

ARCHITECTURE POST 1945, DECONSTRUCTIVISM AND HOW THIS CREATED THE GUGGENHEIM MUSEUM BILBAO

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ACAA5003 History and theory 2



Fig.1 – Panoramic view of the Guggenheim Museum Bilbao

INTRODUCTION

Following end of the second world war in 1945, Europe laid in ruin and needed to be rebuilt due to the large-scale destruction caused by indiscriminate bombing campaigns. Several styles of architecture emerged, including deconstructivism which gained traction in the 1980s. The Guggenheim Museum Bilbao is an iconic piece of deconstructivist architecture that truly highlights the ideology behind the style, and how a fragmented building can still serve its purpose. Frank Gehry was appointed to design the museum for the city of Bilbao. The Basque government approached the Guggenheim foundation in 1991, aiming to revitalise the unused industrial port area with the new addition of a Guggenheim Museum. The Basque government set a \$100 million budget on the project, with the final construction completed in 1997, costing \$89 million.^{[25][26]}

Deconstructivism originates from the early 20th Century, being a combination of Russian constructivism and the modern movement, with the term officially appearing in the 1980s when French philosopher Jacques Derrida developed the idea of exploring asymmetrical fragmented buildings combined with functionality and entering the public eye in the same year during the Parc de la Villette competition, won by Bernard Tschumi. The term doesn't refer to the actual deconstruction of a building, more so the breaking of traditional architectural rules and styles.^[24]



Fig. 2 Parc de la Villette / Bernard Tschumi Architects.

FRANK GEHRY AND HIS OTHER WORKS

Frank Gehry, born in 1929, Toronto, Canada, is a prominent Canadian American architect, whose bold and unusual designs have left a lasting impact on the vision of contemporary architecture. Combining art with structure, his work is often associated with deconstructivism, Gehry's work is characterised by expressive, dynamic forms that defy traditional architectural standards, elevating it to monuments that often define a city. The Guggenheim Museum Bilbao is considered as one of his most iconic works, however, Gehry's work extends beyond this singular piece of building design, where he has created numerous cultural institutions, and public spaces, around the world.^{[1][3][5]}

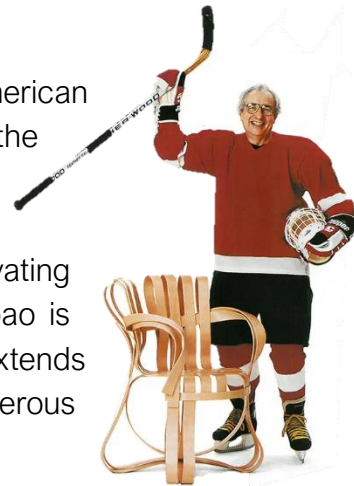


Fig. 3 Original advertisement for the Bentwood Collection by Frank Gehry in, 1992



Fig. 4 Gehry Residence

Gehry's architectural journey began when his family moved to Los Angeles in 1947. He studied architecture at the University of Southern California, followed by a brief period studying urban planning at Harvard University. His early professional experiences included working with Victor Gruen Associates in Los Angeles and André Remondet in Paris. These early years exposed him to both the rigour of modernist principles and the expressive potential of materials and form, which would later become defining elements of his architectural style.^{[1][3][5]}

In 1962, Gehry established his own firm, Frank O. Gehry & Associates, which was later replaced by Gehry Partners in 2002. His early works, including his own residence in Santa Monica, California (1978 and 1994), foreshadowed his yet unseen approach to building design, where Gehry transformed his bungalow home by adding a chain-link and corrugated steel frame around the already existing building. This created an interior and exterior space that challenged the conventions of standard residential architecture, marking the

beginning of his exploration of materiality and form, laying the foundation for his designs in the future. ^{[1][3][5]}

Gehry's fondness of different material use in his designs extended to his experiments with furniture design. His series of Easy Edges (1969–73) and Experimental Edges (1979–82), utilised corrugated cardboard to create sculptural furniture pieces that explored and demonstrated his ability to push the boundaries of materials which would carry over into his other works. ^{[3][4]}



Fig. 5 Wiggly Side Chair constructed from cardboard

Going into the 21st century, Gehry demonstrated his continued commitment to transforming urban spaces and cultural institutions, with projects like the Walt Disney Concert Hall, Los Angeles, completed 2003. Although designed prior to the Guggenheim Museum Bilbao, it shows his innovative use of curved stainless-steel panelling to create

a unique building yet still meeting the requirements for an acoustically engineered space.^{[1][3][5][18]}

Gehry achieved his bold designs through his adoption of unconventional technology, being inspired by aeroplane fuselages, adopting the use of CATIA, a software initially used in aerospace design, enhancing it into a bespoke piece of software, which his firm dubbed Digital Project. This has allowed his designs to develop into the iconic curved forms that his designs are renowned for, allowing for his concepts to be accurately translated into buildable structures. This innovation has allowed his office to refine designs, while controlling the costs of the process, ensuring that his ambitious architectural ideas came to fruition without compromising structural integrity.^{[2][6][9]}

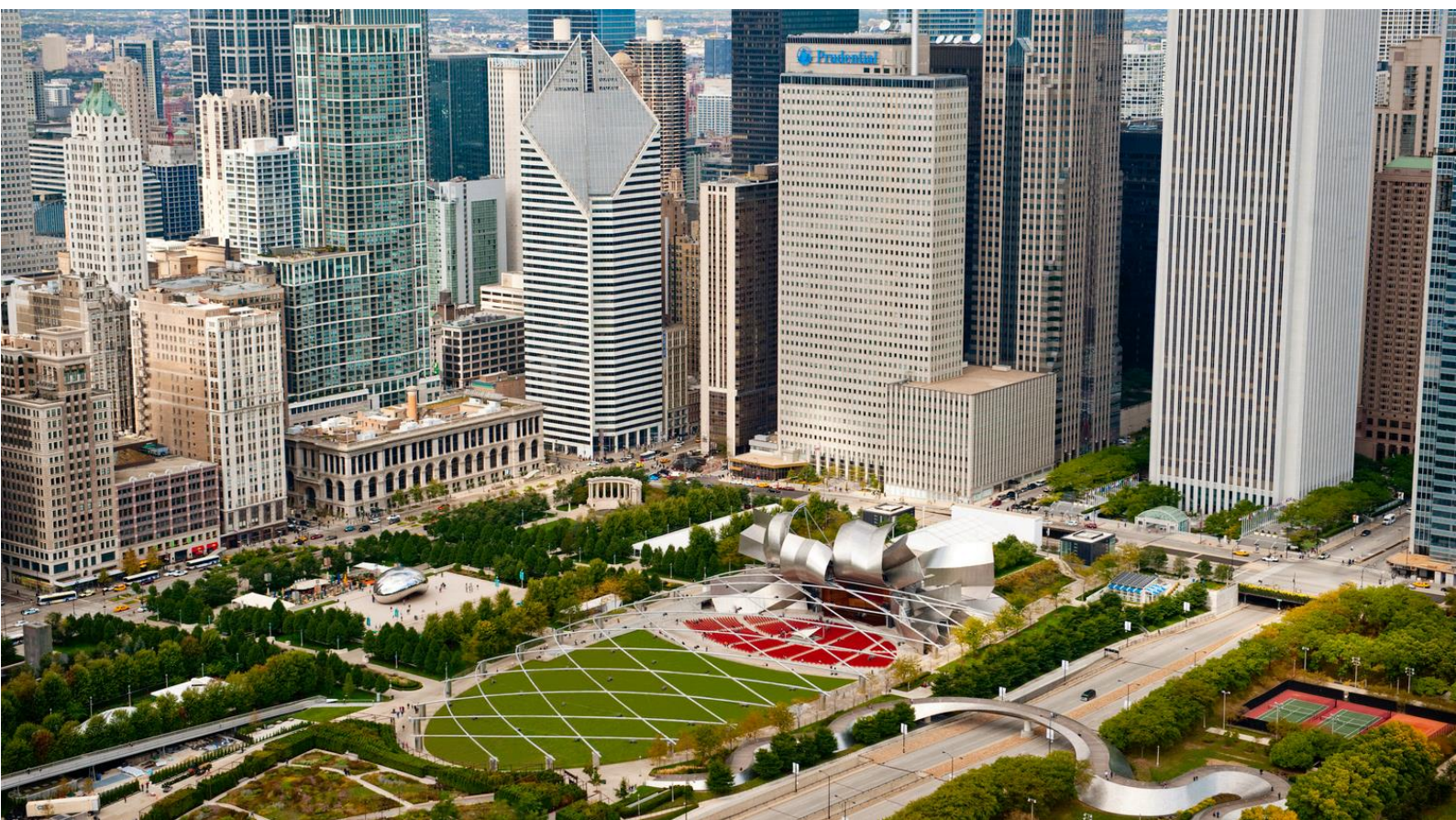


Fig.6 – Aerial shot of the Jay Pritzker Pavilion and BP Pedestrian Bridge

Gehry's further involvement in public spaces can be seen in his daring design for the Jay Pritzker Pavillion in Chicago. Combining his signature touch of sculpted metal panels with the contrast of a Douglas Fir stage creates a highlight and focal point for the Millennium Park, defining the city and creating an iconic structure that is instantly recognisable, accompanied by the BP pedestrian bridge. The result is a unique venue capable of hosting performances with crowds of approximately 11,000 attendees, with a suspended trellis encompassing the site enhancing the auditory capabilities of the performances. This displays his artistic prowess with unifying form and function, creating a space that is truly distinctive from other similar sites anywhere else in the world.^{[19][20]}

Gehry's approach to his buildings has had an impact on the architectural community through his ambitious designs, that have encouraged a creative approach in the sector by combining artistic expression with functionality, elevating architecture to a form of art. As a result, Gehry has received multiple awards for his work, such as the Presidential Medal of Freedom (2016) and the Pritzker Architecture Prize (1989).^{[1][3][5]}



Fig. 7 – Aerial shot showing the Guggenheim Museum Bilbao with surrounding context

THE MUSEUM AND SURROUNDING CONTEXT

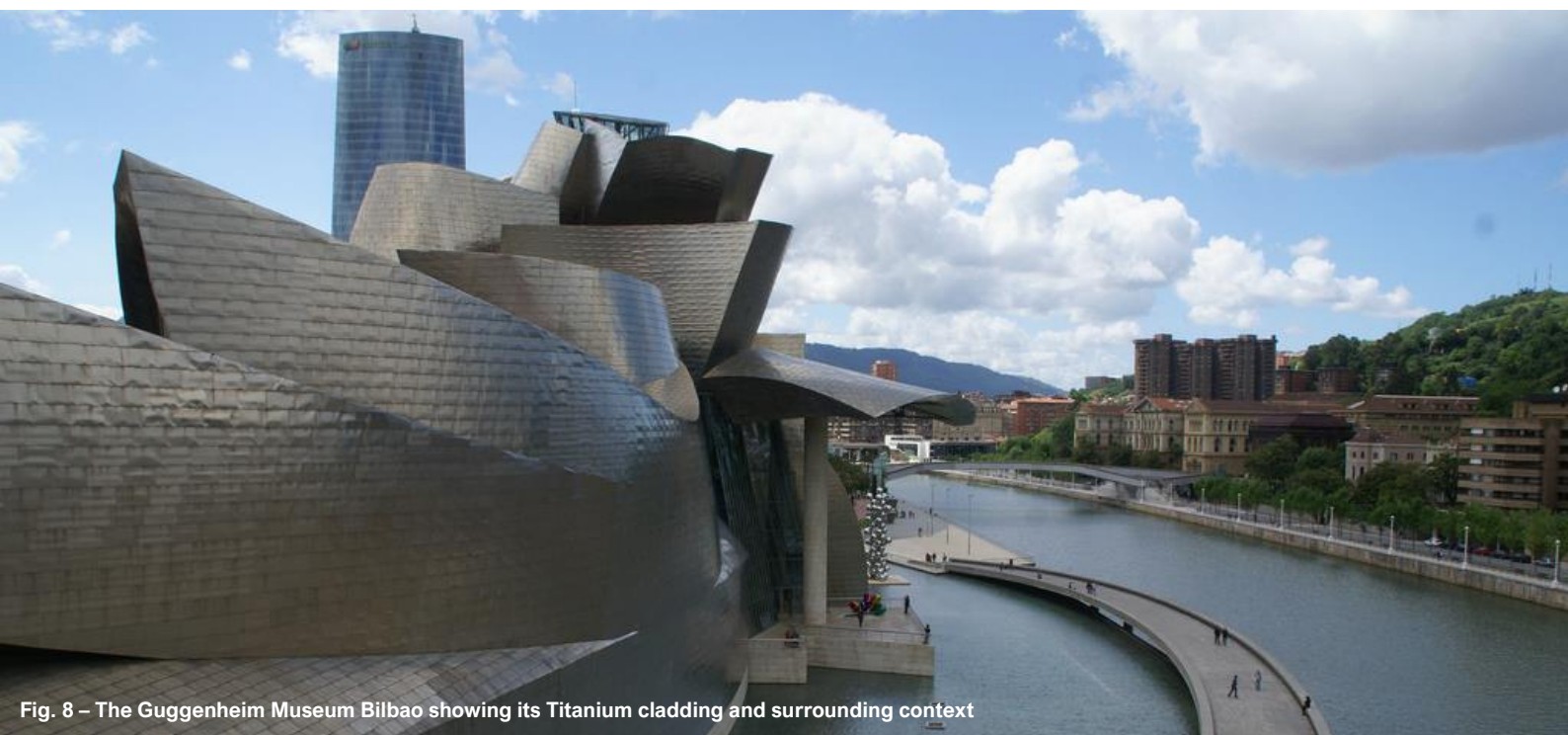
Opening its doors in 1997, The Guggenheim Museum Bilbao, situated along the banks of the Nervión River in Bilbao, Spain, is a monument for contemporary and deconstructivist architecture, displaying Gehry's skilful integration of the building within the urban environment, playing a key role in the city's cultural and economic revitalisation.^{[7][8][9][11]}

Bilbao, historically an industrial centre, underwent significant transformation in the late 20th century to reduce the impacts of economic decline, resulting in the city's redevelopment strategy, highlighting cultural investment. The Guggenheim Museum serving as its centrepiece, being positioned on a former industrial site, the museum's location was intentionally chosen to revitalise the waterfront area and reconnect the city with the Nervión River.^{[7][8][9][11]}

The planning conditions and building context of the Guggenheim Museum Bilbao were deeply rooted in the larger urban revival strategies of the city, to combat the approaching economic decline due to deindustrialisation, prompting policymakers to seek transformative solutions. The response was a shift towards a service-based economy, with cultural investment seen as a means of revitalisation, similar in approach associated with international trends where culture was leveraged to boost investment, adopting social

cohesion, and regenerating local pride, over creating wealth with a purely industrial hub.^{[9][12]}

The museum is carefully integrated into the surrounding environment and with the city's landscape, creating a dynamic connection between architecture and historical context of the site. The use of reflective titanium panels for an outer shell creates an interesting appearance to the overall form of the building, that changes depending on the light and weather conditions, producing an effect where the museum is directly affected in response to environmental conditions, while remaining durable and corrosion resistant. This creates intrigue with visitors where the building itself is a form of artwork, creating a visually striking structure that influences a generation of architects, encouraging them to use unique materiality and advanced digital modelling in design and construction.
^{[7][8][9][10][13][21]}



Frank Gehry has dismissed allegations that the titanium panels are rusting, refuting claims made by journalist Andrea Gerlin. Gerlin's article suggested that the museum's exterior, originally designed to be corrosion-resistant, now resembles a deteriorating barge. Gehry, however, argued that 'titanium doesn't rust, so that's a bit of a problem.' [Taylor, 2000] and that the detected moisture was part of the building's protective design, having utilised a rubberised membrane to prevent moisture ingress. Instead, he criticised the Basque authorities for neglecting to clean the structure during construction, leading to stains that altered the original look of the structure.^{[15][21]}

The construction of the Guggenheim Museum was a direct outcome of Bilbao's strategic planning efforts, captured in the 1989 Plan General, which aimed to redesign the city's image and promoting economic transformation, with its future vision moving towards a post-industrial society with a plan linking urban regeneration and cultural importance as key elements, fostering the development of symbolic buildings to enhance Bilbao's global



Fig. 9 Construction and structure of the Museum

standing, alongside projects such as Norman Foster's subway system and Santiago Calatrava's Uribitarte Footbridge, rebranding Bilbao as a city of culture.^{[9][10][11][12]}

Bilbao Metropoli-30, a public-private partnership played an important role in execution of the plan for revitalising Bilbao, planning the arrangement of cultural and economic objectives for the scheme. The planning conditions highlighted infrastructural improvements with the redevelopment of industrial areas, and the integration of the Nervión river as a cultural asset, with the museum leading the development that influenced further investment and serving as a symbol of Bilbao's successful urban renewal.^{[12][22]}

THE MUSEUM, ITS SIGNIFICANCE AND IMPACTS

The Guggenheim Museum Bilbao represents the success of contemporary architecture, noteworthy for its deconstructivist style, truly displaying Gehry's use of intricate moulded forms, that is clad in reflective titanium panels, creating a visually distinct structure that challenges the traditional perceptions of museum design. The undulating form of the structure shows a change in direction from the traditional rigid, proportioned designs that have come to be associated with museums, emphasising Gehry's status as a true icon in the field architecture.^{[8][9][10][11][13]}

The design of the Guggenheim Museum Bilbao has significantly influenced modern and contemporary art, through its building structure and collection. It is part of the larger Guggenheim network, housing an extensive collection of works by artists such as Richard Serra, Jeff Koons, Louise Bourgeois, and Jenny Holzer, which has resulted in the museum's exhibitions introducing Bilbao to a global audience of art enthusiasts and scholars, solidifying its reputation as a key cultural hub, also having hosted exhibitions featuring artists such as Andy Warhol, Pablo Picasso, and Mark Rothko, further reinforcing its status as a leading establishment for contemporary and modern art, both with the building fabric and its vast collection.^{[11][14]}

The skilful combination of art with the museum's architectural design has enhanced the visitor experience with one of the most iconic installations being Richard Serra's *The Matter of Time*, comprised of a series of massive steel sculptures that inspire visitors to explore them, creating an immersive experience that invokes varying perceptions and movements of the viewer within the space. Similarly, the impact of large-scale outdoor sculptures, by Jeff Koons' *Puppy*, a giant floral-covered dog, and Louise Bourgeois'

Maman, an enormous spider sculpture, have become cultural icons associated with the museum, which further promotes Bilbao as a city of culture, drawing millions of visitors each year, ^[14]

A term coined by the development of the museum is the 'Bilbao Effect', which refers to the idea where a single, iconic piece of architecture can be the cornerstone which triggers widespread economic and social regeneration in an urban environment. The successful design of the Guggenheim Museum has resulted in an increase of tourism in Bilbao, with roughly 1.3 million visitors to the museum in 2024 alone, substantially boosting the local economy through businesses, hotels, and restaurants. This success has resulted in increased funding of infrastructure developments, including new transport systems, walkable urban areas, and the creation of other cultural establishments such as the Euskalduna Conference Centre and the Iberdrola Tower. ^{[4][5][9][17][23]}

In addition, the 'Bilbao Effect' has influenced urban planning globally, such as the Louvre Abu Dhabi, Dubai, to smaller municipalities such as Elbphilharmonie in Hamburg, that have pursued to replicate the success of Bilbao through the commissioning of iconic buildings from other architects to improve the economy and create urban projects that influence society and designers. The overall success of revitalising Bilbao was due to an array of factors, including backing from the local government, urban redevelopment strategies, and investments in public infrastructure, displaying how a single building can reshape a city if provided with the correct support. ^{[4][5][9][16][17]}

Gehry has stated in the Time Magazine, *"I don't think you have to spend egregious amounts of money to make buildings that are good for the community...you just have to want to do it."* ^[2] [Luscombe, 2023].

Overall, the Guggenheim Museum Bilbao has left an impact on contemporary architecture through urban integration of architecture, proving how the influence of daring, experimental buildings can aid in reshaping a city's identity, if correctly executed. His works have resulted in encouraging other architects to push the boundaries with form and technology, leading to the rise of 'starchitecture' projects elsewhere across the world, where this can be seen in smaller projects like the Elbphilharmonie in Hamburg to much grander projects like the Louvre Abu Dhabi. ^{[4][5][9][16]}



Fig. 10 Richard Serra's *The Matter of Time*

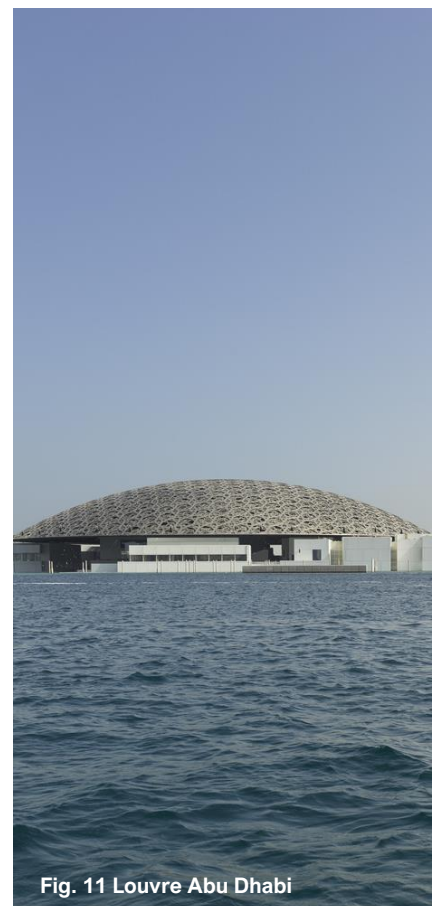


Fig. 11 Louvre Abu Dhabi

CONCLUSION

In conclusion, Frank Gehry is a prolific architect who has set the standard for the future of building design through an artistic approach. The Guggenheim Museum Bilbao set the foundation, while similar works like the Walt Disney Concert Hall, and the Jay Pritzker Pavilion, sets the precedent for challenging the future of architectural works and redefining the idea of how contemporary architecture can be presented, blending his vision with technology that shapes the industry to this day.

Gehry's signature style is an elegant display of deconstructivism, characterised by fragmented shapes and dynamic surfaces that separate standard forms, seen in his early experiments that display, both with form and materials, foreshadowing his lifelong effort to explore new ideas in architecture. The Guggenheim Museum Bilbao demonstrates his impact, not only as an iconic structure but also sets the groundwork for urban revitalisation, often coined as the term 'the Bilbao Effect.'

His fearless experimentation with materials, ranging from titanium to cardboard, highlights the endless potential of architecture where, if careful consideration has been utilised, a harmony in materiality can be achieved at any scale. This has led to Gehry inspiring the future of architecture and artistic building design, promoting an embrace of creativity and to challenge the status quo, where he encourages a vision of architecture as a means for innovation and social impact, combining form and function. Consequently, his legacy is one of transformative creativity that prioritises experience and connection in the built environment.

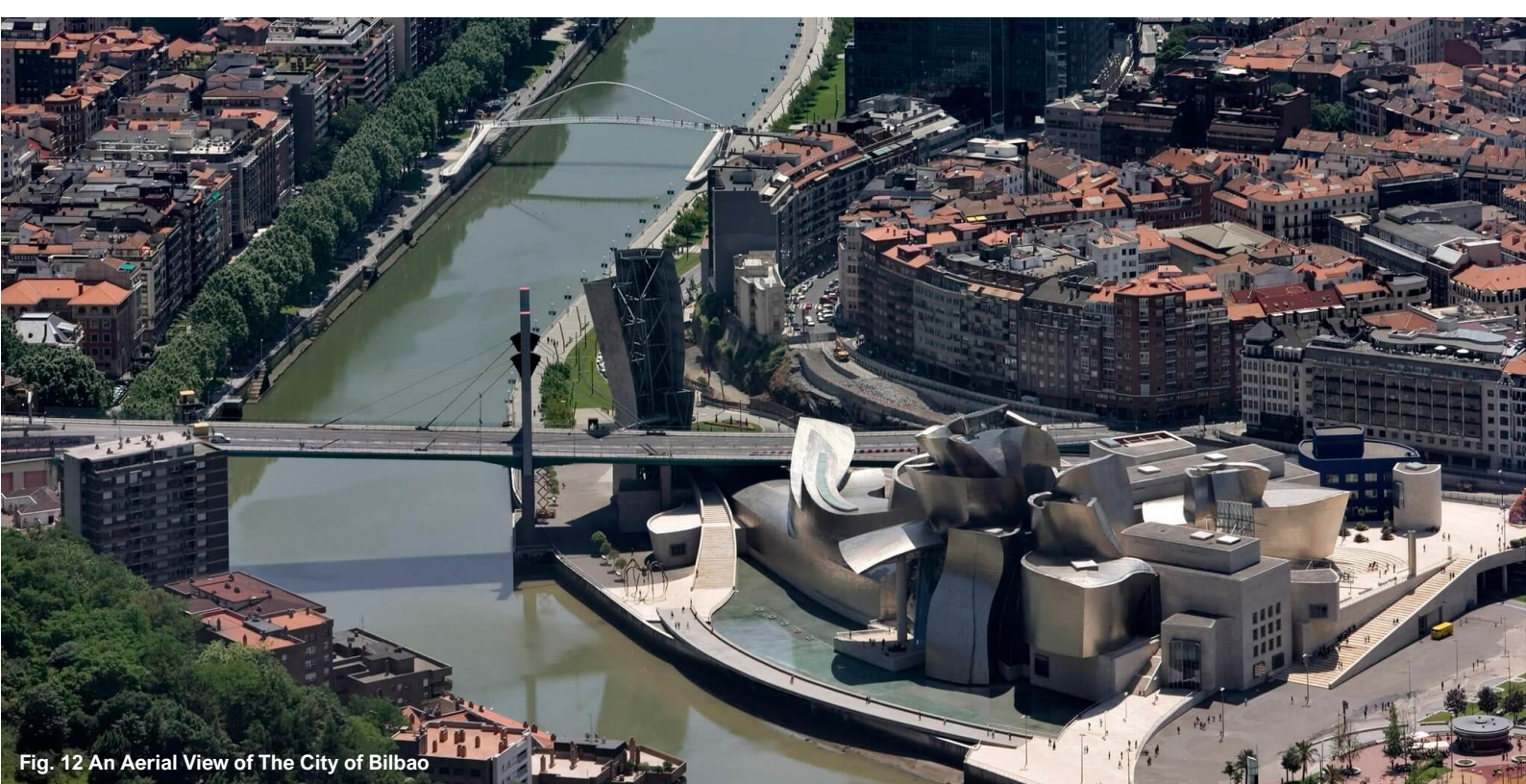


Fig. 12 An Aerial View of The City of Bilbao

Total Word Count (Excluding References): ~2440

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Fig. 1 https://en.m.wikipedia.org/wiki/File:Guggenheim_Bilbao_06_2012_Panorama_2680.jpg#filelinks

Fig. 2 Parc de la Villette / Bernard Tschumi Architects. Image © Peeradontax | Shutterstock <https://www.archdaily.com/899645/what-is-deconstructivism/5f31cde5b35765672a000088-what-is-deconstructivism-photo>

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Fig. 9 Photo by Aitor Ortiz <https://www.dezeen.com/2022/05/18/frank-gehry-guggenheim-museum-bilbao-deconstructivism/>

Fig. 10 Guggenheim Bilbao <https://www.guggenheim-bilbao.eus/en/the-collection/works/the-matter-of-time>

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Fig. 12 <https://www.snaptrude.com/blog/the-bilbao-effect-how-the-design-of-a-museum-transformed-the-economy-of-the-city>