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VISUAL TRANSFORMATIONS WITHIN THE SPACE OF THE CITY.  
THE BILBAO EFFECT

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WIZUALNE PRZEMIANY W PRZESTRZENI MIASTA.  
EFEKT BILBAO

**Abstract**

The article focuses on the changes to the face of the space of the city that have been initiated towards the end of the twentieth and which have been developing since the start of the twenty-first century in Bilbao, resulting from a broadly understood process of urban regeneration. It refers to the main problems associated with this process, which cover the spatial, economic and social sides of the city. It discusses the use of art in the humanisation of a place, improving its attractiveness and promoting modern solutions in architecture and urban planning. The process of holistic, systemic urban planning-related transformations of a decayed area has covered improving the accessibility of the site and the placement of a structure that crystallised the spatial layout. The success of this programme can constitute an indication for other centres affected by the necessity to introduce functional and spatial changes, as well as an effective municipal policy.

Keywords: Bilbao, urban regeneration, transformations, space, accessibility, art

**Streszczenie**

Artykuł koncentruje się na zmianach oblicza przestrzeni miasta zapoczątkowanych pod koniec XX w. i rozwijanych od początku XXI w. w Bilbao, będących wynikiem rozpoczętego szeroko pojętego procesu rewitalizacji. Nawiązuje do głównych, związanych z tym procesem zagadnień obejmujących stronę przestrzenną, gospodarczo-ekonomiczną i społeczną miasta. Odnosi się do wykorzystania sztuki w humanizacji miejsca, podnoszenia jego atrakcyjności i promowania nowoczesnych rozwiązań w architekturze i urbanistyce. Proces systemowych przemian urbanistycznych całościowych zdegradowanego obszaru obejmował zwiększenie dostępności miejsca i lokalizację obiektu-kreacji krystalizującego układ przestrzenny. Sukces tego programu może być wskazaniem dla innych ośrodków dotkniętych koniecznością zmian funkcjonalno-przestrzennych i skutecznej polityki miejskiej.

**Słowa kluczowe:** Bilbao, rewitalizacja, przemiany, przestrzeń, dostępność, sztuka

## 1. Introduction<sup>1</sup>

Poorly known in the 1990's, the town of Bilbao, located in northern Spain between the well-known health resorts of Santander and San Sebastian, near the Bay of Biscay, has historical traditions, political significance and a period of considerable development. Around 1300 a port was built at the mouth of the Nervión River, founded by the barons of de Haro, which exported Castilian wool to England and Flanders.

It was only in the nineteenth century that Bilbao started to gain political significance as a centre of conservative opposition. However, the discovery of iron ores to the northwest of the city and the development of metallurgy plants in the nineteenth century that was associated with this fact turned Bilbao into a large industrial centre and one of the wealthiest cities in Spain. Metallurgy plants and chemical factories soon became the main element of the local landscape. A hundred years later the city and the region lost its significance, mainly through the decline of heavy industry and the associated unemployment rate which was as high as 15%, the neglect of post-industrial facilities and their surroundings, as well as considerable pollution of the environment and a lack of care for order within the space of the city.

During this period the most attractive and structured district was the old town (*casco viejo*), built near the river in the fourteenth century, along with the Santiago cathedral basilica, as well as the buildings of the archaeological and historical museum. The Museo de Bellas Artes, built in 1945, was, in turn, a significant structure in the new part of the city. Towards the end of the twentieth century Bilbao had around 420 thousand residents and was the largest Basque city, in addition to being one of Spain's main ports. "The city is not beautiful, although it is wealthy, and its once great pollution has currently been minimised. The urban development project features the redevelopment of the underground network and the opening of a modern art gallery which will be a branch of the New York Guggenheim Museum. An expansion of the airport and seaport will soon take place" – this was the information relayed by the mass media, as well as by guides [7, 8, p. 56–58]. The process of the renewal of the city was initiated by the construction of a new underground metropolitan railway, the Abando transport node (1988), as well as the opening of the Museum in 1997. These facts were a turning point in the city's development. Twenty years after the opening of the Guggenheim Museum we can rate the condition of the space and the spreading of this good example of the urban regeneration of a place in order to fully characterise the "Bilbao Effect"<sup>2</sup>. The focus here is not solely on the construction of a single structure and the expansion of infrastructure, but primarily on changing the image of a place in the spatial, economic and social spheres that is initiated by these projects<sup>3</sup>.

<sup>1</sup> The article was written in reference to the monograph titled *Przemiany przestrzeni miast na wybranych przykładach* by Elżbieta Kaczmarek and Małgorzata Kaczmarek, which is being prepared for print at the Andrzej Frycz Modrzewski Krakow University (research task WAiSP/DS/2017). All of the photographs herein were taken by the authors in 2017 during their on-site visits.

<sup>2</sup> A term used in literature and mass media to describe the spectacular economic success of the area, the source of which is the transformation of space.

<sup>3</sup> The article omits mentioning the numerous definitions of the term "urban regeneration," as well as of the models of this process, referring to the authors' original publications concerning this subject [12, 13]. It would

## 2. The new underground rail and the Abando transport node

The current history of Bilbao, from a city surrounded by an industrial belt to a tourism site and a centre of culture has, over two decades, created a symbol on the global scale in the form of the Guggenheim Museum by Frank Gehry. Despite this, the renaissance of Bilbao is not based solely on the magic of the icon of architecture and on individual buildings, most of which are historical monuments, but also on a strategy of integrated development, which underscores the significance of infrastructure in the process of urban regeneration. In 1988 an international competition was organised to select a design for the underground metropolitan railway - which was won by Norman Foster. Construction work began in 1990, and the first stage of the system, in the form of 11 stations, was inaugurated in 1995. The underground metropolitan railway is to have a total length of 61 km and can be subjected to further extension. The principle of the construction of the underground metropolitan railway was the use of already existing routes outside of the city centre and connecting them with newly designed ones, which were to run through a tunnel drilled in rock. The winning design by Norman Foster for the underground metropolitan railway featured the integration of new underground railway stations with the squares and streets of the city. The essence of the system is its scale: large tunnels, wide comfortable wagons, “cave-like” underground stations with a length of 100 m and a width of 16 m, sufficiently high, define the awareness of the importance of public transport to the contemporary city. Interesting entrances to the underground, “very much in Foster’s style”, have been meticulously designed in order to always be integrated with the surroundings. Named “Fosteritos” [17] after their designer, they have become a symbol of the city in a similar fashion to the entrances to the Paris underground<sup>4</sup>.

The Abando transport node, which has still not been built, was designed by Michael Willford & Partners. There is also the Abando train station, although it obstructs traffic within the city rather than aiding it. The complex is meant to open up a part of the city and ensure comfort for pedestrians. Emotions associated with travelling by train are once again meant to be stimulated through the construction of a large glass roof above the public square of an enormous public salon. The roof is meant to have a double width in comparison to, for instance the St. Pancras International station in London, featuring shops and restaurants. Furthermore, there will also be a shopping centre, offices, apartments and a hotel around the esplanade, which are meant to occupy a space with a total floor area of 300,000 m<sup>2</sup>. The highly impressive scale and ambitions of the project have made carrying it out difficult and it is possible that it will undergo modifications, provided that construction will commence.

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be good to add that, in the case of Bilbao, the domestic Spanish model was used, which utilises European Union funds in financing renewal projects, with the contribution of the public sector often being supplemented by the participation of private investors, creating elaborate, hybrid public-private partnership schemes. This model has also been used in Madrid and Seville, as well as in Portugal (Lisbon) and Greece (Athens).

<sup>4</sup> The entrances to the underground, interesting in terms of their form, bringing to mind the chitinous plates of an insect’s body, are a characteristic sign against the background of the streets, as well as the river. The problem of marking the entrance to the underground for the entire area in a manner that would stand out was also tackled through devising a well-designed minimalist sign.



### **3. Important places within the space of the city. Art changes everything (El arte lo cambia todo)**

The famous structure designed by Frank Gehry and built in 1997 has been placed near the Nervión River, on its left side, in the new part of the city, at the exit of an important north-south transit route (Alameda Recalde), which connects significant sites within the city, including: Museo Taurino and Plaza de Toros (arch. Luis M. Gano) built in 1962, the Alhóndiga building of 1909 (arch. Ricardo Bastida) and plaza Moyúa - which is surrounded by historical structures from the turn of the nineteenth and twentieth century: the eclectic Palace de Chávarri, Casas de Sotas and Casa Montero, representing Spanish modernism. The aforementioned square, in turn, is traversed by another important circulation route: Gran Vía Don Diego in the western part and Lopez de Haro on the western side. It connects – through bridges – the historical part of the city and the Abando train station, the area of the nineteenth century city with the suburbs on the western side of the area and a hilly zone to the left of the river, which features varied terrain and “loose” built-up areas.

The structure of the Museum itself constitutes the most important element that crystallises the spatial layout, being the main attraction of the recreational and walking route along the river. It would be appropriate to highlight that the promenades on both sides of the valley of the Bilbao river are connected by numerous bridges, traditional ones – with solid iron structures, as well as a new one – a suspended bridge with a beautiful, light silhouette – the Zubizuri bridge designed by Santiago Calatrava. They thus link the existing historical built-up areas with contemporary ones. The museum is also a part of a trail of service buildings and spaces of a recreational, sports, religious and art-related character. Furthermore, this part of the waterfront is outstandingly valued as a promenade and walking route, in addition to being prepared for active recreation, sitting and exercise, featuring bicycle routes with demarcated spaces for urban bicycles, as well as public spaces for individual users, families and crowds of visitors. Such a crowd gathered at the Guggenheim Museum on the 20<sup>th</sup> anniversary of its construction, with all the residents of the city being invited for a visit to the Museum free of charge and to use the “surprise-actions” that had been prepared.

Elements of flowery street furniture like the atypical small cuddly toy – “Puppy” by Jeff Koons (1992) – which grows into a giant and greets people from the “city” or the fearsome giant metal spider – “Maman” by Louise Bourgeois (1997), which invites visitors inside from the side of the river – do not remain neutral to the reception of the space. It would also be good to add that the element of water was used here by placing a part of the museum building in a pool of water, as well as through the introduction of ponds that accompany the walking trail. Furthermore, one of the works in the museum’s collection is “Fog Sculpture # 08025 (F.O.G.)” (1998) by the Japanese artist Fujiko Nakaya, who proposed and introduced the idea of covering the Guggenheim Museum in fog every day during certain hours. This measure introduces an aura of mysteriousness and magic, but also of restlessness into the surroundings of the museum. It should be recalled that the work by Yves Klein, “Fire Fountain” from 1961, which uses both water and fire, has constituted the external continuation of the exhibition since the start of the museum’s operation. The collection within the space around the structure

is constantly being expanded. One expressive accent in this collection is the work “Tall Tree & The Eye” by Anish Kapoor, from 2009. Although another work by Jeff Koons that has been included in the collection – “Tulips” from 1995 – draws the attention of visitors through its scale, shine and colours as well.

The museum building, through its sculptural form and the materials that it employs, is a beautiful, reflective sculpture in and of itself, with a surface that can be used for light, sound and motion performances, projections that change shapes, symbols and colours, while in its interior we can learn the principles of its structure and admire it. The upper parts of the museum, adapted mainly to this end, are accessible through elevators, ramps and comfortable stairs with 15 cm-high steps<sup>5</sup>.

It would also be appropriate to highlight a different structure within this part of the waterfront, the “Paseo de la Memoria” (Remembrance Promenade - a section of avenida Abandoibarra enriched by numerous contemporary sculptures), which is connected with the Museum. The Euskalduna Conference Centre and Concert Hall (by architects Federico Soriano and Dolores Palacios) constitutes the closure of the western part of the promenade and the sports grounds. At the same time, it leads visitors to other symbols of this space, which are Casa de Misericordia from 1871 or Monumento del Sagrado Corazón from 1927. The Conference Centre and Concert Hall does not have such a spectacular form as Frank Gehry’s Museum. Due to the less masterful composition of its massing it is calmer in its expression. Nevertheless, its interiors, observation terraces and surroundings excellently fit in with canons of contemporary thinking about space. The “magical forest” in front of the structure forms an enclosure of the avenida’s perspective, designed in the form of columns and light surfaces, which form a composition “out of disorder”. Meanwhile, numerous different measures in the composition of the interior of the Centre – through its structure, the tilt of its walls, its construction material, as well as its details – are meant to be a reference to the interior of a ship. It also references symbols from Basque legends, which are inscribed into the mosaic of the floor.

Euskalduna and the Museum were placed in the area of the former port and have initiated a process of positive spatial and aesthetic transformation in Bilbao within the mind of its residents. Through spontaneously arranged conversations – interviews, as these were not part of a sociological study – the authors gauged the residents’ and users’ attitude to the contemporary public spaces of Bilbao. The interviewees were proud of them and the scale of the change had earned their recognition. They often contrasted the new projects with places that they had known and remembered as sad, ugly and dangerous. However, they appreciated the references to industrial history and tradition in these new projects. It is symbolised not only through the preserved and renovated port cranes, or, for instance, the composition of lamp-masts on the square in front of the Arts Museum, but also the architectural details of

<sup>5</sup> In 1997 Jeremy Malvin characterised the idea of the designer saying that Gehry had negated all the then-current conventions of architecture in the most famous building of the 1990’s. He said that Gehry had used a computer program developed for designing fighter jets, designing a complex of forms covered in titanium and the entire structure had occupied only a small amount of space between the external shell and the internal gallery [7, p. 136–137].

contemporary buildings (e.g. the aforementioned “port-like” references in Euskalduna), in addition to numerous sculptures, mainly from metal, either with a rough texture covered in rust, or smooth and reflective surfaces, exposed both outside and in the interiors of galleries and museums. These types of sculptures, most often abstract, appear in many places in public spaces and are present in museum exhibitions. They constitute a far reminder of the industrial period of the city and a sentiment to the material which has traditionally been the deciding factor in the development and wealth of the city. The public spaces are also accompanied by a sort of promenade and square-related “metal jewellery”, e.g. the brass “Las Meninas”<sup>6</sup> or sculptures depicting politicians and artists. Despite the use of a cold and hard material, the “Las Meninas” have smooth shapes, which emanate warmth. Their soft form causes them to be a favourite among the youngest users of the space.

It is necessary to mention the Alhóndiga building (Azkuna Zentroa), which was made a listed site in Bilbao in 1999 and which currently stands out as a centre of art, contemporary culture and recreation near Aqqiquibar Square. It occupies an entire town block. It is a combination of the eclectic architecture (1909, arch. Ricardo Bastilda) of a former municipal wine storehouse and exchange and the implementation of a twenty-first-century idea of organising a modern cultural facility. The facade of the building was not changed, while the interior has been organised around an Atrium of Cultures with a floor area of 6,193 m<sup>2</sup>, surrounded by 43 columns, each with a different visual expression (colour, decoration, material, lighting, night-time illumination), with all of them constituting works of art<sup>7</sup>. The columns support three storeys for culture and recreation, as well as a terrace (bars, a restaurant, a mediatheque, high-tech laboratories, rooms for studying and relaxation, a gym, two swimming pools, spaces for exercising, a shop with local designer products), while underground there are two additional levels (an auditorium, exhibition spaces, 8 cinema screening rooms, including two with 3D technology).

Apart from the three buildings mentioned above, the newest building to be incorporated into the strategy of the transformation of Bilbao is the recently built Basque Health Department Headquarters building (arch. Juan Coll-Barreu), with flaming forms of glass and iron, which was compared to the Guggenheim Museum by the British newspaper “The Guardian”[18]. The transformations that have been occurring in Bilbao for the past 20 years have been summarised by the phrase “Art changes everything” (El arte lo cambia todo). This phrase, along with a sketch of the distinct outline of the museum and the Roman numeral

<sup>6</sup> “Las Meninas”, design by: Manolo Valdés.

<sup>7</sup> It is Philippe Starck who stood behind the idea of revitalising Alhóndiga (Azkuna Zentroa, Az). The square in front of the building and the enormous atrium were designed as a meeting space. Outside there are cameral spaces surrounded by greenery and illuminated by lamps with a design that appears as if it was from a different scale, they are the prelude to the space inside – an open space that stands out through elaborate columns that support the massing of the building cut off from the atrium. The individual columns, made out of marble, brick, timber, bronze, cement, iron or ceramics, are characterised by a variation in styles. None of them are alike (apart from their proportions), and many are a clear metaphor of a selected architectural style. They are meant to symbolise the countless number of cultures, wars and religions that have been experienced by humanity throughout its history. The columns have immediately become a defining symbol of the site and the pride of the city’s residents, who highlighted the unique character of Azkuna Zentros when speaking about them.



XX to underscore the round anniversary of the building's construction, appeared in 2017 like a (positive) stigma throughout the entire city. This leaves the impression that the residents appreciate the fact that the process of change within Bilbao is owed to ascribing a superior value to art. In order to see a justification for this, it is only necessary to list all the emblematic projects built: from the museum of modern art which is in itself a work of art, the Conference Centre and Concert Hall, the rehabilitation of the Alhóndiga building, the Health Department Headquarters, the construction of the underground metropolitan railway along with the famous shape of its entrance, the silhouette of the footbridge by Santiago Calatrava, to the numerous (perhaps even too numerous, particularly around the Guggenheim Museum) sculpture projects within public spaces.

Such a model of transformation works well in many areas of municipal policy. Apart from the essential satisfaction of residents, the number of tourists who visit Bilbao is constantly rising. Over the past two years this progress has become even more visible and the city has been visited by a record number of people. According to tourism statistics summarising the year 2016, the city was in its best period and was registering the greatest amount of tourists in its history<sup>8</sup>.

It would be worth noting that the old town has also underwent a rehabilitation and renewal procedure and is a separate enclave of historical memory. The oldest historical buildings, including the fourteenth-century gothic cathedral with its leaning silhouette, were taken care of, with the mediaeval urban layout having been preserved, along with its residential town blocks, the linear buildings of the streets along with their arcades and nineteenth-century architecture, timber oriels and rows of balconies with openwork railings from the industrial period. Here, tradition – along with an entire wealth of technical details – and the later forms of buildings beneficially supplement themselves. This part of the city has preserved its historical atmosphere and the identity of successive periods.

#### 4. Summary and conclusions

Bilbao is an example of a long-term municipal policy, resulting in spatial, social and economic effects measured, for instance, in the number of tourists and through well-used projects aimed at urban regeneration.

The following is of note:

- ▶ Boldness in making decisions which are avant-garde concerning the renewal of space,
- ▶ Consistency in the implementation of projects, their maintenance and a flexibility of their use,
- ▶ Making use of an “example effect” and the principle of the “spreading of good models” in the structuring of space,

<sup>8</sup> In 2016 Bilbao was visited by 877,847 people, the number of overnight stays was 1 689 806. Compared to 2015, the number of tourists rose by 7.9%, while the number of overnight stays rose by 8.3%. In 2013, 729,715 persons visited the city, resulting in 1,371,169 overnight stays. Based on these statistics we can clearly see that the attractiveness of the city is increasing on a yearly basis and tourists choose longer stays [16].



- ▶ Systematic development of the possibilities of promoting a new, humanised, healthy lifestyle,
- ▶ Engaging the city's community and external users in promotional campaigns and events.

The effect of the efforts included in the city's policy largely depended on holistic concepts concerning the accessibility of a site. In this department, the problem of rapid, safe transit was solved through the extension of the airport. In addition to railroad, traffic, the underground metropolitan railway, trams, buses, cars and bicycles. The modern structure of the airport (designed by Santiago Calatrava in 2000 and extended in later years) is well thought-out in terms of function and exceptionally interesting from the point of view of its structure, with a beautiful, avant-garde outline. It attracts tourists both from the country and from various parts of the world. The underground railway, regardless of its utilitarian qualities, has also become inscribed into the image of the city through attractive and modern visual symbols which ease orientation and enrich the image of the city's space.

With creating a space for a healthy lifestyle, one that is attractive in terms of use, promoting physical activity, art, culture and beauty in mind, multi-directional development efforts were made.

- ▶ Long walking, pedestrian and bicycle trails were designed, linking active recreation and calm rest spots prepared for various groups of users with varying degrees of physical conditioning;
- ▶ Care was taken to ensure the presence of green spaces, through the composition of gardens, large and small parks, as well as utilising the varied configuration of the terrain to establish open, slightly waved surfaces covered with grass, accessible to the entire community of the city;
- ▶ The effect of water was used in the establishment of an attractive waterfront, in addition to water surfaces "reflecting" accompanying buildings and small ponds within parks;
- ▶ References were made to the traditional functions of a city, as well as construction and structural materials associated with the city. These were used in a creative manner in the implementation of innovative ideas in the architecture of buildings, bridge structures and urban detail;
- ▶ Care was taken over the visual side of the entire system of varied public spaces, involving the best artists from various artistic disciplines, promoting bold, modern thinking about space;
- ▶ The construction of iconic structures which create a given space was given to the best architects and engineers. They have been leaving their mark on the regenerated area for over two decades. These are mainly cultural, arts and sports facilities, as well as office and apartment buildings. Engineering and travel structures, through their modern architecture, create a new skyline of a city of the twenty-first century;
- ▶ The consistent adherence to the urban connections of the downtown area, as well as the compositional principles of the whole made it possible to propose new solutions that multiplied the attractiveness of the place.

Bilbao is an example of a very successful process of urban regeneration, with architectural works of the Third Millennium, both within the city's skyline and its built-up area, in addition to their safe and pleasant accessibility playing a significant part in it.



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Fig. 1. Bilbao – structure of the city, and key elements focusing the layout of the downtown area  
(own study based on Google Maps 2018)



Fig. 2. Accessibility is provided by: an airport, as well as an underground rail, trams, buses, cars, bicycles and routes prepared for them. The construction of the Abando transport node is being planned. The airport terminal, design by: S. Calatrava, entrances to the underground, design by N. Foster, bridge, design by: S. Calatrava (photos by E. Kaczmarek, 2017)







Fig. 3. Guggenheim Museum – current state. Open to all residents of the city on its twentieth anniversary – as a gift of the authorities of Bilbao, eagerly made use of by locals. During the evening the celebrations involved mapping and music (photos by M. Kaczmarska, 2017)



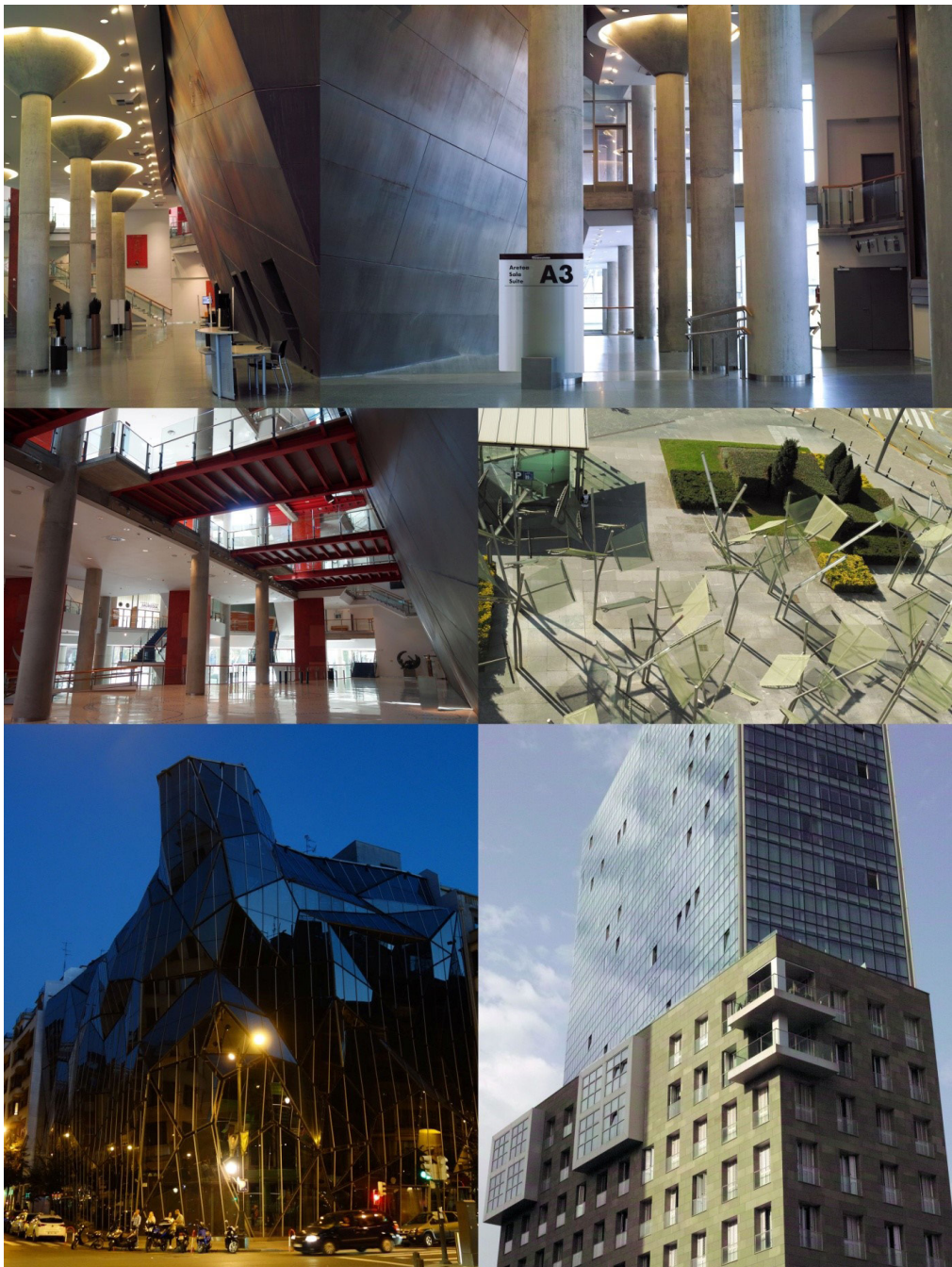


Fig. 4. New emblematic works of architecture in Bilbao: El Palacio Euscalduna – Conference Centre and Concert Hall, along with the “magical forest”, the Basque Health Department Headquarters building, Puerta Isozaki (Isozaki Atea, Isozaki Gate) - one of two identical towers, which, along with 5 lower buildings create an office and residential complex designed by Arata Isozaki in cooperation with Iñaki Aurrekoetxea (photos by E. Kaczmarzka, 2017)





Fig. 5. The old town (casco viejo) has undergone a rehabilitation and renewal procedure and is a separate enclave of historical memory. The district has preserved its atmosphere and the identity of successive historical periods, from the Middle Ages and its construction, to contemporary infill buildings (photos by E. Kaczmarska, 2017)



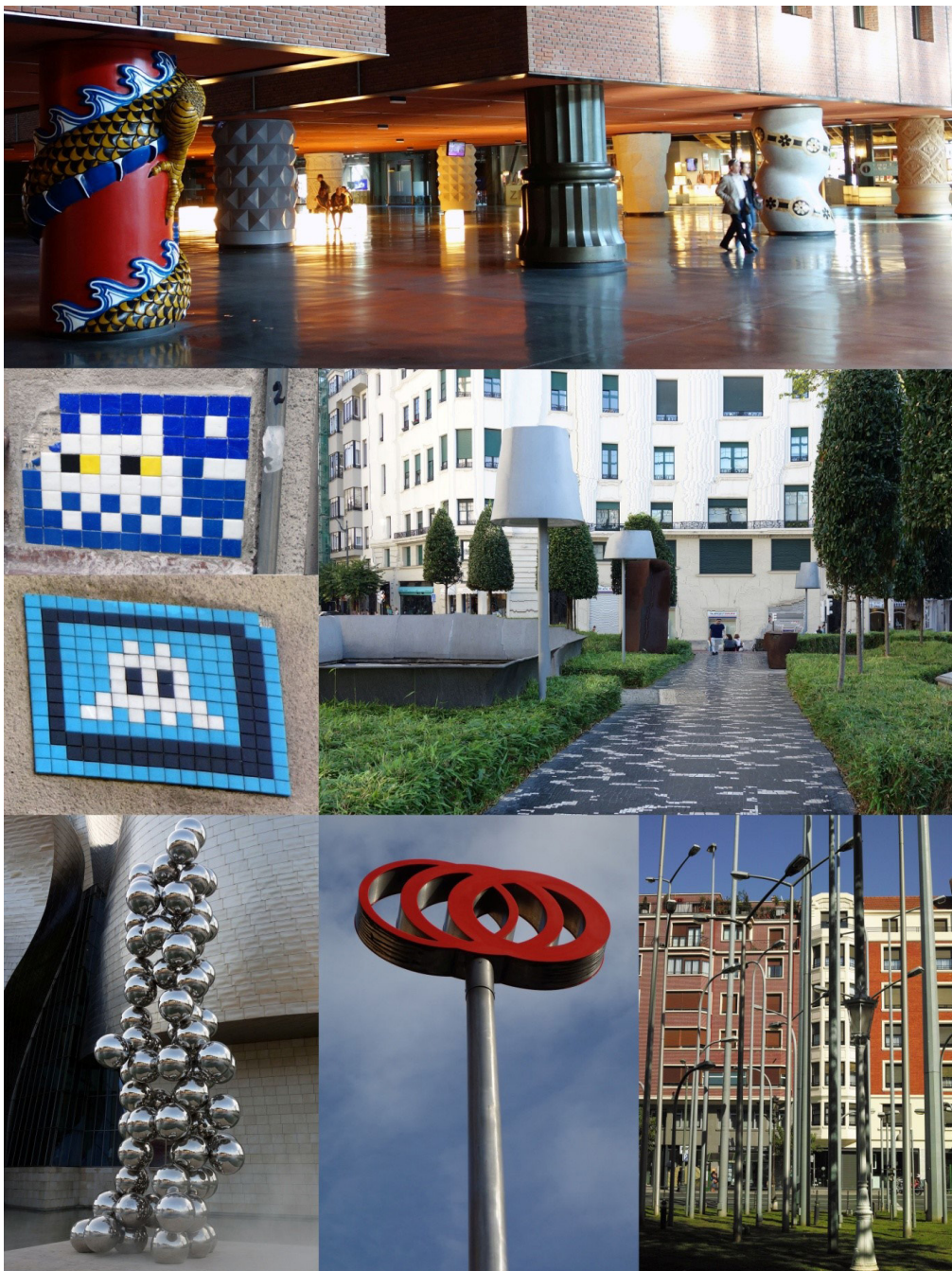


Fig. 6. Alhóndiga/Azkuna Zentroa owes its fame to 43 columns designed by Philippe Starck. The square in front of the structure is an interesting example of street furniture design. Illegal street art coexists with numerous mainstream sculptural installations (the work of Kapoor in front of the Guggenheim Museum, and even the installation made out of signposts near the Museum of Art) or the meticulously designed signs marking the entrance to the underground (photos by M. Kaczmarek, 2017)