

The Renewal of Streetscape through Glass Mosaic

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Many buildings around Istanbul are dressed in mosaics. Small, multiplied glass squares cover entire façades. Mosaic pieces glisten behind the newly hung-out laundry, pasted posters and moving people. The façades are such a common feature, a matter of course, that one hardly notices them any longer. They actually have been here since the 1960s. Mosaic pieces are usually applied to residential buildings but also to mosques and other public places. The mosaics cover the buildings from roof to ground level, and in some areas, whole streets are lined with a layer of mosaic. The colours vary from house to house. A façade can have a strict geometric pattern, while the next wall can be shaped randomly in assorted colours. The colour palette is rich, from turquoise-green fields to clear monochrome colours, or even black and white graphic expressions. An alteration of design is seen as the technique changed from hand cut pieces in 20x20 mm to machine made mosaic in 10x10 mm. With smaller tesserae bits from the 1970s, woven embellishment motifs such as “rolled-out-rugs” and “woven borders” – with patterns taken from the Anatolian tradition – are illustrated on the façades.

As a material, mosaic conveys a strong expression. Even in rain and in darkness, the pieces pick up the light and spread rays within the city space. In addition, the mosaic clad façades give the outdoor room a certain scale. The craftsmanship is visible, the material, the uneven and rough pieces show the work of the hand. The handmade small-scale material is combined within the larger structure of public space. This chapter intends to give a background to the building material used. Dwellings around the city, and outside the city centre, still have these mosaic skins. Not only in Istanbul, but also in Ankara, Bursa, Edirne and Iznik, among other places, do we find these mosaic façades. In all of these cities, residential areas and districts were formed in the 1950s when town planners and architects were looking towards a modernisation in a Western style. In the masterplan for Istanbul in 1957, buildings were allowed to be built higher, and in the 1960s rapid construction of residential buildings were built in reinforced concrete with a brick core. Often their entire façades are covered with mosaics, even around balconies and entrances.

Glass mosaics have been used for adornment in present-day Turkey since Antiquity and Byzantine times, famously exemplified in the Hagia Sophia and Chora churches. In the 1950s, two ways of using the material was found in public space – as an adornment and as a surface material. When used outdoors as a surface material on modern façades, glass mosaics create a new language of expression. This ancient equipment in a new era and context, gave rise to a special form of moder-

nity. The complex relation between tradition and modernity is thus the topic of the chapter. It intends to observe the mosaic façades through a ‘critical regionalist’ lens. The idea of critical regionalism started in the post-war period as a reaction to the Modernist architecture’s lack of identity. As opposed to the International Style, Critical Regionalism advocates an architecture rooted in the modern tradition, tied to a geographical and cultural context.¹ In light of the architect Kenneth Frampton’s manifesto “Towards a Critical Regionalism: Six Points for an Architecture of Resistance” (1983), I will examine the choice of façade materials in the public space milieu.

As a starting point in his manifesto, Frampton picked up the ‘paradoxical’ question “how to become modern and return to sources” from philosopher Paul Ricoeur, and discussed it in the light of the “apocalyptic thrust of modernization”.² Frampton argued that: “The fundamental strategy of Critical Regionalism is to mediate the impact of universal civilisation with elements derived *indirectly* from the peculiarities of a particular place”.³ Instead of nostalgic historicism or populism, the critical regionalism should take inspiration from “the range and quality of the local light”, from “a peculiar structural mode” in a tectonic view, and in “the topography of a given site”.⁴ For Frampton, mediation between the global and the local languages of architecture is central. Frampton found for example in Jørn Utson’s *Bagsvaerd Church* (1976) outside Copenhagen in Denmark, a sort of cross-cultural reference. Here the reinforced concrete building technique is truly established in Western modernism, while the form of the roof reminds us of a Chinese pagoda, thus evoking a global culture.⁵ Could something similar be raised to the use of mosaic as a façade material?



Fig. 1. Mosaic façade in Çarşamba. Photo by the author.

¹ The term ‘Critical Regionalism’ first appeared in essays by Alexander Tzonis and Liane Lefaivre in 1981 (inspired by discussions about culture and identity in Lewis Mumford’s book *The South in Architecture* from 1941), followed by Kenneth Frampton’s manifesto two years later.

² Frampton, Kenneth: “Towards a Critical Regionalism: Six Points for an Architecture of Resistance”, *The Anti-Aesthetic. Essays on Postmodern Culture*. (Seattle: Bay Press, 1983), 17.

³ *ibid.* 21.

⁴ *ibid.*

⁵ *ibid.* 23.

The timing of the town

During the 1950s and 60s Istanbul grew and changed. There was a large-scale migration – more than 10 per cent inhabitants per year – from the Anatolian countryside to the cities. During Adnan Menderes' premiership (1950–60) the population of Istanbul almost doubled. Following the Euro-American model with a so-called modern image, including large road systems, Menderes' ambition was to transform Istanbul into a modern city. The roads were constructed at the expense of historical sites and buildings. New residential areas were planned and built in accordance with the international spirit of the time.⁶

During the 1950s, the Turkish architecture was thus influenced by the International Style: the modernist architecture in Europe and the United States. The buildings were streamlined in form and expression. Foreign architects were visited and their works were spread through Turkish magazines. For example, Alvar Aalto, Mies van de Rohe, Frank Lloyd Wright, Le Corbusier, Oscar Niemeyer and Hans Scharoun were important role models. (Even Malmö City Theatre, designed by the Swedes Sigurd Lewerentz, Erik Lallerstedt and David Helldén appeared in the Turkish magazine *Arkitekt*, in 1949). The Turkish architects took inspiration and experimented with modernistic design, on a scale from geometrical purism to organic form. All the while, there was a clear interest in an independent Turkish and local orientation – in this context, the mosaic material emerged.



Fig. 2. Detail of hand-cut glass mosaics from the 1960s in the size of 20x20 mm. Photo by the author.

Two of the first buildings erected in the late modernist International Style are the Istanbul Municipal Palace (1953), followed closely by the legendary Hilton Hotel

⁶ Kuban, Doğan. *Istanbul – an urban history* (Istanbul: Is Bankasi, 2010), 509–512; Gül, Murat: *The Emergence of Modern Istanbul*. (New York: I.B. Tauris, 2012), 140–141; Hasol, Doğan: “Urban Growth and Istanbul: A Rise in Population from 1 Million to 12 Million”, www.doganhasol.net/urban-growth-and-istanbul-a-rise-in-population-from-1-million-to-12-million.html 1–4 (accessed September 10, 2015)

(1955). In both buildings we find mosaics, manifested in two different ways due to their method of application. The City Hall, designed by the Turkish architect Nevzat Erol, consists of two rectangular buildings at an angle, one containing the town hall and the other an administrative building. The façades have a recurrence of niches and windows. Glass compartments and window linings give rhythm to the buildings. The buildings are raised on pillars and the bottom floor is retracted. Located on the ground between the buildings is a large square pool. Parts of the Municipal Palace's façade and pillars are covered with glass mosaic in two different tones of grey: one is brighter than the other, consisting of light grey, medium grey and turquoise pieces; and the darker tone contains darker grey and blue mosaics. The pool is lined with blue-turquoise mosaic, and other areas, such as the ceiling of the retracted floor, are green with some immersion of orange and white mosaics. The public space area is planned in a modernist way, but through the mosaic application, the whole project "returns to sources", and thus touch upon in the approach of critical regionalism.

The Hilton Hotel, in turn, is the first five-star hotel in Istanbul built to the American Standard, designed by the American architecture studio SOM, together with the Turkish architect Sedat Hakkı Eldem. The eleven-storey hotel block is constructed of reinforced concrete. The façade is a repetition of identical balconies in a perfect line. The Hilton also has an outdoor swimming pool. In the outdoor entrance, the Hilton hotel has a mosaic decoration of gold, blue, turquoise and white under the flying-carpet-like roof and on the pillars. This artistic adornment is a visitor's first encounter with the hotel. Already here, in the first presented buildings we can find two different types of use for application of the mosaic: as a façade material and as an artistic adornment.

Byzantine mosaic

As mentioned, mosaics have featured in Istanbul architecture since antiquity. In ancient times, mosaics were primarily positioned as a flooring material – as can be seen from the excavated parts of the Late Antique Great Palace that are now in the Mozaik Müzesi in Sultanahmet – but by the Byzantine introduction of glass and gold mosaics, it was elevated to decorate entire walls. Glass mosaics can be seen in the Hagia Sophia (9th–13th centuries), Chora and Pammakaristos churches (both 14th century), on walls and ceilings, and in apses and domes.

The new materials that were introduced by the Byzantine mosaic masters were coloured and gold-plated glass. These materials offer a wider and more intense colour scale than the earlier marble mosaics. In the churches, the masters worked with glass mosaics on entire walls. The walls are compositions of small pieces of coloured glass, *tesserae*, which are affixed to mortar. The term *tesserae* derives from the Greek word for "four-sided", the standard shape of mosaic pieces. The pieces are broken out of blown flat glass in the form of what in current terminology is called a "pizza-plate". *Smalti* is the technical term for the brilliant, opaque-coloured crystalline material fused with glass. The tesserae-mosaic is a type of coloured material that is optically mixed. The material interacts in a special way with vision and light. The surface is shiny, hard, and reflective. Glass pieces are slightly irregular in either pure colours or gold. The gold picks up the light and reflects golden rays back into the room. The entire composition involves the setting of mosaic pieces at different angles so as to reflect light as effectively as possible. Gold was also placed in the backgrounds, mixed up with green and brown hues.

The subjects of the mosaics in the church were to serve the spirit, not the bodily senses. In the images, all suggestions of movement are avoided; instead, an “eternal existence” is shown. The combined effect in the milieu of the church is a glittering, multi-coloured immaterial curtain. The material, the light, and the surface interact with one another. Byzantine mosaic masters possessed knowledge of the eye’s ability to apprehend colour mixing, of the changes colours undergo with distance, and of the interaction of light and material.⁷



Fig. 3. Emperor John II Comnenos (r. 1118–1143) and his empress Eirene with the Virgin Mary in the middle. Glass mosaic on the wall of the south gallery of the Hagia Sophia. Photo: David Hendrix. Compare with Bedri Rami Eyüboğlu’s approach on the Expo 1958 wall in Brussels.

In the mid-20th century, many former Byzantine churches in Istanbul were made accessible for tourists and their glass mosaics were uncovered, restored, highlighted and turned into subjects of scholarly study. The most famous example is the Chora church (Kariye camii), where entire rooms are adorned with glittering glass mosaic walls and ceilings, featuring scenes from the life of Christ and the Virgin. Churches were restored from being mosques, with hidden mosaics, to museums. Among the conservation architects we can mention Cahide Aksel and her work in the Hagia Sophia in the 1940s (see more about this in the chapter *Interventions in the Historic City* in this book). In this context – international modernism and Byzantine mosaics – Mr. Fethi Tanalay, who would later be the founder of the mosaic production firm *Betebe*, became interested in the idea of using the mosaic as a modern facade material. After this short background the question approaches of how the new-born interest in mosaic clad façades manifested.

The resurgence of the mosaic

Fethi Tanalay (1915–1990) had an interest in the embellishments of the Byzantine churches of Istanbul. In the 1950s Turkey was, as we have seen, in an era of rapid

⁷ Olsson, Gertrud. *The Visible and the Invisible: Color Contrast Phenomena in Space*. Institution of Architecture, Royal Institute of Technology (KTH) (Stockholm: Axl Books, 2009), 46–55



Fig. 4. The Betebe office and factory in Zeytinburnu Topkapı. Photo by the author.

and the factory are still situated in an area called Zeytinburnu Topkapı, in the outskirts of Istanbul. Parts of the 1950's architecture remain in the factory settings and reflect the modernist movement.⁹ Furthermore, Betebe has become a term for the mosaics. In Turkish, the word *betebe* has come to be used as a synonym for mosaic pieces.

The marketing of the new material was done by applying the mosaic on selected façades of the upper-class neighbourhoods in Şişli, at that time on the outskirts of Istanbul. The mosaics were promoted as an insulation material that could protect against severe weather. Istanbul has its erratic weather, ranging from persistent heat to storm winds and heavy rainfall. Façades situated in a direction that is subject to strong winds and heavy rain were dressed with mosaic to show the material's inherent durability. Sales and interest in the new material increased rapidly for Betebe, as no other firms in Turkey were producing glass mosaic at that time.¹⁰

An early project in Istanbul's Levent and artistic mosaic wall paintings

In the housing area of Levent, mosaic is applied as adornment on the façades. New residential areas and districts were formed in the 1950s. The quarter called the 1st Levent (1953) was built as a garden city, while the 4th Levent (1956) was designed with tall multi-family blocks, with greenery between the blocks. Both the 1st and

change. In this new climate, there was an encouragement and launching of new materials and new types of industry. In Italy, which preserves the largest Byzantine heritage, the knowledge of the craft was not forgotten. As a result, in 1954, Tanalay started to study glass mosaics in Italy. Besides visiting churches in Florence, Ravenna and Sicily, he laboured in a workshop in Venice to learn the original techniques of glass blowing and manufacturing. The technique with glass blown to pizza-plate-glass and later manually cut with a pair of pliers into bits was still in use in the 1950s. Tanalay continued his studies at the Sorbonne University in France in order to learn the chemical properties of the glass. Back in Turkey, he started his firm Betebe in 1956, with machinery purchased in Italy.⁸ The office

⁸ Interviews with Hakan Tokdemir, head of Betebe, Mr. Tanalay's grandson, autumn 2015. First, Fethi Tanalay collaborated with two Italian colleagues, later with two Turkish colleagues, and from the late 1970s, he continued by himself.

⁹ Betebe continues to operate, directed by the founder's grandson, but currently its main focus areas are decoration in general, and swimming pools.

¹⁰ Interviews with Hakan Tokdemir, head of Betebe, Mr. Tanalay's grandson, autumn 2015.

4th Levent were sponsored by Emlak Kredi Bank. As a social housing project, it was striving for increased diversity in these neighbourhoods. Here, the residential buildings are mixed with shops, cafes and industries of a smaller scale. The apartments are in various shapes and sizes.¹¹ The architect for both areas, was Kemal Ahmet Arû, a disciple of the German architect Bruno Taut. The latter was known for his social residential buildings outside Berlin and was teaching at Istanbul Technical University at the time. Arû had followed Taut's course about public housing in the middle of the 1930's. The course involved study trips primarily to Germany, but also to England and France.¹² Both Levent regions can be regarded as a result of Taut's teaching. The 4th Levent is reminiscent of German housing models with horizontal lines, repetitive façades with bay windows and balconies forming reliefs and rhythm in the International Style. Four-storey houses are designed with simplicity in mind, with balconies and windows which articulate the façade. When the French town-planner and architect Henri Prost finished his mission in Istanbul, Kemal Ahmet Arû took over as his successor and became a pioneer in urban planning in Turkey.

Here in Levent, Betebe collaborated with artists Bedri Rahmi Eyüboğlu and Eren Eyüboğlu, who executed the artistic decorations on the buildings – in mosaic. The façades are plastered but each house is embellished with its own decoration in mosaic. The illustrations of the mosaic compositions are either strict geometric or figurative patterns with animal images taken from carpets and folk art. In the geometric pictures, the rising triangles recurring, perhaps presenting sails in the wind. All ornaments have a clear expression of the 1950's. The mosaic pieces are hand cut into squares, triangles and other shapes to suit the designed patterns. This is the first project which Fethi Tanalay and the firm Betebe conducted, although earlier they had delivered mosaic to the City Hall. The handicraft-oriented ornaments meet the modern structure of the small town's multi-family blocks. This is to follow Frampton's critical regionalism, a mediation between the new city civilization and elements derived from Turkey's own culture and history.¹³



Fig. 5. Mosaic adornment by Bedri Rahmi Eyüboğlu in the 4th Levent. Photo by the author.

¹¹ Bozdoğan, Sibel. & Akcan, Esra. *Turkey: Modern Architectures in History*, (London: Reaktion Books, 2012), 150–151.

¹² Arefi, Mahyar: *Deconstructing Placemaking: Needs, Opportunities, and Assets* (Oxford, U.K.: Routledge Research in Planning and Urban Design, 2014), 41.

¹³ Today, the buildings in Levent have new additions on top of the original façades, such as commercials for brands, signs and large, spanned images. Mosaics coexist on these buildings, however sometimes diminished among the strong contrasts of today's clamorous expressions.

Expo 58 in Brussels and İMÇ

In this context, it is worth mentioning that one of the artists in Levent, Bedri Rahmi Eyüboğlu, was commissioned to carry out a decoration on the Turkish pavilion at the World Expo in Brussels, 1958. Previously, in 1954, he had built a mural on Karagöz Bar at the Hilton Hotel. The relatively young architect group of Utarit İzgi, Muhlis Türkmen, Hamdi Şensoy and İlhan Türegün won the announced competition to design the pavilion. They were trained in the 1940s at the Academy of Fine Arts by the well-known Sedad Hakki Eldem among others. The pavilion was designed in glass in modern ‘curtain-wall’ technology and consisted of two separate parts – an exhibition hall and a restaurant building – with a connecting wall. The pavilion was mentioned as an early example of Turkish modernism in International Style. The exhibition hall became an icon for modern Turkey and its modern future. The same counted for the restaurant which also brought the Bosphorus’ historical wooden houses with overhanging roofs, called *yalı*.¹⁴

The wall between the two buildings was 50 meters long and two meters high. It was completely covered in mosaic designed by Eyüboğlu and was crucial for the expression of the whole pavilion. It took the artist, his wife Eren and his twelve assistants a whole year to complete the mosaic decoration.¹⁵ The wall is blue and reflects the azure colour of the sea together with fish and boats. The mosaic also has folkloric motifs from the Anatolian landscape. Farmers from rural areas are depicted. The people are presented in full-scale and reminiscent to some extent of the mosaic motifs of Byzantine basilicas, those with the Emperor Justinian and his empress Theodora accompanied by courtiers and the clergy. These classically depicted people have been given the same uniform length – they have slender bodies, closed mouths and large, observing eyes. Their clothes are magnificent and patterned. The subjects of the mosaic are perceived as static. The sense of movement is non-existent. But this time on the wall, instead of people of the church and the court, were people from rural areas and where their folk culture is presented. Eyüboğlu developed his wall mosaics with knowledge of easel painting and from mosaic studies in the Hagia Sophia and Chora. Here mosaic became a type of fusion between architecture and art. Again in the 50’s, the idea of a *Gesamtkunstwerk* was current and the synthesis between art and architecture was emphasised. Utarit İzgi, one of the pavilion’s architects, states:

If one detach the art works, particularly Bedri Rahmi’s, from the building, there will be almost no building at all. In other words, the problem is not about simply hanging one artwork on one wall. In fact, it is a very important issue to deal with art and architecture together and for some of the architectural components to bear artistic value.¹⁶

An on-going discussion during the World’s Fair in 1958 was whether or not the mosaic, as a material, could legitimately be linked to the Turkish art tradition. The

¹⁴ Banci, Selda. *Turkish Pavilion in the Brussels Expo’58: A Study on Architectural Modernization in Turkey during the 1950s*, PhD thesis, the graduate school of Social Sciences, History of Architecture, at Middle East Technical University, METU, Ankara 2009

etd.lib.metu.edu.tr/upload/12610465/index.pdf 44 (accessed January, 20, 2016); source from A. İpekçi, “Pavyonumuza Umumî Bakış - Dünyanın en büyük gösterisi: Brüksel Sergisi 6” *Milliyet*, 22 August 1958, 3.

¹⁵ Banci, *Turkish Pavilion in the Brussels Expo’58*, 69.

¹⁶ Banci, *Turkish Pavilion in the Brussels Expo’58*, 73; quoted from U. İzgi & U. Tanyeli “Söyleşi / Profil: Utarit İzgi” *Arredamento Dekorasyon*, 1997/1, 58–65.

mosaic could be traced to the Byzantine heritage, while the Turkish tradition was usually linked to Islamic tiles and abstract motifs. However, not few seemed to agree that the mosaic wall was just right for the purpose.¹⁷

In the Expo58 Turkish pavilion, mosaic was foremost used as decoration, in an architectural context. The adornment was decisive for the whole experience. The open space, outdoors between the two pavilion parts, the wall, was filled with the large-scale ornamentation and the mosaic material itself. It was done both for the sight/eyes and for the tactility.



Fig. 6. Mural mosaic wall by Bedri Rami Eyübođlu at İMÇ (İstanbul Manifaturacılar Çarşısı), Istanbul. Photo by the author.

Bedri Rami Eyübođlu also executed a mural mosaic on an outdoor wall in Istanbul. In 1959 a modern textile shopping center, İMÇ: İstanbul Manifaturacılar Çarşısı, was built. It was an 800 meters long concrete building along the highway Atatürk Boulevard. This project, designed by Dođan Tekeli, Sami Sisa & Metin Hepgüler, was in line with prime minister Menderes' idea of transforming Istanbul into a modern and international city. The shopping centre was built for 1,100 shops interconnected in block buildings, on several floors with spiral staircases and glass-roofed light wells in the middle. At each entrance, there is a square marketplace where artists have carried out embellishments on the front walls in different techniques; art and architecture contribute together to the overall expression. Completed in 1965, Eyübođlu has once again created a blue mosaic wall filled with stories and symbolism. The azure blue water indicates a division between Asia and Europe, at the same time the water unifies the separate cultures. Eyübođlu's working method and his interest in uniting and highlighting different cultures were referred to as 'Blue Anatolianism' (*Mavi Anadoluçuluk*). Thus, a blend of western aesthetics and Anatolian folk art together with expressions of ancient Greek civilization. Mythology was another reference point in Eyübođlu's art. In the Anatolian folk art, he found the abstract and homely forms of his image compositions.

¹⁷ Banci, *Turkish Pavilion in the Brussels Expo'58*, 79; source from S. N. Tansu "Brüksel Sergisinden Notlar 5: Sergideki Türk pavyonu" *Cumhuriyet*, 22 August 1958, 4.

The mosaic street: Melek Hoca Caddesi

The next selected area in the article shows the other method of application of the mosaic: as a wall-to-wall clad façade material. The master plan for Istanbul in 1957, permitted higher buildings: five floors on the avenues and four floors high on the street.¹⁸ Building material for residential buildings often consisted of reinforced concrete with a brick core. In these times of rapid construction there were no official regulations or earthquake safety measures. The street Melek Hoca Caddesi is uniformly built, starting in the 1960s. All façades are covered with glass mosaics. The street belongs to the Fatih district and lies between the Çapa and the Karagümruk quarters. It slopes down towards the carriageway of Adnan Menderes Boulevard, but is captured by the curved street Keçecilier Caddesi. Although the buildings are tall, each property is unique in details; the heights of windows, bay windows, balconies and tagged ventilators.¹⁹



Fig. 7. Glass mosaic façades at Melek Hoca Caddesi. Photo by the author.

The entire façades are covered with mosaics, even around balconies and entrances. The expressions vary as no uniform height or colour-combination can be found among the houses. A turquoise façade has horizontal bands containing mosaic in turquoise, blue and light grey, and vertical bands in light grey on both sides of the windows. The next façade has purple-brown horizontal bands with white spots and vertical bands with 'dots' on them. A third façade has white horizontal bands dotted with black and red mosaic pieces; window verticals are black with occasional white elements. Mosaic strips, which are applied to the windows, are often in a light grey colour. A reason for this light grey colour choice could be to enhance the expression of the ribbon-window, in accordance with the modernist design. At the window sash ends, the surface layer merges into the bright mosaic, giving the eye the illusion that the strip window continues along the façade.

Where the Melek Hoca Caddesi ends towards Keçecilier Caddesi, a perpendicular façade, which, like a mirror, reflects the sunlight towards the pedestrians

¹⁸ Bozdoğan, *Turkey: Modern Architectures in History*, 161.

¹⁹ Today the windows of the lowest floors are fitted with grilles.

instead of its colour. Glass mosaic differs from most other surfacing materials through their material characteristics. Tesserae pieces contain 98% glass and 2% pigment which gives the mosaic its colour. The glass, in turn, consists of glass, soda and calcium chloride. 80% of the material is recycled glass. The mosaic material gives the façade a living expression which changes depending on season, weather conditions and time of day. It is worth noticing that the mosaic material is applied differently in the 1950–70s and from the late 1970s. From the beginning until the late 1970s, the mosaic pieces were hand cut to size 20x20 millimetres. They were slightly bevelled on their backside to better adhere to the surface. The glass surface was slightly grooved; the pieces were placed tightly with almost non-existent mortar edges. The next decade, the pieces started to be produced industrially. They were machine-cut, usually to 10x10 millimetre squares. The material has the same glass composition but the surface is shinier and the amount of mortar around the pieces has increased. Also, the design has changed. From the late 1970s more elements of woven patterns of carpets and textiles are ‘hanging’ down from the façade or framing a window.

Perhaps a feeling of being at home appears when the carpets follow outside and hang in the living room of the street. Not only the carpet is transformed to a new material, the pattern is also mirroring the Anatolian culture.

In the Balat quarter

In the old Istanbul district of Balat, houses vary in character and size. They have various heights and are built in different periods and styles. Balat has had a huge migration from Anatolia and many cultures meet here. Some buildings are renovated while others are naturally worn. The façades alternate between being dressed in mosaics, paint or plaster, while others are of naked brick. There are also occasional wooden houses. Strings to hang clothes, cables, wires, gutters and coloured signs are mixed and visible on the façades. Balat is a vibrant neighbourhood with small shops and many people in movement. Here is a variation of building types, and mosaic façades are part of the interaction in street life. The buildings are in



Fig. 8. A mosaic façade in Balat. Photo by the author.

strong colours and the colours of the mosaic façades have a large range. A ‘mosaic house’ which stood out among the others was of clear blue with dotted diagonal rectangles. The house next door has a design with a brick façade. The façades of these two buildings are covered with machine-made 10x10 mm pieces of shiny mosaic. With its glossiness and the larger amount of mortar around each piece, the surface layer does not have the same range of reflection of the light as with the hand-cut mosaic. When the sun is shining, however, even these slightly convex pieces seen at a distance turns into a shimmering curtain.

In a neighbouring block, another façade has horizontal rectangles of 20x40 mm mosaic from the hand-cut period. The colour is mainly light grey with a hint of brown, red, yellow and white pieces. The sun and the light are reflected both toward and through this delicate but rough glass material. The reflection continues into the urban space, which gives the façade a vivid expression. The glass material is not rigid, but changing. The façade does not become completely smooth, it gets a natural movement through the hand-cut pieces and through the setting of mortar against the wall.

Following architect Jan Gehl in his *Life between buildings* (1971), we can highlight the social activity taking place in the corner of the street. A continuous activity of the street scene where the mosaic material forms the scenography of daily life. Here different outdoor activities take place: playing, sitting, talking, waiting, needle-working, repairing, cats and dogs strolling, and also men selling simits and rice dishes. Life continues as usual and as formerly done. The modernised city, in Balat with its apparent mix of building expressions, the glass mosaics form a sort of stage design for daily life.

An example in Sweden

Mosaic as an architectural surface layer is also occurring on buildings and in underground stations in countries such as Italy, England, Finland, Spain and Austria. However, in no other country aside from Turkey, the mosaic is present in such a large scale and on such a large amount of buildings. In Sweden, mosaics in the post war period can be found as parts of façades and entrances. A special project was the architect Bruno Mathsson’s glasshouse from 1955/56. Bruno Mathsson (1907–88) is known as Sweden’s leading furniture designer, and is the architect of the Glasshouse in Kosta in Småland. The house is built as a single-floor terrace house consisting of five apartments for clerks and employees at the Kosta glassworks. The materials are glass, glass mosaic, brick and wood. Inspired by Japanese spaces and Frank Lloyd Wright’s ‘Prairie style’, Mathsson experimented with the possibilities of glass. In line with modernist thinking he sought to abolish the boundary between inside and outdoor. The architect had previously built a couple of glasshouses, but it was here he started to develop his ideas. The glass factory began producing glass mosaic in 1954 and continued this production until 1965. The new product was launched at an exhibition hall (now gone), which was part of the factory Mathsson had designed.²⁰ He used the mosaic material for the terrace house’s façades, floors and bathrooms. The elongated terrace house has a façade made of glass with brick chimneys. Some areas on the façade are clad in mosaic

²⁰ Westergren, Jan: *Kosta Glasbruk. Byggnadsminnen i Kronobergs län*. Länsstyrelsen i Kronobergs län 2013, www.lansstyrelsen.se/kronoberg/SiteCollectionDocuments/Sv/publikationer/kultur/Byggnadsminnen/Kosta-glashus.pdf, 13 (accessed November 14, 2015).

and it is a certain colour scheme for each individual house. The five colour tones are greenish, turquoise, brown-purple-burgundy, beige-brown and blackish.²¹ Instead of paved streets, the neighbourhood consists of green areas and lawns.

Discussion: Vernacular tradition

As already mentioned, mosaic as a façade material does not exist in any other country to the same extent as in the Turkish cities. Everywhere in Istanbul we find mosaics: in residential buildings, public buildings, subway stations. The time-period extends from the late 1950s until the early 1990s. Initially mosaic was used only as an exterior adornment but soon entire façades were covered with mosaics. The mosaic façades were either randomly or graphically divided. With the smaller tesserae bits from the 1970s, woven embellishment motifs such as ‘rolled-out rugs’ or ‘woven borders’ – patterns taken from the Anatolian tradition – are illustrated on the façades. In other words, the wool and the cotton have been replaced by glass mosaic. Frampton points out a mediation between the global and the local languages of architecture. This intertwining can be discerned here in the use of glass mosaic. The mosaic reproduces the Byzantine technique into the modernist era by following vernacular tradition and local conditions. Accordingly, this architecture took inspiration from “the range and quality of the local light”.²² We know the glass mosaic technique has its historical roots in the Byzantine basilicas. Thanks to the fact that the knowledge and expertise were well kept in Italy, the mosaic technique could return to Turkey.

Mosaic returned as a building material to Istanbul – provided by Betebe – and became a feature of the modernist trend in the introductory phase of the 1960s. In relation to art and adornment, mosaic was questioned for not being Turkish and not in line with Islamic tradition. Mosaics, however, became a bridge between the Byzantine era and the post-war eras international modernism. It tied the Anatolian countryside with the big cities’ growing housing needs. In a way, a modernist material with vernacular roots.

The tactile material

In Kenneth Frampton’s manifesto, he also stresses the importance of the tactile dimension in architecture. Sight is not solely necessary for reading and understanding rooms, spaces and architecture. He reminds us that we have “a whole range of complementary sensory perceptions which are registered by the labile body”.²³ As examples, he points out “the intensity of light, darkness, heat and cold”, but also the palpable surface of a material and the perceivable material’s aroma.²⁴ Accordingly, Frampton’s usage of critical regionalism searched to comple-

²¹ When the glasshouse needed renovation thirteen years ago there was no mosaic available in Sweden. As you would have assumed, the builders had to contact Italy, the mosaic company Bisazza (Westergren *Kosta Glasbruk*, 60). The company that supplied all Bisazza’s mosaic was, in fact, Betebe, with manufacturing facilities in Istanbul. After the renovation, the shades have become slightly different from the original, and the glass mosaic pieces have slightly larger dimensions, but the material and the expression of the glasshouse is preserved.

²² Frampton. “Towards a Critical Regionalism”.

²³ *ibid.*, 29.

²⁴ *ibid.*

ment what we see and interpret with our eyes. Reaching towards a new use and reading which includes the tactile scale of human perceptions. By using glass mosaic as a façade material the sense of touch returned to architecture. The tactile dimension is reinforced.

The contemporary new materialism theory reconsiders concepts and ways of seeing (e. g. questions on how to restructure the dichotomies as nature/culture, body/mind and concrete/abstract). In this context, the French philosopher Maurice Merleau-Ponty's (1908–61) perception theory comes to mind. Also for Merleau-Ponty, not only the sight, but also the tactile have an evident place. In the chapter "The Intertwining – The Chiasma" (published posthumously), Merleau-Ponty points out that our experiences of the visual have a connection with touch – it is the same body, the same observer, who looks and feels.²⁵ The tactile belongs to the sense of touch, but the tactile is also apprehended by the eye. Because of its ability to move, it can be said that vision has an advantage in the perceptual process. Merleau-Ponty puts this as follows: the tactile "has been engaged to visibility".²⁶ Nevertheless, there is an 'overlap' between the touched and the touching, *and* between the perceptible and the visible. Merleau-Ponty speaks of the inter-twining of vision and the visible, and an interaction between them.²⁷

Our perceptual experience can feel the structure of the mosaic wall and the texture of the carpet via our vision. The brain will signal the material wool without any need to touch the carpet. From childhood we know carpets and have a relation to them. In this reconsideration, both Merleau-Ponty and Frampton's Critical Regionalism have significance for the contemporary interest in materiality, the senses as decisive for an understanding of architecture. In his turn, Jan Gehl underlines the social activity in the street scene. As we have noticed in Turkey, mosaic can be interpreted as a stage design. It can frame a café on the street, or form as a wall behind the newly cleaned hanging wash. By that use, the mosaic façades provide a scale to the city, to the block, to the house. Mosaics co-operate in daily life, and it holds the human scale. In public space, blending with trees and shadows, mosaic finds its place; the small squares belonging to the façade, to the street, to a detail on the blanket on the clothesline.



Fig. 9. A glass mosaic woven textile design. Photo by the author.

²⁵ Merleau Ponty, Maurice: *The Visible and the Invisible* (Evanston: Northwestern University Press, 1968), 134.

²⁶ *ibid.*

²⁷ *ibid.*, 139.



Fig. 10. Street in Ayvansaray, Balat. The façade is clad with 10x10 mm machine-made mosaic pieces. Photo by the author.

Reflections 60 years later

Today the façades are around half a century old and have been rebuilt in accordance with new needs. They have been repaired and sometimes torn. Some façades are dirty, others are painted over so that only the surface structure can be seen – or felt by hand. Posters and advertisements are usually pasted directly on the mosaic pieces; glue and tape are visible residues. The façades age, not always beautifully, but they certainly own a patina and a strong expression. They belong to the city and uphold tradition, and thus a heritage worth preservation. Mosaic is a durable material with strong resistance. By polishing the pieces with a cloth, the sparkle returns. In an era of sustainability, the mosaic fits as a material for the

future. Also from an aesthetics point of view, mosaic has its place. The Betebe company and the mosaic pieces share the same name by using the word *betebe* to mean the cut-out mosaic pieces. The glass mosaic works as a universal modernist material, and at the same time it belongs to history and locality, the defined place.

Bibliography

- Akcan, Esra. *Architecture in Translation: Germany, Turkey, and the Modern House*. Durham: Duke University Press, 2012.
- Arefi, Mahyar. *Deconstructing Placemaking: Needs, Opportunities, and Assets*. Oxford: Routledge Research in Planning and Urban Design, 2014.
- Banci, Selda. *Turkish Pavilion in the Brussels Expo '58: A Study on Architectural Modernization in Turkey during the 1950s*, Phd Thesis, the graduate school of Social Sciences, History of Architecture, at Middle East Technical University, METU, Ankara 2009, etd.lib.metu.edu.tr/upload/12610465/index.pdf (accessed January 20, 2016)
- Bozdoğan, Sibel. *Modernism and Nation Building: Turkish Architectural Culture in the Early Republic*, Washington: University of Washington Press, 2015.
- Bozdoğan, Sibel. & Esra Akcan. *Turkey: Modern Architectures in History*. London: Reaktion Books, 2012.
- Frampton, Kenneth. "Towards a Critical Regionalism: Six Points for an Architecture of Resistance", In *The Anti-Aesthetic. Essays on Postmodern Culture*, Seattle: Bay Press, 1983.
- Frampton, Kenneth. "Towards a Critical Regionalism: Six Points for an Architecture of Resistance", accessed June 25, 2017, www.modernindenvver.com/wp-content/uploads/2015/08/Frampton.pdf
- Gehl, Jan. *Life between buildings*, [1971], Washington: Island Press, 2011.
- Gül, Murat. *The Emergence of Modern Istanbul*. New York: I.B. Tauris, 2012.
- Gül, Murat. & Howells, Trevor. *Istanbul Architecture*. San Francisco: Watermark Press, 2014.
- Hasol, Doğan. "Urban Growth and Istanbul: A Rise in Population from 1 Million to 12 Million", www.doganhasol.net/urban-growth-and-istanbul-a-rise-in-population-from-1-million-to-12-million.html (accessed September 10, 2015)
- Karlsson, Ingmar. *Turkiets historia*. Lund: Historiska media, 2015.
- Kuban, Doğan. *Istanbul – an urban history*. Istanbul: Is Bankasi, 2010.
- Merleau Ponty, Maurice. *The Visible and the Invisible*. [1964] Evanston: Northwestern University Press, 1968.
- Olsson, Gertrud. *The Visible and the Invisible: Color Contrast Phenomena in Space*. Institution of Architecture, Royal Institute of Technology (KTH). Stockholm: Axl Books, 2009.
- Westergren, Jan. *Kosta Glasbruk. Byggnadsminnen i Kronobergs län*. Länsstyrelsen i Kronobergs län 2013, accessed November 14, 2015, www.lansstyrelsen.se/kronoberg/SiteCollectionDocuments/Sv/publikationer/kultur/Byggnadsminnen/Kosta-glashus.pdf