

EL ESPACIO DE LA EXPERIENCIA EN LAS ARQUITECTURAS DE RICHARD HAMILTON THE SPACE OF EXPERIENCE IN THE ARCHITECTURE OF RICHARD HAMILTON

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p.119 INTRODUCTION

Richard Hamilton (London, 1922-2011) is one of the protagonists of the post-war London art scene. As a member of the Independent Group (IG), together with other artists such as Eduardo Paolozzi and Nigel Henderson, architects such as Alison and Peter Smithson or critics such as Reyner Banham and Lawrence Alloway, he participated in an interdisciplinary environment against the backdrop of the Institute of Contemporary Arts (ICA) in London. Situated chronologically in the middle of the century, the authors of the IG drew on the influences of the avant-garde and, in turn, laid the foundations for the beginning of post-war culture. In the British capital, the cultural activity generated from the ICA would be a fundamental cornerstone in the recovery of creative activity.

Richard Hamilton took authors such as Marcel Duchamp and Moholy-Nagy as references, influences that clearly underlie his work, and explored new avenues that continue today in contemporary proposals. In the 1950s, Hamilton played an active role in the numerous activities of the ICA, ranging from the staging of exhibitions to the holding of critical sessions and interdisciplinary debate. These activities ran in parallel and were closely linked to the teaching work of the members of the Independent Group, some of whom met as teachers at the Central School of Art in the early 1950s under the direction of William Johnstone¹. These links with teaching occurred in a special way in Richard Hamilton's exhibition work during his years as a professor at King's College at Durham University with Victor Pasmore in Newcastle-on-Tyne in the 1950s². In fact, out of the three exhibition montages he presented at the ICA –*Growth and Form*; *Man, Machine and Motion* and *an Exhibit*– the latter two were held in the academic environment of the Hatton Gallery, linked to the university.

Hamilton's exhibitions approach montage as a total project, in which the artistic object and the spectator form a substantial part of the equation that converges in the architectural space of the room³. The design of the installations in the ICA is developed from dihedral drawings with a technical language. His mastery of this technique is a result of his work as an industrial designer during the years of World War II. The technical language also extends to the approach of the assembly itself, to which standardised measures are applied and mechanisms are constructed from works of industrial design.

This article analyses Richard Hamilton's architectural explorations in the exhibition space that transcended the experimental limits of the ICA hall to move on to later and contemporary architectural proposals, thereby demonstrating the validity of his approaches. In turn, the analysis traces previous influences on his work, situating Hamilton's contributions as pieces that bridge the gap between the avant-garde of the early 20th century and contemporary art.

These spaces, designed to be explored and experienced, make it difficult to understand them as a whole, taking into account the fragmented visions of the photographs of the original montages or of the replicas that were subsequently created, such as those of the retrospective presented in 2014 by the Tate Modern in London, and the Museo Nacional Centro de Arte Reina Sofía in Madrid. As a starting point, the axonometric reconstruction is carried out in three dimensions of the space as a whole, which mitigates these difficulties of interpretation and, at the same time, does not transgress the technical character of the original design process.

The volumes produced are based on the author's own schematic sketches in dihedral; the measurement of the original room of the institute, now substantially reformed, located on the first floor of 16-18 Dover Street in London; the photographs of the original assemblies; and a critical review of the reconstructions and written documentation relating to these projects, both the original and revised version. This will make it possible to analyse and define the different spatial concepts proposed by Richard Hamilton and which conclude with the definition of space, characterised by its capacity for interaction, based on the exploration of form based on growth and reflection on the creative role of technique.

THE QUEST FOR FORM

The first exhibition carried out by Richard Hamilton for the ICA hall in 1951, from 3 July to 1 September, was *Growth and Form*⁴ (figures 1 and 2). Based on the book *On Growth and Form*, by Sir D'Arcy Thompson⁵, written in 1917, it suggests the creative potential of form through natural growth, the theme on which the exhibition focused⁶.

Hamilton proposed the exhibition as a "form" in itself⁷, as a decisive element in the perception of the content exhibited, understanding the exhibition design as a whole, not as a sum of independent elements. He focused on the assembly in the ICA hall as a strategy to improve the exhibition conditions of the hall, something that he maintained in all of his subsequent proposals. He designed a series of devices, some of which were anchored to the walls, while others were independent, generating different nuanced spaces in the hall as a whole. Reyner Banham described the content as follows: "*The matter ranges from elementary mathematical forms to the human face, by way of carefully drawn visual analogies and developments, taking in crystals and cells, chromosomes and embryos, spicules and skeletons, on the way*"⁸.

At their classes in Newcastle, Richard Hamilton and Victor Pasmore made use of different pedagogical references, one of which was the seminal text of Thompson. During the time they worked as teachers, they proposed to their students a series of analytical exercises on the study of the natural growth of organisms and crystals in relation to the generation of form, something that reveals the relationship between teaching and artistic practice in these authors. In their classrooms, they proposed the exploration of the personal perception of space and the search for decisive psychological factors in the generation of form⁹. **p.121**

The creative role of Thompson's book also makes it a point of reference in the world of the most disciplinary architecture. Mies van der Rohe recommended the text to his students at the IIT in Chicago, including Myron Goldsmith, for writing their final master's thesis¹⁰.

Another of the methodological bases of Hamilton and Pasmore is the pedagogical approach of the Bauhaus, paying special attention to the work on the relationship between art and industry in the production of Moholy-Nagy¹¹, an aspect that would be a central element in the two subsequent exhibitions at the ICA.

These two aspects - organic growth and the creative role of industry - converge in one of the most relevant assembly elements of *Growth and Form*: the spatial grid. This structure would become the basis for developing occupation and determination of space in the two subsequent assemblies, and would be the seed for the idea of the space for interacting with the viewer developed in *an Exhibit*. It is an element that becomes relevant due to its detachment from the walls, and was located in a central part of the exhibition, in contrast with the organic forms that surrounded it, as can be seen in the axonometric reconstruction and in the photographs of the original montage. Made of thin steel bars that form cubic shapes, the structure is unfinished, seemingly incomplete, leaving open the possibility for indefinite extension in space from the initial pattern of growth. Isabelle Moffat observed that this structure demonstrated Thompson's theory of the correlation between organic form and Greek geometry¹². At the same time, the creative role of industry becomes clear, taking shape in the construction of the device itself and in the way in which reproductions of images or replicas are shown in models of natural elements: enlarged microscope views, X-ray images, etc. It is in this device where, for the first time, modular dimensions appeared that would serve as a basis for the design of subsequent exhibitions, in which the formal organic exploration disappeared completely. This first spatial grid defined the dimensional basis of the subsequent ones, measuring precisely 1 foot (approximately 30 cm). **p.122**

However, this unique piece cannot be separated from the whole and, together with all the devices and elements shown, forms an indivisible whole on the relationship between form and growth. Le Corbusier inaugurated the exhibition and recognised in the space qualities that led him to declare: "*This exhibition has moved me deeply, for I found in it a unity of thought which gave me great pleasure*"¹³.

Thompson's text continues to arouse interest in the world of contemporary architecture and as a reference in creative processes. New technologies, such as parametric design, make it very topical, and also in its purest aspect, inspired by the natural growth of living elements as a material for architecture. The experimental works of the architect Marcos Cruz with Unit 20 of the Bartlett School of Architecture (UCL), defined as *Neoplastic Design* (figure 3), are in this vein. The students' projects explore the impact of biological advances on architecture. Design is used as a methodology to investigate and manipulate biological matter, from which biotechnological constructions are proposed that share the qualities of living organisms, including among other aspects, formal development through growth¹⁴.

THE EXALTATION OF THE TECHNIQUE

The exhibition *Man, Machine and Motion* was held at the ICA from 6 – 30 July 1955¹⁵ (figures 4 and 5). Although the original project was designed for this space, it was first held at the the Hatton Gallery, at King's College in Durham. **p.123**

In this montage, Richard Hamilton explored the potential of the technique from different points of view: on the one hand, the montage consisted of industrialised metal profiles and photographic reproductions of images and, on the other, the exhibition explored the reflection of the machine as a mechanism that complements the human body, "*machines that extend capabilities*"¹⁶.

The space was created from a network of thin steel profiles. With regard to this, Hamilton himself quoted as a reference the montage of the *Exhibition on the Study of the Proportion* by the architect Francesco Gnechi Ruscone at the 9th Milan Triennial in 1951¹⁷, which he consulted in the publication from 1953 *New Design in Exhibitions*¹⁸ (figure 6). The relationship with this exhibition is evident in its use of profiles and modular panels, but also in Hamilton's interest in the subject matter of the exhibition: the proportion in architecture, from the Renaissance to Le Corbusier's Modulor. The exhibition space itself contained an explicit reflection on the idea of the architectural project from the growth of a basic module. This same concept had already been experienced previously by Hamilton in the *Growth and Form* grid, which now became the only exhibition mechanism, radically abandoning any reference to walls.

The exhibition system for *Man, Machine and Motion* was built in modules so that it could be manufactured industrially, with multiple measurements of the original and intended to be repeated in different situations. The only

p.124 conditioning factors were the repetitive rigour of the standard pieces, and the criterion of placing photographic panels at different heights: spaceships and flying machines in the upper part, machines for moving over land at eye level, and underground or aquatic machines in the lower part of the montage.

Another great reference in Hamilton's work was the fascination he shared with László Moholy-Nagy for the world of industry. In addition to his references to the author of the Bauhaus on pedagogical aspects, he transferred two aspects to the exhibition space associated with the world of the machine that Moholy-Nagy had previously raised: the reflection on the artistic object based on the possibility of mechanical reproduction, and movement as a creative resource in the artistic and architectural world.

The photographs displayed in *Man, Machine and Motion* are reminiscent of the proposals of Moholy-Nagy such as Hall 1 of *Film und Foto* in Stuttgart in 1929, where the photographs were hung on a mesh that invaded the space, taking on a physical presence. He then designed a more sophisticated system for the exhibition of the *German Section* at the Deutscher Werbund in Paris in 1929, and then installed one year later at the *Room of the Present* in Hannover, consisting of projecting slides with images that reflected modern life, and where, as in this case, the machine played a central role. In all of these spaces, characterised by displaying photographs as a creative tool, the *aura* was questioned, in the terms of Walter Benjamin¹⁹, as the uniqueness and originality of the work of art. The pieces displayed expressed in themselves the possibility of being reproduced indefinitely by new methods, without depending on a specific space, as Malraux had proposed in his *Museum without Walls* in 1947. *Man, Machine and Motion* radicalised this premise by completely invading the space with images that represented the idea of worshipping the machine.

The full comprehension of the exhibition called for another mechanical factor, movement, which Moholy-Nagy interpreted as a decisive resource in artistic and architectural creation. His last book, published in 1947, *Vision in Motion*²⁰, contains a large number of examples of artistic and architectural elements in which the perception of the work is determined by this resource. *Man, Machine and Motion* explicitly referred to this idea, by considering movement as being necessary in order to understand the exhibition, multiplying the points of view and playing a creative role in the architecture of the space. The ensemble was designed to be perceived through a personal experience of the fourth

p.125 dimension. There was no single perspective from which to view the objects on display, but instead it was necessary to travel through the room in order to complete the process. This participation of the viewer in the exhibition space was precisely the *leitmotiv* of the montage of *an Exhibit*.

CONSTRUCTING EXPERIMENTAL SPACE

Richard Hamilton notes that Victor Pasmore spoke to him in Newcastle about what he liked about his montage of *Man, Machine and Motion*, although he thought that the images were unnecessary²¹. At this point they decided, together with Lawrence Alloway, to develop a project "as a purely exhibition in its own right"²².

Pasmore describes the process of 'purification' in the following way: "He allowed painterly qualities to disappear entirely, and concentrated upon simple constructions, using machined components and uniform coats of paint. [...] Then he began using transparent materials, such as Perspex and glass, to replace the picture plane, and lyrical qualities returned"²³. The process of setting up *an Exhibit* took place at the ICA from 13 - 24 August 1957²⁴ (figures 7 and 8), having been previously installed at the Hatton Gallery in Newcastle. Based on the concept of architectural space from *Man, Machine and Motion*, the exhibition did away with steel supports and instead hung the panels from virtually invisible threads, maintaining their proportions, so that the dimensions of the panels were exactly the same as before, now eliminating any aspects that could detract from the basic aims of the exhibition: to define the space for interaction with the spectator.

The key aspects were explained in the invitation to the exhibition: "an environment verbalised by Lawrence Alloway to be populated, an artwork individuated by Victor Pasmore to be viewed and a game pre-planned by Richard Hamilton to be played"²⁵.

Alloway explained how to inhabit this environment in the text of a leaflet/poster that detailed the rules of Hamilton's game for navigating through the space. "Once the rules were settled, a high number of moves were possible"²⁶, the instructions state. The rules only refer to the montage itself, in which the dimensions were given by the modulation of the panels and their spatial relationships of parallelism and perpendicularity. The montage was repetitive, designed to act as an incentivator in any location. What was unrepeatable was the artwork of Pasmore, which the artist created *in situ* in each installation, giving depth to the structure with a series of coloured paper panels in basic geometric shapes. This was the only aspect that made the work of art unique.

Based on this structure, it is the spectator, through their own decisions, who generates the space, based on "to inhabit, for the duration of the game, a real environment"²⁷. The possibilities of living the space are multiple and free, as in the theory of games, with the built structure acting as a game board on which the spectator makes their own decisions. In this way, *an Exhibit* becomes a space of architectural experience. Some professional publications of the time, such as *The Architect's Journal*, referred to this: "The Architect's Journal, nevertheless, recommended it as an architectural research, pointing out the sequence of open and close views and the game of reflections and transparencies"²⁸.

This architectural element that invades the space was based on a module, as the dimensions were taken from Hamilton's previous exhibition, eliminating the fixing profiles, but adapting to its standardised measurements. After presenting *an Exhibit* at the ICA, Hamilton and Pasmore decided to reinstall it at the Hatton Gallery, this time offering

a fusion by anchoring the panels of *an Exhibit* to the profiles of *Man, Machine and Motion*, revealing the standardised origin of the structure.

The space generated by the placement of the panels refers us, in addition to Hamilton's own previous proposals, to previous experiments with exhibition space. In 1925, for the Paris Decorative Arts Exhibition, Frederick Kiesler built a neoplastic structure for the exhibition of theatrical innovations in Austria. This montage, entitled *City in Space*²⁹ (figura 9), introduced the spectator to a tour through the room in which the space was moulded by coloured panels placed in parallel and perpendicular, based on the principles of neoplastic architecture detailed by Van Doesburg³⁰. This montage appeared in the book by Lohse, *New Design in Exhibitions*³¹, which Hamilton used in his courses in Newcastle. References to Marcel Duchamp are also inevitable. Hamilton was the author of one of the two reproductions of *The Large Glass* authorized by Duchamp himself some years later. This is a piece that creates relations with the space in which it is placed and with the other works on display. Its degree of transparency was explored by Man Ray to create a miniature replica for the *Boîte-en-Valise*³². The works seen through the glass become part of the piece itself. In the same way, the transparency of the panels of *an Exhibit* incorporates the entire space, making it a participant from all points of view. The spectator's interaction is reinforced by using this resource.

The architectural space of *an Exhibit* is the space where this interplay takes place. The action of the spectator leaves any architectural element in the background, like the formalisation of the structure itself. Everything is dedicated to encouraging the capacity for action of its inhabitants in order to transform their own environment. It advances some of the basic premises of situationism, officially founded in Cosío d'Arrosia that same year, just 16 days earlier. Ralph Rumney, one of the artists participating in *Place*, an exhibition that was held at the ICA in 1959 and which took *an Exhibit* as its reference, took part in this founding meeting. Constant himself, in his work with models for the definition of *New Babylon* and in projects such as the *Labyrinth of Stairs* (figure 10), formally resorted to structures that were very similar to those of *an Exhibit*, based on combinations of standardised colour panels arranged in parallel and perpendicularly, with varying degrees of transparency, which shaped the space where the event was held. The protagonists, in this case, and in the same way as in *an Exhibit* (figure 11), were responsible for the construction of a **p.128** situation that, defined by Guy Debord's movement, is the "moment of life concretely and deliberately constructed by the collective organization of an unitary ambiance and a game of events"³³.

VALIDITY IN CONTEMPORARY PROPOSALS

In the 1950s, the ICA room played a fundamental role in the implementation of new spatial proposals that transcended architectural and urban projects. The experiences of the Smithsons are well known. Together with Eduardo Paolozzi and Nigel Henderson, they turned this room into an architectural experimentation laboratory in 1952 with the exhibition *Parallel of Life and Art*.

Although the contributions of Hamilton's exhibitions to architecture do not allow a reading as linear as in the case of the Smithsons, Victor Pasmore, whose participation in *an Exhibit* is decisive in the process of abstraction and in the singularisation of the piece with his artwork, transferred the main spatial concept to the *Apollo Pavilion* project in Peterlee (figure 12). This piece, built in 1969, is, in his words, about "an architecture and sculpture of purely abstract form through which to walk, in which to linger and on which to play [...]"³⁴. The intervention consists of the construction of a concrete structure that acts as a bridge over an artificial lake in the public space of a newly created community in County Durham. Again, as in *an Exhibit*, Pasmore singles out the abstraction of the structure by painting two murals.

The sculptural piece assumes the "functionality" of architecture, a concept that Javier Maderuelo highlights as the fundamental interference between both disciplines³⁵. The resolution of the connection between both sides of the lake, is subject to the objective that Pasmore introduces in the foreground: the construction of a location for the event. This structure encourages the inhabitants of the area to interact, putting into practice what Pasmore himself said about *New Babylon* in the presentation at Constant's conference at the ICA in 1963: "The architectural pattern encourages **p.129** adventure, movement and chance encounter. Instead of living in static communities, people will be free to experiment with their environment"³⁶.

Architecture that encourages its inhabitants to interact is now part of the purposes of contemporary proposals that support its design base in the experimentation of space and which use resources that are very close to those analysed in Hamilton's exhibitions in the 1950s. All of the selected examples share the strategy of inserting a modular structure into an existing consolidated space, introducing new dynamics. They also share their construction from a module which, based on guidelines of "organic growth", gives rise to diverse structures, which do not depend on the place and have the potential to be installed in others.

The *Serpentine Pavilion*, from 2013, a piece by Sou Fujimoto, consists of a cube made of steel bars. This module is repeated following a 3D grid, forming a type of cloud from which it takes its name, *Cloud Pavilion* (figure 13), allowing for the possibility of unlimited growth. Its only finishing elements are a series of barely visible transparent plastic sheets, fitted as a type of fractured covering to prevent water from entering. The Pavilion stands in Hyde Park and seems to grow in the same way as the surrounding trees, provoking a reflection on "what are the boundaries between nature and artificial things"³⁷, as the architect explains. The structure invites visitors to walk through it, to climb onto its modules, both inside and outside, creating new interactions both with the park and the building on the Serpentine. Fujimoto defines the intervention as "a transparent terrain that encourages people to interact with and explore the site in diverse ways"³⁸, highlighting the main objective of this architectural work.

p.130 Following a very similar pattern, the winning project of the Archi<20 competition in 2012, *L'Observatory*, from the Atelier 56S studio (figure 14), proposes a small pavilion designed to be built in the protected natural area of Mittersholtz in Alsace, France. The structure is based on a wooden module that covers a space of 20 m² and is designed to be climbed. This module allows for both open and closed pieces that establish a changing relationship with the surrounding landscape when visitors climb its stairs, in response to the aim to "conceive an architecture that emphasises and diversify the relationship between the pavilion's visitor and their environment"³⁹.

In 2011, Olafur Eliasson created a series of specific installations for a number of buildings in São Paulo. In the main hall of the SESC Pompeia designed by Lina Bo Bardi, used for socio-cultural activities in the neighbourhood, he proposed the construction of an installation that was formally similar to an *Exhibit* (figure 15). It consisted of a series of coloured plastic panels that were translucent (except the white ones), hung from a structure made of perpendicular and parallel wooden bars. The joint name for these interventions, *Seu corpo da obra* (*Your Body of Work*) reflects the active role played by the local inhabitants, to whom Eliasson attributed a decisive role in the transformation of the structure itself, describing the intervention as "a labyrinth of coloured, translucent panels rearranges into chromatic variations as visitors walk through it"⁴⁰.

The building in which this piece is situated was originally conceived by its architect as a space for individual and collective activities by local people in the neighbourhood. Lina Bo Bardi relies on small-scale interventions in concrete to single out parts within the large factory space and, fundamentally, on the design of pieces of furniture that support the community's activities. Eliasson's work is introduced into this complex as a structure that collaborates with the original logic of the space, transforming it and encouraging the experience through the interaction of the visitor-user. This montage, created specifically for Lina Bo's space, was reinstalled at the Stockholm Museum in 2015, giving rise to new and different relationships.

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CONCLUSIONS

Through the reading of the three exhibition montages that Richard Hamilton created for the ICA in the 1950s, it can be seen how the artist is shaping the space of experience in an evolutionary process that begins with the study of organic growth as a generator of form in *Growth and Form*. In *Man, Machine and Motion* he proposed an exultant reading of the creative power of the machine. And, finally, in an *Exhibit*, he brings together previously experimented resources and proposes an architectural structure that shapes the space of interaction with the viewer.

His training as a graphic designer and his technical drawing skills define the origin of his montages, working with industrialized mechanisms and standards. The axonometric reconstruction drawing carried out for this study allows each proposal to be studied as a whole, leading to the analysis of the architectural qualities of each space. The mesh of the first exhibition is recognised as the origin of the second, in which it extends to the entire space and, stripping the exhibition of figurative content, leads to the definition of an abstract structure as a game board for the spectator in the final montage. The result of these proposals is determined by the decisions taken by their occupants, meaning they are ever-changing and dependent on the architectural experience.

These proposals by Richard Hamilton take references from the previous experiments of avant-garde movements, developing innovative and experimental architectural concepts which, probably due to having less theoretical support than other contemporary theories such as Situationism, have barely been taken into consideration at an architectural level. However, these spaces acquire a greater interest when they can be affirmed as precursors of later and contemporary architectural proposals.

The concept of space created for Richard Hamilton's visitor experience is still valid in contemporary architectures that serve as supports for interaction with their inhabitants, mediating towards new relationships with the place in which they are inserted. For example, the 2013 *Serpentine Pavilion* by Sou Fujimoto, in Hyde Park (London), or the installation of *Seu corpo na obra*, by Olafur Eliasson, at the SESC Pompeia in São Paulo, burst into the existing spaces modifying the perception and the relationship with their users, encouraging their active participation in the conformation of the space. The resources used share the strategy explored by Hamilton, through the construction of a modular structure of organic growth, of open dimensions, with interplays of transparencies and opacities and, in the case of Eliasson, also with the variable qualification of the colors that flood the space. ■

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