times and typologies within the same city of Milan. In the third example, the temporal dichotomy contained in the urban sequences of both photographs establishes a cross-dialogue between four buildings from different periods. The porticoes of the Neue Nationalgalerie in Berlin and the Maison Carrée in Nimes, respectively, focus their

perspective on two buildings that are temporarily and stylistically distant: the Matthäikirche and the Carrée d'Art museum. In this game of reflections, a Roman temple establishes a space-time dialogue with a museum from the end of the 20th century; and a museum from the 1960s exalts a 19th century -rebuilt after the Second World War- neo-medieval church.









Fig. 2

3. Interdisciplinarity

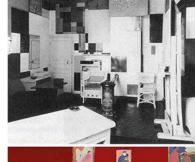
A comparison should not be restricted to a certain historical epoch, neither to a certain discipline. You can compare a painting with a city, a narration with a building, a sculpture with a crafts work, a mural with a musical composition. What is important is the common register that makes them comparable, the associations that are present in the motifs and in the different artistic creation's referents.

The disciplines' interrelation has its antecedents in the 19th century when philosophers like Herbart and Zimmermann conceived aesthetics as 'the science of form' and showed the morphological coincidences between art and science (Tatarkiewicz, 1990: 260). At the beginning of the 20th century, Theodore Cook (Cook, 1914) and D'Arcy Thomson (Thomson, 1917) demonstrated the common fields that exist between the forms of nature, artistic and architectural constructions, mathematics, and geometry. A finding that architects such as Frank Lloyd Wright (Dezzi Bardeschi, 1977), Le Corbusier (Ozentfant, Jeanneret, 1921) and Louis I. Kahn (Kahn, 1962; 1969) among others joined.

Interdisciplinarity is fundamental in the comparative method because it allows us to recognize similar composition mechanisms in multiple manifestations of reality. The syntax that articulates the relationships between the images and that reveals the abstraction of their original meaning allows us to acquire the ability to relate very diverse phenomena that, directly or indirectly, are implicit in architecture.

The following three comparisons exemplify the implicit relationships between art and architecture; boundaries between the two disciplines are blurred in them (fig. 3). In the first, the plastic deconstruction of Paul Klee's Revolving House links with the elements' geometric abstraction of the Syrian Kal'at Simân monastery's ground floor, as both compositions rely on the centrifugally random arrangement of the components and volumes built around a central void. In the second, the disappearance of the limits inside Piet Mondrian's Atelier 26, where the geometric materiality of the artistic work invades and defines the room, contrasts with the chromatic saturation of the space in Henry Matisse's Red Studio painting, in which the red background acts as a catalyst in the arrangement of the different objects, protagonists of the space. Finally, Fischer von Erlag's transformation from Isola Borromea on Lake Maggiore into an imposing Baroque palace with hanging gardens, is compared to the artistic-landscape operation of The Floating Piers on Lake Iseo, by Christo and Jeanne Claude. This intervention achieves the connection of a wooded island with the mainland through floating platforms that, geometrize and add color to a natural environment where water is the protagonist.







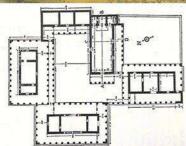






Fig. 3

4. The image

The course is based on the presentation of pairs of images, a starting material as a "graphic texts" that must activate a comparative discourse. But the images have their limits. Given the impossibility of visiting the buildings or having a direct view of the objects to compare, we must trust what the photographs expose. Hence the discourse may be partial because only will be comparable to what appears in the photographs, fragments of a much broader reality.

The value provided by the fragment is, according to André Malraux, the great contribution of photography. The partiality of the fragment entails the manipulation of the scale and the decontextualization of the work of art (Malraux, 1952). For this reason, the 'miracle' of the comparison must arise from putting on an equal footing condition two images that can be, in reality, in very different conditions.

John Berger also refers to the change in meaning that the work of art undergoes when photographed: "the camera can pass over the canvases, breaking their unity: it can dismantle the unity of meaning that each work represents: alter its size, its color, isolating parts of a born undivided whole "(Berger, 2007: 8).

Nevertheless, to explain the images and build a comparison from them, it is necessary to go beyond the graphic reproduction: to get information, investigate but, at the same time, attend in a disciplined way to this 'partial' vision offered by the fragment that a photograph provides us. The text made on the photographs should emerge as the tip of an iceberg, showing only that small part referring to the images, which has been distilled from the extensive knowledge acquired from the compared works.

5. Deconstruction

For comparing you have to study and analyze. This implies disassembling the apparent forms, previously disaggregating the parts from the whole, so that, after questioning them, they can be reassembled again through comparison.

Bruno Zevi refers to deconstruction as a necessary critical instrument that induces to decompose the object and identify its constituent elements by approaching 'the box' from the outside, especially from the inside. In this process volumes are dismembered, parts are dismounted, sequences are reviewed or assemblies are verified, to penetrate into the spatial organism from its own dynamics (Zevi, 1997).

Robert Venturi quotes the poet T.S. Eliot's method as a reference (Venturi, 1999: 19). In the first place, he talks about the necessary prior analysis, which includes the decomposition of architecture into elements. This disintegration is a process that is present in all creation and is essential for the understanding of all the aspects of the compared Works.

This first scientific work of 'archaeological prospecting' of the data, consisting of analyzing, separating, distinguishing, abstracting, and understanding each of the shredded portions, should not be ingenuous. The reading and understanding of the works and their fragments must always be governed by questions

and answers. It is about activating subtle encoding and decoding mechanisms to interrogate them from all their complexity. This requires imagination and a critical attitude: imagination, as a hermeneutical method of interpellation to the fragments to obtain answers about what is evident, but also about what is not seen; and a critical attitude, to question the official speeches that, many times, forget about everything that is "on the margins" and could be key to a suggestive comparative recomposition.

6. Reconstruction

Once the objects have been deconstructed and their parts broken down, analyzed, and questioned, the comparison exercise must elaborate on the 'story' that links them. Thanks to it all the elements will take on a 'new life' redirected to unify the shared experiences. This thorough work, constructive and speculative at the same time, consists of weaving the new threads that arise from the certainties or fictions that link both objects. All of this offers a very diverse range of results, since in this new creative and critical construction, as a result of the activation of a fruitful dialogue between the parts, there is a powerful tool that tests the decisions of each student.

This constitutes the main design instrument. When we compare, we design, because the product of the comparison between two buildings is a third building: a new entity that arises from the comparison between the two starting objects.

7. The plot

A Speculative reconstruction, rather than arranging analogies and differences analytically, must creatively and imaginatively re-compose the dialogue between the parts. For this purpose, the argument may become "the theme" that underlies each confrontation; the theoretical "body" of the discourse that redirects the dialog towards a specific territory. And that can even impose a new hierarchy.

Although the plot must be the personal result of each reconstruction, it can accentuate, in some cases, a common register between the examples and link, in a similar way, those more evident features that reconcile the two images. In this sense, certain arguments have been the "protagonists" of some comparisons as, for example, the version, the analogy, the contradiction, the deformation, the transformation, the extension, the reference, the paradox, the reminiscence, or the hyperbole, among others.













Fig. 4

The version is the argument that links the following three comparisons (fig. 4). The contrast between the photographs of the Murcia City Hall and the Casa del Fascio shows how the first building 'versions' the second in some aspects: in the composition of the façade but also in its urban position that relates it to a monumental piece through a large public space. The reference of the Denver Art Museum by Daniel Libeskind to the Teatro Reggio di Torino by Carlo Mollino is manifested in the labyrinthine resolution of some stairs in which -despite the temporal, formal and constructive distance- the voluntary complexity of the folds of the Slabs and the contrast between light and shadow link the two compositions. Finally, the version that Francis Bacon makes of *Pope Innocent X* based on the work of Velázquez, reproduces the same elements and expresses the same emotions and feelings of the main character, through a plastic composition of blurred brushstrokes of similar chromaticism.

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The argument emerging in the comparison, in addition to being the backbone of a coherent development, is also the ideal place to identify the contradictions between the opponents, to reveal their different scales of complexity. Robert Venturi affirms that "A valid architecture evokes many levels of meanings: its space and its elements are read and function in several ways at the same time" (Venturi, 1979: 26).

Because, no matter how much capital the binary relationship on which the comparison is based, the peculiar are the fertile tensions that bring out the multiple nature of relationships. This will allow us to establish unusual links that transcend form and matter to create a 'fictional' art. And in this fictional art, in addition to the recognition of the rich complementarity between the parts, the necessary recognition of oneself through comparison must throb.

Enlargement, deformation, or dissociation could be three possible arguments for the following three comparisons (Fig. 5). In the expansion of the Banca Privata Finanziaria, the BBPR team of architects supplements a historic palace with a new banked-off top. This reproduces the morphology of the roofs of the adjoining buildings and is separated from the existing cornice by a cantilever whose shadow sharpens the independence between the parts. In the Blankenberge library, Sergison & Bates have also worked with an extension, but this time they superimpose a new facade plan in front of the existing building, becoming the plinth of the large original roof. The plants of the Altes Wassenau by Gottfried Semper and the Chilehaus by Fritz Höger exemplify, through deformation, the ability of a reticular system to adapt to the irregularities of the site, responding, at the same time, to the lighting and ventilation requirements and the particularities of the building's functional program. The dissociation between form and content is the main argument linking the pathos of the great façade of Peter Behrens' AEG Turninenfabrik in Berlin, and the exterior radicality of Rudolph Schwarz's Frönleichnamskirche in Aachen. In both, the strong symbolic meaning dominates because, in the first case, it is an industrial building that, to enhance the religiosity of work, adopts an exterior volume in the form of a temple; and, in the second, the temple is outwardly manifested as an industry, in order to underline the austerity and metaphysical essentiality that it represents.

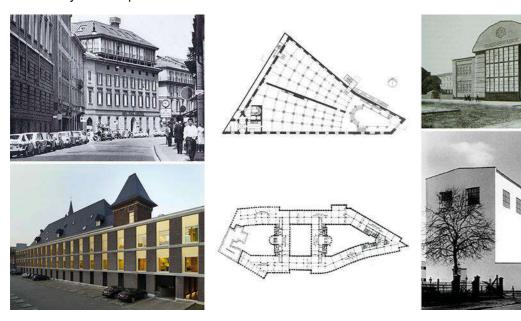


Fig. 5

8. The craftsmanship

In this personal and non-transferable recognition that emerges thanks to the exercise of comparison. the abilities obtained throughout the course acquire an important specific weight. The learning 'by doing', typical of an active dynamic, establishes close links with an artisan activity. In this "artisan" course, ideation and action are not separable. They are the basis of an intelligent, imaginative, subtle, and tenacious practice that, as in a profession, is learned over time.

The artisan's material for this subject is the word. Language articulation is what builds the comparison, and establishes orders, and explains the links between things in a specific way. For this reason, its mastery, relevance, and control are fundamental.

In the language control, there must be also a rationalization of the effort: "the good craftsman assigns a positive value to contingency and containment" (Sennett, 2009: 322-323). No ramblings or speculations

are allowed; you have to investigate, analyze, deconstruct, and build in order to compare. But, as in the best craftsmanship, the words' moderation, the efficiency, and the concrete writing must prevail, in an exercise of economy and accuracy. Because, as Fiedler affirms: "the most significant artists are always very exact spirits" (Argan, 1983: 25-27).

9. The choral

The dialectic established between the images also extends to a community dialectic with the rest of the course's mates. Beyond the elaboration of one's own discourse, the class dynamics is a choral one. The value of comparing two things is not only in the understanding of both elements and in the elaboration of a theory that underlies them but is also in the implementation of the vision of whoever compares them. The approximately 20 students who participate in the course construct 20 different speeches each week, demonstrating that the reading, comprehension, and comparison of two works of art has no limits. And this diversity is exposed and discussed in class in a community way.

In the exhibition of the multiple visions and particularities that emerged from the images, the different authors' cultural backgrounds, the personal styles, the various readings of the same reality emerge. This recognition of the diverse allows the richness of complementarity:

"As a result of the comparative architecture workshop, we obtain a choral exercise, with forty-four eyes, that exposes the multiple vision and the particularities of a concrete fact, an architectural construction, reaching a deep reading of each of the compared works, as well as of the relationships that emerge when linking them ". (Quintana, 2019-2020).

The 'shared look' enriches both the knowledge of the objects and the discernment of the rest of the students who attend them. This dynamic allows obtaining a polymorphous perspective of the analyzed works, resulting in an experience that generates new synergies and personal progress.

10. Conclusions: permanent learning

The acquired ability to describe in words the visible certainties or the invisible threads that relate two works of very different origins, conditions and characteristics, aspires to become, at the end of the academic year, permanent learning, a kind of daily reflection that allows, in the future, to face reality in another way:

"The point is looking again as if it were the first time, but without neglecting what was learned along the path of experience and life." (Armada / Berger, 2001: 7)

This assumed exercise that improves the comparison, contrast, parallelism, or confrontation between images, thus becomes a mechanism for feeding our cultural background, our criticism ability, and our design tools. And for keeping them active, one of the recommended practices is the continuous reelaboration of our own anthology: a personal and non-transferable compilation of comparable images in which we recognize ourselves and build an open 'imaginary museum' (Malraux, 1952). A collection of buildings, paintings, sculptures, objects, texts, musical fragments or scenes in which, far from the classical showcases, the connections between forms, rhythms, concepts or words are in permanent activity, open to new interpretations and relationships, and, consequently, to new comparisons.

Abstract

Centre Georges Pompidou, designed by Renzo Piano and Richard Rogers, was inaugurated in Paris on 31 January 1977 under controversy and public scrutiny. Soon after, by request of the French Ministry of Foreign Affairs, the legendary filmmaker Roberto Rossellini shot a 56-minute documentary devoted to the new cultural institution. This paper will discuss the means of this cinematographic approach to architecture.

Firstly, a broader context should be considered, as Beaubourg-Rossellini represents the meeting of two concurrent projects of diffusion of culture and knowledge. One is architectural, aiming to abolish the traditional notion of museums as elitist places where art is forcibly separated from life. Rossellini, on the other hand, builds upon ideas and methods developed in his vast televisual encyclopedia. Both initiatives, by their means, take on the old debates concerning spectator fruition and the political impact of art in modern society.

More interestingly, this encounter is a special example of architectural representation – and, therefore, a critique. The film does not provide an idealized vision: far from static or purely descriptive, it shows a lived space where life is inscribed in contingency through time and movement. This is mediated through a peculiar zoom technique, invented and operated by Rossellini himself, relating the image to an abstracted viewpoint. Thus, the image does not stand for a body set in space but is rather a decorporified and continuously moving gaze; it can hardly provide stable meaning or assert prescribed usage to architecture.

Symbolic allusiveness, spatial polyvalence, and social openness of the Pompidou Centre are met with a distant and ironic vision, and, by this, immersed in contradiction. Through ambivalent impulses that engage with figurative elements of the program while evidencing a disconnection between art and public. Rossellini's documentary is a curious, partial, and incisively critical film.

Keywords: Roberto Rossellini, Centre Georges Pompidou, museum architecture, camera movement, cultural critique

Fig 1. Left pictures: Comparison 1. Renzo Piano & Richard Rogers. Centre Georges Pompidou. Paris, 1977 and José Antonio Martínez Lapeña y Elías Torres: Escaleras La Grania. Toledo 1997-2000. Center pictures: Comparison 2. Theo van Doesburg: Cabarette Aubette. Strasbourg, 1927 and Lacaton & Vassal: Café Una. Viena, 2001. Right pictures: Comparison 3. MVRDV: Didden Village. Rotterdam 2002-2007 and Herzog & De Meuron: Vitra house. Weil am Rhein, 2010.

Fig 2. Left pictures: Comparison 1. Le Corbusier: Maison La Roche. Paris 1923-1925. Erwin Lutyens: Little Thakeham House. Storrington. West Sussex. 1902-1903. Center pictures: Comparison 2. BBPR. Torre Velasca. Milán, 1968 and Basílica de San Lorenzo. Milan. Right pictures: Comparison 3. Mies van der Rohe: Neue Nationalgalerie. Berlin, 1966 and Norman Foster: Carré d'Art. Nimes, 1993.

Fig 3. Left pictures: Comparación 1. Paul Klee. Casa giratoria. 1921 and Monasterio Kal'at Simân. Siria, 450-470. Version H.C. Butler. Center pictures: Comparison 2. Piet Mondrian. Atelier, 26 rue Depart. Paris, 1926 and Henry Matisse. Red Studio, 1911. Right pictures: Comparison 3. J. B. Fischer von Erlach. Isola Borromea nel lago Maggiore. Historische Architektur, 1721 and Christo and Jean Claude. The Floating Piers, Iseo Lake, Italia, 2016.

Fig 4. Left pictures: Comparison 1. Giuseppe Terragni. Casa del Fascio. Como, 1936 and Rafael Moneo. Casa Consistorial. Murcia, 1998. Center pictures: Comparison 2. Carlo Mollino. Teatro Reggio, Torino, 1967 and Daniel Libeskind. Denver Art Museum, Denver, Colorado, USA, 2006. Right pictures: Comparison 3. Diego Velázquez. Retrato de Inocencio X, 1650 and Francis Bacon, Retrato de Inocencio X, 1963.

Fig 5. Left pictures: Comparison 1. BBPR: Expansion of Banca Privata Finanziaria. Milano, 1966 and Sergison & Bates. Blankenberge Library, Belgium, 2004-2011. Center pictures: Comparison 2. Gottfried Semper. Altes Wassenau. Wien, 1874-1877 and Fritz Höger. Chilehaus. Hamburg, 1923. Right pictures: Comparison 3. Peter Behrens: AEG Turbinenfabrik. Berlin, 1923-1925 and Rudolph Schwarz: Fronleichnamskirche. Aquisgrán, 1929-1930.

References

Argan, Giulio Carlo. Walter Gropius y la Bauhaus. Barcelona: Gustavo Gili, 1983.

Berger, John. Modos de ver. Barcelona: Gustavo Gili, 2000.

Cook, Theodore, Spirals in Nature and Art. 1903. The curves of life, 1914, Dover Publication, London, 1979.

Cortés, Juan Antonio. Lecciones de equilibrio. Madrid: Fundación Caja de Arquitectos, 2006.

Frampton, Kenneth. A Genealogy of Modern Architecture: Comparative Critical Analysis of Built Form. Zurich: Lars Müller publishers. 2015.

Malraux, André. Le musée imaginaire de la Sculpture mondiale. Paris: NRF, la Galerie de la Pléiade, 1952.

Quintana, Jesús. Student of Comparative Architecture, MBArch, UPC. Final exercice text: "The shared look". 2019-2020 course. Rasmussen, S. E. La experiencia de la arquitectura. Barcelona: Labor, 1974.

Rowe, Colin. Manierismo y arquitectura moderna y otros ensayos. Barcelona: Gustavo Gili, 1999.

Sennett, Richard. El Artesano. Barcelona: Anagrama, 2009.

Scully, Vincent. "Introducción". In Venturi, Robert. Complejidad y Contradicción en Arquitectura. Barcelona: Gustavo Gili, 1999. Tatarkiewicz, W. Historia de seis ideas. Madrid: Tecnos Alianza, 1990.

son, D'Arcy. On Grown and Form, 1917. Sobre el crecimiento y la forma. Cambridge University Press. Madrid, 2003. Venturi, Robert. Complejidad y Contradicción en Arquitectura. Barcelona: Gustavo Gili, 1999.

Zevi, Bruno. Leer, escribir, hablar arquitectura. 1997. Barcelona: Ediciones Apóstrofe, 1999.