

Le Corbusier, and later the movement of New Brutalism, suggested that the raw materials of architecture like exposed concrete were able to influence people's 'emotional relationship' with the world. How can the raw materials of the built environment affect and shape our sense of ourselves and the world around us?

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“L’architecture, c’est avec des matieres bruts, établir des rapports émouvants.”¹

Le Corbusier

This paper will analyse the importance of concrete as a raw material – *béton brut* – for buildings and the reactions it provokes to individuals when standing before, or inhabiting, such constructions. Case studies for this research will consist of two buildings and one sculpture: Le Corbusier’s *Unité d’Habitation* in Marseille (1947-52) and *Notre Dame du Haut* (1955), and Rachel Whiteread’s *House* (1993). While the agglomerate of cell-like apartments in the south of France produces a relationship between the individual and the collective, the chapel in Ronchamp, eastern France, marks a new approach to religious architecture. On the other hand, the temporary artwork once sited in East London challenges the notion of dwelling because it resembles an inaccessible house. The British architectural movement developed in the 1950s known as New Brutalism was animated thanks to the changes that occurred in the Marseille complex. The use of reinforced concrete presented modern and un-modern features which I will examine to understand how it became aligned with modern architecture through its development in the mid-1920s. Cultural representations of acts of violence emerging from post-war Brutalist buildings will reveal a new kind of emotional relationship to concrete, literally brutal, verified in Alison and Peter Smithsons’ *Robin Hood Gardens* (1966-72) and Stanley Kubrick’s movie *A Clockwork Orange* (1971).

¹ From the French: “The business of Architecture is to establish emotional relationships by means of raw materials.” Le Corbusier, “Argument,” in *Towards a New Architecture*, trans. Frederick Etchells (1923; repr., Thousand Oaks, CA: BN Publishing, 2008), 4.

The Swiss-French architect Charles-Édouard Jeanneret, better known as Le Corbusier, expressed his ideas and definitions about architecture in the journal *L'Esprit nouveau* in 1920.² Three years later, he grouped his articles in the book *Vers une architecture* (translated as *Towards a New Architecture*), in which the initial chapter sets out his argument by claiming that the architect's spirit produces an order through his arrangement of forms.³ Consequently, people experience plastic emotions and a sense of beauty that connect them with the world, resulting in a balanced arrangement between the two. A difference in purposes arises between architecture and engineering: the former does not only respond to practical needs but creates emotions, whereas the latter is an originator of structures.⁴ The result of the first practice can be manifested when an edifice makes an impact on one's mind, which then harmonises the person's surroundings as an effect of architectural feelings.

Since architecture is defined as a plastic thing, the architect reveals himself as artist in the moment his mind creates contour and profile, together with the presentation of a plan to guarantee the achievement of order.⁵ Le Corbusier expands his elements of focus in this book-as-manifesto until arriving at a declaration that with the mass-production units, a revolution that challenges the past has started to occur. With this in mind, the problems arising in the epoch of the 1920s derived from the demoralisation of working-class citizens, whose dwellings were not suitable for their needs anymore because they were not adapted to the new world of transformation and development. This feeling of demoralisation was caused by the post-war European housing crisis but also by a series of changes in the industrial setting, which introduced a close collaboration between the machine and the worker.⁶ With the flowering of

² Jacques Guiton, ed. "What Is Architecture?" in *The Ideas of Le Corbusier: On Architecture and Urban Planning*, trans. Margaret Guiton (New York: George Braziller, 1981), 17.

³ Le Corbusier, "Argument," 1. The engineer, on the contrary, achieves harmony through the inspiration of Economics and Mathematics.

⁴ Le Corbusier, quoted in Jacques Guiton, ed. "What Is Architecture?" in *The Ideas of Le Corbusier: On Architecture and Urban Planning*, trans. Margaret Guiton (New York: George Braziller, 1981), 18.

⁵ Le Corbusier, "Argument," 6.

⁶ Le Corbusier, "Architecture or Revolution," in *Towards a New Architecture*, trans. Frederick Etchells (1923; repr., Thousand Oaks, CA: BN Publishing, 2008), 274.

industry taking over the modern life of the public, those same people required a “machine for living in” with the characteristics of a human thing.⁷

Besides steel, the other material that certainly brought innovations and provided new improvements in the construction of dwellings was concrete. The equilibrium of society could be adjusted through them and, at the same time, the spirit of mass-production in relation to houses became the motivating force for architecture’s latest attainment. As a matter of fact, Le Corbusier was willing to solve this situation by proposing a plan for the house that would become a plan for the whole society. His major contribution to social housing is evident in the plan of eight building apartments, *Unité d’Habitation*, with the most famous named *Cité radieuse* (Radiant City) located in Marseille, France (Figure 1).

Commissioned in 1945 by the then Minister for Reconstruction and Urbanism Raoul Dautry, this complex of 337 units and communal facilities placed on the last floor and on the roof (gymnasium, nursery school, pool, 300m running track, to name a few) was realised using reinforced concrete and it was suspended on *pilotis*, i.e. columns and pillars (Figure 2). Their resemblance to monk’s cells is inspired by that of monasteries, in which the dualism between individual and collective life generates harmony, in this case disseminated among the inhabitants of this “town-within-a-building.”⁸ According to Le Corbusier, despite some criticism towards cement and its colour being regarded as dreary, it was worth exposing it in its natural state and splendour.⁹ He began to be interested in the use of *béton brut*, that is raw

⁷ When Le Corbusier stated the phrase “the house is a machine for living in,” he used the term “citrohan” to compare the house to a motor-car. The idea’s aim was to build housing units with the system of mass-production, as it was used for manufacturing automobiles. See Le Corbusier, “Mass-production Houses,” in *Towards a New Architecture*, trans. Frederick Etchells (1923; repr., Thousand Oaks, CA: BN Publishing, 2008), 240.

⁸ Peter Serenyi, “Le Corbusier, Fourier, and the Monastery of Ema,” in *Le Corbusier in Perspective*, ed. Peter Serenyi (New Jersey: Prentice-Hall, 1975), 104. Le Corbusier visited the monastery of Ema, Italy in 1907. The structure of the building influenced his thinking concerning architectural organization and the determination of the cellular unit. Moreover, he compared architecture to monasticism, conceiving the devotion of each as a religious order.

⁹ “Unité d’Habitation, Marseille, France, 1945,” Fondation Le Corbusier, accessed December 20, 2016, http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5234&sysLanguage=en-en&itemPos=61&itemSort=en-en_sort_string1%20&itemCount=79&sysParentName=&sysParentId=64.

concrete, while being a student of the French architect Auguste Perret, which later led him to additionally conceive the five points of his Purist syntax precisely from the concrete frame principle.¹⁰ Throughout a process of transformation, concrete was recreated as a rough, natural, plastic material similar to stone.¹¹ It could be argued that since concrete carries elements that probably have the same age as the Earth, this fact can induce a closer relationship between people and our planet when looking at edifices made of these components. Nonetheless, most people repel concrete partly for its struggle for classification, by being both liquid and solid, rough and smooth, and partly for its dull grey aspect.

The presence of rock-like outcrops on the roof of the *Unité* emphasizes the naturalness of the material they are made of and mirror the mountains seen from that elevated viewpoint.¹² The scale of this “ship-like monolith,” using architectural historian Charles Jencks’s words, is overwhelming, as well as its bold outline on the surrounding landscape.¹³ Even though the crude aesthetic of the *Unité* appears aggressive, the façades display superb polychromy. Perhaps the presence of various colours facilitates a warmer appreciation of concrete, and consequently of the structure’s aspect. Initially, this complex of cells was supposed to be built using steel, but it was deemed too expensive to the economic situation after the war. The concrete block was then chosen as it was the cheapest material. American architect Frank Lloyd Wright, one of Le Corbusier’s contemporaries, defined it as the “ugliest thing in the building world” and decided to experiment with it in order to see what outcomes would materialise from

¹⁰ Jacques Guiton, ed. “The Reasons Behind Le Corbusier’s Ideas,” in *The Ideas of Le Corbusier: On Architecture and Urban Planning*, trans. Margaret Guiton (New York: George Braziller, 1981), 114. The five points he conceived were: 1) the supports, 2) the roof gardens, 3) the free designing of the ground-plan, 4) the horizontal window, 5) free design of the façade. See Ulrich Conrads, ed. “Le Corbusier/Pierre Jeanneret: Five points towards a new architecture,” in *Programs and manifestoes on 20th-century architecture*, trans. Michael Bullock (Cambridge, MA: MIT Press, 1971), 99-101.

¹¹ David Jenkins, *Unité d’Habitation, Marseilles: Le Corbusier, Architecture in detail* (London: Phaidon Press, 1993), 11.

¹² Jenkins, *Unité d’Habitation*, 11.

¹³ Charles Jencks, “The Brutalist Language,” in *Le Corbusier and the Tragic View of Architecture* (London: Penguin Books, 1973), 139.

it.¹⁴ Given its smooth yet rough surface, a construction made of concrete could invite the viewer to approach it through the sense of touch: in this way, one might observe the differences between such simple, geometrical form as opposed to temple-like buildings that are almost completely decorated in ornaments.



Figure 1. Le Corbusier, *Unité d'Habitation*, 1947-1952, Marseille, France.
Photo by Paul Kozlowski. Copyright FLC/ADAGP.



Figure 2. Pilotis supporting the *Cité radieuse* complex of apartments.
Le Corbusier, *Unité d'Habitation*, Marseille.
Photo by Paul Kozlowski. Copyright FLC/ADAGP.

¹⁴ Frank Lloyd Wright, "What Form," in *Frank Lloyd Wright: An Autobiography* (San Francisco: Pomegranate, 1943), 234.

Brutalist architecture took inspiration for its style from the *Unité d'Habitation* and its ability to accomplish emotional relationships through the medium of concrete. It is believed that Alison Smithson, an English architect, used the words New Brutalism for the first time while describing a project for a house in Soho in 1953, in which she declared her plan of designing an exposed structure with a basic construction.¹⁵ Therefore, flourished in the 1950s until the mid-1970s, the phrase “The New Brutalism” was applied to two structures by Alison and Peter Smithson: the house in Soho and the school at Hunstanton. What is important to realise is the honesty of these two buildings, since they were made exactly of the materials they appear to be made of, an exclusive quality among modern constructions.¹⁶

Architectural critic Reyner Banham sustains that the Smithsons always had consistency and coherence in their designs, relevant features which contribute to display the building as a visual entity, or rather an image.¹⁷ Typically, an image affects the emotions but as far as New Brutalism is concerned, Brutalist images are, aesthetically speaking, anti-beauty. The 2014 BBC documentary conducted by journalist Jonathan Meades, *Bunkers, Brutalism and Bloody-mindedness: Concrete Poetry*, shows the style’s brutality by looking at its precursors and its major exponents, while inviting the viewers to finally begin to appreciate the constructions that have been so far regarded as aggressive and ugly. The architectural modernism that emerged at the end of the 1950s and early 1960s was in reaction to the previous elegant and smooth works of the 1920s and 30s, seeking qualities other than prettiness.¹⁸ As a result, the word “monstrosity” began to be associated with the word “concrete” in discussions.

¹⁵ Reyner Banham, “The New Brutalism,” *October* no. 136 (2011): 21, accessed December 18, 2016, doi: 10.1162/OCTO_a_00034.

¹⁶ Banham, “The New Brutalism,” 22.

¹⁷ Banham, “The New Brutalism,” 24.

¹⁸ “Bunkers, Brutalism and Bloody-mindedness: Concrete Poetry - Part 1,” Artfilms, 13:44/49:57, from a BBC documentary in 2014 by Jonathan Meades, <http://www.artfilms-digital.com/Detail.aspx?CategoryID=24&SubCategoryID=276&ItemID=5365>.

As previously mentioned, the use of concrete as a modern medium for the construction of edifices for human beings stands as a characteristic of its ubiquity. As professor Adrian Forty expressed, concrete helped shape modernity and people's lives with themselves and their relationships with others during the various transformations in architecture in the twentieth century.¹⁹ One of the benefits of having a dwelling made of reinforced concrete is that it is safer than others in case of natural disasters such as earthquakes or hurricanes.

If a move away from housing construction is taken into consideration, the adoption of concrete for other types of buildings, such as religious ones, could be investigated. The French city of Ronchamp had the chapel *Notre Dame du Haut* built by Le Corbusier in 1955 (Figure 3). Trucks could not transport construction materials because accessing the site on a hill was difficult due to the absence of roads, therefore he decided to use sand, cement, and some stones which were part of the previous chapel. Once realized, the chapel seemed to suggest and simultaneously deny religious imagery; its architect, who was atheist and non-conformist, clarified these doubts by claiming that religion was not necessary for the completion of the church's design, adopting instead a psychological approach in which "form was an answer to a psychophysiology of the feelings."²⁰ It can be affirmed that the chapel's poetic, yet primitive, form has successfully obtained what just stated, and this is proved by the thousands of people who have taken it as a site of pilgrimage.

¹⁹ Adrian Forty, "Mud and Modernity," in *Concrete and Culture: A Material History* (London: Reaktion Books, 2012), 14.

²⁰ Jencks, "The Brutalist Language," 152.



Figure 3. Le Corbusier, *Notre Dame du Haut*, 1955, Ronchamp, France.
Photo by Cemal Emden. Copyright ADAGP.

Even though the name Brutalism suggests brutality to the extent of exemplifying the rawness of the buildings' aspect, the experience of *béton brut* was pushed further through acts of destruction. These forms of cultural rebellion can be seen in two instances, precisely *Robin Hood Gardens* and *A Clockwork Orange*. The former was a project by Alison and Peter Smithson consisting of two horizontal concrete housing blocks hosting 213 apartments in Poplar, London (Figure 4). Their intention was to provide a new enjoyable way of living in the city and encourage socialization. By splitting the site in two, the plan was to place the walkways, or "streets in the sky," and living rooms on the outside, protected by acoustic walls so that traffic noise was thrown back to the streets.²¹ On the other hand, kitchens and bedrooms could be found in the internal part, overlooking the garden. This central area was designed to be a stress-free zone, therefore the upwards ground discouraged children from playing football games which may have disturbed older residents.

²¹ "The Smithsons On Housing," YouTube video, 7:11/28:18, from a BBC documentary by B.S. Johnson in 1970, posted by "AP S," February 5, 2013, <https://www.youtube.com/watch?v=UH5thwHTYNk>.



Figure 4. Alison and Peter Smithson, *Robin Hood Gardens*, 1972.
Photo by Sandra Lousada. Copyright The Smithson Family Collection.

However, the architects' hope to create a form responding to people's desires utterly failed. The post-war situation in which the Smithsons stepped in was, in Alison's words, "a completely vandalized environment."²² Architecture's duty was to restore daily life through the construction of structures meant to last, and Brutalism was the appropriate style thanks to its solidity. Society needed makers who were ahead of the destroyers in order to produce housing that future generations would benefit from. Nonetheless, it is mainly the tenants' responsibility to keep the flats in perfect conditions: in most dwellings the inside is well-kept but the outside, or public areas, is damaged. In a 1990s interview, the father of Brutalism – Peter Smithson – expressed his outraged view about the strong emotional response towards this residential estate, arguing that differently from the life in other buildings, *Robin Hood Gardens'* inhabitants neglected the front doors and did not put any plotted plants outside or items that would make the place more alive because "if you put anything out someone will break it."²³

²² "The Smithsons On Housing," YouTube video, 20:03/28:18.

²³ "Rebuilding Britain for the Baby Boomers," BBC Radio 4, 39:03/57:08, interviews by Maxwell Hutchinson, broadcasted November 26, 2011, <http://www.bbc.co.uk/programmes/b017187m>.

He initially thought the motive was caused by social jealousy but, upon reflection, he considered them acts of social aggression, especially after the episodes happened during the project's opening week in which people would defecate in the lifts.

Following the English Heritage's rejection to list the building in 2008, this mass-housing estate is about to be demolished to undergo a large-scale redevelopment. There were multiple reasons for this decision: the acoustic barriers that were supposed to reject street noise made the estate isolated from the rest of the area, the design encouraged anti-social behaviour such as crime and vandalism, the lack of maintenance, and the later-added security measures transformed the residents into a gated community.²⁴ Consequently, by recalling what Banham previously stated, if Brutalism is about the creation of images, then *Robin Hood Gardens* was the image of a fort.

The second example proving that concrete architecture became a symbol for a new kind of emotional relationship is established in Stanley Kubrick's film adaptation of Anthony Burgess's novel *A Clockwork Orange*. Released in the early 1970s, the plot is set in a futuristic London, where the aftermath of WWII culminated into episodes of juvenile delinquency performed by Alex DeLarge and his group of "droogs" ("friends" in Nadsat jargon). The troubled condition of the city is depicted in its urban landscape: "the working-class housing projects are in a state of wreckage, their walls covered with vulgar graffiti," degenerating into a general eroticized slum, which seems to stimulate the young members of this dystopian society in the production of acts of violence.²⁵ The exterior shots of the various locations reveal the type of buildings chosen for this movie: Brutalist. Concrete walls are the background of

²⁴ Tom Wilkinson, "Robin Hood Gardens: Requiem for a Dream," *Architectural Review*, 9:15, last modified November 10, 2014, <https://www.architectural-review.com/film/robin-hood-gardens-requiem-for-a-dream/8672120.article?v=1>. The presenter affirmed that, according to a council survey, 75% of the residents wanted Robin Hood Gardens to be torn down, whereas a second survey carried out by one of the inhabitants showed that 80% wanted it renovated.

²⁵ Robert P. Kolker, "A Clockwork Orange...Ticking," in *Stanley Kubrick's A Clockwork Orange*, ed. Stuart Y. McDougal (Cambridge: Cambridge University Press, 2003), 28.

most of Alex's scenes, particularly those in Thamesmead, where we see him walking back home across Tavy Bridge estate and fighting his droogs in the nearby Southmere lake (Figure 5), but also inside Wandsworth prison, and when he is taken to the Ludovico Medical Facility, shot at Brunel University, Uxbridge.²⁶



Figure 5. Stanley Kubrick, *A Clockwork Orange*, 1971.

Alex throws two of his droogs, Dim and Georgie, into Southmere lake at Thamesmead South Housing Estate, London. <https://www.youtube.com/watch?v=HtRGeyznv7k>.

²⁶ The movie shares some features with the British science-fiction television show *Misfits* (2009-2013), about a group of teenagers who get superpowers after being hit by an electric storm during their community service. They were both filmed in Thamesmead and exhibit recurrent acts of violence, more for self-defence in the latter case. See "Misfits - Series Trailer," YouTube video, 1:39, posted by "Hulu," October 31, 2013, <https://www.youtube.com/watch?v=VsBYXLYNZIE>.



Figure 6. Same spot where the above scene was filmed. Thamesmead, London.
The Architects' Journal, <https://www.architectsjournal.co.uk/allies-and-morrison-to-overhaul-thamesmead-for-peabody/8664730.article>.

Here, differently from what was previously expressed in relation to Le Corbusier's works, concrete architecture creates a new emotional relationship, one that is animated by nihilism and the urge to destroy. Perhaps the filmmaker selected such buildings because Brutalism was the flourishing style of the period, nonetheless the choice may send the message that this type of architecture is associated with, or induces to, inhuman behaviour, therefore the public can perceive Brutalism as the image of an irrational society.

After these considerations, a parallel can be drawn between Kubrick's movie and the Smithsons' project: even though the former is an imaginary scenario with forms of ultra-violence, the graffiti-covered housing blocks with littered lobbies and grounds we see on the screen were actually a reflection of real life events from *Robin Hood Gardens*, caused by a public with undisciplined manners who were reacting against the site.

In accordance with professor Adrian Forty, it would be interesting to consider the function of concrete in a different ambit than that related to architecture.²⁷ For instance, the public artwork titled *House* (Figure 7) realised by the British artist Rachel Whiteread in 1993 showed a different use of the material of concrete in relation to the creation of a work of art. Concrete was used to fill in the space of a Victorian terraced house in Mile End, London prior to its demolition, rendering it both flat and solid. This monument presented the dual aspect of being “a closed architectural form and an open memorial.”²⁸ Nevertheless, despite the positive reception from the multitude of daily visitors, this concrete cast sculpture was only temporary and it was destroyed a few months after its unveiling. Its purpose was to work as a remembrance of the past, for commemorating the ordinary lives of East End Londoners and their collective memories, while evoking a sense of nostalgia and emotional responses of the transience of things. The title was a paradox of the house itself since the building could not be entered and consequently dwelled in it.



Figure 7. Rachel Whiteread, *House*, 1993, concrete cast, Grove Road, London.

²⁷ Adrian Forty, introduction to *Concrete and Culture: A Material History* (London: Reaktion Books, 2012), 9.

²⁸ James Lingwood, introduction to *Rachel Whiteread: House* (London: Phaidon, 1995), 8.

In regards to the nostalgic aura issued from a dwelling, French philosopher Henri Lefebvre recalled the emotional approach with which Gaston Bachelard addressed the house as an absolute and intimate space.²⁹ Writing in the late 1950s, this philosopher romanticised the elements of the house, e.g. chests, drawers, wardrobes, while seeking a phenomenological determination of the images produced within it and their impact on individuals' consciousness.³⁰ Particularly, he classified nests and shells as primal images because they emphasise the dweller's primitiveness. Apparently, Le Corbusier's idea for *Notre Dame du Haut*'s roof was inspired by an *objet à réaction poétique*, a crab's shell, whose structural form functioned as a model for strength and enclosure.³¹ The chapel is thus regarded as an expression of poetry and ancient ritual, where one can find peace and silence, as well as internal joy: "The feeling of the sacred animated us. Some things are sacred, others not, irrespective of whether or not they are religious."³²

House's shell structure was instead formed by the spraying of concrete. Whiteread's making of a "building within a building" turned the space inside out: the private was exhibited to the public eye, revealing its intimacies.³³ Interiority and exteriority had become one. People may have found it difficult to imagine that solidified interior once constituted a space of life, whose inhabitants' traces had been preserved in concrete, thus offering the viewer a dialectic of previous homeliness and present unhomeliness.

²⁹ Henri Lefebvre, "Social Space," in *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell, 1991), 121.

³⁰ Gaston Bachelard, introduction to *The Poetics of Space*, trans. Maria Jolas (Boston: Beacon Press, 1994), xviii.

³¹ "Notre-Dame du Haut, Ronchamp," in *Le Corbusier: Architect of the Century*, exhibition catalogue, ed. Michael Raeburn and Victoria Wilson (London: Arts Council of Great Britain, 1987), 248.

³² Le Corbusier, dedication speech, *Carnets II*, 25, quoted in "Notre-Dame du Haut, Ronchamp," in *Le Corbusier: Architect of the Century*, exhibition catalogue, ed. Michael Raeburn and Victoria Wilson (London: Arts Council of Great Britain, 1987), 247.

³³ Doreen Massey, "Space-time and the politics of location," in *Rachel Whiteread: House* (London: Phaidon, 1995), 36.

As has been noted, both Le Corbusier's practice and the exponents of New Brutalism rejected traditional academicism. The Swiss-French architect's radicalism promoted the doctrine of cubism and primitive design through a combination of the spirit of geometry with the perception of order, while the style of the mid-twentieth century emphasized basic structures and a frankness in materials. The use of concrete in the above-examined examples has nonetheless generated a common effect: an accentuation of people's emotional relationships with the world around them. A psychophysiology of the feelings generated by form can provide positive or negative reactions: while the Ronchamp chapel opens up a poetic ritual, the imaginary dystopian society of future London responds with gestures of nihilism and destruction. The Smithsons relied on architecture to find solutions to people's problems, but they ended up producing a utopian model for a post-war public that did not welcome social order. Ultimately, it seems possible to affirm that there is a poetic expression in concrete and that it can be represented in human life, since Bachelard acknowledges that when a poetic image is received, its inter-subjectivity leads the recipient to repeat it.³⁴

³⁴ Bachelard, introduction, xxiv.

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