BRAZILIAN CERAMICS AND THE NEW RESIDENTIAL CONDOMINIUMS

Jonas Birger

Jonas Birger, architect, 55 years old.

He completed his studies at the Faculty of Architecture, Mackenzie, obtaining the highest qualifications.

He did his postgraduate studies in Japan in 1984, sponsored by the Japanese Government.

He was Coordinating Architect at Jorge Wilheim Consultores Asociados (JWCA).

He has carried out more than 500 projects of residential buildings, shopping centres, services centres, hotels, hospitals, clinics, faculties, sports facilities, buildings for institutional use, as well as urban design and town planning.

Of particular note in his professional work are the Barrio Planejado Paulistano, the Edge-City Raposâo, the Centre Pólo Atacadista de Moda shopping mall, the Corporate Plaza building, and the new headquarters of the IBMEC Faculty, among many other architectural projects.

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1. THE HISTORY OF CERAMIC TILE CLADDING IN BRAZIL

When talking about Brazilian ceramic tiling, one must bear in mind the curious story of this material in the country. The first contact we had at all with this type of covering was the wall tile, which arrived here in the mid 17th century supposedly from Portuguese colonisers, which then went on to become an icon of Brazilian architecture due to the fact that it added historical and cultural values, and socio-economic ones too. Principally used in religious architecture and in colonial palaces, the tiles were first used in figurative depictions in panels, where religious suppers, everyday scenes, and rural idylls featuring houses or celebrations predominated, very often copied from engravings. As these panels were often to be found in high-visibility areas, they also functioned as a means of support for the public in general-colonisers and slaves, the lettered and the illiterate. Exotic flora and fauna, French castles, rivers and canals, classical gardens, Greek and Roman mythology- aspects related to art, religion, and the customs of the Old World-came to form a part of the imaginary Brazilian world through these tiled panels.

Figure 1.

Figure 2.

Already at the end of the 18th century, the tropical climate and the high concentration of Brazilian cities on the coastal fringes, found earthenware wall tiles to be the ideal cladding for ensuring optimum thermo-dynamic conditions, such as water tightness and the refraction of the suns rays. When this usage came into being, the Brazilians made it very successful in cladding façades, adding a new dimension to their functionality. Above and beyond that, the widespread use of façade tiles throughout the Brazilian territory in the nineteenth century coincided with the initial period of affirmation of the country as an independent entity. Brazilians began working with ceramics, dissociating themselves from the colonising metropolis, which demonstrated that in Brazil, through architecture, the tile acquired a singular identity. And, on top of this, Brazil began to influence Portugal, which had only then begun to use wall tiles on its façades leading thereby, according to historians, to a "phenomena of reverse influence", an extraordinary example of "cultural communion". The northern city of São Luiz, in Fortaleza, is one of the best examples of this innovative art. Called the "Cidade dos Azulejos" (City of Tiles), São Luiz is the greatest example of colonial architecture in Latin America, considered to be a historical World Heritage site. With French and Portuguese earthenware tiles, São Luiz took up again the geometric design of table cloths of Moorish influence from the Iberian Peninsula. In this case, the geometrical patterns enabled architects to design elemental arrangements in the façades and interiors, combining the structural laws with the ornamental laws.

Figure 3.

Figure 4.

Earthenware tiles began to be produced by artisans in Brazil in the 19th century and there are references to high quality pieces produced during this period. Nevertheless, artisan production and production devoid of artistic merit contributed to the gradual slide into oblivion of the earthenware tile as an external wall adornment with aesthetic aims, reflecting the lack of conventional suitability of new mechanical production methods due to the industrial revolution, beyond deep rooted economic change, and the social and cultural events of the beginning of the 20th century. The desire for modernisation within the country, and for the removal of all vestiges of its colonial past, stopped ceramic cladding from being used on façades and other noble places, and to be used instead in bathrooms and kitchens, stripped of all their ornamental qualities.

Figure 5.

It is 1914, the resurgence of wall tiles in Brazilian buildings can be traced back to the beginning of the neo-colonial architectural phase, albeit only tentatively. A good example of this phase would be the Caminho do Mar (Sea Road), a roadway which links the high plateau of São Paulo with the coast. These monuments were established in privileged positions in order to highlight the attractions of the Sea Mountain Range and the Atlantic Forest, giving prominence to the old highway which linked São Paulo with the port of Santos. Blue and white tiled panels depict historical scenes of travellers between the two cities. The use of tiles and granite in these buildings proved very effective, not only against the great temperature changes of the area, but also in their plasticity against the rampant green of the forest land. It is from this era that the first industrially produced wall tiles date in Brazil, and more specifically, in São Paulo.

Figure 6.

Figure 7.

2. CERAMIC TILING AND MODERNISM

Whereas in Europe, Modernism imposed itself as an essential break with elements of the past, in Brazil, things took a different turn. Brazilian architecture in the third and fourth decades of the twentieth century harked back to a tradition, namely its colonial past, as its legitimate base. The influence of Le Corbusier imposed itself on the structure of the Ministry of Education building in Rio de Janeiro, then capital of Brazil. Le Corbusier, who was invited to take part by a team of architects responsible for the work, brought the concepts of modern architecture, which were characterised by a higher level of preoccupation with the formal elements of constructed space. Enchanted by the Rio landscape, its imperious palm trees, and its religious based ceramic tilings, he influenced the team into also adopting national elements. The use of international concepts and of elements selected from our colonial past in that work, brought about a new plastic expression which was definitive for Brazilian architecture. Luis Costa, an architect best known as the creator of the city of Brasilia, explains that "ceramic tile cladding on the ground floor, and the sense of fluidity adopted through the composition of the big panels, has the clear purpose of lightening the density of the walls with the ultimate goal of taking away any impression of support they may give, since the upper block is not supported by the walls but by the columns themselves. As the earthenware tile is one of the traditional elements of Portuguese architecture, which was ours, this seemed a good opportunity to renew the cultural tradition". These wall tile panels were designed by the plastic artist Portinari, who used marine life elements in interwoven curved lines which from that moment on became permanent characteristics of all of his works of that nature.

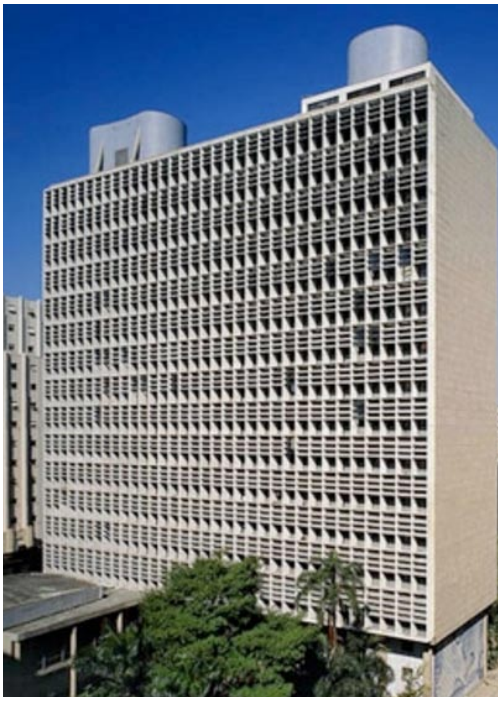

Figure 8.

Figure 9.

Figure 10.

Figure 11.

Later on, the architect Oscar Niemeyer, who had also worked on the team which developed the Education Ministry building, launched the poetic and artistic fundaments of his incomparable style in the Pampulha complex, in Minas Gerais. In this particular complex, the tiles, produced in 1944, are the unifying element of the buildings constructed around the lake. In the Franciscan chapel, Portinari produced his primary ceramic tile work, one of the culminating points of sacred modern Brazilian art, depicting episodes from the life of Saint Francis of Assisi. After Portinari, there were other artists who completed works of art in ceramic tiles linked directly to architecture, such as Burle Marx, Djanira, Caribé and Athos Bulcão. The last artist, in the 1950's, used ceramic tiles as a means of integrating art and architecture in a grandiose form in more than 200 works of art which left behind an imprint of elegance and vibrancy. His panels were composed of modules which fitted together, or not as the case may be, in an extraordinary and random way, but which still managed to maintain uniformity and equilibrium. Curiously, Athos created designs of the modules, and then gave free reign to the workers putting together the panel, without any rule for assembly. Single family dwellings also took ceramics up as the material of choice in external cladding. Ceramic tiles and wall tiles were used in abundance in the 1950's, driven by industrial production, and they became the registered brand of the time.

Figure 12.

Figure 13.

Figure 14.

3. SPREAD OF THE USE OF CERAMIC CLADDING

From that date on, the use of ceramics began to impose itself on Brazilian architecture, not only in the artistic sense but also in the functional one. As a cladding material, wall tiles were used quite a lot up to the 1970s, chiefly in the coastal areas in the north of the country. The architect Fernando Peixoto, from Bahía, used it in his industrial estate, without decorative add-ons, in a building complex of Salvador, whose original pop-art design caused quite an impact in the landscape, leading to a fair amount of controversy amongst architectural critics.

Figure 15.

Figure 16.

As early as the 1970s, earthenware tiles began to be replaced by ceramic claddings which were less porous and less expensive to produce. The product began gaining ground, also in cities in non-coastal areas, such as São Paulo and Manaus, where the cladding of façades is a great building marketing argument.

Perfectly well suited to the Brazilian climate, the ceramic slab has become a widespread cladding, since it has low moisture expansion, withstands sunlight well, does not absorb salt, is colourfast and has a long useful life. In addition, it requires little maintenance in comparison to paintwork, which deteriorates rapidly in the Brazilian climate.

Brazilian production is concentrated in certain areas to the south of the country, basically in Santa Catarina, which is an internationally recognised centre, and in São Paulo itself. The growing improvement in design, variety and quality of the ceramics has been noted. Brazil is a major player in the global ceramic market, taking second place as a producer, as well as being one of the largest tile consumers. Examples of this are the façades of new business and residential architectural complexes, the use of tiles in homes, and in the internal and external cladding of large areas down to their smallest details. Tiles, porcelain and ceramics exceed their basic function as cladding and become elements that mark architectural expression. Over and above this, the restoration of façades and restructuring of buildings in the north and north-east has reached ever higher levels in the property market. This scenario has seen ceramic cladding bring about an added value of between 30% and 40%, as well as a longer lasting finish relative to the application of paintwork.

4. OVERVIEW OF THE PROPERTY INDUSTRY IN BRAZIL

Since 2002, the socio-economic situation in Brazil has been characterized by inflation control, and economic stability. Such a scenario permitted the birth of the civil construction industry, which up to that point had only been nascent, a disorganised and unsystematic activity. This industry found itself in the position of having no residential properties or business premises. The influx of foreign capital opened up the possibility of market capitalisation in the form of shares for developers and constructors, thus completely transforming the property landscape in Brazil in a short space of time. It is interesting to bear in mind that in 2007 there were approximately 25 companies with open capital in Brazil as opposed to 8 or 9 in the U.S.A.

The world economic situation contributed in large measure to the success of Brazil's economic policy. The result was a general increase in the per capita income, which to a certain extent helped to lift part of the population out of absolute poverty. The growth of credit brought the dream of owning one's own property a lot closer to reality for many families. Finally, it is possible to glimpse the decrease in the Brazilian housing shortfall.

Even the financial crisis of 2008 had a relatively small impact .There were business mergers, and new property offers were down for several months. Nevertheless, since January 2009 the market has been notching up record sales in all areas. Beyond the end-user, investors, who before the crisis were investing their resources in financial markets, switched over to property in search of more secure assets.

It is worth mentioning that, in a short space of time, Brazil will be hosting the 2014 World Cup and the Olympic Games of 2016. The infrastructure needed to host those two events demands a large quantity of built-up square metres of construction.

5. THE ARCHITECTS' CHALLENGE

To accompany the rapid changes that this transformation has brought in its wake, architects offices have had to adapt, and in many instances reinvent themselves. The complexity of the projects heralded an increase tantamount to the decrease in available space for project completion. The project should assure that actual construction time becomes faster - and always in an atmosphere of extreme competence. To sum up, the quality levels of architectural projects has acquired great importance in the property sector. Attention to the requirements of users, investors, and shareholders has proceeded to shape the output of these offices. Waste is no longer tolerated. Architects' response times must be rapid and precise. Construction capacity and specific input performance have to show patterns of irrefutable quality.

By way of illustration, I may note that my office carried out initial studies in 2008 for 538 projects. Forty of these were followed up, and were actually developed.

A sharp increase in staff numbers in the offices was required, and there were high levels of investment in training and new software.

At the same time the responsibility of the architects in respect of specification of materials for the finishing off of construction works grew. I see ceramic cladding, for all its qualities, as a safe specification alternative.

6. NEW TYPES OF INDEPENDENT HOUSES

The increase in population densities in the large cities, the shortage of free greenbelt space, urban insecurity, traffic disruptions and air pollution were the deciding factors in the selection of mitigating alternatives. At the same time, there is a growing movement in the sense of the decreased rates of land use throughout Brazil. São Paulo leads this trend, where the new master plan of the town drastically decreased the levels of land use for construction, thus obliging entrepreneurs to acquire areas of greater size, in places further removed from the urban centre to build a greater number of houses. In order to convince potential buyers to out from the centre, these projects offered numerous community facilities. Thus a new concept in urban living was brought about in São Paulo –"residential club condominiums" – in reality, islands of comfort in the midst of urban chaos, a set-up that was to spread quickly throughout the whole country and which continues to be the greatest motivator of urban development in the big cities. These condominiums offer a solution to people's aspirations, at the same time as ameliorating the deficiencies in dweller-friendly infrastructure.

Figure 17.

7. THE CONDOMINIUMS CLUB PROJECT

Generally speaking they consist of one or more towers set on two large bases which contain garages and a variety of different spaces for community use. Public transport being deficient, which is typical of the large cities in Brazil, the car needs to be used. These project designs make a high number of parking places available, disproportionate to the private area taken up by the flats.

The disparity between what the supply of land, the requirements of the incorporators and the decrease in the rates of use has have led to increased land prices.

For it to be economically viable, the surface area for new apartments had to be reduced. Architects designed the apartments to meet the needs of each family,

proposing a flexible approach which would be useful for any particular family configuration. It is interesting to point out that, though these areas are reduced in size, the units present a similar programme for larger apartments.

Figure 18.

The great achievement of the architects engaged in the Brazilian property market has been that of designing these condominiums with a simultaneous aim in establishing the buildings and in laying out the apartments. The relationship between these two features is what has made the design a success. Qualities such as isolation, maintaining privacy, the search for better visual angles, acoustic isolation, are what determine the quality and commercial viability of the undertaking.

In the large communal areas of these complexes, inhabitants can enjoy truly private clubs, with access to sporting facilities of different kinds, swimming pools, lanes for swimming, a collective home office, cyber rooms, a gym academy, fitness and beauty salons, party venues and kitchens, games rooms and playgrounds, cinemas, craft rooms, even areas specifically for relaxation and meditation – unlimited options and fully exploited by property marketers. The landscape itself assumes the utmost importance, with luxuriant gardens and extravagant details, such as lakes, fountains, and water spouts.

The Plaza Mayor (Main Square) project displays these qualities, as may be observed in the illustrations below.

Figure 19.

Figure 20.

Figure 21.

There is controversy surrounding the potentially segregationist policy of these projects but, on the other hand, the comfort and security they allow is notable- often enjoyed by those for whom the city has nothing to offer, or for whom membership of private clubs is out of reach.

8. FAÇADES

The shortening of project times and the execution of the work, the quality standards, and cost controls have an influence on the concept of the Condominium Club project. The much-needed rationalisation of the building structures, together with the high numbers of parking places needed below ground, require building volume design to be as orthogonal and rectilinear as possible. Thus the entrances and projections, which contribute in large part to the treatment given to façades, are avoided. How then, does one achieve an architectural expression, which is so important to building identity?

Ceramic cladding in this case plays a very important role, since it allows volumes and façades to be worked as if they were sculptures, through the results brought about by colours, textures, and the dimensions of each specific piece. It is the use of ceramics as cladding which best allows the creation of volumes in flat façades, providing a variety of aesthetic qualities, besides thermodynamic performance. The plastic use of ceramics as a means of architectural expression has made a significant contribution, and can turn into a main façade feature bringing beauty and volumes without becoming part of the structure itself. Beauty is fundamental in architecture. On many occasions, the architect Oscar Niemayer recalled that the arcade in the Doges Palace in Venice, although it had no structural bearing function, nonetheless appeared to carry the entire symbolic weight of the palace.

The qualities of ceramic cladding, such as the format, dimensions, colour and joint pattern make up the repertoire to obtain the desired architectural effect. These features define building proportions, highlighting verticality, the base or the crown.

An illustration is provided below, which demonstrates this explanation.

Figure 22.

Horizon-Condominium Club with cladding outlining the foundations, the crown and the verticality. A ceramic mural was proposed, which acts as a "museum canvas" towards the highway.

The following illustrations show how the use of ceramic cladding can serve to provide different effects in the same building.

Figure 23.

Other application examples, combining different formats and colours.

Figure 24.

Figure 25.

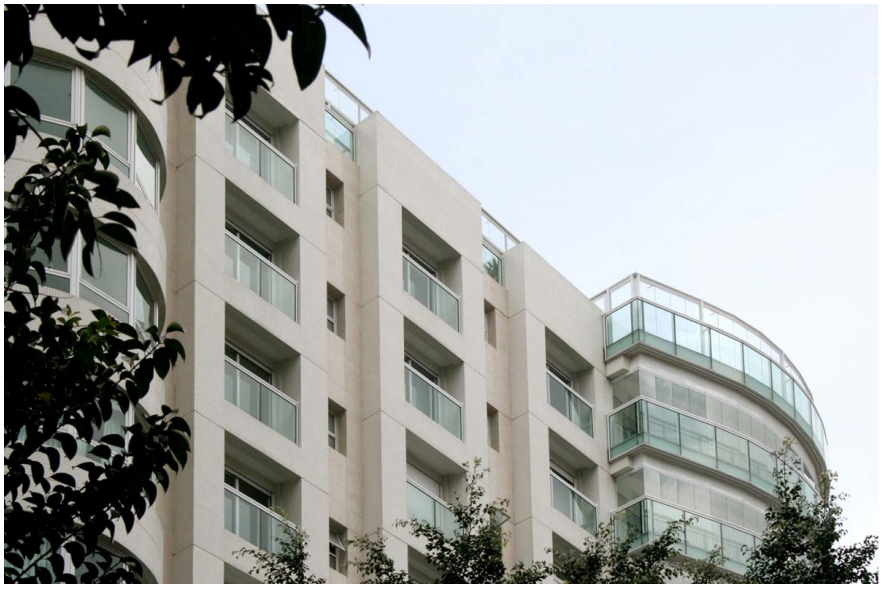

Figure 26.

Figure 27.

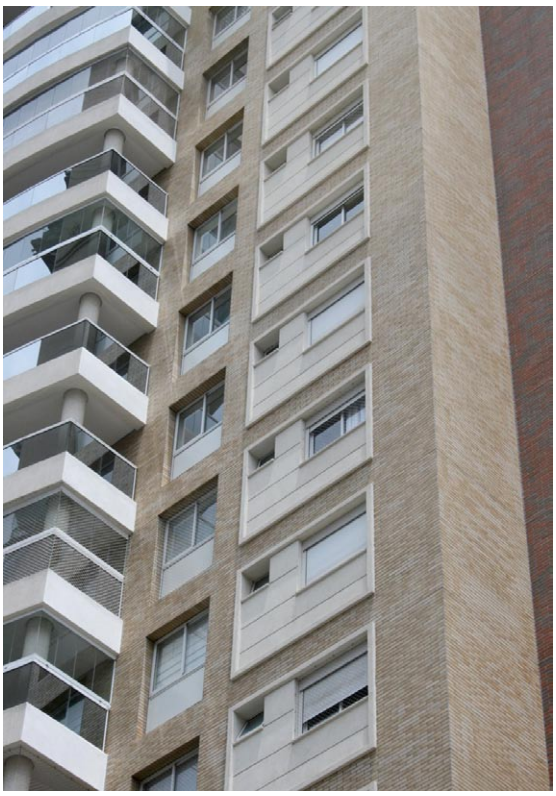

Figure 28

In the cladding of the external building apartments, ceramics play an essential role thanks to all their well-known attributes, providing landscape architects with a boundless array of possible combinations for delimiting different uses and conveying scale and environmental comfort in open spaces for their users. As internal cladding, for bathrooms, kitchens, and service areas, ceramics have gained ground in social areas and compete against noble materials such as marble and granite. In many

Brazilian coastal cities, or those with a humid climate, like in the Amazon Basin, for example, independent houses are totally covered in ceramic materials, whose patterns, textures and designs bear witness to boundless creativity, conveying configurations which never could have been imagined previously.

As far as reference to environmental questions is concerned, the fundamental condition begins in setting up the building complex, which needs to be designed in the most sustainable form possible, considering its insertion into the landscape, its environmental impact and its best possible location in terms of local resources, such as the climate, lighting, and ventilation. Here it is not just a case of keeping the apartments in mind, but also the free spaces, mainly playgrounds, sports pitches and swimming pools. As has already been mentioned, ceramics are excellent cladding materials since they have thermodynamic properties, but they also need to be carefully specified in terms of the guarantee of origin of the products, and of manufacturing methods that are certified as being environmentally friendly.

9. IS THERE A FUTURE FOR CERAMIC FAÇADE CLADDING IN BRAZIL?

In view of the foregoing, I believe there is a great growth potential for ceramic façade cladding in Brazil. The point, however, is that the product offer is still limited.

An example of this is ventilated panels, which are still import items and are exorbitantly priced.

There is a limited availability of sizes and different colours, as well as extruded finishes.