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TRANSPARENCY PHENOMENA: THE COMMUNICATIVE ACT IN CONTEMPORARY ARCHITECTURE

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Abstract: We presented a chronological analysis that aims to demonstrate that contemporary architecture comes from an evolution of the phenomenon of the transparent, a concept inherent to modern architectural historiography, as an unequivocal representation mechanism of the communicative act in architecture where the glass suffers a seizure of said situation, in a progressive unveiling of its materiality as "communication systems become more fluid" (Colomina, 2008, pp. 15-24). Thus, the current architecture faces the challenge of assuming the new communication technologies of the digital culture of networks.

Nowadays, a continuous repetition of mirages, caused by the assumption of constantly updated information, is manifested profusely in the design of envelopes with a high sophistication of their physical limits, densifying the amount of attributions of such elements, which produces that the perception of the architectural object is suspended between reality and virtuality. The result is the increase of the communicative function in its own material dissolution.

Keywords: Transparency- Modern architecture- Art - Digital communication

INTRODUCTION

The continuous and rapid sophistication of technological means, as the 20th century progresses, produces constant reconfigurations of the forms of contemporary society. This statement could be synthesized through another associated with architecture, that it has generated the "revolution" that has occurred in living in new artificial environments. (Sloterdijk, 2006, p. 383). This process, fundamentally that of the technical development of the mass media, transcends all artistic and cultural expressions in an evolution where the development of technical images (Flusser, 2014, p. 19-24) modifies the modes of representation of the arts, both in its material form and in its transmitting capacity. The continuous regeneration of modern architecture is not only affected by the progressive abstraction of the image, it also assumes this evolution in its own nature. Its traditionally solid appearance, influenced by the progressive dematerialization of the media (Tschumi, 1994, p. 559) ((image-time (Deleuze, 1987, p. 98-99) and/or electronic image (Brea, 2010, p. 73)), thus begins a process of dissolution of its materiality, which is both its visual perception and its structure (Riley, 1996, p. 9).Architecture as a system of representation, in turn and by way of endless loop, represents the dematerialization of such dematerialized systems. This question of the evolution of the constructive materiality of architecture throughout the century is inextricably linked to that of the new technological communication systems, feeding back on these technologies, in a continuity that is both linguistic and hermeneutic, as well as material. (Artiles, Boned, 2015, pp. 49-50).

TEXT

The heaviness of traditional monumentality, whose expression maintained the repetition of order and rule, begins to lighten at great speed after the Industrial Revolution. The acceleration of technical capacities allowed the study of spatial phenomenologies where light and darkness (Vidler, 1992, p. 169) produce architectural effects conceived thanks, on the one hand, to the degrees of transparency of the construction materials and, on the other, another, to an advance in representation systems due to the birth of photography. These are the first technical images produced by devices that allow continuous and incessant material reproduction. With the revolution in avant-garde architecture, at the beginning of the century, the evolution in architecture

of the phenomena linked to transparency, fluctuating between its various manifestations depending on the degree of interpenetration of air, light and gaze for the conformation of its limits. A production still very limited by an incipient glass technology, as well as by its also incipient struggle between material monumentality and interpenetration of interior and exterior (Benjamin in Vidler, 1992, p. 217).

Fig. 1. 1923. Le Corbusier. Villa LaRoche. Inside

From the moment of institutionalization of the Modern Movement, with the MOMA exhibition of 1932, which inaugurates a process of critical review of modern architecture that will not stop since then, the approaches linked to the dissolution of the limits of architecture and of their representation are also established. As a result of Modern Architecture: An International Exhibition, the foundations of a certain line of modern architecture that will influence generations are laid (MoMA, 2007). This architecture of rationalist orthodoxy, where the relationships between its parts, even more than their shape, and where air becomes a configuring element of space, had already been proposed by Sigfried Giedeon in Bauen in Frankreich (1928), his writing being relevant, above all, for the characterization of the modern movement in its origin: "the spatial penetration and ubiquitous flow of air, light and physical movement" of the modern

architecture of the time is achieved through "a universal transparency of building materials" (Vidler, 1992, p. 217).

The first machinist and abstract image (Rowe, Slutzky, 1978, p. 165) of the avant-garde of the 20th century - very misunderstood in the middle of the century by a mass society that began to live for the first time with this new technological life - It constantly needs renewal of its imaginary, both at linguistic and apparent levels, once modernization is fully established on the planet.

In order to characterize the forms of transparent representation of mid-century architecture as something significantly different from the linguistic evolutions of that first modern movement, it is necessary to account for a whole critical line that from the new entities- Independent Group (1952), Team X (1953)- arise from the VIII CIAM, held in Great Britain in 1951. From these groups, the phenomena of social misunderstanding of these abstract forms are investigated. A process of review of the orthodoxy of the Modern Movement begins, where the first significant theoretical distinction that conceptualizes different forms of transparency in modern architecture appears: the theory proposed by Collin Rowe and Robert Slutzky dealing with the issue of transparency in art, in general, and, of cubist painting and of the architecture of Gropius and Le Corbusier in the 1930s, in particular. The article, "Phenomenal and literal transparency", written in 1955-1956, first published in 1963 and republished under the title Transparenz, by B.Hoesli, Birkhäser, Basel, in 1968, proposes the consideration of transparency as a mechanism of analysis and generation of modern architecture from the theoretical complexity that it can reach.

The implications and meanings derived from Rowe/Slutzky's discriminations on transparency start from a basic distinction: transparency can correspond to a quality of

the substance that makes up the artistic object - literal or real (material) transparency or it can correspond to a quality of the organization of the parts of the same-phenomenal or apparent (virtual) transparency-. It would be more in processes of dissolution of its materiality related to the moving image or cinema, where there is still narrative continuity and a disposition of the materiality of the image linked to a space in movement, or to a certain repetition of an identity in movement, from frame to frame. (Brea, 2010, p. 73). That is to say, architectures where there is still a materiality, although transparent, as in the film that preserves the images of the cinema. The difference between material or literal transparency and virtual or phenomenal transparency proposed by Rowe and Slutzky could be translated from this point of view into: a first distinction between materiality and virtuality from the contemporary point of view or, in communicative terms, between the provision of information associated with a material in a single space and the information released from its materiality where time is autonomous from space.When background and figure (Rowe, Slutzky, 1978, p. 156) or space and time (Van Eyck, 1962, pp. 98-100) merge, they also become independent, because they can be viewed independently and/or independently remixed. Although, in the end, everything depends on the subject that interprets it and on a technical device that allows such an operation.
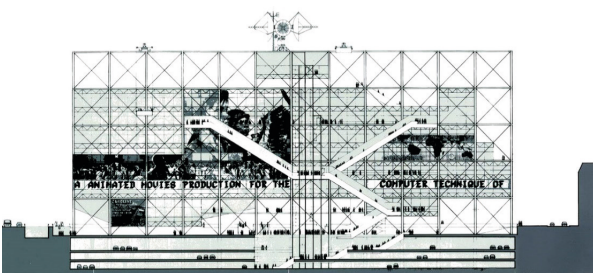

Fig. 2. 1970. Georges Pomidou Center Competition. Solution of R. Rogers and R. Piano. Main facade.

This project, the result of an ideas competition sponsored by President Georges Pompidou in 1969, won by the architects Renzo Piano and Richard Rogers and completed in 1977, became the paradigm of a new architectural style, the so-called high-tech, based on a constructive technology unknown until now, with innovative shapes and materials, a sophisticated metaphor for the industrial and constructivist architecture of the beginning of the century, which in a few years became a symbol for the new mass culture. This pop-technological character, heir to the images that the English group Archigram had disseminated a decade earlier, inaugurated a new era, architecture is able to explain itself through its own dematerialization already initiated by Russian constructivism at the beginning of the century, showing its radicalism from an industrial language far from the traditional massive and "tectonic" volume.

Its marked character of machinist assembly on one of its facades contrasted tremendously with a dematerialization on the opposite facade, which thus became a kind of "communication support." This way, a semantic intensification of the building was produced through a temporalization crystallized in a more virtual plane, which transcended the architectural to become a support for images. A plan that was going to subvert, in its character of total articulation between the building and the urban space, the concept of façade proposed by the entire modern architectural tradition. The transparency of modernity was thus overcome from a constructive-technological aspect, interacting with the user, establishing a new cultural landscape at the service of the communication society. A new synthesis was proposed, a kind of informative and media interface that will expand the communication possibilities of architecture, manipulating (physically reducing) its material condition.

(Riley, 1996, p. 9)

Certain architects became aware, at the end of that century, that the complexity of the recent technological advances could be assumed by the design of the architectural space in all its depth. The possibilities of conceiving spaces that reproduce this complexity, which encompasses society as a whole, forces us to reconsider both the new organizations of the elements that make it up and the nature of the materiality of said elements. It is a complexity that does not allow one thing to be clearly differentiated from the other, systems and natures come to have deeply interrelated relationships: they would thus be assimilated more as information systems (Sloterdijk, 2011, p. 148), or informational hybrids, than as separate realities. This hybridization will translate into new conceptualizations of the transparent - as a possibility of making things visible and/ or their relationships - where translucency, density, ambiguity, lightness, lightness in Anglo-Saxon terms... (Guasch, 2011, p. 6) will start to reproduce, paradoxically with more definition, the forms that are the result of contemporary sensibility marked by the continuous flows of information, or better, by the "clouds" of information(Krauss, 1994).

> "The most transparent glass is now used to undermine clarity."

> (Colomina, 2008 p. 22).

It is these first organizations and materialities aware of the new technological applications, thought or carried out near the dawn of the 21st century and at the beginning of it, which have seduced us and given the object of this research. In 1992 Anthony Vidler, in his book The Architectural Uncanny: Essays in the Modern Unhomely in his chapter "Transparency", cites OMA's Trés Grande Bibliothéque de France building as a "confirmation, at the same time, of transparency and its complex critique" (Vidler, 1992, p. 221) and, in 1996, in the exhibition book Light Construction from MoMA in New York, Terence Riley collects his words; the building remains situated as a myth of the critique of the new modes of transparency that reflect the architectures of the end of the century. 30 years later, this unbuilt building, a special mention in the competition for the Library of France promoted by François Mitterrand in 1989, remains at the forefront of the current figures of modernity through various exhibitions and critical reviews that have taken place in the last years. His spatial and material proposals represent conditions of the modern that are fully topical and explain the relationship between contemporary communicative technology and architectural materialization, where the communicative udo of glass increasingly takes over the building (Colomina, 2008, p. 15).

Fig. 3. 1989. Rem Koolhaas. 2012 models of the TGB Project

> "…1989…the architect had to reinvent architecture…"

> (Koolhaas, 2012), (Barba, 2012) for the exhibition from May 15 to September 9, 2012 at the CCA in Montreal

But it is the architecture of Rem Koolhaas at the TGB that, according to Vidler, breaks with previous schemes, taking to the extreme the construction of both the dense translucent surface and the ambivalent sophisticated space of the latest technological action. It is

no longer a transparent and/or translucent skin that separates one void from another, but a crystalline solid that almost ambiguously reveals its holes and internal amorphities. Transparency is thus transformed into opacity and reveals its condition of incomprehensibility, detention: "The subject is suspended in a difficult moment between knowledge and obstruction" (Vidler, 1992, p. 221). Transparency finds its critical paradigm here, it is presented to be contemplated and not to see through it.

This situation of obstruction raised by Vidler does not have a clear place in the terms of transparency determined by Rowe and Slutzky, the building does not allow anything to penetrate through its surface or reflect, even when it is a translucent surface. It forms a between, a hybrid, an arrest between its own transparent and/or translucent materiality and the organization of the elements that this materiality suggests in a veiled way (Frampton, 1985, p. 77). The transparent assemblage of the public spaces, which the building provides, are insinuated on the surface of the crystalline solid that houses them. A hybrid between real and virtual transparency, or equally, between real and virtual opacity. Therefore it can be explained as solid and as empty at the same time and, This is shown by its complementary models and two-dimensional representations, where in order to understand the spatiality of the building, the solid and the empty exchange their roles. Something that dissolves and, at the same time, appears solid, even in the representation of its facades.

TGB: TRANSPARENCY AS A PARADIGM OF OPEN WORK.

"…The TGB is at the same time a building that is melting and a building that is solid."
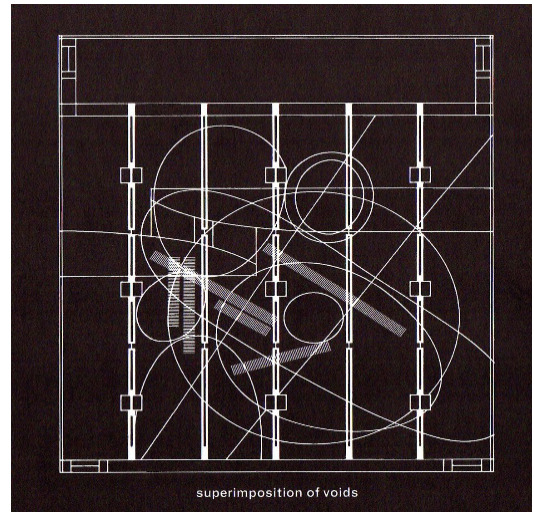
(Koolhaas, 2012)

Fig. 4. 1989. Rem Koolhaas. Drawing Project TGB.

This drawing – synthesis of Koolhaas's project for the TGB, is perhaps the most indicative of a beyond the poetics of phenomenological or virtual transparency collected by Rowe and Slutzky as a characteristic of modernity. The superimposition of layers, structures, concepts, voids and fullness results in a system destined to house a space of spaces, a library of libraries, where the interconnectivity of multiplicity is shown to us as a fundamental value in the transition towards the contemporary, as an update of the modern, that this work represents.

Virtuality is here placed at the service of a spatial superimposition of functions that, only when they are traversed diachronically as public spaces, do they acquire their true project meaning. The values of transparency are used as a manifesto of the functional complexity intellectually proposed from the project.

In any case, the definitely most risky and disturbing character of this work would be located in its metaphorical or symbolic value, in terms of its ambiguous relationship between the exterior and interior, and the type of object that derives from it. The project consists of an original gesture, fixed in a sign,

which guides us in given directions, leads us to the architect's intention. Now, this is carried out by itself and precisely because the gesture does not remain as something foreign to the sign, but because both have found a particular balance. This has to do with the poetics of the Open Work proposed by Umberto Eco. (Eco, 1979, p. 219)

This original gesture would of course have to do with the surrounding material of the building and its translucent character. This second transparency "ma non troppo", seductive for turning the interior from the outside into "atmospheric", we could call it, again in terms of Open Work, as "informative", insofar as it feeds, from a mannerist position, a certain loss of the general meaning and of the constructive-structural order, promoting visual uncertainty to a maximum level. One of the project drawings clearly confirms this concept, as well as the original model.
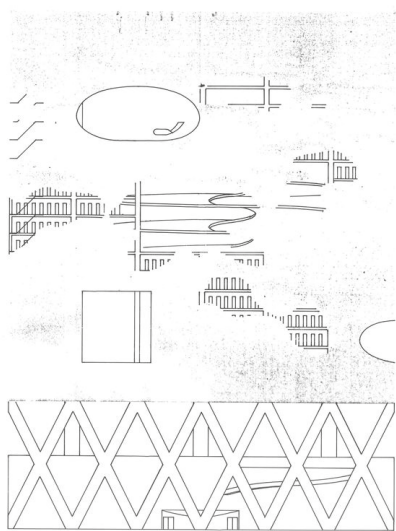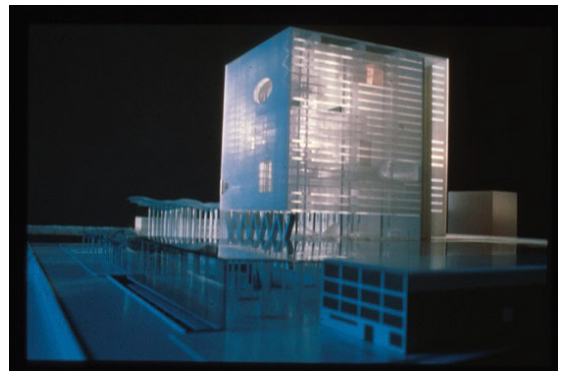

Fig. 6. 1989. Rem Koolhaas. Model TGB Project.

In the same planes of the elevations, even, gesture and sign merge, since virtual transparency also reappears through the various shapes of the openings, which suggest always different fragments of the interior, creating a double material-virtual perception, both living in a strange hybridization.

We can agree that the TGB is a strange fusion of redundant elements (the rhythmic succession of horizontal slabs) and significant ones (the singular appearance of reading rooms, auditoriums, audiovisual rooms) all of them wrapped by a translucent function, in both a material and a physical sense. virtual, which converts the general system into an intensely poetic communicative element. A free game of associations is created, which becomes part of the contents that are presented fused into a unit that becomes transparency - a source of great imaginative dynamism. Umberto Eco summarizes this character of openness expanding the idea, defining the open work as the coexistence of a double informative character. (Eco, 1979, p. 220)

Thus, this transparency is proposed by Koolhaas as a guarantee of communicative possibility and at the same time as an aesthetic fact aimed at sensory enjoyment. The open work as a cultural value pursued to be able to conceive, feel and see the world as a category of a possibility.

Fig. 5. 1989. Rem Koolhaas. Drawing Project TGB.

VIRTUAL ARCHITECTURE NEWS

Fig. 7.1986. Toyo Ito. Tower of the Winds

The architect Toyo Ito proposes a theoretical line, in his writing Architecture of diffuse limits (Ito, 1999, p. 11-23), on contemporary architecture from the application of the new contributions of electronic media. The theoretical assumption is made from a long tradition on the impermanent, as modes of expression of contemporary space from which forms continually emerge through constant flows of information. The current architectural space, amplified by the media, would become phenomenologically visualized as "the image of a space that generates expressions" (Ito, 2007, p. 135) where the relationships between the public and the private have crossed the physical barriers of the architectural. (Artiles, Boned, 2015, pp. 55-56).

After Toyo Ito's Tower of the Winds (1986) or TGB (1989), architects seek this loss of relationships between materiality and space-time -as occurs in current media since the image itself becomes autonomous from the time and does not represent a memory of a past time but, since time is autonomous from space, it only expresses the flow of difference, it is a time-now. It is not representation but presentation. (Brea, 2010, p. 74). For this reason, the Tower of the Winds changes according to the information flows that reach it in real time and for this reason, the façades of Koolhaas' dissolving crystalline solid both reflect the clouds in the sky and have a translucent cloudy surface. which represents in this case, still as an example of a movement image, clouds of information that the building keeps inside as a library.

All architecture focused on the phenomenological perception of diverse information inside-outside, object-subject, which is based on phenomena of material and/or virtual transparency after the 1990s, would be in that search for the dissolution of limits or creation. of diffuse limits, as long as time is autonomous with respect to space. Hence, the games of reflections, the games of transparencies, the suspended crystallinity...

Architecture is not only modified in terms of its design and materiality, the complete assimilation of electronic technical images in society has changed both the diffusion of the architecture produced and has created new forms of interactive and more participatory representation of its design. The images of new architectural objects are multiplied through the technological possibilities of production and viewing that multiple information networks allow. For example, interpretations of the exhibitions that have been held since 2011 of the material and virtual models of the TGB are immensely distributed on the Internet... Designboom, (Neira, 2011), (Koolhaas, 2012), Metalocus (Barba, 2012), Archdaily, (Furuto, 2012), (Vimeo, 2010)... This situation was already foreseen by Flusser (Flusser, 2014, p. 84) and many other authors such as Brea (Brea, 2007: 13-29) who describe the possibilities of informational freedom proposed from the Internet.

In July 2014, a new exhibition is planned at MoMA, Conceptions of Space: Recent Acquisitions in Contemporary Architecture, (MoMA, 2014) that deals with these new intangible architectures found in expanded spaces, Video Games, and virtual realities. The

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new situation of the media, now submerged in spaces not subjected to the material conditions of life, modifies this material way of life. Distinctions between virtual and physical territories are no longer tenable, as text bases and two-dimensional representations of space evolve into realistic, three-dimensional environments that can be occupied by large numbers of people.

Mobile and surveillance technologies allow data to penetrate our daily lives, transforming even everyday spaces into augmented realities. These advances significantly impact our conceptions of private life, public life, and urbanism. This position is defended by Beatriz Colomina, postulating that the new forms of vision are assimilated by architecture that does not reject them but rather assumes them (as well as the society that produces them). The architecture that reproduces those spaces of everyday life, feeds on new technologies so that new architectures emerge. The new vision models are a source of opportunity for them. (Colomina, 2008, p. 22-24).

An impulse is made by the media to see through technologies that add virtuality to the real and thus feel something that is not real as if it were, something virtual as real. This impulse that replaces a large number of experiences of reality with virtual experiences of it, or that is superimposed on them, is one of the places of research for architects, who propose amplified spaces of reality both in their buildings and in the diffusion of these through the networks. Koolhaas gave his opinion on the matter at the WAF in Amsterdam in December 2018, saying that, in his dealings with the digital for 48 years, the sections of reality for the digital are taking place much more slowly than is thought (Neira, 2018).

The substitution of the virtual space for the material space is carried out slowly and always mediated by the fact that materiality is a necessary determining factor. Something that

is present in the architectures proposed by the team of architects that make up SANAA, who assume many of their works as true optical devices and thus show the mirages that the virtual also transmits. (Colomina, 2008, p. 20-21).

Fig. 8.2001-06. SANAA. Toledo Museum.

There is a transmission of the meaning of the new forms of transparency towards the distortion of perception and the obstruction of knowledge that is implicit in the virtuality-materiality duality inherent to the assumption of all the new vision technologies. The image no longer represents a phenomenon, it becomes the phenomenon itself and from it arises a different difficulty to penetrate its meaning. The new forms of knowledge, all of them mediated by the new magic of these images, are expressed in the new forms of an architecture whose transparency is no longer clear.

FINAL

In short, we can affirm that, in contemporary architecture, the condition of transparency of its envelope, both in its literal and phenomenological aspects, has become in recent years one of its main attributes. With respect to the set of senses, architecture has made its appearance tremendously complex, taking to the extreme and culminating the old constructive ambition that a functional

differentiation corresponds to all formal differentiation. The degree of significance of the envelopes, always appealing to a certain perception of the tactile, imposes its own territory, regardless of volumetric and spatial values, exploring new frontiers for the tectonic, based on new technologies.

The facades of the buildings are called "skins", and as JA Cortés indicated in his work "New Consistency", contemporary architecture seeks its raison d'etre in values of flexibility and fluidity, infecting the envelope and the elements contained in it, freeing them from all geometric rigidity. (Cortes, JA 2003, p. 75)

But the "skin" is, organically speaking, a tremendously complex universe, provided with several layers and various functions of exchange with the environment. In architecture, transparency and lightness as values derived from modernity have been evolving towards a sophistication of the physical limits, densifying the amount of attributions of some elements that are no longer just typologies or exchange mechanisms with the outside.

And it is that the concepts of "interior" and "exterior" of architecture are being diluted in such a way that they come to be compacted at their limit, practically tending towards virtuality. The desire for material dissolution sponsored by the Modern Movement now finds its maximum point of evolution in certain architectures. The appearance of architecture moves away from a representative and structural character, to enter the universe of the haptic, linked to phenomena and sensory experiences. Many contemporary architects' expedients can be explained from the intent and deep desire to bring architecture closer to our corporeal immediacy, to be able to dialogue closely with our sensory capacity.

Technology, once the paradigm of the structural and constructive has been surpassed, incessantly investigates that extreme physical thinness, but of great conceptual density, which the envelopes of a large part of contemporary architecture suppose. The total communion between the artistic-compositional-perceptive and the technological-constructive-functional, and therefore the historical overcoming of that old division, favors that the problem of "the skin" has become the place of maximum complexity, of the highest significance. The experience of the "total sensory" would thus tend to be inseparable from any other architectural experience, assuming a sublimated synthesis of what architecture can offer.

This culmination of the positive-rationalist universe would come to encompass all expressive levels of architecture, and would inevitably bring us closer to a type of virtual, evanescent reality, where the aesthetics of disappearance and the ephemeral would end up imposing their own sensory-dynamics. temporary, applied to increasingly thin and synthetic two-dimensional objects.

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Fig. 2, 4, 5, 6, 7,8. Elaboración del autor

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