

The colours of food: final layer in the *Palimpsest* of Santa Caterina Market in Barcelona

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The colours and shapes of food in the decoration of a building were common in traditional architecture, particularly in the Spanish regions of Catalonia and Valencia in the nineteenth century. During the modernist period, we can distinguish both an *abstract* and a *mimetic* tendency in these colour transfers. Coloured glazed tiles were often used to cover modernist public buildings in the Spanish Mediterranean coast. The roof of Santa Caterina market in Barcelona follows this abstract modernist tradition and starts from the picture of a food stall as an inspiration. In the same way as some other contemporary architects, Enric Miralles and Benedetta Tagliabue used a computer-aided process of pixilation to design a shiny coloured composition that reminds us of traditional colour transfer techniques from nature and traditional building materials. The result is a market conceived as a *palimpsest* in which various historical layers from the past can be read. Moreover, it represents in a virtual manner the chromatic experiences that take place in the spaces inside. The building features a type of transparency that is consistent with contemporary perception and which blurs the boundaries between reality and fiction.

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The colours of food in the recent history of Catalan architecture

Food has been a prominent inspiration throughout history for many artistic disciplines and was used as an argument to experiment with colour. The presence of food as a decorative element in architecture goes beyond a simple functional relationship with the use of rooms, and becomes a useful motive for organising a chromatic composition. Examples include coloured cornucopias of classical architecture, biblical food goods in the frescoes of medieval architecture (grapes, bread, fish, etc.), still life paintings in bourgeois housing, or the glazed ceramics used in modernist market buildings.

This is not the place to enlarge upon the characteristics of this plastic inspiration in various architectural movements before the nineteenth century, but we would like to emphasise the similarities between some buildings and modernist architectural designs and the composition developed by Enric Miralles and Benedetta Tagliabue in the Santa Caterina market. In both cases, we can attempt to understand the direct relationship in the design methodology and intentions, as well as the role that the colour of food plays in the design processes.

Modernism is a plural and varied stylistic movement in which organic inspiration plays a key role. In fact, a significant portion of current Northern European modernist work uses plant forms in architectural decoration, especially evident in the case of the *art nouveau* of Victor Horta in Brussels or Hector Guimard in Paris. Such works contrast with the geometric character of the *secession* style of Otto Wagner and Joseph Maria Olbrich in Vienna, or the *modern* style of Charles Rennie Mackintosh in Scotland. Even more significant is this tendency to floral decoration in the other decorative arts or in design, in which the predominance of organic curved shaping, in contrast to orthogonal straight lining, became the hallmark of the movement; while new art techniques and materials made an explosion of colours possible outside and inside buildings.

In the case of Spanish architectural Modernism, especially in Valencia and Catalonia, this organic trend was particularly significant, resulting sometimes in an operation that transferred to buildings the shapes of nature, as well as a full colour transfer based on the use of glazed ceramics.

We can distinguish two different tendencies: *abstract* or *symbolic* (characterised by the transfer of natural colours to the decoration of buildings, but without keeping the shapes of the original organic sources); and *mimetic* (characterised by the direct adoption of both colour and natural shapes in ornamental features).



Figure 1 (left): Casa Batlló, Antoni Gaudí, Barcelona, 1904-1906.

Figure 2 (right): Estación del Norte, Demetrio Ribes, Valencia, 1917.

The *abstract* tendency is revealed in the facade of the Batlló House by Antonio Gaudí in Barcelona (Figure 1). The facade of this building, like other buildings by the Catalan master, is the result of an

abstraction that implements the colour of flowers to enrich the composition, but without the forms themselves. We could say that the floral character of the decoration is limited to the colours without identifying the original organic forms. The use of the *trencadis* technique, which consists in laying small coloured ceramic pieces, is characteristic of modernism, and enables the creation of a fragmentary and abstract image distilled from the original reference in nature. This design methodology is based on abstract colour and building techniques that use small coloured tiles, and is similar to the methodology later developed by Enric Miralles and Benedetta Tagliabue in the Santa Caterina market.

For the second modernist tendency, described as *mimetic*, we can look at the case of market buildings and their colour and decorative symbols. Valencia is a fertile region characterised by its relationship and dependence on fruit growing (icon and symbol of its lifestyle) and its market buildings often feature strongly coloured ceramics showing organic food. Moreover, in facades of several major modernist buildings in the city, such as northern railway station (Estación del Norte as shown in Figure 2), walls and friezes are filled with ceramic elements representing fruit, flowers, and other products of the *huerta* (*gardens*) of Valencia. This is a formal transfer of the products of the surrounding area in order to identify the building with the city itself and a modern society that wanted this railway station to be the new gateway to the city.

However, it is in market buildings where this visual identification between food and the ornamental composition is especially significant, as this is where groceries are sold. A paradigmatic example of this use of food imagery in the decoration of Valencian markets is the *Mercado de Colón* (Figure 3), where food and its colours are predominant in the two main facades (Figure 4). With this resource, colour, and architectural typology are closely linked in a chromatic transfer that identifies the container (building) with the content (food).

Enric Miralles and Benedetta Tagliabue retrieve and reinterpret the tradition of representing Mediterranean food in the markets. The same formal motives are repeated, as well as the ceramic materials, while these are reduced to an abstract image in a transverse construction, which is up-to-date while retaining aspects of the past.

Physical description of the colours of Santa Caterina market

The most interesting element in the Santa Caterina market is the roof (Figure 5), which displays on the outside an interesting composition of brightly coloured tiles. The roof of the market is an undulating wooden structure when seen from inside the market, while a shiny coloured blanket of glazed ceramic tiles covers the top. Colour covers the entire surface of the roof market and protrudes into the street by forming small arbours. The cover is seen as a continuous surface that is independent of other structures and seemingly floating over them – as if it was an independent stratum.

The roof is not intended to blend the building in the environment using colour but, on the contrary, to distinguish the building from the environment. The colour ranges do not respond to the immediate urban landscape but to the activities taking place in the space underneath: the colour is a reference to the market itself and is not linked to chromatic aspects of the environment.

To colour the upper deck, hexagonal tiles have been used with flat colours that make a large drawing – a mosaic based on small coloured tiles (*tesela*). However, unlike the laborious manual process used in ancient mosaics, Tagliabue's mosaic incorporated new technologies to aid in the colour decision process and the industrial production of the tiles.



Figure 5: Top of the roof – Santa Caterina market, Enric Miralles and Benedetta Tagliabue, Barcelona, 2005 [Photo courtesy: EMBT architects].

The composition of the colours of the roof was obtained from the image of a market food stall after a digital treatment was used to reduce the colour information. The result of this abstraction process enabled a reduction to 64 colours and so facilitated the laying of ceramic tiles and their industrial treatment (as shown in Figures 6 and 7). Red and orange shades prevail over a large background with green ranges, enhanced by a simultaneous contrast between complementary colours that brings more vibrancy to the set. The bluish colours are almost nonexistent, although there are violet hues in the darker shades (in the same way impressionists painters used these colours to ‘cool’ the shadows). Every tile has a glossy finish that reflects sunlight and gives even more visual variety to the structure as daylight advances.



Figure 6 (left): Small samples of coloured glass tiles, showing the 64 shades selected [Photo courtesy: EMBT architects].

Figure 7 (right): Detail of one tile [Photo courtesy: EMBT architects].

Colour transfers in contemporary architecture: pixilation process

Computer aided tools have made it easier to take colour compositions of the outside of the buildings and transfer them onto a certain type of *architecture-canvas* or *decorated artifacts*, following the terminology of Venturi [1].

In this process of abstracting a photograph the term *pixel* is used, defined as ‘the smallest homogeneous surface which makes up an image’. We can define the pixilation as a process of abstraction, the reduction of an image taken from reality to its core component, something that *software* can do very easily and which has expanded the expressive resources of contemporary architecture. The process consists in reducing the size of a life-like sized picture to just a few colours. This is possible both by bringing together similar shades in a common colour, or by enlarging a small portion of the original image to a larger scale. Once on the building, observers do not usually identify the colour as a portion of a greater whole, or as an abstraction of a figurative image.

Santa Caterina market follows this *symbolic* or *abstract* tradition of reducing the colours of reality to arrange them in buildings, as mentioned before with regard to modernist architecture in Valencia. There are many examples in contemporary architecture that use pixilated photographs in their composition.



Figure 8: Final colour composition showing the distribution of small hexagonal tiles on the roof [Photo courtesy: EMBT architects].

Such is the case of Spanish architects Emilio Tuñón Álvarez (1959-) and Luis Moreno Mansilla (1959-2012) who displayed a shiny coloured composition on the outer facades of their Museum of Contemporary Art in Leon (2001-2004). In this building, the stained glass over the facades recalls the large stained glass windows in the city’s Gothic cathedral – which was taken as a source of inspiration (see Figure 9).

German architects Sauerbruch & Hutton in the Pharmacological Research Laboratories in Biberach (Germany, 2000-2002) took a picture as a reference for colouring the facades. In this case, the colours

correspond to the microscopic structure of one of the drugs synthesised in the labs as shown in Figure 10.

It should be noted that none of these three cases have colours that identify figuratively the visual reference that was used, and therefore they are not *mimetic* colour transfers, but *abstract* or *symbolic* transfers and so follow the Mediterranean modernism tradition (as noted previously and illustrated with some nineteenth century examples). In the three reported buildings it is difficult to trace the relationship with the original coloured image, so we cannot talk about a colour that identifies the use of the buildings in a figurative sense – beyond colour suggestions. These colours are somehow virtual colours, as they link to reality that is alien to the building: a distant reference or a full-abstracted reference that is not recognisable in any obvious way.

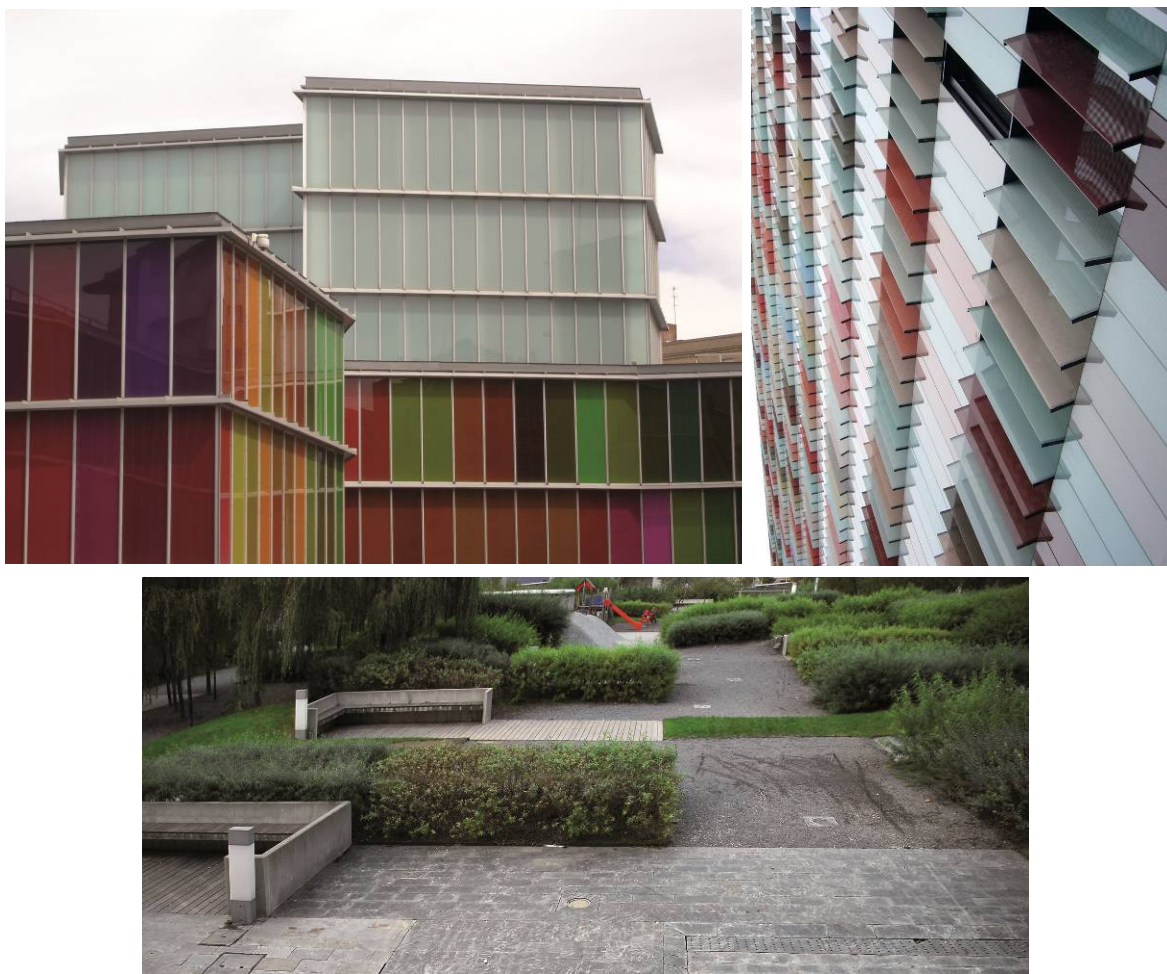


Figure 9 (top left): Museum of Contemporary Art in Leon, Tuñón and Mansilla, Spain, 2001-2004 (Photo by Luis Angel in <http://www.flickr.com/photos/luisangel/116313051/>).

Figure 10 (top right): Pharmacological Research Laboratories in Biberach, Sauerbruch Hutton, Germany, 2000-2002 (Photo by Alessio Cuccu in <http://www.flickr.com/photos/23675203@N06/4589252010/>).

Figure 11 (bottom): Plaza Del Desierto. Eduardo Arroyo: Nomad, Barakaldo, Spain, 1999 (Photo by Raúl del Valle in <http://www.flickr.com/photos/61085624@N00/2554338672/>).

The pixel is not only a basic colour unit, but is also an indivisible unit of information – something elementary. With this approach, the Spanish architect Eduardo Arroyo developed a project for the

Plaza Del Desierto in Baracaldo (Spain, 1999). The design of this public space is the result of the random distribution of a series of *pixels* with different finishing materials (see Figure 11). The *pixel* is a compositional strategy to organise the project and results in an interesting working system. Eduardo Arroyo belongs to the group of contemporary architects who focus their efforts on the working process, rather than on the final formalisation.

The market as a palimpsest

When Enric Miralles and Benedetta Tagliabue began the project of rehabilitating the historic Santa Caterina market they were very clear about the starting point: from the past forwards. The architects considered that the best way to describe the past was to make it present: ‘A building that fits the complexity of the site, without insisting on a particular historical moment... showing the overlap between the different historical periods... the first lesson you learn working in such places steeped in history is a curious temporal relativity that is surrounded by personal memories...’ [2] They wanted to relate the various historic structures still preserved in the place where the market was going to be built as snippets of the history of the site – it was formerly a convent, a square, and a market. They tried to ensure that all these historical layers reverberated as echoes of previous architectures that still coexist. Like a great *palimpsest*, the new text does not completely replace the previous text but overlaps while retaining traces of earlier writings. As Benedetta said, they wanted ‘the trace of the monastery to have the same importance as the trace of a time when everything was destroyed – as if everything could have the same relevance’ [3].

Today, the building is finished and it is possible to see the entire sequence of elements from different historical moments that fit each other as if they had always lived in harmony. The ruins of the thirteenth century monastery emerge from underground and stick out in the eastern flank to coexist with the vegetable stalls of the current market, both delimited and sheltered by the perimeter wall of the old nineteenth century market, which remains almost intact after the new construction and defines the current vertical facades of the building.

At times, it seems that the new structure will not be able to contain the moving roof, a new *fifth facade* that overlooks the building like a *Phoenix*, separated from the walls and then falling back towards the street as an awning [4]. The building stays loyal to the true owners of the building – the neighbours who walk by outside. As Miralles explains, ‘the market is for the people and the street, and it belongs to them’ [2].



Figure 12: Still life, Caravaggio, 1596 [reproduced from

[http://commons.wikimedia.org/wiki/File:Basket_of_Fruit-Caravaggio_\(c.1595\).jpg](http://commons.wikimedia.org/wiki/File:Basket_of_Fruit-Caravaggio_(c.1595).jpg)].

Enric and Benedetta wanted to express with the roof that faces the rest of the city, the visual spectacle that takes place in the market underneath, the large array of goods that are sold: fruits and vegetables spread over covers similarly to a still life by Caravaggio (Figure 12) or Zurbaran. An image of goods taken from nature and displayed with all their colours – waiting for a process of disappearance or death. A moment frozen in the retina where, as in still life paintings by Juan Sanchez Cotán or Paul Cézanne, architects show the colourful abundance of food and offer the appetising pleasure of contemplation. We are invited to enter but not to touch as the awning falls towards the street and overflows in the same way as an abundant fruit bowl.

This cover can also be interpreted as a large awning that protects from the sun and rain, and under which the market activity occurs. Similar to a great patterned cloth, it generates the necessary shelter to trade in the open air – as has been done since ancient times.

This is undoubtedly the last of the stratum that have been superimposed on this place over time. In Enric Miralles and Benedetta Tagliabue's work, in the same way as a *palimpsest*, the signs of the different historical moments can be traced, and the coloured cover is just another layer which is not literally a transfer of the shapes underneath but the answer to what they represent: the use of this building as a restored market. In this sense, the trace that fits with today's historical period is a virtual image of the goods available inside the Santa Caterina Market [5]. As the author says:

"There would be another reading of this very basic project, which would be the ability to produce buildings that make explicit the overlap of the different moments of a place, and making the most of the ruins.

Surely, in public spaces and the coexistence between architecture, design, and society, the need to destroy is essential.

You need to have a sort of building where time is condensed on this site. Almost as if time – I like to think of it this way – instead of being behind you, was in front of you..." [2].

Conclusions

In order to have a deep understanding of the colour composition displayed on the roof of Santa Caterina Market in Barcelona, by architects Enric Miralles and Benedetta Tagliabue, we have attended to different facts: the colour tradition in Catalan modernist architecture; the physical description of the colours used; the pixilation as a designing process to introduce colour in buildings; and the architect's own intentions in relation with this project.

The use of foods as an artistic resource in the recent history of Catalan architecture has been demonstrated. We distinguish two different tendencies: *mimetic* and *abstract/symbolic*, depending on the adoption of both the colour and shaping of the original organic sources, or just the colour. Valencian *Mercado de Colón* by Francisco Mora is an example of *mimetic* modernist tendency, while the Batlló House by Gaudí in Barcelona is an *abstract/symbolic* one. In all cases, the use of colour glazed ceramics is common.

Attending to the physical description, the colour in Santa Caterina is a reference to the market itself and is not linked to chromatic aspects of the environment. The composition of the colours of the roof was obtained from the image of a market food stall after a digital treatment, which was used to reduce the information to 64 colours and so facilitated the laying of ceramic tiles and their industrial treatment.

Computer aided tools have made it easier to take colour compositions of the outside of the buildings and transfer them onto a certain type of *architecture-canvas*, by using a *pixilation process*.

There are many contemporary architects, like Tuñón-Mansilla or Sauerbruch Hutton, which start from a photograph to arrange the final colour composition in some of their buildings. In these cases, like in Santa Caterina Market, colours do not identify figuratively the visual reference that was used, and therefore they are not *mimetic* colour transfers, but *abstract* or *symbolic* transfers and so follow the Mediterranean modernism tradition. These colours are somehow virtual colours, as they link to reality that is alien to the building: a distant reference or a full-abstracted reference that is not recognisable in any obvious way.

Enric and Benedetta wanted to show in the market the overlap between the different historical periods, and tried to ensure that all these historical layers reverberated as echoes of previous architectures that still coexist. Like a great *palimpsest*, the new text does not completely replace the previous text but overlaps while retaining traces of earlier writings. The coloured cover is undoubtedly the last of the stratum that have been superimposed on this place over time. In this sense, the trace that fits with today's historical period is a virtual image of the goods available below, and tries to express the visual spectacle that takes place in the market underneath.

We can conclude that Santa Caterina Market is conceptually similar to a palimpsest, which shows the accumulation of different historical moments as strata. A building that like a document may be read and reread, identifying the sediments that time has placed on the site. The last and most up-to-date substrate is the roof, which virtually performs the chromatic experiences that take place in the spaces underneath, and stages the lower level. It continues with the *mimetic* modernist colour tendency in Catalan architecture, but assimilating a contemporary attitude in which reality and fiction are blurring: a sort of transparency that, thanks to technology, expresses a final image in the same way as tele-reality.

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References

1. Venturi R, Izenour S and Brown DS (1998), *Aprendiendo De Las Vegas: El Simbolismo Olvidado De La Forma Arquitectonica*, Barcelona: Gustavo Gili.
2. Miralles E (2002), *Enric Miralles 1983-2000 mapas mentales y paisajes sociales*, Madrid: El Croquis [49/50], 34-45.
3. Miralles E and Tagliabue B (2000), *Enric Miralles. Benedetta Tagliabue, 1996-2000: mapas para una cartografía*. Madrid: El Croquis [100/101], 120-123.
4. Miralles E (2002), [Video 90 mins]: *Aprendizajes del Arquitecto*, directed by Cortés-Bueno G, texts by Rovira JM. Madrid: Infinia DVDreams.
5. Serra J (2012), The versatility of color in contemporary architecture, *Color Research and Application*, doi: 10.1002/col.21734.