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Architectural Graphics

Volume 3 - Graphics for Education and
Thought

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Editors

Architectural Graphics

Volume 3 - Graphics for Education
and Thought



Editors

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Contents

Education

A New Evaluation for a New Teaching Normality: Practical Example Applied to the Topographic Map System	3
V́ctor Antonio Lafuente Śnchez, Daniel Ĺpez Bragado, Sergio Alonso Alonso, and Antonio ́lvaro Tordesillas	
Álvaro Siza Vieira Malagueira’s Notebooks: A Reading on the Relevance of Drawing for Architectural Research	13
Pedro Guilherme and Sofia Salema	
Architectural Graphic Expression of Heritage in the Academic Training of Architects. The Exhibition of the Drawings	22
María del Carmen V́lchez Lara and Jorge Gabriel Molinero Śnchez	
Comparative Analysis of AutoCAD Screencasts Applied to Technical Drawing for Online Teaching	32
Juliane Silva de Almeida and Nicole Santini Baratto	
Covid-19 and Online Teaching: Impact on Academic Results in the Subjects of Architectural Graphic Expression at the Polytechnic University of Cartagena	42
Pedro M. Jimenez-Vicario, David Navarro-Moreno, María Mestre-Martí, Pedro Garća-Martínez, Manuel A. Ŕdenas-Ĺpez, and María Joś Muńoz-Mora	
Draw (with) the World: Embracing Minor Contents Between the Disciplinary and the Contemporary	51
Jose Carrasco Hortal	
Drawing Places: New Strategies for Teaching Architects to Sketch	61
Sebastian Harris	

Ecology and Cos (i) Mopolitics in the Drawing Room: The Lines that Expand the Limits of Architecture	71
Ángela Ruiz Plaza, Atxu Amann y Alcocer, and Eduardo Roig Segovia	
Etching – Seamless Alignment of Lines and Patches as Role Model for a Graphic Geometry as Design Crossover of Pixels and Vectors in the Direction of All-In-One Image Reliefs	79
Niels-Christian Fritsche	
Exploration Models as Creative Triggers to Conceptualize Architecture	87
Mónica Gómez Zepeda and Juan Carlos Ortiz Tabarez	
How to Break Down Drawing Pedagogies by Decoding Disciplines on a Classic Board	98
Eduardo Roig, Atxu Amann, and Ángela Ruiz	
Implementing BIM in Architectural Graphic Expression Subjects in the First-Degree Courses	107
José Javier Pérez, María Senderos, and Iñigo Leon	
Inside the Dark Camera: Covid-19 Home Confinement as a Phenomenological Learning Experience Based on Observation . . .	115
Ángel Allepuz Pedreño, Jorge Domingo Gresa, and Pablo J. Juan	
Lapis Resiliency, through Analogic and Digital Drawing	126
Leserri Massimo, Morena Sara, and Antinozzi Sara	
Meeting Points for Learning: Terragni and Rossi	137
María del Carmen Vílchez Lara	
Teaching the Graphic in Times of Pandemic. Cape Cod and the Bauhaus	147
Jorge Gabriel Molinero Sánchez and Juan Francisco García Nofuentes	
The Creative Capacity of Geometric Objects -point and line- in Architecture Teaching	157
Fernando Manuel Alonso Pedrero and María del Pilar Salazar Lozano	
The Model as a Teaching Experience: The Case of Frank Lloyd Wright's Unitarian Church (1905–1908)	167
Marta Úbeda Blanco, Daniel Villalobos Alonso, and Sara Pérez Barreiro	
The Sketching Club as a Didactic Strategy	178
Francisco Xabier Goñi Castañón and Inmaculada Jiménez Caballero	

Thought

Analog Drawing – Digital Drawing. The Architectural Virtual Model as More Than a Technological Implementation	191
Javier Fco. Raposo Grau, María Asunción Salgado de la Rosa, Belén Butragueño Diaz-Guerra, and Blanca Raposo Sánchez	
Architecture, Light and Sequence for Falla’s Puppet Show	201
María Teresa García Sánchez	
Ariadne’s Thread. Lines Towards Architectural Project	212
Maria Pompeiana Iarossi, Daniela Oreni, and Daniele Giovanni Papi	
Codifying, Envisioning, and Ideating Through Data on Information Based Designs	223
Carlos L. Marcos and Ángel J. Fernández-Álvarez	
Critique of the Architectural Competition Stimulated by Graphic Expression: Semiotic Convergences in the Rhetoric of Judgment Process	233
Asunción Díaz-García	
Design by Hand in a Digital Environment. Drawing Storytelling and ICT Development	243
Juan Saumell, Francesca Fatta, and Mario Docci	
Drawing in Siena: The Architect’s Learning	253
Clara Maestre-Galindo	
Fernando Higuera, Expansive Geometries through Models	261
Noelia Cervero Sánchez	
Five Keystones Vaults Parametric Model Generation from Point Cloud Data	271
Mara Capone, Daniela Palomba, and Emanuela Lanzara	
Flatwriter Today. Towards Friedman’s Utopia Through Generative Design	281
Ana Sánchez-Pérez, Manuel A. Ródenas-López, and Martino Peña Fernandez-Serrano	
Flexibility of cGANs to Encode Architecture Isometrics in Colour Patterns	292
Diego Navarro-Mateu, Oriol Carrasco, and Pedro Cortés Nieves	
Fragment, Overlap and Time. Carlo Scarpa’s Graphic Memory	302
Lucía Balboa Domínguez, Alberto Grijalba Bengoetxea, and Noelia Galván Desvaux	

Graphic Analysis of the Patents and Utility Models Registered by Spanish Architects Between 1950 and 1970	312
Fátima Sarasola Rubio	
Pedagogy of Practical Learning in the Architectural Ideation and Communication	322
Angelique Trachana and Juan Carlos González Ortiz	
Perception and Phenomenology of Light and Colour in the Architecture of Luis Barragán	333
Luis Navarro Jover and Carlos L. Marcos Alba	
<i>Postermania. Taller de Arquitectura and the Poster as Manifiesto</i>	342
Raquel Álvarez Arce, Álvaro Moral García, and Noelia Galván Desvaux	
Telling for Images. The “Court of Lights” of Piazza Scaravilli in Bologna	352
Cristiana Bartolomei, Cecilia Mazzoli, and Caterina Morganti	
The Discursive Construction in OMA’s Exhibitions	362
Javier Rodríguez García and Angelique Trachana	
The Experiential Time in the Drawing of Enric Miralles	373
Humildad Santiago Pedraza and Angelique Trachana	
The Random Machine. Graphic Representation Based on Mechanical Repetition	384
Carlos Campos and Alessandra Cirafici	
Traditional and Innovative Tools of Planning Thought. The Project of Town Hall in Sesto San Giovanni by Piero Bottoni	394
Maria Pompeiana Iarossi and Cecilia Santacroce	
Where Do We Step? The Horizon is on the Ladder: Landscapes that Lina Bo Bardi Created in Her Drawings	404
Mara Sánchez-Llorens and Fermina Garrido	
Author Index	415

Education



Meeting Points for Learning: Terragni and Rossi

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Abstract. Giuseppe Terragni and Aldo Rossi took advantage of projects of monuments destined for individual or collective memory for formal and compositional experimentation. These architectures have in common the use of a forceful geometry, the importance of the materiality that defines the project, especially the stone, and the way to appropriate the place. For these reasons, four works by these influential Italian architects of the 20th century were chosen as learning model for the subject Architectural Graphic Expression 1 of the degree in Architecture at the University of Granada. The methodology used is based on placing the student as the protagonist of their own learning, the teacher occupying the role of mentor or director, guiding the student in their research and knowledge processes. The use of such significant architectural references constitutes a motivating element for the students, enhances the cross-curricular subjects between of the degree and breaks with the isolation that the study of the most abstract geometric forms supposes.

Keywords: Architecture · Memory · Graphic expression

1 Introduction

The subject Architectural Graphic Expression 1 (EGA 1), taught in the first semester of the first year of Architecture degree at the University of Granada, represents the first contact of the future architect with architectural graphic expression. The subject is divided in four large blocks: Dihedral System, Bounded System, Perspectives –ax-onometries and conics– and Intersections and Sciography (including Gnomonic).

The teaching experience has shown us that the use of examples of heritage architectures, as a direct application of the geometric shapes and the representation systems studied in the subject, extraordinarily facilitates the learning and understanding of them by the students [1].

During the 2019–20 and 2020–21 academic years, four monumental works by the influential 20th century Italian architects Giuseppe Terragni and Aldo Rossi were chosen for the monographic work practices. The four pieces on which the students worked were the last two versions of the monument to Roberto Sarfatti by Terragni (Fig. 1) and the monuments to the Resistenza, in Cuneo, and to the Partigiani, in Segrate (Fig. 2), by Rossi.

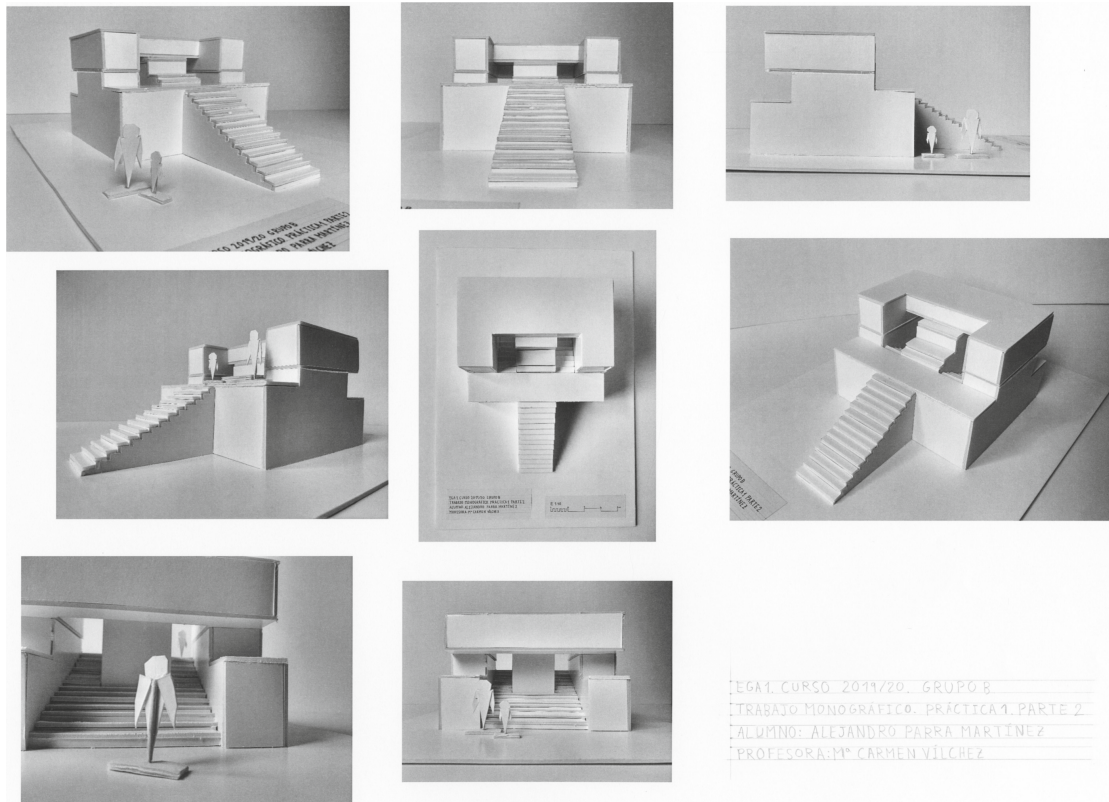


Fig. 1. Photographs of the model of the penultimate version of the monument to Roberto Sarfatti (EGA 1 student: Parra, A., 2019).

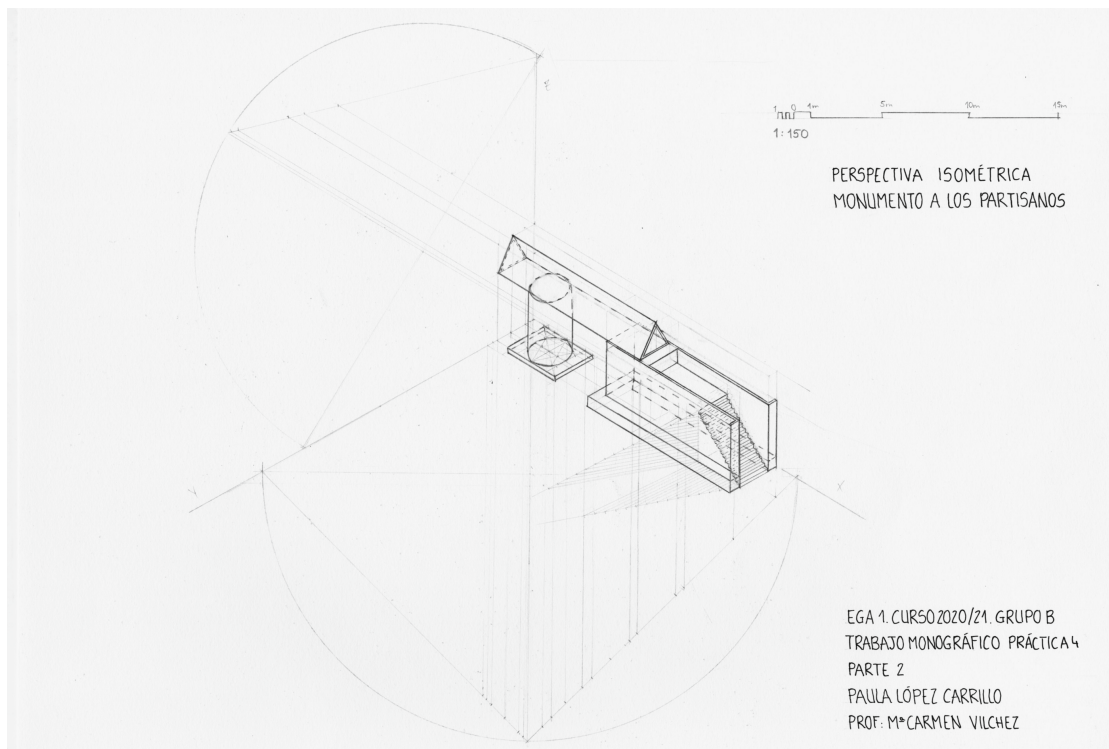


Fig. 2. Axonometry of the monument to the Partigiani (EGA 1 student: López, P., 2020).

These architectures, which are already part of the contemporary European cultural heritage, were selected mainly for their semantic, material and geometric values and for the attention to the place where they are located. As a common denominator, in all cases they are monuments of individual or collective memory: to an Italian ‘hero’ who fought in the First World War –those by Terragni– and to the Partigiani who fought in the Italian Resistenza against the German invaders in Second World War –those by Rossi–.

2 Learning Techniques and Objectives

For the practices of the subject EGA 1, it was proposed to carry out monographic works that, as in the rest of architecture schools, are based on the application of three techniques: problem-based learning, work by projects and case studies.

As for the first one, characterized by focusing on the student as the protagonist of their own learning, the process consists of solving an initial, complex and challenging problem, proposed by the teacher, whose objective is to trigger research and self-learning by the student [2].

In the second one, work by projects, the organizational capacity in the application of the acquired knowledge stands out, developing higher-order thinking skills. The teacher is a collaborator, mentor, even a learner of the student's own learning, who must “do” things instead of “just learning”, to encourage their intrinsic motivation in generating the product resulting from their learning [3].

In case studies, or learning by challenges, students acquire new knowledge in addition to developing analysis, design and execution skills. They test their skills from the approach of a challenge or real case in which the teacher performs the role of coach and co-researcher.

3 Learning from Terragni and Rossi

Before addressing the chosen architectural landmarks, we must contextualize the figures of Terragni and Rossi, as well as their respective experimentation laboratories, within their own historical-cultural moments: Terragni, in European rationalism and the fascist totalitarian regime of the Italy of the 20s and 30s, and Rossi, in the realism, the historical tradition and the Soviet influences, which motivated his affiliation in 1956 to the Italian Communist Party.

A differentiating element of Terragni with respect to other architects of Italian rationalism is the attention he pays to the place, to the contextualization of his work in the environment [4], a characteristic that years later Rossi's architecture would share, in addition to the use of stone as a material to sculpt the space and appropriate the place.

Geometry, scale, materiality and natural light are used by Terragni and Rossi to generate emotions and evocations of the past.

3.1 Terragni: The Monument-Tomb to Roberto Sarfatti

The EGA 1 students of the 2019–20 academic year worked on the practices of the monograph with the last two versions that Terragni projected for the monument to Sarfatti.

In 1934 Giuseppe Terragni was commissioned by Margherita Sarfatti, an Italian intellectual and writer who loved Mussolini, to project a funerary monument on top of Col d'Echelle to perpetuate the memory of her son who died there in 1918, during the First World War.

The projects of tombs and monuments are used by Terragni for formal and compositional experimentation, in which he uses stone as a material, from which to sculpt the space and appropriate the place. He understands the architectural object as a mass subjected to gravity in which the vacuum becomes non-mass, impregnating the work with a pretended tension [5].

In the first solution, Terragni projects the monument with a clear vocation to appropriate the top of the place, depositing the tomb on the great cross resulting from the intersection of two orthogonally intersecting paths. The basement is presented as a continuation of the landscape, which supports a large U (7 x 5.15 m) and sculpted from a single piece. Mantero [4] affirms that Terragni conceives a walkable monument from a large mass excavated by a staircase that ascends and then descends towards the landscape that was the scene of battles (Fig. 3).

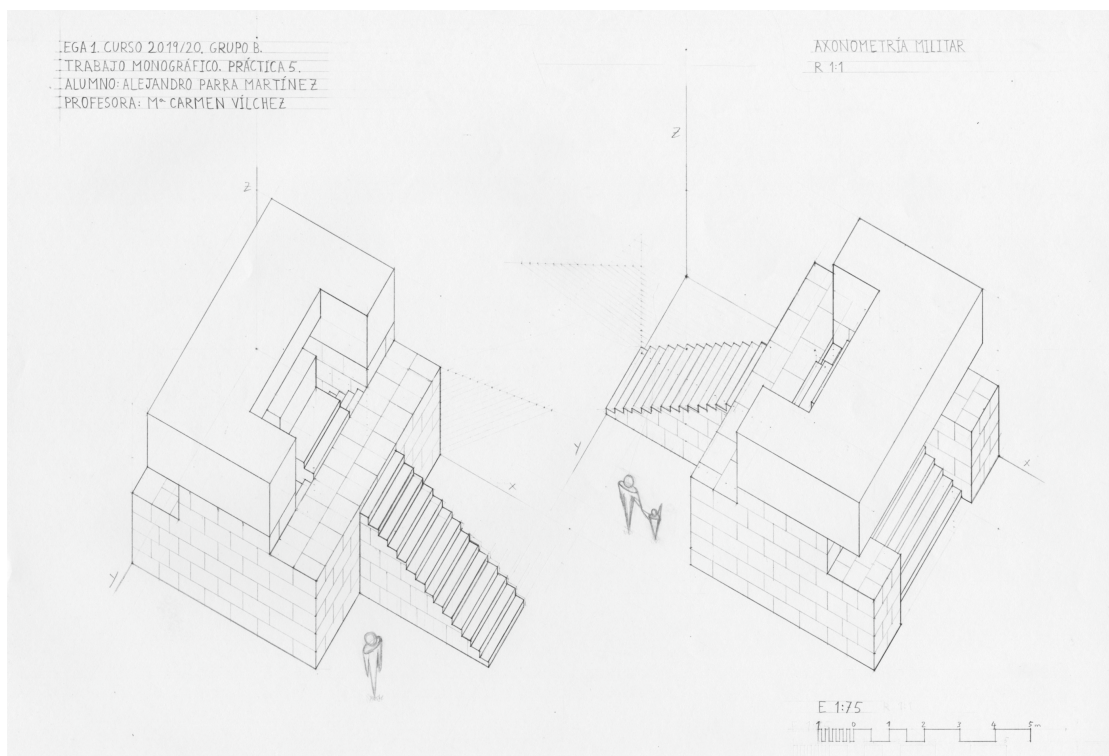


Fig. 3. Military axonometries of the penultimate version of the monument to Roberto Sarfatti (EGA 1 student: Parra, A., 2019).

Given the technical and economic impossibility to solve the great piece of the proposal, Terragni reduces the scale in its second and final version. He maintains the idea of a stone base, as the most suitable material to achieve the projected monumentality [6] (p. 301), consisting of rough blocks with marked joints. With them he sculpts a single staircase, replacing the two opposing staircases of the first solution. On the basement he places a perfect cubic, monolithic and polished stone object, which for logistical transport reasons had to be divided horizontally into two pieces [7].

The monument is conceived by Terragni as an architecture that elicits emotions, which must show an explicit intention to transmit, warn and educate. The funerary, heraldic and commemorative monuments were intended to perpetuate the memory of the deceased in a specific place. All of them share common characteristics such as their “refined and primitive forms, naked and strong, allegorical and evocative, going to the inheritance of archaic forms” [8] (p. 52).

3.2 Rossi: The Monuments to the Resistenza and the Partigiani

During the 2020–21 academic year, EGA 1 students carried out their monographic works using as architectural references two of the monuments to the memory by Aldo Rossi: the monument to the Resistenza, in Cuneo (Fig. 4), and the monumental square and fountain to the Partigiani, in Segrate.

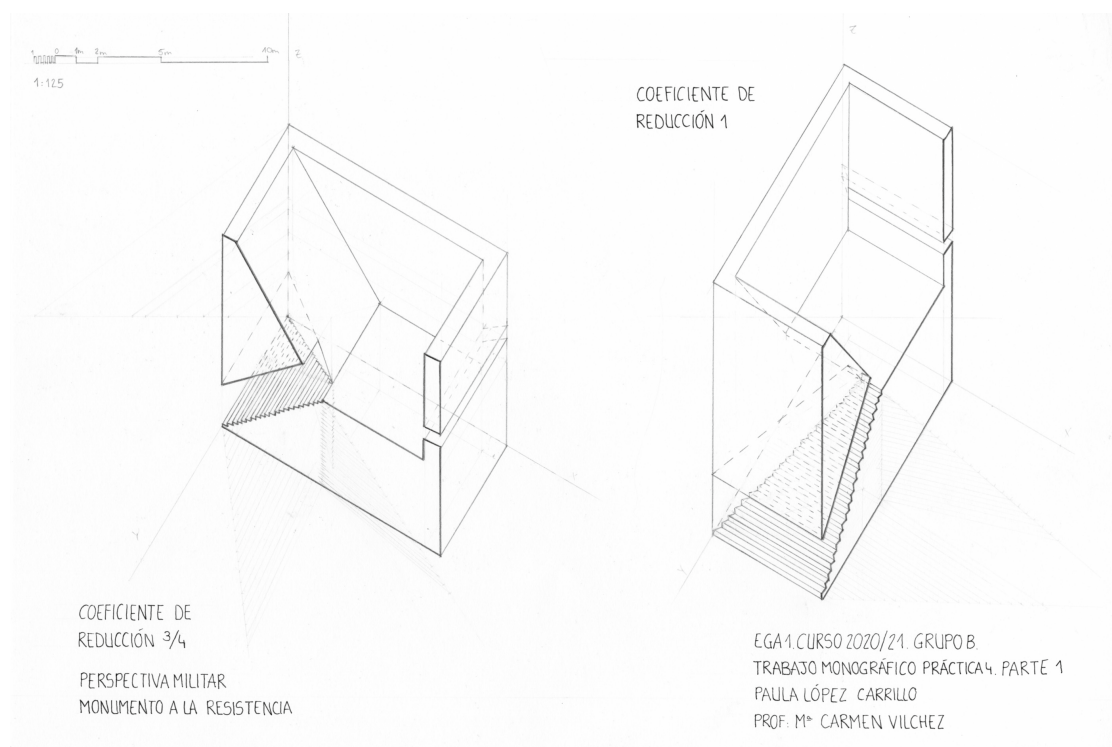


Fig. 4. Sectioned military axonometries of the monument to the Resistenza, in Cuneo (EGA 1 student: López, P., 2020).

Rossi presented Cuneo's project in 1962, together with Gian Ugo Polesello and Luca Meda. It is a cubic work measuring 12 m on a side, which attends to the place while trying to evoke the memory of the feeling of refuge and effort of the Italian combatants in the Second World War [9]. The staircase, which is compressed in the ritual of ascent into the interior of the cube, reaches a horizontal platform from which it directs the gaze to the mountains of Boves, where the partisan groups fought in their Resistance to the Nazi occupation.

The section of the monument, a staircase that ends in an elongated window like a fissure that looks out into the landscape, will be repeated by Rossi in other works such as the Sandro Pertini monument in Milan, built between 1988–1989. The staircase is conceived by Rossi more for its semantic than formal value, by giving it a powerful meaning in its architecture.

The cube, as an ideal architectural form [10], will be used again by Rossi, after the project of the monument to the Resistance, in the Modena cemetery, built between 1971–1978, in the Teatro del Mondo, ephemeral architecture presented for the 1979 Venice Biennale, or in the aforementioned monument to Sandro Pertini.

Rossi's analogical thought in which history is remembered through the objects of affection (*oggetti d'affezione*) that memory makes use of [11] is discovered in this project. Rossi shows us the myth of the partisans' refuge, recreating one of the caves in his cube through the spatial organization and tour of the monument.

The commemoration of history thanks to a monument that allows us to understand the past is what gives it its own status as a monument [12].

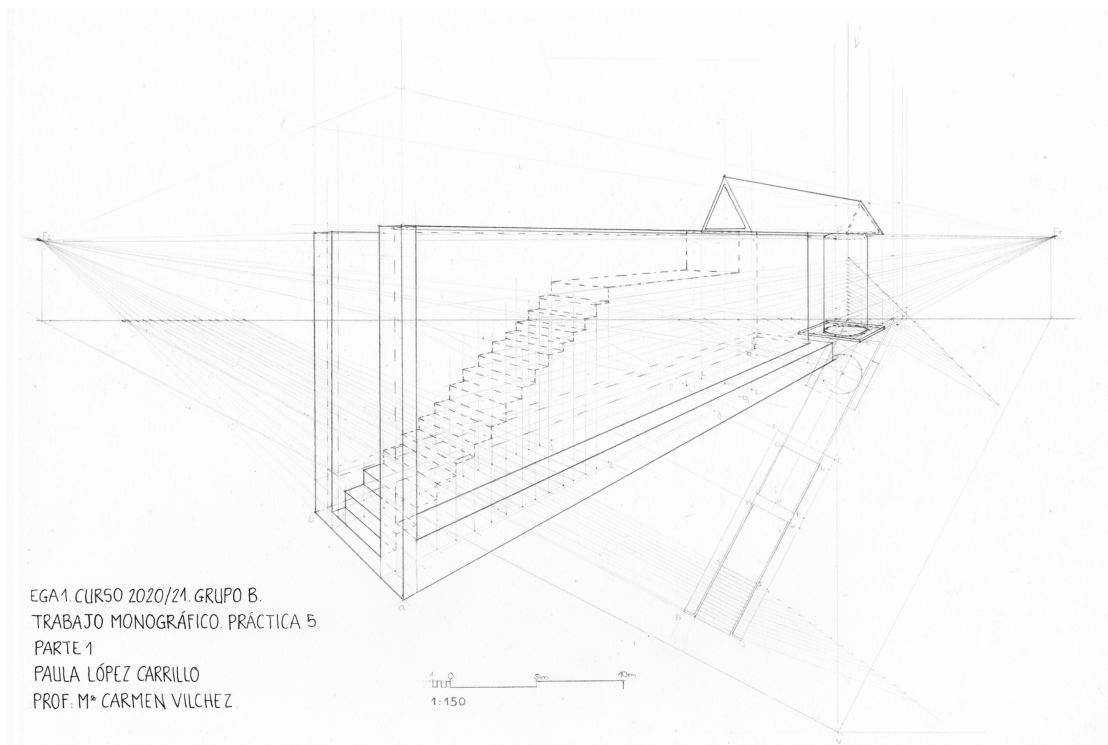


Fig. 5. Conical perspective of the Partigiani monument, in Segrate (EGA 1 student: López, P., 2020).

The monumental fountain in the Plaza de Segrate is one of the most representative monuments to memory of Aldo Rossi's architecture (Fig. 5). It is present in numerous publications, exhibitions and compositions made by this Italian theorist and great thinker, such as, in the painting of Arduino Cantafora entitled *Analogue City*, which chaired the Architecture Section of the XV Triennial [13]. Designed in 1965, it has recently been restored by one of his disciples and collaborators, Gianni Braghieri [14]. The square, equipped with some steps, appears as an almost empty space delimited by a wall with few openings, vestiges of columns emerging from the ground and the fountain. This is made up of simple juxtaposed volumes: a parallelepiped that lodges the staircase, a cylinder and a triangular prism, like a tympanum, through which the water circulates before being poured into an elongated line of water.

Even though it is a minor work, it is capable of explaining the poetics of the architecture of Rossi with special expressiveness, through “a dense and voluntary combination of Greek simplicity, neo-enlightened exaltation, metaphysical plastic sentiment and Corbusian adhesion” [15] (p. 533). Rossi himself would recognize the existence of an upward movement in the whole of the square, projected as a podium, theater, a public place par excellence, at the same time that he justified the appearance of the tympanum –the triangle– as “a form very pure derived from classical architecture such as the column element” [16] (p. 13).

Peter Eisenman will introduce Rossi to the American public as the creator of a deep imaginary and will choose as the back cover of his book “Aldo Rossi in America: 1976 to 1979” a sketch by Rossi of the Segrate monument fountain, located at a closeup [17].

Ernesto Nathan Rogers, director of the *Domus* and *Casabella* magazines, exerted a great influence on architects such as Aldo Rossi with his intense theoretical corpus around the essential role of historical consciousness in architecture and the recovery of tradition for the progress of culture [18].

Aldo Rossi was part of the group of young architecture students at the Milan Polytechnic, since the mid-1950s, which would be known as the “Giovani delle colonne” [19], in their commitment to realism and historical tradition as opposed to rationalism and functionalism of the *Movimento di Studi per l'Architettura*, defended by Giancarlo De Carlo as a continuity of the first Italian Modern Movement. The innovation and reinterpretation of the historical tradition with forms and typologies of the past, such as arches and columns, are closely linked with the collective memory and the place.

4 Results and Conclusions

The monographic works resulted in products obtained from the self-learning of the students, supervised by their teacher: a series of drawings and collages in A3 format, in addition to the physical models of the studied referents, in which the materiality and the scale of the monument referenced with respect to the human scale.

These monographs or case studies are the practical and direct application of the theory taught in the subject: the block of the Dihedral System, which includes problems or research exercises, documentation, analysis, 2D views, changes of plane and composition; orthogonal and oblique Axonometries; Conical Perspectives; and, Shadows.

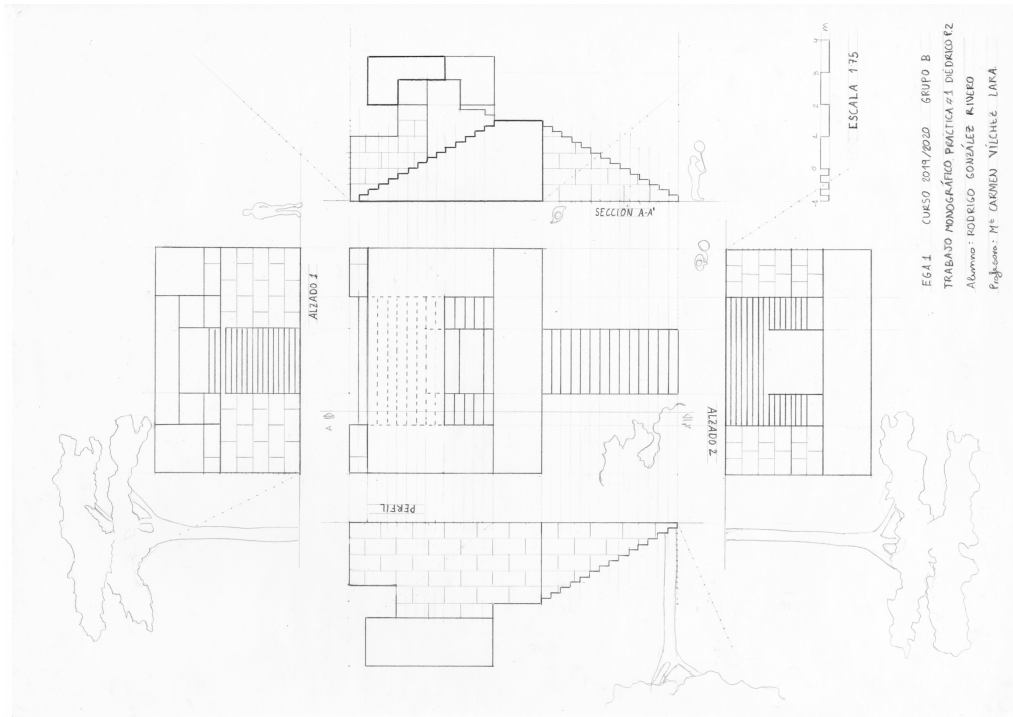


Fig. 6. Dihedral views of the penultimate version of the monument to Roberto Sarfatti (EGA 1 student: González, R., 2019).

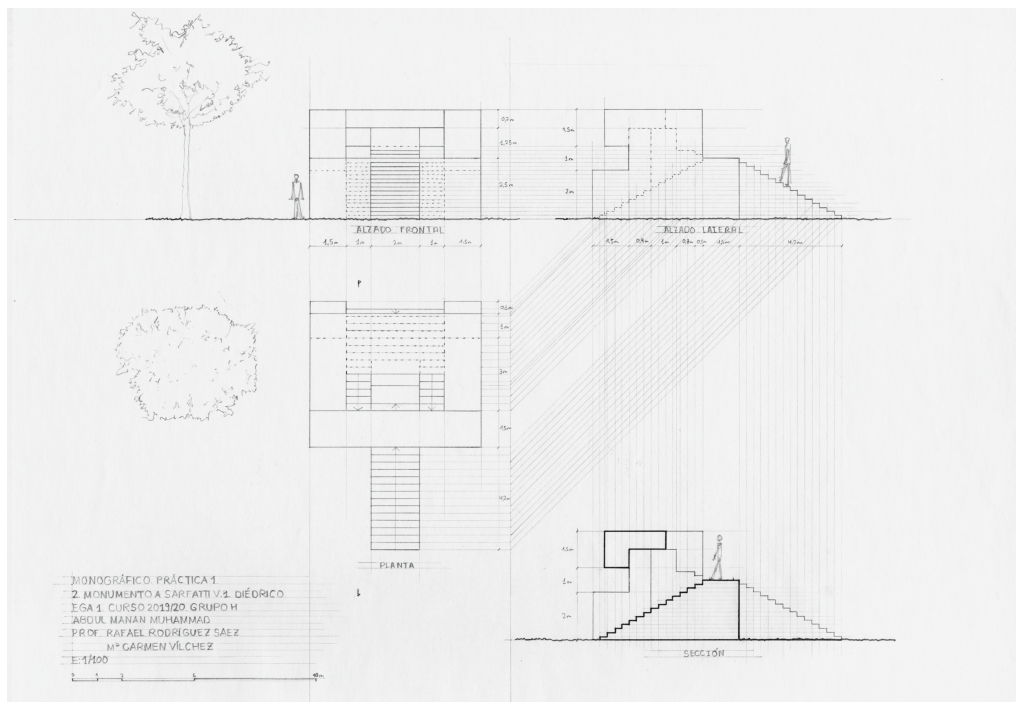


Fig. 7. Dihedral views of the penultimate version of the monument to Roberto Sarfatti (EGA 1 student: Abdul, M., 2019).

The practices developed in the monographic works achieved not only that the students learned the fundamentals of the different representation systems and the graphic codes that are used in architectural graphic expression, but we were able to observe that as the students were able to control what basic, they were paying attention to the rest of the contents and they began to make the research work and the proposed graphic experience totally their own, unique and personal (Fig. 6, Fig. 7). With the presentation and correction of the works in the face-to-face sessions carried out in the classroom, the students learned to develop constructive critical thinking in addition to being aware of the ways in which a work can be read and have a special meaning within the graphic signifier that shows.

These two academic years that we have worked monuments to memory with EGA 1 students, projected by Terragni and Rossi, have allowed us to discover a series of meeting points between these two Italian architects, belonging to different eras and political ideologies. Among them we stand out:

- the monument linked to the feeling of collective memory and of the place,
- interest in the past,
- the use of stone as the most suitable material to express the monumentality and relationship with the land,
- the use of abstract and round geometries, with perfect symmetries,
- the sculpted staircase as a powerful compositional element that elevates the body and the gaze, the incidence of light and shadows generated by the architecture of the monument (Fig. 8).

Regarding the perception of the subject by students, we conclude that the linking of the learning of geometric shapes and representation systems to such significant architectural references, constitutes a motivating element that breaks with the abstract isolation of the old Descriptive Geometry subject, of which comes from EGA 1, while enhancing interaction with other disciplines of the degree in Architecture, such as History of Architecture and Architectural Composition. The interest in the search for pedagogical and motivating exercises for the teaching of Descriptive Geometry, using recognizable architectures and making the student feel the owner of his learning, has recently been evidenced by authors such as Álvaro, Alonso and Galván [20].

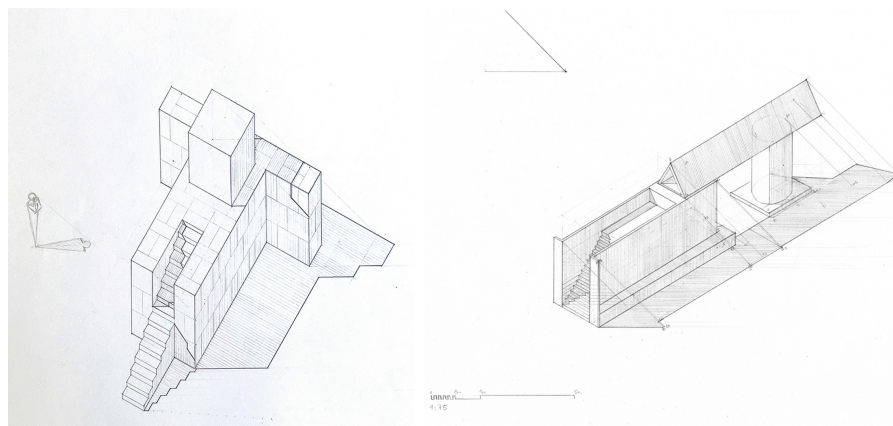


Fig. 8. Axonometries with shadows of the monument by Terragni (Left. Student: Parra, A., 2019) and of the monument by Rossi (Right. Student: López, P., 2020).

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