Cavum/Plenum: Interpretations of Domestic Space

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ABSTRACT

The limit between interior and exterior seems no longer to exist and the two domains increasingly influence each other to the point where they blur into one. In contemporary representations of interior spaces in particular, the private and domestic aspect is in crisis. Two modalities of interpretation of the interior space make this evident, and both originate from notions of cavum and plenum. The former refers to the idea of emptiness, an empty, hollowed out space, while the latter is rather the action of filling. Through critical readings of selected examples of the representation of contemporary domestic spaces, this paper considers some features of internal space and of a new interiority - from the loss of borders between exterior and interior - evidenced in projects such as Sway House (2008) by Atelier Bow-Wow, Moriyama House (2005) by Ryue Nishizawa/SANAA, to the dematerialisation of space when landscapes, with their atmospheric variables, become one with interiors - evidenced in projects such as Curtain Wall House (1995) by Shigeru Ban; House in Leiria (2008-2010) by Aires Mateus.

SPACE AND INTERIORITY

In the history of interiors, domestic space has been considered a place of shelter and protection. The search for intimacy was not the exclusive domain of architects and since the first half of the twentieth century scholars from other disciplines have studied the theme of interior space. They have interpreted it not only as a physical area, a limited empty space, but also as *interiority*: 'the image of the shell house (Gaston Bachelard), or the primordial hut, cabin or shack (Rudolph Arnheim), or the wish to be protected as from the *intérieur* (Walter Benjamin).'

'Interiority' as a concept was initially associated with space, specifically domestic space. The Oxford English Dictionary defines 'interiority' as subjectivity, the innermost part of our spirit.² Everything pertaining to the internal world, such as consciousness, thought, the realm of feelings and emotions, is interior. In 1948, the Italian art historian and critic, Giulio Carlo Argan,³ defined interior space as 'internity' or 'interiority'. In his essay, A proposito di spazio interno (Concerning interior space), he wrote: 'When we talk about interior space, we do not refer to the space limited by the walls in relation to the space outside of them, but to a concept of space as internity or interiority... The

space that we call interior is such only in relation to human beings, who think of it as the dimension of their own existence, or the region available for achieving their own possibilities.' The place where human actions occur becomes a conforming element of space, not meant as a spatial limit but rather as an open entity, articulated in the development of human activities. The interior space is conceived as a space for human relationships.

In the history of the house it is apparent that 'the gradual consciousness raising of one's own interiority – a complex process which began around the end of the Middle Ages – is indeed an essential nexus in an individual's development and the interior furnishing evolves in parallel with that.' ⁵ In *La poétique de l'espace*, (1957) Gaston Bachelard considers the house as a place where 'the values of intimacy of the interior space are expressed at their best.' ⁶ The images of *nest* and *shell* best represent the theme of shelter and the idea of a womb which cocoons whoever lives within. The image of the interior space as *shell* also fascinated Walter Benjamin, who, writing in Paris in 1927, noted that: 'The original form of all dwelling is existence not in a house but in the shell. The shell bears the impression of its occupant. The dwelling becomes a shell.'

Strange Dislocations: Childhood and the Idea of Human Interiority, 1780-1930 (1995), by Carolyn Steedman, describes domestic space as a place of interiority, and places the creation of this relationship at the end of the nineteenth century, using the image of the child. The house is thus an intimate, private place, a place for reflection, where the individual is detached from the external world and guaranteed a personal interiority. Elvio Facchinelli refers to this desire to withdraw and shut oneself away as 'claustrofilia', highlighting the idea of a barricade against the outside world. In contemporary interior design projects, the classical concepts of intimacy and privacy acquire both a new value and a new meaning.

DISPLAYING INTERIOR SPACE

Two houses, destined to be demolished, can be said to represent two different styles of dwelling that have characterised the history of interiors. The first is a 1930s American house, while the second is a typical Victorian dwelling in London. They represent two artistic interventions that, in different ways, attempt to fix the image of domestic architecture in a new image, expressing an unusual concept: the interior becomes public and the sphere of intimacy and privacy loses its aura.

In 1974, Gordon Matta Clark, an American architect and artist, the son of Roberto Sebastian Antonio Matta Echaurren and a member of the movement known as 'Anarchitecture', divided into two halves (*Splitting*) a suburban house that belonged to his art dealer. The artist stated during an interview: 'Holly and Horace Solomon gave me the Humphrey Street building in March. It's substandard housing in bedroom suburbia near the Lackawanna railroad... The Solomon family had originally bought the house as an investment, and it's now been scheduled for demolition.'

architectural object, constructs a disruption of the heart and Bird observed: the intimacy of home (Figure 1). The principles that regulate the so-called proper space are altered and inverted; the borders between interior and exterior are broken and interior domesticity, in particular, is contaminated by the exterior world. 12 At the same time, the exterior becomes part of the interior atmosphere. The artist claimed: 'I would be very interested in translating cuts like this into still usable or inhabited places. It would change your perception for a while, and it would certainly modify privacy a great deal.'13 Clark's work expresses a different way to consider architecture, by gutting, cutting, sectioning and perforating buildings, in order to show the object in all its fragility. The interior space becomes a cavum, an empty space which brings forth constant changes in perception.

In 1993, Rachel Whiteread created House, a cast of a typical Victorian terraced house, located in the East End of London and scheduled for demolition. The artist's action displays those rooms that are usually destined to host the intimacy of social relationships - the kitchen, the living room, the bedroom. Through Through these two forceful actions, cutting and calquing, the Whiteread's actions the traditional dichotomy between fullness works of Matta Clark and Whiteread display the interior with

The artist's intervention shows the intimate connections within as an empty space held in by the walls, becomes a solid volume the space, revealing the tensions among its elements, its weight, (Figure 2), Intimacy is monumentalised and the spaces where its balance. The split, intended as an analytical operation on an daily actions take place were exposed. Within this context, lon

> The home is the context for initiating social relations, a microcosm of all possible worlds and the space in which we make our first differentiation between interiority and exteriority and learn to distinguish between safety and danger, pleasure and pain, desire and gratification.'14 The concept of space-time alters and the interior of the house becomes a solid entity where the usual movements. noises and human exchanges take place; it is as if time had stopped at a specific moment. House can be seen as a monument to the memory of a traditional way of living, where 'memory, childhood experiences, staging the scenes of origins and endings, [...] are fundamental themes that run through Whiteread's work: spaces of concealment, of sexuality and death - mattresses, baths, mortuary slabs, the home as the site of memory and our formative experiences. 15

and emptiness is thus inverted. The interior, usually represented all its facets and vulnerabilities. The former creates a cavum, an





interior space conceived as an empty space, and the latter a plenum. Both houses invert the traditional pair of interior and exterior, fullness and emptiness, public and private. Both petrify for one moment a space where life is lived to the full by displaying it to the world at large. In both cases, all traces of human occupation are left in the background; there are no people; they pass through the memory of the house.

PI FNUM

The bourgeois interior space of the seventeenth century represents an image of shelter as 'oppressing as well as comforting'. 16 Paintings of that era depict interiors as spaces of plenum: tapestry, canvas, furniture... the rooms are filled with objects which imply inhabitation. In An Illustrated History of Interior Decoration from Pompei to Art Nouveau (1964), Mario Praz describes the evolution of interior space as 'Stimmung', visible in the paintings of some highly renowned artists. Praz identified 'Stimmung' as being characteristic of interiors that have less to do with functionality than with the way the room conveys the character of its owner.¹⁷ In Der Passangen Werk (1972), Walter Benjamin described the interiorised intimate space that characterised the bourgeois intérieur of the nineteenth century with its drapes and tapestries, and the complex and varied paraphernalia of boxes, drawers and cases: The nineteenth century, like no other century, was addicted to dwelling. It conceived the residence as a receptacle for the person, and it encased him with all his appurtenances so deeply in the dwelling's interior that one might be reminded of the inside of a compass case, embedded in deep usually violet folds of velvet.'18

Besides painted representations from the second half of the nineteenth century, Paris witnessed a new popular trend whereby Parisian buildings were drawn in cutaway, displaying the social life happening inside the dwelling.¹⁹ Such prints show a miniaturised vision of Parisian society that is distributed within the building according to a specific hierarchy. As Georges Teyssot states:

From the ground floor - the porter's kingdom - we can move up to the piano nobile, occupied by the bourgeois, who were always represented as bored - as expected from a lazy society - or while they were holding receptions in their staterooms; and from there, up to the next floor which houses the middle class, with family pictures portraying daddies caught up in rowdy children. The lower classes dwell at the top floor: the characters vary from the tenant who cannot pay the rent, to the woman with an open umbrella who tries to stop the water leakages from the roof, to the mother who sews in the candlelight next to her sleeping child, to the unfailing presence of the artists in their dormer windows.²⁰

Cross-sections from the nineteenth century described the interior space and its furniture and decorations typical of the dwellings of that time, and also provided a description of the various situations which animated these houses. The prints induce narratives and give life to the characters caught in the 'freeze frames' of the paintings. Benjamin stated that in the bourgeois dwelling the

Oposite Left

Figure 1: Gordon Matta Clark, Splitting, Englewood, New Jersey, 1974. Photo © C.C.A.

house, no matter where you choose to cut into it, is facade.'21

with the advent of electric lighting and lifts, the former piano nobile some common features: could now be multiplied endlessly and this division became less clear-cut, In both paintings and cross-sections, the interior space of the nineteenth century is represented as plenum, a space filled with objects and furniture which delineate other privileged spaces; fences that demarcate the interior world from the exterior.

Contemporary axonometrics or perspective cross-sections frequently present the interior, not as an empty space, but as replete, rich in the details that contribute to the development of a narrative. In his images, Aldo Cibic, an Italian architect active in the 1980s,²² seeks to convey the notion of 'being there' rather than emphasising the form of the environment (Figure 3) because it shifts attention from abstract space to actions and people: 'The idea is that many small situations, when combined, can generate larger, more significant stories. People's actions can determine the identity of a space. The project proposes visions in which, through the reordering of potential and energy, conditions are created which stimulate encounters, exchanges and sharing. Creativity in processes leads to the most stimulating realities.²³

The attention to the sense of 'being there' is also apparent in several contemporary architectural representations. The architectural representations from firms such as SAANA (Sejima and Nishizawa and Associates) and Atelier Bow Wow are not limited to the representation of the material design but also pay particular attention to the actions that take place inside the spaces and the atmospheres evoked by the surroundings.

The perspective cross-sections of designs by Atelier Bow-Wow represent potential scenes of life inside the spaces that make up

interior turns into an exterior: 'The domestic interior moves the house. The drawings tell a dual story with the description of outside. It is as though the bourgeois owner were so sure of the actions being accompanied by technical information about his prosperity that he is careless of façade, and can exclaim: My the structure (e.g. floor depth, exterior wall structure) and the materials used. A central role in the narration of the features of the dwelling is played by the tenant. The architect and the future Such representations of the interior make it possible to interpret dweller develop a relationship in order to better define the characteristic changes in the layout of the living spaces. In the first spaces of the house according to necessity. Since 1998 Atelier representations of the tenements, the bourgeoisie occupied the Bow-Wow has designed many houses in Tokyo, each representing piano nobile while the lower classes lived in the upper floors. However, a different generation of city development. The dwellings share

> Their owners are married couples in their 30s and 40s. many don't have any children, are employed in creative fields (as artists, writers, editors, etc.) and often work at home...The lots tend to be small (around 75 square meters) and located in crowded areas near the city center rather than a new residential area. Most of the couples' budgets have probably been spent on acquiring the lot, which severely limits the cost of construction.²⁴



the two residents, husband and wife, are represented in their lost its exterior casing, retaining only a few small shells where working, resting and social activities. This house was built following thresholds are also reduced to a minimum. a request for a working space for the wife, (an illustrator) and spreads out on various levels forming mezzanine floors. Each 'Compared to a person's body, architecture tends to be very small space is conceived as a plenum, filled with objects, furniture, large. But by making it smaller, it becomes like the human body and words that describe the peculiarities of the environment.

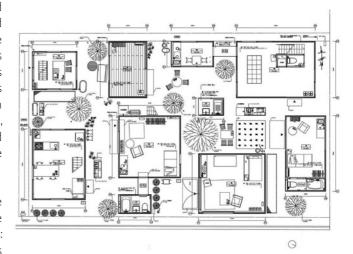
that show the interior as interiority. Dwellings are conceived as social environments and their architecture may be defined as architecture of relation where the prevailing issue is 'the use people make of the space.'25 The House A (2005) project is an example of this way of representing space and the actions performed inside it. In a perspective view from the top, it is possible to observe the way in which even the smallest room is equipped with objects, small plants, carpets, and furniture, indicating life within the intimate spaces. These are minimal and delicate environments, contemporary living spaces which, here too, are conceived as entirely plena.

Moriyama House (2005) is the project that best identifies the nature of the new interiority. In order to explain this house, the designer Ryue Nishizawa makes use of the following key concepts: 'I'd like to explain some of the architectural and spatial issues we encountered in designing Moriyama House. These can be broken down into seven main elements: dismantling; acentricity; smallness; the creation of an environment; transparency; multiple tenancy/density and the absence of borders.'26

The project decomposes the space of the dwelling into many small units that, redistributed on the site, create a new, fluid and continuous environment and the threshold between interior and exterior is reduced to a minimum. Such features appear in the plans and in the settings of the three-dimensional model. Spaces are conceived of in relation to the human body; it is as if these interiors were absolute spaces of refuge, shells where human beings develop all their interiority (Figure 4). All other spaces, in particular those designed for meeting other people, such as the

In the perspective cross-section of the Sway House (2008), living room, are placed on the exterior. It is as if the dwelling had

or clothing, and changes our spatial experience. From spaces that are shared by several people to minuscule spaces in which only SANAA's representations of houses also make use of specific one person can enter, the relationship between space and people tools, in particular three-dimensional models, to create rooms is different.'27 The bathroom space, for instance, is conceived for



one person and is so small that it shares a continuum with the garden; this is also the case for the kitchen. In this way, a space is created where the distinction between interior and exterior becomes minimal, and the dwelling becomes a space between interiority and exteriority:

> In SANAA's case, this idea has been reformulated to create spaces that are exterior and interior at the same time, such as the lattice-covered corridors of the M-House (Kazuyo Sejima, Tokyo, Japan, 1996-97) -external corridors that connect interior spaces, or the semi-exterior gallery of the S-House (Kazuyo Sejima, Okayama, Japan, 1997), planned as an interior perimeter corridor and, nonetheless, treated as if it were an external

Figure 3: Aldo Cibic, Microrealities, 2004. Photo © Cibic & Partners.

Figure 4: Ground Floor of Morivama House, Tokyo, 2005. Photo © courtesy Office of Ryue Nishizawa. that flood the house with light.²⁸

spaces, two new aspects related to dwelling emerge; a desire to visible from the exterior. 'A Schwelle 'threshold' is a zone. return to the private and intimate sphere of domesticity and a new Transformation, passage, wave action are in the word Schwellen, way of living and conceiving of the architectural space, where the swell, and etymology ought not to overlook these senses.'31 relationship with the exterior and the threshold becomes crucial,

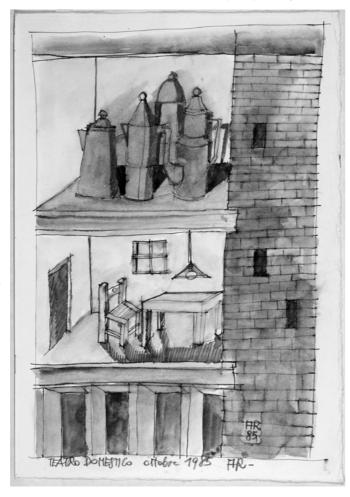
CAVUM

Other projects move in the opposite direction with a concept of cavum (to pull out, to empty), space conceived as emptiness, a hollow space. In 1986 Aldo Rossi completed the Teatro Domestico project for the 17th Triennial Exhibition of Milan, a significant work in which the distinction between representation and real world is constantly cancelled and restored through reversals of meaning and the use of abrupt changes in scale. Space is represented through a model that has been sectioned into two halves as in Matta Clark's Splitting. Cutaway sections in the style of Georges Perec²⁹ recall the 'typology of the city house, the stage of a life fully lived, a tidy place with condensed noises, smells torn away from the ruins of time, colours settled as stratifications of subsequent generations.'30 The Teatro Domestico (Domestic Theatre) is the cutaway vision of a house built with a wooden structure, where one can observe a façade with an internal staircase and three rooms on three different floors (Figure 5). Single spaces are internally covered with coloured wallpaper and some items of furniture. There are no people, no movement; everything is still. This is the theatre of domestic memory.

Today designers are still using excavation, engraving and cutting to present new perspectives and new perceptions of space. In projects by the Dutch architecture studio MVRDV (an acronym for the founding members Winy Maas, Jacob van Rijs, and Nathalie de Vries) it is possible to observe the use of sections and axonometric cutaways as tools to verify the conformation of interior space. The Double House section (1997), for example, reveals the subdivision, intersection and complexity of the space that is generated by the fitting of rooms. The use of black and

space, with the use of a natural sand floor finish and walls white in the cutaway emphasises the logic of the construction of space. The facade itself becomes the section and the threshold between interior and exterior is reduced to a minimum through In the representations of contemporary interiors as plenum a play of transparency, so that the game of spaces is perfectly

> In the same way Shigeru Ban takes the theme of the threshold to extremes in the Curtain Wall House (1995). Designed for a







project concerns the redesign and transformation of a pre-existing two, into outside and inside, can be as thin as a blade,' 32

Portuguese architects Aires Mateus use excavation, engraving and removal in the compact volume of their houses. Their designs are simple; plans, sections and black and white elevations define the interior space with very light lines. In the plan for the House in Leiria (2008-10) the volume is excavated at the centre in order to create an internal patio that lights the facing rooms (Figures 8-9). In the representations of the plan, the house is conceived as a sculpture on which several removal operations are performed. No furniture is provided in the designs, nor is there a human figure. The space is a large cavum.

horizon),³³ the Laboratorio Permanente³⁴ studio engraves the buildings' blind façades with circular or rectangular cuts in order spaces for withdrawal?

CONCLUSION

The concept of 'interior' is undergoing significant alterations, shifting from a traditional reading, linked to domestic space, to the notion of interiority, extending also to the spaces of collective life, mobility and communication. Dwellings, in particular, are altering aspects of traditional domesticity, such as the relationship between interior and exterior and the concept of intimacy and privacy. In contemporary society, where new technologies In the La conquista dell'orizzonte project (The conquest of the guarantee continuous communication with the outside, is it still possible to consider individual houses as shelters for retreat, as

Figure 5: Aldo Rossi, Teatro Domestico, 1986. Photo © Eredi Aldo Rossi, courtesy Fondazione Aldo Rossi

Above Left and Right

Figure 6 and 7: Shigeru Ban Architects, Curtain Wall House, Tokyo, 1995. Photo © photographer Hiroyuki Hirai.









Cavum and plenum are two ways of interpreting and representing space, giving new perspectives about contemporary domestic interiors, which become permeable, continuous, fluid, and receptive to external stimuli. The traditional concept of interiority, linked to the idea of a shell and a primordial shelter, is expanding to the point of reaching the exterior. The main aspect of the projectual action is still the development of space as a place of human relationships, as in the works of Atelier Bow-Wow and SANAA, where the house is built around the smallest human dimensions that receive and embrace its dwellers. The field of action is no longer identified by places with definite borders but rather by a more comprehensive idea of a 'place of gestures': it does not matter whether indoors or outdoors, in a room or in the street, the only thing that matters is the person's actions. In the Moriyama House project, and, in an even more extreme way, in the Curtain Wall House, a definite limit between interior and exterior no longer exists: shade, light and atmospheric agents penetrate into the house, as the exterior becomes part of the interior:

Perhaps the contemporary dweller does not feel the need to be exteriorised, to be nomadic, but rather desires to have a home which is neither simply an interior space, nor a pure exterior. *Living*, now, is somehow perceived as occupying the space between interior and exterior; living on the threshold.³⁵

NOTES

- I. Imma Forino, "Interno e Interiorità," Op. cit. 102 (1998): 18.
- Charles Rice, The Emergence of the Interior (London & New York, Routledge, 2007), 2.
- 3. Giulio Carlo Argan (1902-92) is acknowledged to be one of the most important Italian art critics of the 20th century. The topics he dealt with vary from architecture to design, ancient and contemporary art.
- 4. Giulio Carlo Argan, "A proposito di spazio interno," Metron 28 (1948): 21.
- 5. Imma Forino, "Interno e Interiorità," 19.
- 6. Gaston Bachelard, The Poetics of Space, trans. Maria Jolas (Berkeley: Beacon Press, 1994), 31.
- 7. Walter Benjamin, The Arcades Project, trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA:The Belknap

Press of Harvard University Press, 1999), 220-221.

- 8. Emmanuel Lévinas, Totalité et Infini, essai sur l'exterioritè (L'Aia: Martinus Nijhoff, 1974).
- 9. Imma Forino, "Raccogliersi: Lo spazio della solitudine," in Accogliere raccogliersi: L'interno domestico fra partecipazione ed esclusività, ed. Agostino Bossi (Napoli: Edizioni Giannini, 1999), 51.
- 10. With the word caustrofilia, Elvio Facchinelli refers to the wish to retreat, to withdraw in a closed space.
- 11. Corinne Diserens, Gordon Matta-Clark (London: Phaidon, 2003), 163.
- 12. Imma Forino, "Panorami Domestici, fra utopie moderne e visioni contemporanee," Op. cit., no.125 (2006): 46.
- 13. Diserens, Gordon Matta-Clark, 165.
- 14. John Bird, "Dolce Domum," in House, ed. James Lingwood (London: Phaidon Press, 1995), 114.
- 15. Bird, "Dolce Domum." 112.
- 16. Forino, "Interno e Interiorità," 19.
- 17. Mario Praz, An Illustrated History of Interior Decoration from Pompeii to Art Nouveau, trans. William Weaver (London:Thames & Hudson, 1964), 53.
- 18. Benjamin, The Arcades Project, 220-221.
- 19. Georges Teyssot, "Soglie e pieghe," Casabella 681 (2000): 27.
- 20. Ibid., 27.
- 21. Benjamin, The Arcades Project, 406.
- 22. Aldo Cibic (1955) is an Italian architect who works in the fields of interior design and industrial design. In the 80s he collaborated with Ettore Sottsass and one of the historical founders of the Memphis group. In 1989 he founded the Cibic & Partners studio with Antonella Spiezio, Luigi Marchetti, and Chuk Felton. He works both in Italy and abroad. See in particolar his project *Rethinking Happiness*, presented at the Biennal Exhibition of Venice in 2010.
- 23. Aldo Cibic, Microrealities. "A project about places and people." http://www.microrealities.org/presentazione. php?page=1 (accessed April 23, 2013).
- 24. Koh Kitayama, Yoshiharu Tsukamoto, and Ryue Nishizawa, Tokyo Metabolizing (Tokyo:TOTO Publishing, 2010), 46.
- 25. Sam Chermayeff, Agustin Pérez Rubio and Tomoko Sakamoto, ed., Houses: Kazuyo Sejima + Ryue Nishizawa (Barcelona: Actar/Musac, 2007), 11.
- 26. Kitayama, Tsukamoto, Nishizawa, Tokyo Metabolizing, 76.
- 7. Kitayama, Tsukamoto, Nishizawa, Tokyo Metabolizing, 86.
- 28. Kristine Guzmàn, "Reinterpreting Traditional Aesthetic Values," in *Houses: Kazuyo Sejima + Ryue Nishizawa*, ed. Sam Chermayeff, Agustín Pérez Rubio and Tomoko Sakamoto (Barcelona: Actar/Musac, 2007), 170.
- 29. Georges Perec (1936-1982) is a French writer and a member of OuLiPo. His most significant works include *La Disparition* (1969); *Espèces d'espaces* (1974), and La vie mode d'emploi (1978), a novel inspired by a drawing by the artist Saul Steinberg of a cutaway section of an apartment building.
- Georges Teyssot, Paesaggio d'interni (Milano: Electa, 1987), 11.
- 31. Benjamin, The Arcades Project, 494.
- 32. Samuel Beckett, L'Innommable (Paris: Les Editions de Minuit, 1953), 196.
- 33. Laboratorio permanente, "La conquista dell'orizzonte."

http://www.youtube.com/watch?v=cRAOUL82rAk (accessed April 23, 2013).

- 34. Laboratorio Permanente is an Italian architecture studio based in Milan which deals with themes of contemporary space.
- 35. Teyssot, "Le cose, perturbanti e nomadiche," Area 79 (2005): 11.

Opposite Left

Figure 8: House in Leiria diagrams, Leiria, 2008-2010.
Photo © courtesy Aires Mateus.

Opposite Middle

Figure 9 House in Leiria, Leiria, 2008-2010.
Photo © courtesy Aires Mateus.

Opposite Right

Figure 10: La conquista dell'orizzonte, 2011. Photo © courtesy Laboratorio Permanente.

^{*}The journal Op. cit. Selezione della critica d'arte contemporanea is an Italian journal founded in 1964 by Renato de Fusco, writer on architecture and design and professor of the History of Architecture at Naples "Federico II" University.

^{*} The translation of the text and of the notes was made by Ilaria Parini, contract lecturer in English at the University of Milan (Italy).