Figures on Surfaces.
Murals between Context and Narration

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Abstract

Mural surfaces are situated in an experiential dimension with a high rate of technical and artistic experimentation. This essay investigates wall-sized graphics and, in particular, images present from the birth of architecture itself, which stores them based on a two-dimensional narrative project that involves spatial experience.
Interior and exterior walls have revealed their primary vocations with some important areas of interaction. On the one hand, interior walls act as windows that –instead of opening towards the real, present landscape– frame landscapes of thought and, particularly with photomontages, allow the observer to intuitively understand true urban theories. On the other hand, exterior façades are characterized as communicational devices immersed in the city: from mosaics to typography, 'wall-size' graphics are transformed and express the sense of their own time.
While extensive literature has analysed the histories of art and the technique of façades and interior walls separately, the objective of the present study is to combine these topics in search of common threads in virtue of both the common nature of the material –the predominance of the surface over other formal aspects– and, as a consequence, the common calling to act as screens for visual communication.

Keywords: photomurals, façades, graphics and architecture, photomontage.

Introduction

A wall is a sign [De Fusco 2019], something which is well known by architects, who trace it, and semiologists, who investigate it. A wall is a sign that defines separations, limits, prohibitions. Walls, however, also often host other signs, figures that inhabit the entire surface, from one extreme to the other, from the base to the top, that mean something else beyond the limit. Those signs generate a recollection that attracts those who wander near the wall [Barthes 1999, p. 66]. This is known well by graffiti artists and street artists, just as it has always been known by the great powers, who have charged artists in every era with decorating the long walls of churches and the high walls of the fronts of government buildings. This is known, though, once again, by architects who, in modern and then contemporary projects, have used the communicational power of these large surfaces to give a voice to the walls they are tracing and transmit on them their own architectural and urban theories.

The object of this study is therefore the signs that architects have wanted to leave on the surfaces of walls, not as an aesthetic solution, but as a medium, taking advantage of the always new techniques and technologies of visual communication: elements present as "urban graphics", especially on façades, and in interior arrangements and walls. The goal of this reflection is to reunify exterior and interior surfaces in a single history of technique in search of a common thread, delineating a single investigation of the strategies of wall-sized visual communication.

Topics and relevant examples of buildings are considered for both types, where the relationship between art/graphics and architecture is resolved in sharing a surface: the interior surface as a place for formal experimentation and techniques that continuously cross time, and the exterior surface where signs configure communicational devices, thereby instilling a special relationship with the city space. Interior walls transport us to mental and experiential landscapes even far from the building in which they are found, while exterior walls speak to us of the physical place they represent. In this article, the authors aim to highlight the path through which both interior and exterior walls become the protagonists of an inexorable transformation of architecture into representation.

Ephemeral/Figurative Murals for interiors

The Reinvention of a Medium
In 1937, Adalberto Libera won the competition for the Palazzo dei Ricevimenti e dei Congressi for the 1942 World's Fair in Rome (E42). The original idea of the project entailed covering the high part of the walls of the central room with gold mosaic, thereby dissolving the perception of the corners of the quadrilateral plan and suggesting a "ring-shaped" space [Marcello 2010, p. 9]. Fascist rhetoric later imposed a figurative cycle dedicated to the glory of Rome, from the myth of its origins to the new Mussolini Empire; this, however, was never realized, allowing us today to perceive that pure, undecorated space in all its modernity.
In the same year, Giuseppe Pagano exhibited the mosaic *L'Italia corporativa* (8 m × 12 m) by Mario Sironi at the Paris International Exhibition. Like a large fragment discovered in an archaeological excavation, it was not fixed, but suspended in the air, propped up on the wall by iron girders, which also allowed the public to see the irregular surface of the back [Golan 2018, p. 578].
By reading these episodes, it is clear that in 1937, probably due to temporary political reasons, the modern interior mural still had not achieved its independence and artistic peculiarity and was still not stamped with comparisons with the great art of the past.
This is not true only of Italy and does not only entail a relationship with the tradition of mosaics: it may also be referenced in relation to large-scale painting. For example, still in 1937 and for the Paris Expo, *Guernica* by Pablo Picasso, in all its 3.49 × 7.77 meters, was exhibited for the first time on an outer wall of the area in front of the heart of the exposition area of the Spanish Pavilion, nearly counterbalancing the didactic murals of the internal arrangement [Arnheim 1964].
From these examples it is clear that interior murals had by then crossed over their traditional collocation and connotation and taken steps towards a true reinvention of the medium. From *instrumentum regni*, the static, centralizing sign in institutional sites, they had become part of a path that involves spatial experience in temporary expository contexts.
The 'ephemeral' potential is, in fact, the most innovative and distinctive character of interior murals. In these contexts, architects may appropriate the narrative element, contemplating it in the project itself, animating it in theoretical speculations.
Up to the 1930s, interior walls were decorated almost exclusively with painted works, but the advent of technical reproduction opened the way to an entire series of experiments, achieving results well beyond the prerogative of traditional decoration. Pertaining to this key is the most varied avant-garde experimentation at the beginning of the 1900s, from the installations of the Russian Constructivists, the *Proun Room* by El Lissitzky (Berlin 1923), the sculpture-painting created within the Bauhaus by Oskar Schlemmer with Willi Baumeister (Weimar 1924), up to the extreme three-dimensionality of the *Merzbau* by Kurt Shwitters (Hanover 1923-1937) or Italian experimentation with *plastica murale*, an application of Futurist polymaterialism of wall décor explicitly inspired by examples from beyond the Alps [Pirani 1992]. *Plastica murale*, as intended by Filippo Tommaso Marinetti, but especially by Enrico Prampolini, places particular emphasis on interior murals, which become the main object of their research. "Today, the modern architecture derived by Antonio Sant'Elia lacks its *plastica murale*, especially within, and is often troubled by the depressing anachronism of mismatched and out-of-place frescoes, paintings, or sculptures" [1] [Marinetti 1934, p. 3].
Avant-garde murals therefore oscillate between painting and sculpture, between surface and model, making the catalogue of possible techniques and materials nearly infinite (fig. 1).

Fig. 1. a) El Lissitzky, Prouneraum [Proun Room], 1919-1923, axonometric projection, © Collection Centre Canadien d'Architecture/Canadian Centre for Architecture (CCA), Montreal (left). b) Oskar Schlemmer, interiors of Rabe House, Zwenkau, 1930-31 (center). c) Kurt Schwitters, Merzbau, Hannover, 1933 (right).

Fig. 2. a) El Lissitzky with Sergei Senkin et al., Photofrieze, Soviet Pavilion at the Pressa Exhibition in Cologne, 1928 (left). b) Giuseppe Terragni, Exhibition of the Fascist Revolution, Sala O, Palazzo delle Esposizioni, Rome, 1932 (right).
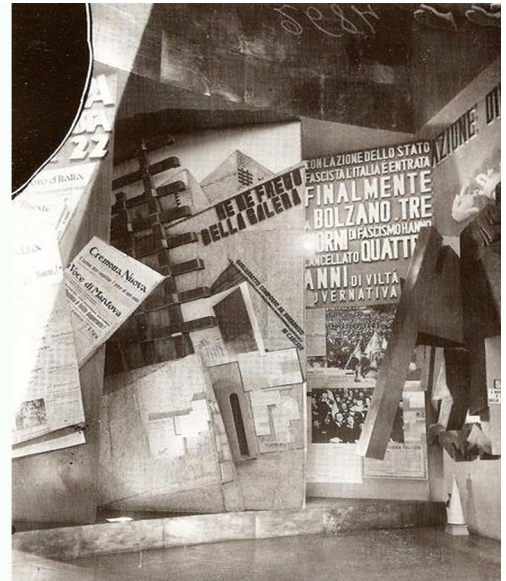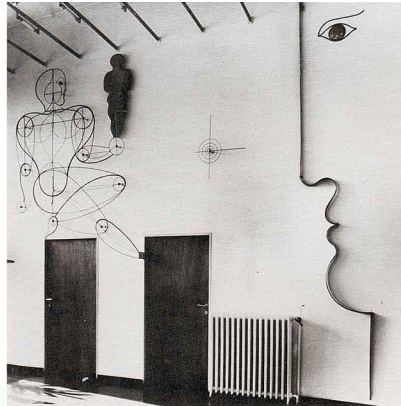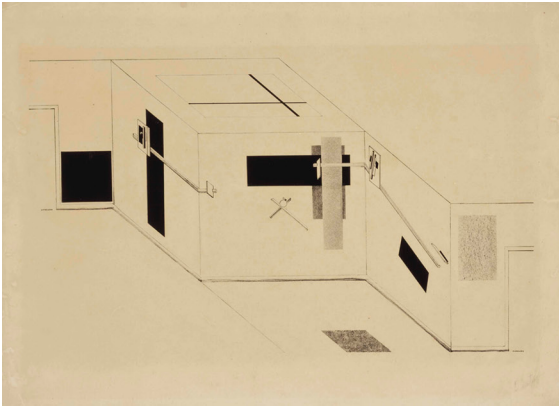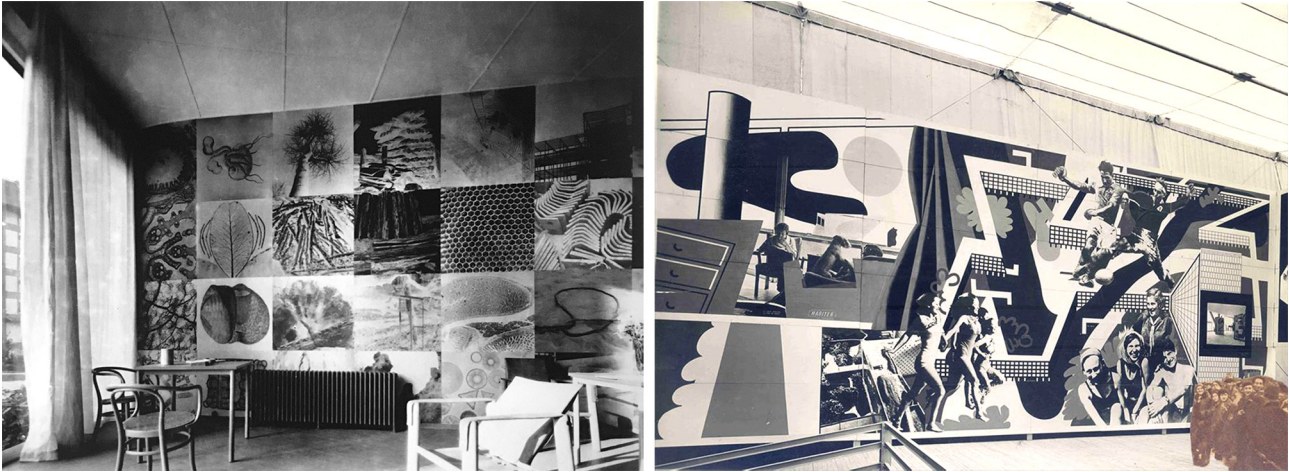
Fig. 3. a) Le Corbusier and Pierre Jeanneret, Photomosaic for the Swiss Pavilion, Paris (1929-1933) (Photo Marius Gravot. © Fondation Le Corbusier, Paris) (left). b) Photomural Habiter (Dwelling), installed in the Temps Nouveaux Pavilion at the Paris International Exposition, 1937 (Photo Albin Salaün. © Fondation Le Corbusier, Paris) (right).

But the search began to be circumscribed and became an operation of sense only when the mural returned to the figurative dimension, to historical narration inhabited by human figures. The reason lies in the fact that the human figures of representation act as guides to codify the story, allowing the observer to become totally 'immersed' in the speculative environment that, in modern projects, changes from two-dimensional to three-dimensional, even if it would be decommissioned or destroyed at the end of the exhibit.

Photography, or rather the enlargement of photographic prints to the large scale [Lugon 2015], would play a fundamental role in this direction. Photography as a technique would define the new model of modern murals, inhabited by narrative figures. Even before large-format photographs, which in the 1980s would favour "the artistic recognition of photography and be equated with a contemporary form of the painting, or 'tableau'" [Lugon 2010], from the environments of agitprop the photomontage would reach the great international exhibitions at the end of the 1920s and go on to characterize the following decade (fig. 2a).

From Figurative to Photorealistic: Photomurals
Photomurals represent a type of mural that since the 1930s has never abandoned the scene of expos, shows, and museums [2].

A mural photograph is both a document and a work of art. In 1933, Le Corbusier created a photomosaic to cover the curved wall of the library of the Swiss Pavilion in Paris: forty-four 1 x 1 m "tiles", enlargements of black and white photographs and negatives of disparate images of the natural world and human constructions, microscopic and panoramic views (fig. 3a). In reality, the Swiss master would have left the wall in bare concrete, but the president of the *Cité Internationale* requested the creation of a decoration: large plates depicting rocks, snow, glaciers, etc., that recalled home for the students who came to lose themselves in treacherous Paris. In satisfying his customer's request, Corbusier said, "I have therefore decided to realize, in two, three days, the first photographic mural considered not as a document but as a work of art" [Naegele 2013, p. 151]. The result is a work, unfortunately lost, that is strongly evocative and educational, a message to students residing in the Pavilion: "Inside to outside: serene perfection. Plants, animals, trees, sites,

seas, plains or mountains. Even the perfect harmony of natural disasters, of geological cataclysms, etc. Open your eyes! … Architecture is an extraction of the spirit and not a trade" [Petit 1970, p. 82].

The strength of a photograph resides precisely in its highly communicational aspect, which is more or less explicit and becomes propaganda in photomontages, especially those on the architectural scale. This was abundantly clear in the 1930s, when the technique was even abused to support both socialist and Fascist content. Indeed, it is indisputable that the Soviet model was adopted by the Italians in the Exhibition of the Fascist Revolution in 1932 (fig. 2b), despite the effort to mask the debt to agitprop with manipulations, swelling, and archaizing that deepened the 'Roman' nature of the photomurals [Golan 2010, p. 84].

Even Le Corbusier made a large installation of photomontages within the Temps Nouveau Pavilion in 1937 to explain the four functions of modern urban design [Rüegg 2012, pp. 82-106] (fig. 3b). Despite the authority characterizing both their content and representation, the contribution made by Le Corbusier did not add any innovation to what had by then become common and which, in those years, would have tired the critics [3].

It is precisely this strong identification with this historical period –and with the jumble of shouted, politicized proclamations– that has compromised the use of mural photomontage since the Second World War. The technique of montage in itself was "recovered" by the so-called "radical" architects in the late 1960s, but it did not coincide with the recovery of murals. The case of Arata Isozaki is curious, however. Nearly 30 years after creating his collage *Re-ruined Hiroshima* (1968), he reused it for a photomural at the Venice Biennale in 1996 [Lehmann 2017].

In fact, only at the end of the century did photomontage reappear in art and design, without fear of the large scale and even being integrated with the most advanced multimedia immersion products. This was done, however, without betraying the monitoring and "politicizing" component of the medium. In the field of design, examples of this include many museum installations of memorials, while in the world of art, photomontage characterizes the work of some "dedicated" artists who focus on the dynamics of the consumption society and therefore on the great crisis of architecture and the city (fig. 4).

Fig. 4. Botto & Bruno, *Society, you're a crazy breed*, Fondazione Merz, Turin, 2016 (photo R. Ghiazza).

Fig. 5. Robert Venturi, Denise Scott Brown, and Steven Izenour, in collaboration with Stephen Shore, *Signs of Life: Symbols in American cities*, Renwick Gallery, Washington DC, 1976.

Fig. 6. OMA and 2x4, Florification, wallpaper for the Prada Epicenter, New York, 2019. The wallpaper, 60 m long, was printed digitally based on a graphical project by the studio 2x4. It is replaced every 6 months and is often accompanied by video and interactive installations.

Among the main characteristics of photomontage, from its avant-garde beginnings to contemporary examples, from collages to photomurals, the effectiveness of black and white is incontrovertible, an aspect that first reconciles a technical need (before colour printing) with a communicational strategy (the emphasis of visual contrasts corresponds to emphasis on the message). The use of colour necessarily results in the tones of the messages being lowered, but also opens up to other media.

From the 1950s to today, large-format colour photographs have pervaded publicity in the public space, both indoors and out, and –once they became extremely accessible– have even conquered the market of domestic decor, especially in the United States.

In this context, photomurals became a media image without artistic legitimacy, but perhaps because of this, Robert Venturi and Denise Scott Brown, together with their collaborator Steven Izenour, chose a colour photomural to design the exhibit *Signs of Life: Symbols in the American City*, commissioned by the Smithsonian Institution to celebrate the American bicentennial and inaugurated at the Renwick Gallery in Washington on 26 February 1976 (fig. 5). With the collaboration of the photographer Stephen Shore, the show presented to the larger public investigations of the American city, which also formed the basis for the publication *Learning from Las Vegas* [Venturi, Scott Brown, Izenour 1972], very careful research on urban planning that highlighted how architecture and the city, beyond the categories of space and function, is also a question of images, symbols, and communication. The architects' intent was to make the survey as neutral as possible and the colour photographs were thus not manipulated; the show, however, was loaded with other signs: speech balloons focused attention on this or that element, which our eye was invited to recognize more than decipher. From rhetorical, the message became caricature: the main estrangement was the fact that what was ordinary was allowed to inhabit the spaces of a museum. Venturi and Scott Brown's idea was to cross the models of billboards (an image made for drivers' distant, fleeting, distracted attention) with newspapers (high informational density) in a ready-made game inside out [Lugon 2015].

Today, now that photography has conquered the walls of museum space and the market of contemporary art, both in the frame dimension and in the large light box, the presence of photomurals has decreased significantly and interior walls have reached the apex of their ephemeral dimension, nullifying any critical dimension of the overlying image. Contemporary mass communication has reached commercial space and expository space equally, and the same can be said for internal dividers that partition shops, restaurants, and museums: ever less functional and increasingly the carrier of changing messages, palimpsests of interchangeable images or screens animated with projections as needed (fig. 6).

Thoughts and Words. Other Figures of City Walls

Theories
While Barthes already clearly showed the "city as writing", in buildings' surfaces, this "writing" surpasses any metaphor and is made real. "The city therefore constitutes a discourse and this discourse is a real word: the city speaks to its residents, we speak our city, the city where we are found, simply inhabiting it, passing through it, watching it" [Barthes 1967, p. 11] [4].
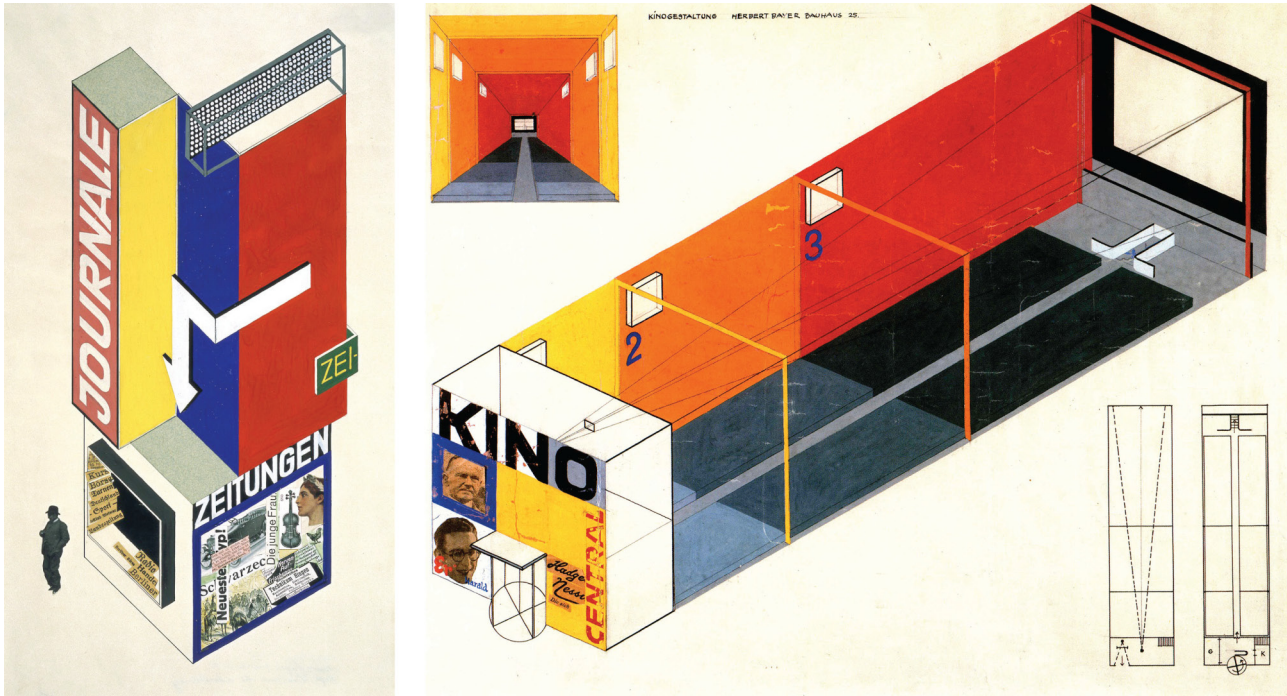
Fig. 7. Herbert Bayer, Kiosk (left) and Design for a Cinema (right), 1924.

Façades are configured as communicational devices: graphic design on the scale of the wall transforms it and the sense of time itself is expressed on the surface. As a support for visual constructions, the surface, by changing, highlights not only aesthetic choices but is also capable of communicating theoretical explorations [5].

A game of superposition integrates the construction with a narration that participates strongly in the spatial experience and the definition of the urban environment. This is favoured once the wall has overcome its "mechanical" essence as a diaphragm between interior and exterior. "Once the skin of the building became independent of its structure, it could just as well hang like a curtain or clothing. The relationship between structure and skin has preoccupied much architectural production since this period and remains contested today. The site of this contest is the architectural surface" [6].

The external surface, in its graphical characterization as an artefact of communication, thus lives within the "representation/conformation" binomial, albeit with various degrees in the significance of the two components [7]. The graphical signs used are not only a characterization of the surface, but can also reinforce the identity of the building and transmit information. The façade exists in an ambiguity given by its simultaneously being a "sign" tied not only to the building to which it belongs, but also to the city. "In fact, the façade, as a 'figure', is as a rule a two-dimensional surface that constitutes precisely a figure of the envelope-signifier of the building. At the same time, however, it is a 'figure' of the 'meaning' of the urban-planning mark, which is no longer an interior
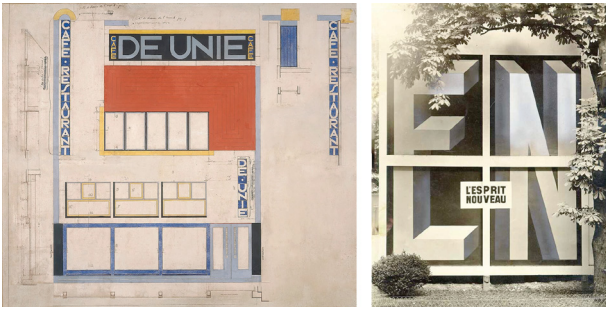
Fig. 8. a) J. J. P. Oud, Café De Unie, Rotterdam, 1925, drawing of the façade project (left). b) Le Corbusier and Pierre Jeanneret, Esprit Nouveau Pavilion, Paris 1925 (right).

but rather an external space, a street or square" [De Fusco 2001, p. 159] [8].
In urban perception, the "cinematic walk" [9] pauses. The façade itself is transformed into a screen in place of the 'show', and expects the observer's attention. "It is thus that architectural experiences –which imply the dynamics of space, movement, and narration– are tied to the cinematic effect and its wandering, even incorporating it" [10]. What is instituted is a "phenomenal transparency" [11] that transports the observer to a virtual space, a transparency that "implies more than an optical characteristic; it implies a broader spatial order. Transparency means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates in a continuous activity" [Kepes 1990, p. 81].
The extreme case is when the architectural construction in its totality is transformed into a graphical artefact. Emblematic of this are the building-signs of Herbert Bayer [Cohen 1984], who, with forms, colours, and writings, declares their function (fig. 7). This attitude manages to transform the nature of the building, turning it into a sort of oversized packaging as in different projects by Neutelings & Riedijk Architects [Neutelings Riedijk Architects 2018]. This behaviour is also highlighted in works by Robert Venturi, where the American architect reiterates his desire to build an "architecture of communication" in many of his projects, refining it in different ways [Venturi, Izenour, Scott Brown 2018].

Techniques
The mode of dealing with façades can be rather diverse: sign, colour, text, and light define the building's surface, often intersecting each other. By weaving them together, the graphical forms –in different degrees of abstraction– become ingrained, oscillating between recognizable signs and their dissolution into patterns (fig. 10).
Typography is refined as a message and specifies the building's identity, but it can also be exhibited as "decoration", textures in the deepest and primordial sense of the term (fig. 11).
While the presence of writing also often contributed to characterizing façades in antiquity, it is especially with modern architecture that the use of "typography" became a true component of the composition. A key example is the façade of the Café De Unie in Rotterdam designed by J.J.P. Oud in 1925 (fig. 7b). The presence of typography –with modifiable texts and a clear advertising function– also characterizes other de Stijl buildings such as the one for the De Volharding Cooperative designed by Jan Buijs in 1928 [12] (fig. 9a).
Le Corbusier, always attentive to signs, characterized one of the external walls of the Esprit Nouveau Pavilion with what one could consider a true logotype (fig. 8b).
In contemporary architecture, the use of typography in façade design has become increasingly widespread [Heller, Ilić 2013]: words "decorate" building surfaces, but also communicate the activities that they perform (fig. 9). The use of typography may also be refined in particular procedures such as in the work of the Indian artist Daku, who created an installation in Delhi in 2016 where letter outlines were fixed orthogonally to the surface of the wall, which was "decorated" by the continuously changing shadows projected there [Lynch 2016].
Colour, as a characteristic of structural or decorative components, articulates the elements that configure the façade and become one of its 'decorative' elements; colours made of pigments, but also of light.
Light informs the façade both through 'transparency' –with translucent surfaces– and through 'emission' – becoming a generator of signs [13]. Light as a dynamic element also distinguishes some creations by Gyorgy Kepes after the Second World War. The most impor-

tant include the neon light mural for the Radio Shack building in Boston (1950) [Poulin 2012, p. 135] (fig. 9b) and the KLM Office Building in New York (1959) [Bacsó s.d.]. Kepes' work naturally grew out of the seminal work developed by László Moholy-Nagy [Moholy-Nagy 1936; 1947].

Another important aspect is technology, wherein devices, often complex ones, characterize building façades [14]. The most emblematic of these include the unusual panels that Jean Nouvel installed for the Arab World Institute in Paris in 1990 and where the "design" –while evoking Oriental decorations– is composed of diaphragms whose opening is controlled by photosensitive cells. In recent years, experimentation has been increasingly tied to digitalization. Important examples include creations such as the *GreenPix* [15] wall in Beijing and the *Ziggo Dome* [16] in Amsterdam, both of which are characterized by façades suspended between stability and mobility, composed of LED 'pixels' that make them shimmering and functional, also serving as communicational devices [17] (fig. 12a).

The surface may also create a profitable relationship with the mode of art. The most important examples in recent years include works by Yayoi Kusama such as the decoration created for the Louis Vuitton flagship store in New York (fig. 12b).

This also includes 'limited' approaches such as those by the French artist JR, where a strong planning of his works –which rely primarily on photographic images applied to the surfaces of buildings– mark his photographic installations with the apparent closeness to typical street-art methods [Thompson, Remnant 2019]. Works such as those by Anish Kapoor are also capable of characterizing the urban space and at the same time –through "reflection"– absorbing and representing it, altering it [Codognato, D'Orazio 2015]. And yet photographs are the main character in the iconographic repertoire used by Botto & Bruno to 'redress' the surfaces of the Banchette industrial system [18].

A particular operation on the relationship between writing and wall surface situated midway between art and graphic design was promoted by Ruedi Baur [19] and other Swiss artists and developed in 2016 and 2017 with installations that also make use of calligraphy [Ménine, Baur, Baur 2018].

Fig. 9. a) Jan Willem Eduard Buijs, Coöperatie De Volharding Building, The Hague, 1928 (left). b) György Kepes, Photo-electric mural banner for Radio Shack storefront, Boston, 1950 (right).

Fig. 10. a) Jacques Herzog and Pierre de Meuron, Production and Storage Building Ricola, Mulhouse-Brunstatt, (France) 1993. The façade – made of polycarbonate panels – is silkscreened with a repetitive plant motif, the image of an Achillea Umbellata leaf by the German photographer Karl Blossfeldt (1865-1932). (Photo © Margherita Spiluttini) (left). b) Neutelings & Riedijk Architecten, Netherlands Institute for Sound and Vision, Hilversum, 2006 (Photo Scagliola/Brakkee) (right).

Fig. 11. a) Massimo Vignelli, 712 Fifth Avenue Barrier, New York, 1987 (left).
b) Paula Scher (Pentagram), New Jersey Performing Arts Center, Newark,
2001 (right).

Fig. 12. a) Simone Giostra and Partners Architects and Arup, GreenPix,
Pechino, 2008 (left). b) Yayoi Kusama, Outdoor installation for the Louis
Vuitton flagship store, New York, 2012 (right).
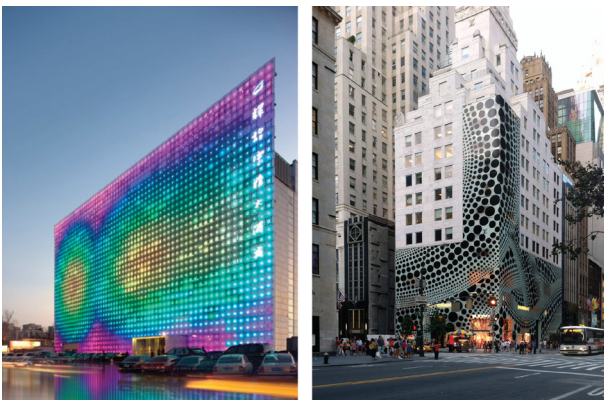
Conclusions

The goal of this research was to reflect on "images" over-
laid on architecture, where they grow out of a dedicated
graphical project –and not from the occasional stratification
of signs, as mainly occurs in street art– especially in order
to integrate the construction with a narration that partici-
pates in the spatial experience. Interior and exterior walls
often follow separate paths because they grow out of differ-
ent purposes: interior walls are designed to take us outside
the building –historical *trompe l'œil* comes to mind– both
physically and with our thoughts. Exterior walls, on the other
hand, speak about the "here and now". They represent the
building and the functions it houses –not infrequently com-
mercial– or reflect some peculiarity of the urban area where
they are found.

In both cases, though, the meaning is expressed starting
from research on ever current representation, which reach-
es architecture from the worlds of art and technology in
pure synergy.

On the one hand, the relationship with art is a particularly
effective circumstance because it represents the matrix that
theoretical research is based on, the development of new
themes, and new reflections on the urban space. However,
art itself is increasingly occupied with architecture and real-
izes this on the front line (associated art and architecture
firms such as those by Olafur Eliasson or Vito Acconci come
to mind). The temporary interventions themselves are also
increasingly projects to 'redesign' and renovate urban spaces
and not irregular or self-referential actions by artists reject-
ing relationships with institutions.

On the other hand, it is technological innovation, increasingly
driven, that acts on the surface of the wall, redefines it, and
extends its characteristics.

Although with a diversity of solutions and constructions im-
plemented between interior and exterior, the scope of the
register of examples presented here is to recompose the
events of the mural surfaces beyond their functional, tech-
nological, and narrative distinctions. In addition, there is no
lack of instances in which exterior and interior are placed in
continuity through surfaces of limits and "filters": from large
mirrors to the architectural/urban scale, to true coordinated,
reunifying projects.

The aim is to reveal and highlight how, in the stratified, often
occasional, environments of signs of the contemporary city,
design continues to be revealed as a necessary tool for initi-
ating different processes of effective narration.

Notes

[1] Translated by the author.

[2] In this text, *photomural* implies both the enlargement of a single image and an architectural-scale collage of photographic fragments. It is specified in the text when this implies a photograph or photomontage.

[3] In 1935 Ferdinando Reggiori wrote: "These shows now begin to be saturated: we should fight photomosaics" (In: La Mostra dello sport italiano al Palazzo dell'Arte di Milano. *Architettura*, 14, 1935, pp. 447-495, cited in Golan 2010, p. 85).

[4] Translated by the author.

[5] See: Herdeg 1982; Belardi, Empler, Quici 1999; Poulin 2012; Empler 2012; Dawson 2013; Bruno 2016; Poulin 2017; Cooke 2018; Adams 2018.

[6] Leatherbarrow, Mostafavi 2002, p. 8.

[7] For a deeper look at this concept, see: De Fusco 2001, pp. 166-168.

[8] Translated by the author.

[9] This terminology makes reference to Bernard Tschumi; see: Bruno 2006, p. 53.

[10] Ibid, pp. 53-54. Translated by the author.

[11] Reference is naturally made to the concept developed by Colin Rowe; see Rowe 1990.

[12] The façade of the building presents bands of opalescent glass with a structure that makes it possible to overlap writings composed of metal letters. Artificial lighting makes the visual impact of the communication even stronger. An important precedent in the use of the façade as a publicity tool is what was created in 1924 by Aleksandr Rodchenko for the Mosselprom warehouses in Moscow.

[13] On the relationship between artificial light and architecture, see Ackermann, Neumann 2006.

[14] See Gasparini 2009; Haeusler 2009; Haeusler, Tomitsch, Gernot 2012; Lewis 2015; Hespanol, Haeusler, Tomitsch, Tscheerteu 2017.

[15] The project, completed in 2008, is by Simone Giostra Architects and Arup.

[16] The structure, completed in 2012, was designed by Benthem Crouwel Architects.

[17] On the use of "dynamic graphics" on building surfaces, see also: Krasner 2013, pp. 158-160.

[18] The structure is a cogeneration centre for the district heating plant. It is located near Ivrea and the images used are 'montages' of photographs of Olivetti buildings.

[19] Baur is the most important graphical designer interested in environmental graphics. With respect to the topic presented here, his visual project for the Cologne Bonn airport is of particular interest.

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