Replicas.
Architecture as Copy or Invention

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Guest Editor

Antoni Gaudi’s Workshop at the Sagrada Familia, 1904.
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In his recent novel *Obra maestra* (Masterpiece), the writer and philosopher Juan Tallón recounts the disappearance of the sculpture by the American Richard Serra: *Equal-Parallel: Guernica-Bengasi*. A piece weighing 38 tonnes of Corten steel designed for the opening of the Reina Sofía Museum in 1986 and which, due to lack of space, in 1990 was placed into specialized art storage in Arganda del Rey. Its inexplicable disappearance was recorded in 2005 in the file of judicial case 183/06, which Tallón, in a brilliant exercise in criticism, takes as the basis for his narration of a series of events that are unknown and therefore prevent the factual intervention of each of the protagonists. Somewhere between chronicle and fiction, literary imagination fleshes out a non-linear plot in four acts, summoning a whole cast of actors from security guards and former museum directors to former councillors, police officers, judges, former ministers, artists, historians, composers, architects, writers and gallery owners. All are
involved in an everyday nothing surrounding the incomprehensible disappearance of the artwork that prompts them to challenge the limits of the visible. When in April 2009 the Argentine writer César Aria came face to face for the first time with the copy that Serra himself had agreed to make for the museum, he pronounced: “What we had before us was an exact replica, its ghost.” Today’s Reina Sofia Museum (MNCARS) shuns this shadow, now exhibiting it in a new gallery as a work dated 1986, with inventory number AS10531.

Faced with the question as to how a copy becomes an original, and to what extent its double can replace the original object, art historian George Kubler offered some hints in his conclusive, must-read The Shape of Time in 1962:

“The annals of art, like those of bravery, directly record only a handful of many great moments that have occurred. When we consider the class of these great moments, we are usually confronted with dead stars. Even their light has ceased to reach us. [...] The history of art in this sense resembles a broken but much-repaired chain made of string and wire to connect the occasional jeweled links surviving as physical evidences of the invisible original sequence of prime objects.”

The image that Kubler evokes is a powerful one: the history of art is merely a chain, pieced together in time, of missing links that give an account of the impossible succession of original objects. Nonetheless, desire keeps alive the hope of finding the original. Like in the last passage of the novel, in which Tallón narrates the visit of the heads of security of the MNCARS, Teresa Pons and Matías Amarillo, to an industrial warehouse on the outskirts of Madrid in October 2019 after a false alert from the Civil Guard. They thought they had found the whereabouts of the original sculpture. “Ghosts are real beings who simply prefer to live in doubt, on the hidden side, and who, on rare occasions, like now with the sculpture, suddenly decide to come back and announce out loud: ‘OK, game over. Here I am.’” Yet faced with the emptiness of this endless interplay of misunderstandings, all that remains is the final unanswered question that the protagonists ask themselves: “What if it’s true?”

One architect for whom these rules of play were always very clear was Enric Miralles (1955-2000), who on more than one occasion did not hesitate to refer to the idea of double or ghost in his work. Knowledge of the Italian architectures of the sixteenth century gained throughout his academic training allowed him to try out these misunderstandings in works known under the heading of “mannerist”, a word that conceals rather the anguishes and doubts of 20th century historians faced with the project of inventing an antiqua novitas than the certainties of that period. To look no further, the unanimous consensus that marks the start of the High Renaissance with the arrival of Donato Bramante in Rome in 1500 and the subsequent construction of the tempioetto as a manifesto of this new instauratio was divided when Bramante’s “original” work came face to face with the imagination of the ruin as a “replica” thanks to the drawings of Giuliano da Sangallo, his great rival in those years (fig. 02). Which came first, Bramante’s invention or Sangallo’s copy? The answer matters little, especially in light of one of the texts that survived Filippo Brunelleschi thanks to the version of the mathematician

01. The publication of issue 24 of RA Revista de Arquitectura forms part of the R&D&I project “Map of collections of models and replicas of Spanish architectural heritage: between national identity and international culture. Part one, 1752-1929”, with reference PID2020-113568RB-I00, funded by MCIN/ AEI/10.13039/501100011033.

02. TALLÓN, Juan, Obra maestra, Anagrama, Barcelona, 2022, p. 172.


04. TALLÓN, Juan, op. cit., p. 314.

05. Ibid., p. 318.


07. Giuliano da Sangallo, Vatican City, Biblioteca Apostolica Vaticana, Barb.lat.4424, fol. 37r [39r].
Antonio di Tuccio Manetti, the *Novella del Grasso legnaiuolo* (The Fat Woodworker). He recounts the scene in which the protagonist, on returning to his *bottega* in Florence, find all his tools in a different order that completely upsets his memory of their previous image. In this case, invention is just a question of style. A desire to achieve that *antiqua novitas* that collided head on with some of the projects produced in that same year, 1500, when Leonardo da Vinci received a commission from Francesco Gonzaga to design, in Mantua, a copy of the Villa Tovaglia in Santa Margherita a Montici near Florence, made after staying in that city.8 In order to construct an exact replica in the city of his birth, Gonzaga wrote to Agnolo Tovaglia to request the plans. Although no drawing of the project survives, the letter written by Francesco Malatesta that accompanied Leonardo’s despatch to the Marquis on 11 August 1500 gives an account of the scope of his undertaking: “El prefato Leonardo dice che a fare una cosa perfecta bisogneria poter transportare questo sito che è qui, là dove vol fabrichare la S.a V.a che poi quella haria la contenteza sua.”9 With his words, Leonardo anticipated the limits to which any architectural replica must submit: place.

Perhaps for this reason, when in the spring of 1995 Miralles presented his students at the Harvard Graduate School of Design with the exercise *One Double Please!*, one of the main

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09. “Leonardo says that in order to do this thing perfectly, it would be necessary to transport the site that is here to where His Highness wants to build, in accordance with his wishes.” *Ibid.*, p. 139.
constraints was that the replica of the work built on a North American university campus between 1970 and 1990 was to be carried out on the same site as the original building. The architect proposed to work "around the invisible image of the 'double'. [...] The double is not understood as something distant or as a pathological image, but as continuous presence during the work." The double was simply the shadow of the past on the design process. And like in the bottega of the Florentine woodworker, the drawings of Sangallo and Bramante’s Tempietto, "twins were not allowed." The objective was, as in mannerism, to discuss the concept of historical continuity and its variations in style. A fight against mimesis that sediments its essence in the search for an antiqua novitas by means of the concept of imitatio. This was a recurring concern of Miralles’, which led to some of the most radical passages in his writings, such as the words he dedicated to Peter Eisenman in an allegory of a twin, a replica whose principle of vulnerability runs through the North American’s architecture, becoming a mask of itself: 12

"What use is Peter’s work to me? ... / It is a body of work that is useful to know in order to think ... / He always presents his work with a syllogism of the A = A type / 'I wanted to do A (double spiral, clear-cut geometry, vault, etc. ...) I did A (the double spiral, etc. ...)' / The work is presented as in a mirror: a double image in which the result and the mechanism of formal generation are confused... There, there is nothing to be said."

Miralles warns us of other types of replicas that cannot escape the mechanisms of form generation. A strange and sinister simultaneity between the “copy” and its “invention” that accounts for much of the digital architecture of the 21st century, the origin of which dates back to the syllogisms or processes of diagramming of the late 1960s. Processes that completely annul time, the second of the constraints that the architect never renounced. A time that Miralles felt only as acceleration and tremor after the experience of the collapse of the first design for the roof of Huesca Sports Stadium in April 1993, a circumstance that obliged him to produce doubles, not copies, as a strategy to develop the definitive brief: “The roof as surface refers once again to the notion of double. That roof, woven, becomes the double of the ground.” This was an obsessive concept in his work, and one that was to return forcefully in one of the last symposiums at which he spoke: the Anymore Conference directed by Cynthia Davidson held in Paris in June 1999, with the participation, alongside Eisenman himself, Hubert Damisch, Arata Isozaki, Rem Koolhaas, Rosalind E. Krauss, Ignasi de Solá-Morales, Bernard Tschumi and Anthony Vidler, among others. In his intervention, Miralles returned to the episode of the Huesca collapse to refer to the final result as a double: “It seems that ANY parallel thinking, / any kind of Dr. Jekyll and Mr. Hyde situation, / allows the work [...] to continue.”

In fact, in an exercise of recapitulation towards the end of his life, the architect grouped his production solely under three headings: place, history and creation of the world. A history that forms part of the ghost that haunts his architecture. But unlike his contemporaries, too busy taking advantage of the Catalan tradition as a chain of continuity that would legitimize them to the past, Miralles faced the shadow of Modernisme (Art Nouveau) to measure his strength in the present. 16

11. Ibid., p. 92.
“When an architect trains and works in a city like Barcelona, where Modernisme and Gaudí have left such a deep mark, it is inevitable to have to measure yourself against them. [...] However, for me this does not mean an attitude of copying the work of these architects, but rather an affinity with certain concerns or aspects of architecture. [...] But –I stress– it is a question not of being mimetic, but of needing to face up to our past.”

The list of examples by means of which Miralles essayed this attitude goes beyond the scope of this editorial, but I would like to bring up the influence that Antoni Gaudí’s work had on the process of invention of form in Igualada Cemetery, a competition in which, jointly with Carme Pinós, he won first prize in 1985: “I am fascinated, for example, by the way Gaudí managed to make water run around the park, turning its course into appearance and resurfacing, [...] generating buildings, fountains, statues, serpents that spout water.” Perhaps what caught Miralles’ attention was Gaudí’s obsession with being original—that is, going back to origin, something that was detected by Francesc Pujols, one of his best critics: “Mr Gaudí reaches back to prehistory, the roots of which are lost in the night of time.” A Gaudí who glimpses the law of a punishment in work and matter, and takes pleasure in it. How else should we interpret the collection of replicas of bodies and natures that served as models in the sculptural group of the Nativity façade in the Sagrada Familia? What could be the meaning of the well-known photograph of the architect before the ruins of the columns of Colonia Güell published in his posthumous complete works in 2000? A Miralles who faces the remains of the past and, in his efforts to overcome them, resorts to the power of the fiction of the word: “I have always thought that the architect Gaudí was an invention of the writer Calvino.”

Going back to Italo Calvino and literature allows us to outline the objectives of this issue of RA Journal. In a passage from Le Ressassement éternel, Maurice Blanchot writes how the paradox of language—in which we seldom manage to understand its disturbing simultaneity—resembles the flutter of a butterfly: the light touch of its folding wings is nothing more than the word, where metamorphosis has finally occurred. In his analysis of the drawings by the poet Federico García Lorca, such as Payaso de rostro que se desdoba (1936), Miralles refers to them as an operation “that transforms the eyebrows into non-identical winged beings... one of these sides may differ from the other... like an added wing.”

The origin of art and architecture shares the same paradox as language: original models and their replicas are always presented in a disturbing simultaneity, their interdependence giving rise to that antiqua novitas as an added work. This contradiction is picked up by the title of Mari Lending’s introductory essay, “Transient Permanence”, formulating some of the theoretical statements that run through the issue by erasing the borders between sculpture and architecture by means of the technique of the plaster cast copy. Author of the essential monograph Plaster Monuments. Architecture and the Power of Reproduction, Princeton University Press, New Jersey (NJ), 2017.


17. PUJOLS, Francesc, La visió artística i religiosa d’en Gaudí, Llibreria Catalònia, no. 1, Barcelona, 1927.

18. GARCÍA-ESTÉVEZ, Carolina B. “Gaudí et Rodin: Corps, nature et réplique contre l’égarement de l’avant-garde”, in Gaudí, catalogue of the exhibition of the same name held at the Musée d’Orsay in Paris, from 11 April to 17 July 2022, Musée d’Orsay, Hazan, Paris, 2022, pp. 78-85.


galleries and the lecture rooms of academia to present-day curatorial projects by Salvatore Setti or Rachel Whiteread, among others. But Lending is not alone in pointing out this disturbing simultaneity between the original and its replica in the eternal paradox of language. In his essay "The Alphabet of Architecture. Originality and Literacy in the Theory of Profiles", Maarten Delbeke looks at this contradiction in his study of Augustin-Charles D’Aviler’s treatise, *Cours d’architecture qui comprend les ordres de Vignole* (1691) and the *Livre d’Architecture* (1745) by Germain Boffrand. Since his recent research at the head of the Chair of History and Theory of Architecture at ETH Zurich, Delbeke concentrates his interest on D’Aviler and his mould design manual thanks to its ability to contain and articulate the surface of the building: an attempt to build the basis of a new vocabulary by means of words and images. Miralles proposed something similar in the course of his career, in an attempt to reduce some of his projects to the letters of the alphabet, such as Domi Mora’s series of photographs to mark the end of building work on Huesca Sports Stadium. “The first part of these essays is based on a possible alphabet... The game of recognizing some letters. There is a shift towards writing.” The comparison, despite the time between the two, is no coincidence. Delbeke, like Miralles, insists on the geometry that moves always between the straight line and the curve, appealing to Boffrand’s words that recognize only “the straight line, the concave line and the convex line.” Could there be a better definition for the Catalan’s architecture? (fig. 03)

The confrontation between D’Aviler and Boffrand is only the prelude to a dispute that continued throughout the 18th century about the origins and regularization of the pedagogy of architecture. Carlos Plaza, in his essay “La enseñanza de la arquitectura en Sevilla (1771-1807): sobre artes, antigüedades, libros, réplicas y maquetas en el marco del Real Alcázar,” debates the sources and imaginaries that gave rise to the didactics of classical architecture in the era that included the teaching of Francisco Bruna, such as the famous collection of statues, inscriptions and

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24. The Cornice, Maarten Delbeke and Erik Wegerhoff, editors, gta papers, no. 6, 2021. Continuing the artisan tradition of the Canton of Ticino, the Chair headed by Delbeke organized a workshop in collaboration with Drawing Matter in October 2019. For more information, see: JONES, Emma Letizia, Wegerhoff, Erik, “ETH Zurich: Casting the Cornice in Ticino”, consulted on 11 August 2022, available at: https://www.drawingmatter.org/seta/drawing-week/eth-zurich-casting-cornice-ticino/

antiquities of Baetica installed in the courtyard of the Alcázar following the French model after Sebastian van der Borcht’s reform. Plaza shows how, despite the fact that the Sevillian episode took place alongside the reform of the provincial academies of Madrid, Valencia, Zaragoza and Barcelona,²⁶ it is necessary to include new archival sources that go beyond today’s well-known historiographic outlines in search of a more complex, dynamic understanding of the origin of the architecture of classicism as a recovery of that antiqua novitas.

Some of the architectures of the 20th century also continued with this reference. A striking example is the copying and transliteration of classical elements in the intellectual project of the novecento. Think of some of the works of Auguste Perret, Peter Behrens or Heinrich Tessenow, and how they constitute a veritable drama of the Großform, tabling a contradiction between capitalist production systems and their elegiac desire for culture. In Barcelona, this spirit was embodied by figures such as Nicolau Maria Rubió i Tudurí, brothers Antoni and Raimon Puig Gairalt, Rafael Masó and Francesco Mitjans himself. In his essay “Mitjans como referencia de Mitjans”, Félix Solaguren resorts to similar mechanisms to respond to copying as an attitude of camouflage during the Spanish post-war period. A gesture that, again, might find an answer in Kubler:

“Strictly considered, a form-class exists only as an idea. It is incompletely manifested by prime objects, or things of great generating power, in the category of the Parthenon, or the portal statues at Reims, or the frescoes by Raphael in the Vatican. […] These three examples, however, are extremely special ones illustrating the phenomenon of the climactic entrance. Such entrances occur at moments when the combination and permutations of a game are all in evidence to the artist; at a moment when enough of the game has been played for him to behold its full potential; at a moment before he is constrained by the exhaustion of the possibilities of the game to adopt any of its extreme terminal positions. […] It is likely that buildings constitute the majority of our prime objects, being immobile and often indestructible objects.”

This game of possibilities where all the positions are visible runs through the text “Don’t Shoot the Messenger SVP: A Brief History on the Theory of Typology”, by Ana Tostões and Jaime Silva. The authors reconstruct the possible timeline of studies around the idea of permanence of architectural type, from Antoine Quatremère de Quincy to the present day, with particular dedication to the recovery of the debate in the 1960s and 1970s involving Aldo Rossi, Rafael Moneo, Josep Rykwert, Oswald Mathias Ungers and Léon Krier. Along these same lines, the text by Carlos Labarta, “Vanguardia o tradición disfrazada: reverberaciones pretéritas en el vocabulario de Frank Gehry, Los Ángeles 1952-1985”, continues the theses of Krauss in her well-known essay The Originality of the Avant-Garde and Other Modernist Myths²⁸ (1986) by dismantling the A = A syllogism to which most of the architectures of deconstructivism resorted, revealing the vernacular origins in Gehry’s architectures. Once again, a ghost that not only haunted his initial work in Los Angeles, but also that of other contemporaries such as Charles Moore, reminding us of the coordinate that made Leonardo’s undertaking for Gonzaga impossible long ago: replication of a place.

But how are we to skirt the abyss of those architectures of which only a narrated image survives? How should we trust the possible permutations offered by those now disappeared prime objects? It is then that the terminal positions of the game announced by Kubler


trust to the power of evocation of literary sources and submit to visions of them offered by other artists and architects over the years. Elena Merino and Fernando Moral study this classical exercise in their essay “Arquitecturas textuales: la invención visual a través de la recepción de la narrativa”, questioning the capacity of transmutation of an architecture from the word to the object. The chosen example is none other than Pliny the Younger’s account of Villa Laurentina, while the visions responsible for elucidating their thesis range from the gioco of restitution of an antiqua novitas by Raphael in Villa Madama (1519), to Léon Krier’s liberating interpretations for the competition “La Laurentine et l’invention de la ville romaine” called in 1982 by the Institut Français d’Architecture. The concept of historical continuity and its variations in style was once again taken up and put to the test as imagination in the face of the text and the ruin, in a fight against mimesis waged in the space of indeterminacy. Or of arbitrariness, to use one of the words with which Professor Moneo has recently responded to this and other questions about the origin of order in architecture from Vitruvius to the present day. Boundary and constraints that end up revealing, as Miralles himself criticizes, the limitations of any process of creating form as a mere production mechanism. The technical reproducibility to which some works are subjected questions not only the absence of the aura that Walter Benjamin called for in his well-known 1935 text, but also the impossible metamorphosis of language that annuls the simultaneity between original models and replicas. I think there is no better way to understand the limits of architecture as technique than the words that Siegfried Kracauer dedicated to Ludwig Mies van der Rohe and Lilly Reich’s Spiegelglashalle installation for the Verein Deutscher Spiegelglas-Fabriken at the Werkbund exhibition in Stuttgart in 1927: “For the frames of these houses are not an end in themselves, but rather the necessary step towards a fullness that does not require openings and that today can only be negatively witnessed through pain. They will only be embodied as flesh when humankind gives up glass.” A flesh that can be seen as a tremor both in the working moulds in Gaudí’s workshop, and in the mark that the natural casting technique has left on many of the stone monuments of our present (fig. 04). In her essay “Reconstruyendo los procesos de reproducción de monumentos: la huella sobre los grandes formatos del siglo XIX”, Montserrat Lasunción unravels this paradox by means of unpublished archive documentation that includes, among others, letters of inestimable value from John Ruskin deposited in Italy’s Archivio Centrale dello Stato. Likewise, it is technology and its literary fiction that informs the essay by Luis Miguel Lus and Stephen Parnell about the experiment of the townscape: “Civilia: Utopia in the Age of Photomechanical Reproduction. Architectural (Photo)copy as (Re)invention.” Miralles again, but this time in the realm of painting, would help us understand the scope of the June 1971 monographic issue of Architectural Review, in which the authorship of the project is presented under the pseudonym Ivor de Wolfe: “What I would like to do exactly is show how things appear to me...” What remains of the 18 work sessions in which Alberto Giacometti faces the impossible portrait of James Lord is nothing more than a series in time, a blend of impotence and anguish, that never manages to complete the commission. That same anguish and impotence that the architecture of the late 1970s felt at the never-fulfilled achievements of the masters of modern architecture.

29. MONEO, Rafael, Sobre el concepto de arbitrariedad en la arquitectura, Speech by the Academic Elect Hon. Mr. José Rafael Moneo Vallés, read at his public reception, on 16 January 2005, Real Academia de Bellas Artes de San Fernando, Madrid, 2005.


This was a period that coincided in Spain with the effective political recovery of the architectural avant-garde in the first years of democratic transition. Urtzi Grau, writer of one of the best recent reviews of the replica of the German Pavilion in Barcelona and co-author of Architectural Replicas. Four Hypotheses on the Use of Agonistic Copies in the Architectural Field (2015), is now looking at the possible final meaning of the reconstruction of the Pavilion of the Spanish Republic—the work of Josep Lluís Sert and Luis Lacasa—in three phases: 1937, 1976 and 1992. “Diachronic Pavilion. Variations of...
the Pabellón de la República Española” is an essay that takes us back inside the galleries of the MNCARS to face new, more disturbing ghosts. The substitution of an original work, or its fragments, by its exact replica manifests the limits of our gaze when faced with the emptiness and the absence running through the remains of its presence. Recent research explores this condition by means of new digital tools, such as those used by Francesca Torello in the ReCast project at the Carnegie Museum of Art in Pittsburgh, a challenge addressed in "Plaster Casts, Augmented. Architecture in the Museum and the Impact of Digital Media." 35

This monographic issue of RA could only close with Luis Martínez Santa-María’s manifesto, “Cinco copias imposibles”. From sculpture to painting, his is a journey that leads us inevitably to the terror of death in the perfect, indestructible copy of the orange/black box of an aeroplane. Miralles himself experienced something similar when he took on the contest for the San Michele de Isola cemetery in Venice in 1998, going so far as to say that “the beauty of the setting is such that an animal desire instantly bursts forth to imitate exactly... to create a copy.” 36 The quote is accompanied by the image of the group Bacchus et Ariane (c. 1505-1510) by Venetian artist Tullio Lombardo (fig. 05). This sculpture not only reminds us of the meanings that the figure of the androgynous acquired in Greco-Latin antiquity as a model for the synthesis of opposites, an Orpheus—if I may say so—abandoning his lyre to redeem himself from hell in the detail of the flesh, but also of the longed-for unity that aspires to transcend time by means of death. Miralles referred to it to signify difference over repetition, originality over copy, the value gained by any attempt, one among thousands, chosen in the freedom acquired when decisions are made in the face of doubt. Because, as Tallón reminds us in his Obra maestra, “perhaps Oteiza was right when he said that the history of sculpture is the work of a single sculptor who keeps changing his name.” 37 And perhaps this is also the case of architecture. RA

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35. For more information about the project, see: MATTERA, Julianne, “SoA’s Augmented Reality App Puts Museum Visitors in Touch with Architectural History”, consulted on 12 August 2022, available at: https://soa.cmu.edu/news-archive/2017/12/14/plaster-recast-augmented-reality-app


37. TALLÓN, Juan, op. cit., p. 188.