

THE CERAMIC FABRIC AS AN ABSTRACTION

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ABSTRACT

The close historical relationship man has had with textile techniques and ceramic materials facilitates their combination: together fabric and ceramics constitute a canvas unlike any other for the transmission of ideas and concepts in the field of architectural creation. As such, it constitutes a process of dematerialization by means of which the synergy between technique (textile) and material (ceramics) permits a level of expression that goes beyond anything derived from their individual phenomenological reality.

Fabric Architecture Ceramics Abstraction

A woman is startled from her bed. A strong wind seems to have woken her from a deep sleep. As she looks out of the window, Edward Hopper draws the viewer into the intimacy of the scene. The movement of the curtain, the woman's nude body and the dishevelled sheets serve as a framework for the story. The ability of the fabrics to serve as a medium for expression enables the scene to be transformed into a sequence.



Evening wind, Etching, 1921. Edward Hopper.

1. FABRIC AND ARCHITECTURE

Man's relationship with textile techniques is a constant feature in the history of different cultures. Since its origins, the development of fabrics has been linked with anthropological evolution. The use of clothing as a second skin has made man the only animal with the ability to adapt to any weather conditions and it has also played a decisive social, cultural, symbolic and ceremonial role.

It is hardly surprising that, when the first living spaces were built, textiles were incorporated into architecture. Primitive huts constructed of reeds or interwoven branches, nomad tents made out of goatskin, palm leaf mats or yurts with a lattice framework of wooden poles participate in the language of knots and fibres used to build enclosures which constitute autonomous and independent elements.



Berber tent In North Africa.



Weavers' hut in the British Isles.



Yurt in Central Asia.

Gottfried Semper¹ identifies the enclosure constructed using the textile technique as the element from which architecture originated. Architecturally speaking, from a contemporary perspective the way in which the façade is conceived owes much to this concept which had already been proposed in the XIXth century: "The mat and its derivative, the woven carpet, followed later by the embroidered rug or tapestry, were the most primitive dividers of space".

2. CERAMICS AND CLADDING

Working with clay gave rise to one of the oldest creative activities: ceramics. Starting with their initial role in rituals, then their domestic use, and up until their definitive inclusion as building techniques, man has gradually developed a very strong affinity for this material.

In skin architecture, a feature of much of the architecture at the recent turn of the century, in which expression was entrusted to cladding, innovative building systems and finishing materials were included. With its extensive experience, after 5,000 years of structural and functional commitment, the ceramics industry has become aware of the incomparable properties this material possesses for its use as external cladding. Thus new processes, such as extrusion, pressing, lamination, modelling or multi-layering, have been incorporated into traditional production².

3. ABSTRACTION AND DEMATERIALIZATION

With man's intense relationship with the textile technique on the one hand and ceramic materials on the other as our starting points, an attempt will be made to illustrate a process of abstraction, taking different examples of cladding systems in which ceramics are employed as textile cladding elements that are added to a building.

This idea of textile elements transcending the phenomenological condition of the material of which they are made underlies certain emblematic architectural works, such as the Alhambra in Granada, but it is also present in the use to which ceramics are put in many kinds of architecture, ranging from the precursors of modernity to recent achievements.

1. The four elements which Gottfried Semper identifies as constituents of architecture are: enclosure, home, foundations and roof, made from four basic materials: fabric, mud, stone and wood.

2. In "Cortezas cerámicas" (Ceramic Shells, pages 7 to 8 and 20 to 26, Vicente Sarrablo compares the technical specifications of ceramic and other cladding materials and classifies the new industrial processes applied to ceramics.



*Comares Hall in the Alhambra in Granada. Photo by Lluís Casals.
Diagonal layout with ceramic pieces of two sizes woven together to look like a mat rolled out over the floor.*

4. CERAMIC FABRICS



Pavilion for the swimming pool, Nara Mondadori house, 1972. Oscar Niemeyer.



Layout of the tiles.

On the pavilion for the swimming pool of the **Nara Mondadori house** (1972), which stands between the pool and the sea, Oscar Niemeyer has arranged a fabric of square ceramic tiles glazed in two colours: white and navy blue, as a cladding system for the curved wall supporting the roof.

The ceramic fabric has been added in such a way that we are unable to gauge the width of the supporting structure from any angle and the random combinations of the motif chosen to decorate it prevent the identification of the piece as a unit. It is as if we are viewing a continuous light and silky piece of cloth, which seems to impregnate itself with the moisture in the atmosphere. A gentle breeze from the sea elongates it and causes it to vibrate over the only element that stands erect between the swimming pool and the Mediterranean.

Although it is a static element, the view delights the onlooker indefinitely with its vibration in the same way as the gentle rolling of the waves of the sea or the kaleidoscopic shadows cast by the pine trees on the surface of the swimming pool. The fabric appears to have run the length of the roof and extended beyond its limits, assimilating its shadows and the reflections of the landscape into its own chromatic range.

What most surprises us is the discovery that only two different ceramic pieces, designed by the artist Athos Bulcao, have been used.

On one of the pieces the colours are distributed on each of the separate halves divided by an S-shaped curve, which leans to one side; on the other, they are distributed on each of the two halves, which are separated by one of the diagonals, after it stencils the shape of a triangle or a square. In this way each of the four sides of each piece has a different border when it meets adjoining tiles. The technique could not be simpler nor the result more imaginative.

The appearance of each cell in the fabric depends on the position obtained after its rotation, after its translation with respect to the piece which adjoins it, and finally on its place in the changing fabric, depending on the light and the reflections as a result of its curvature. In itself it is virtually a cosmological conception.



Majolica Haus apartment block, Vienna, 1899. Otto Wagner



Gravitation. Eduardo Chillida. 1990/91

The name of the **Majolica Haus** apartment block in Vienna (1899) alludes to the cladding system of Majolica tiles which characterizes it.

Otto Wagner unfolds an immense curtain and hangs it over the façade. The attempt to convey continuity is evident in the unified treatment of the decoration.

Each wall tile is unique in its position within the whole, but lacks an identity of its own. All the elements contribute to the composition in a singular manner, but, unlike the pavilion of the Mondadori house, none of them can be understood in isolation. In the former practically all the cells in the fabric are the same; here they are nearly all different.

So the fabric is like a continuous length of cloth printed with floral motifs and tendrils, the random arrangement of which is only contained by the perimeter of the building. The regular gaps, however, seem to be cut out from the cloth as an

afterthought without corresponding to areas with no decoration or with the joints where they have been hollowed out.

These joints, which, supposedly, were initially meant to be imperceptible, have become more visible with time, as if marks had been left by their being folded before they were installed.

The layout of the ten bronze lions' heads just beneath the cornice, which makes the attachment of the tapestry to the façade explicit, is no coincidence and neither is the continuity of the rails across the gaps on the first floor, like a draws-tring, which tautens the cloth. As with the gravitations of Eduardo Chillida, the representation of force (the stitching of the fabric) is more intense than the actual force itself (gravity).



Summerhouse patio in Muuratsalo, Finland, 1953. Alvar Aalto.

In his **summerhouse in Muuratsalo** (1953) Alvar Aalto has built a patio facing the landscape.

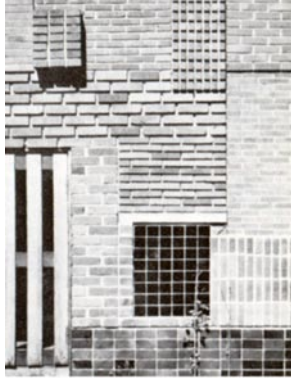
On two of its adjoining sides the wall which surrounds it is deep enough to house the rooms of the house inside it. But they do not matter or rather they matter less: the main room is the patio.

When the house is seen as part of the landscape, a mural language punctuated by small gaps, some of them false, can be distinguished. When we come closer in order to view the landscape from the house, however, different canvases which all claim our attention at once appear. Its cosy feel makes it seem like an interior space. The scale changes. Each of the canvases is now an element with its own presentation and layout.

The brick canvases succeed one another, adapting themselves to the gaps in the same way as the tapestries that cover the walls of palatial rooms. When we look at them close up, forgetting the tapestry as a whole, we are amazed by the detail of the wool or silk fabric or by the sparkling threads of gold or silver with which they are made. It is the same with these brick canvases. The ceramic pieces

cast a sharply defined shadow onto the embedded openings, careful alignments appear and the imperfections enable each piece to be identified as unique, colour and brilliance emerging at times on certain selected canvases.

Its tactile properties transform the patio into an intimate space.



*Fragment of the façade
Summerhouse patio
Muuratsalo.*



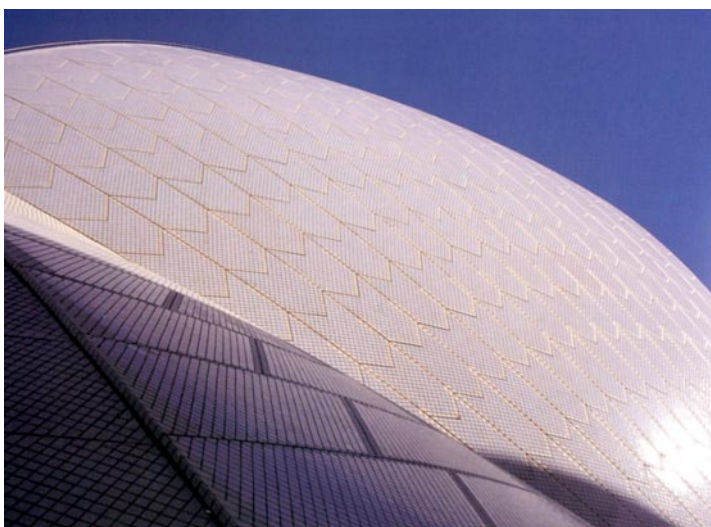
*Main Hall, Bourbon Palace
El Escorial Monastery
Bayeux tapestries.*



*Detail of the Façade
Summerhouse patio
Muuratsalo.*



*Detail of the tapestry "The Angel
enchains the Dragon"
La Granja Royal Palace.*



Roofs of the Sydney Opera House, 1973. Jørn Utzon.



Cladding under construction.

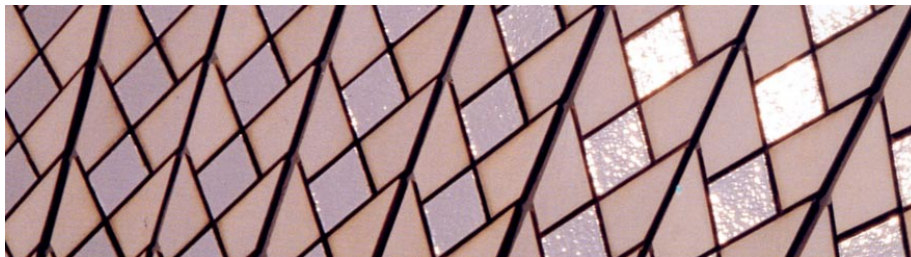
There is little room for intimacy in the description Jørn Utzon gives us of the bustle which exists around the building he designed for the **Sydney Opera House** (1973): "People sail around the building, ferries pass by it, it is there to meet great

passenger ships when they arrive, the vast ocean is right in front of it and a large bridge very close by, so people perceive the building as an object”³.

In each of the fragments which make up its roof the idea of unfolding is potentiated by its division into sectors like a fan, which are themselves in turn divided into scales. The ceramic cladding of the entire structure has been executed using square glazed tiles, which are white in colour and arranged as grids at an angle of 45° with respect to the line bisecting each fan.

Consequently, there is no agreement between the serrated perimeter, which is the result of covering each scale and the different forms of their perimeters. This lack of agreement, which is always different on each side, is resolved by using truncated rectangular pieces with a matt finish to avoid the cuts from chipping the glaze.

This decision, which characterizes the simple stitching with which the complexity of the fragmentation is resolved, is the key to ensuring that the light that strikes the segments transforms the continuous surface into a delicate meshwork fabric plaited with extremely fine threads. A flickering sheen, which we perceive when we walk along the other great protagonist of the building: the platform, which almost timidly, as it were, on a small scale, removes it from the hustle and bustle of the landscape described by Utzon.



6 homes in Borneo Eiland, Amsterdam, 2000 EMBT.



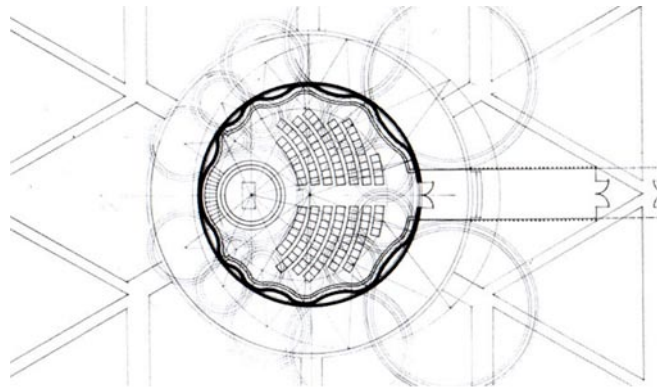
Watercolour. 1924. C. R. Mackintosh.

On the façade of EMBT's building consisting of **6 Homes in Borneo Eiland** (2000) the geometric translation of the breaks on the ground floor to the upper

3. From the Project report.

floor creates a sweep of vertical lines that divide the façade into enormous sections, which are reminiscent of the reflection of architectural forms on water. None of them obeys the logic of an industrial breakdown and neither is the cladding entrusted to large ceramic pieces.

On the contrary, the use of ceramic brick confers great protagonism to the components and colour, which give a different aspect to each section. Arranged as gaps and cladding, these pieces of fabric are joined together by means of stainless steel plates, which line their perimeters, a clear allusion to the stitching of textile pattern design.



*MIT Kresgre Chapel, Cambridge, Massachussets, 1955.
Eero Saarinen.*

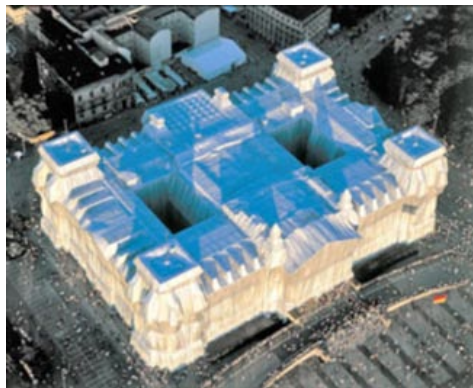
The **MIT Kresge Chapel in Cambridge**, Massachusetts (1955) by Eero Saarinen is a cylindrical building with no windows, which affords a space for reflection. Inside a sheet of undulating brick is attached to the wall, enveloping the whole space to ensure the even distribution of sound waves.

Despite its curtain-like layout, the brick fabric does not give the appearance of being taut in the straight, vertical sense; on the contrary, to configure the different curvatures the installation of the bricks, their weft and warp, is changed and a larger opening is visible in the vertical joints of the convex areas, which gives an impression of elasticity. The irregular way in which the fabric is resolved is emphasized by the slanted illumination, which separates the fabric from the floor.

The ceramic curtain which clads the chapel: loose, rigid and sober, it concludes by making an allusion to the fabric out of which the habits of members of religious orders are made, inciting us to make the journey from collective to individual reflexion.



VPO buildings in Majadahonda, Madrid. Andrés Perea.



*Wrapped Reichstag, Berlín, 1995. Christo and Jeanne-Claude.
Photo: Wolfgang Volz.*

The home is the most popular subject for architecture and ceramics its most loyal material. In the next example which concerns us, ceramic bricks and tiles of the same finish and colour succeed one another like a unique exuberant length of cloth that falls from the roofs and envelops the entire building, winking, as it were, at the heroic wrappings of Christo. In the same way as him, Andrés Perea introduces entirely unusual elements into the landscape and our attention is drawn to the anonymity of some modest **VPO buildings in Majadahonda**.

Beneath the ceramic surface which covers the building the ventilation chimneys, the roof gables, the cornices and façades lose their identity in a gesture performed by a conjurer in which it is not necessary to remove the cloth for everything to disappear. Some gaps of various sizes and distributed in a disorderly fashion are silhouetted against the fabric as the only means of letting the light in.

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