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The Twenty First Century Architectural Design Approaches
Bjarke Ingels as a Case Study

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January 2023

Approval

We certify that we have read the thesis submitted by **ISMAEEL GHAZALEHENIYA** titled **"The Twenty First Century Architectural Design Approaches Bjarke Ingels as a Case Study"** and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Educational Sciences.

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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

ISMAEEL GHAZALEHENIYA

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ISMAEEL GHAZALEHENIYA

Abstract

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The architecture of the twenty-first century, also known as contemporary architecture, is a description of today's buildings or construction style. The architecture of the twenty-first century gathered the values of a uniform community under international control. A common feature running all through the architecture of this century is the variety and reflection of today's different tastes and trends. Architects of this era have a desire to reflect the true image of their time in their works and buildings, allowing new architecture to emerge. Bjarke Ingels is one of these pioneer architects who emerged in Europe and practiced architecture for many years with well-known names like Rem Koolhaas until he gradually became recognized in this field. Bjarke Ingels is developing a new architectural footprint based on new ideologies he has developed, with the goal of creating new scenarios for 21st-century architecture by applying and enforcing these new ideologies through his designs. Contemporary architects see the light in formal ideas and use them as inspiration when introducing new manifestos. Bjarke Ingels, in turn, introduced hedonistic sustainability as an answer to the social demand question, resulting in environmentally sustainable living spaces. The iconicity of Ingels's projects has influenced the new 21st-century architectural generation. In this sense, the dissertation tries to conclude the design approaches and way of thinking of Bjarke Ingels by exploring six of his famous designs by means of ideas, forms, landscapes, and sustainable aspects of each project. "Yes is More" is an architectural inclusive approach; the central idea is to be revolutionary and go beyond the things by saying yes, rather than to be radical and go beyond the things by saying no. Analyzing and evaluating the architectural works of Ingels is important to understanding society. Studying Ingels's architectural approaches and the new proposals he suggests is also essential. This research recommends further studies on Ingels's architecture and problem-solving methods, as well as his way of regenerating the discourse of architecture.

Key Words: Bjarke Ingels, Architectural Design, Hedonistic Sustainability, "Yes is more", Form giving

Özet

Yirmi Birinci Yüzyıl Mimari Tasarım Yaklaşımları Bir Vaka Çalışması Olarak Bjarke Ingels

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Çağdaş mimari olarak da bilinen yirmi birinci yüzyıl mimarisi, günümüz binalarının veya inşaat tarzının bir açıklamasıdır. Yirmi birinci yüzyılın mimarisi, uluslararası kontrol altında tek tip bir topluluğun değerlerini topladı. Bu yüzyılın tüm mimarisinde görülen ortak özellik, günümüzün farklı zevk ve akımlarının çeşitliliği ve yansımasıdır. Bu dönemin mimarları, yapıtlarında ve yapılarında zamanlarının gerçek imajını yansıtma arzusu içindedirler ve bu da yeni mimarinin ortaya çıkmasına olanak sağlar. Bjarke Ingels, Avrupa'da ortaya çıkan ve bu alanda yavaş yavaş tanınana kadar Rem Koolhaas gibi tanınmış isimlerle uzun yıllar mimarlık yapan bu öncü mimarlardan biridir. Bjarke Ingels, bu yeni ideolojileri tasarımlarıyla uygulayarak ve güçlendirerek 21. yüzyıl mimarisi için yeni senaryolar yaratmak amacıyla geliştirdiği yeni ideolojilere dayalı yeni bir mimari ayak izi geliştiriyor. Çağdaş mimarlar, resmi fikirlerdeki ışığı görür ve yeni manifestolar sunarken bunları ilham kaynağı olarak kullanır. Bjarke Ingels ise sosyal talep sorusuna bir cevap olarak hedonistik sürdürülebilirliği tanıttı ve çevresel açıdan sürdürülebilir yaşam alanları ortaya çıkardı. Ingels'in projelerinin ikonikliği, 21. yüzyılın yeni mimari neslini etkiledi. Bu anlamda tez, Bjarke Ingels'in altı ünlü tasarımını fikirler, formlar, peyzajlar ve her bir projenin sürdürülebilir yönleri aracılığıyla keşfederek tasarım yaklaşımlarını ve düşünme biçimini sonuçlandırmaya çalışıyor. "Evet Daha Fazlasıdır" mimari kapsayıcı bir yaklaşımdır; ana fikir, radikal olup hayır diyerek şeylerin ötesine geçmektense, devrimci olmak ve evet diyerek şeylerin ötesine geçmektir. Ingels'in mimari eserlerini incelemek ve değerlendirmek toplumu anlamak açısından önemlidir. Ingels'in mimari yaklaşımlarını ve önerdiği yeni önerileri incelemek de önemlidir. Bu araştırma, Ingels'in mimarlık ve problem çözme yöntemlerinin yanı sıra mimarlık söylemini yeniden üretme biçimi hakkında daha fazla araştırma yapılmasını önermektedir.

Keywords: Bjarke Ingels, Mimari Tasarım, Hazcı Sürdürülebilirlik,
“Evet daha fazladır”, Biçim verme

Table of Contents

CHAPTER III

CHAPTER IV

CHAPTER V

List of Tables

List of Figures

CHAPTER I

Introduction

The architecture of the late 20th century was affected by many architectural styles and schools that appeared and were established in the early years of this century, which promote the creation of functional linear shapes and simple designs. Many design rules emerged, such as "Less Is More," which embodied strict architecture with no ornamentation and clear functions (Alheswani, 2014).With the end of the world wars, the world witnessed the birth of new art and architectural movements that sought to reverse modernist design principles based on the limitless way of designing (Straeten, 2017).

New technologies and the latest building materials fasten the appearance of a new style of architecture that is based on different eras and styles. The new developments, the evolution of technology, and the tools required for construction gave the architects of this period the desire to give the real image of their time by reflecting it on their works and buildings, enabling the new architecture to appear (Hattenstone, 2010). Thinking outside of the box in order to not be under the limitations of the traditional style and its techniques (Hemeng, 2017).

Bjarke Ingels is an outstanding young architect who has recently emerged from Denmark in Europe. A successful instance of Rem Koolhaas's influence on architecture, and one of the brightest architects of the early 2000s, as well as one of the most well-known Baby Rems (A description of all the practices worldwide who practiced architecture in OMA that was dubbed by the Metropolis Magazine), is the founder of BIG (Bjarke Ingels Group), which launched in 2005. The firm gradually survived through a few years of research and practice and is now widely recognized around the world. The company (BIG) today employs more than 500 people in four locations around the world: Copenhagen, New York, Barcelona, and London, focusing on all scales of projects. BIG is involved in several prominent design concepts and competition submissions, and it anticipates more expansion in the future.

Through the study of the design ideas and works of Bjarke Ingels, it is clear that Ingels is concerned not only with a way of shaping the architectural form. But with the professional ability and creativity of architects, which try to meet the interests of the various groups involved in the project, including project users, developers, local governments, and even urban residents

around the project, what this research is trying to do is explore the design approach and strategy of Bjarke Ingels by incorporating his background information and his practice work.

Statement of the Problem

Many star architects, such as Le Corbusier, Mies Van Der Rohe, and Alvar Aalto, have studied and learned from twentieth-century approaches. In the 21st century, the problems to be solved and issues to be considered have changed. In the 21st century, there are architects such as Rem Koolhaas, Daniel Libeskind, and Zaha Hadid. Among them, Bjarke Ingels, as a young architect, has influenced the world of architecture and has become an icon for many learners and architects. Nevertheless, the impact of his practice is not yet explored. The history of architecture is an ongoing narrative, in this perspective, emerging influences and movements need to be addressed to establish a foundation for the future of the practice. Many interviews were made with Bjarke Ingels, but these simple and unsystematic interviews with one question and one answer are not enough to help people understand Bjarke Ingels's design ideas and methods of formation. In this sense, this study will be a service to people who are interested in architectural design in general and in Bjarke Ingels’s approaches in particular.

Purpose of the Study

This research will push the boundaries of 21st-century architecture as a way of exploring ideas and getting to know the approaches of this period. This study will look at Bjarke Ingels's works by means of the ideas, form-giving, landscaping, and sustainable aspects of his works in order to enrich our own knowledge of 21st-century architectural problems and ways of solving them. A method of creating more regional and contemporary works by exploring the iconicity of Ingels’s structures and thoughts.

Research Questions

Accordingly, the research’s questions are:

- What are the ideas of 21st-century architecture, and what does Bjarke Ingels's rule "Yes is more" stand for?
- What are the standout features of 21st-century architecture, and what is the distinct part of Bjarke Ingels that makes him so recognizable?
- How are Bjarke Ingels's designs influencing the field of contemporary architecture?

Significance of this Study

A trail to create a whole realization of 21st-century architectural ideas and approaches. With the purpose of exploring in mind, studying "Yes Is More" by Bjarke Ingels and the hedonistic sustainability ideology to understand the way he is applying them to each project is also an essential part of this study. It is noticed that there is a loss of direction in the positioning of one's own role. Many architects gradually reduced their roles to those of drafters. As a result, in the new era, thinking about architects in society to reposition roles and support each architect's identity is very urgent and necessary.It is believed that this research would be useful to people who are interested in architectural design generally, and for architects and students particularly who are interested in Bjarke's way of designing.

Limitations

This research focuses on issues related to the architecture of the 21st century in general and the architectural projects of Bjarke Ingels as a young star architect, and is a case study for this research. Bjarke Ingels, based on the number of projects he designed and the awards he got for the rich concepts and structures he conducts, is one of the more fanciful architects among his colleagues. The concentration is on searching for the idea, the architectural form, the landscaping, and the sustainable aspects of each selected project. In addition, exploring Bjarke's ideologies of "Yes is More" and hedonistic sustainability in architecture.

This research is not focusing on the economic or structural system of the projects; it deals with the form-giving and shape generation in Bjarke Ingels' architectural projects. In this research, a limited selection was used in order to highlight the ideas and approaches of form-giving by Bjarke Ingels. Six projects were selected in Europe, including infrastructural projects, residential, commercial, cultural centers, campuses, and factories. Six of the most well-known and award-winning buildings were required to achieve the study's goal.

CHAPTER II

Literature Review

Theoretical Framework

The Architecture of Late 20th century

The architecture of the late 20th century was affected by many architectural styles and schools that appeared and were established in the early years of this century. Like the Bauhaus style of 1920 by Walter Gropius, who promotes the creation of functional designs and simple shapes. Moving to Le Corbusier and his theory about simplicity and functional spaces, which creates his own white, linear, and clean shapes Mies Van Der Rohe is another well-known architect and proponent of modernism; his rule is Less Is More, which embodies strict architecture with no ornamentation and precise functions (Alheswani, 2014). In 1966, "Less Is More" appeared in Robert Venturi's book, "Complexity and Contradiction in Architecture," which advocated for more rich architecture while criticizing Rohe's "Less Is More." Venturi said that simple architecture is boring architecture. The early 20th century phenomenon described as "chaos" appeared in the work of many designers like Frank Gehry and Coop Himmelblau, as Bart Van mentioned in his book The Uncanny and the Architecture of Deconstruction (Youns, 2017).

The end of the First World War and the beginning of the Soviet Union led to the development of Russian architecture (Youns, 2017). In the 1988 MOMA exhibition, Philip Johnson oversaw the establishment of a new architectural movement based on the limitless principles of reversing modernist design principles. Seven architects divided into two groups, drawing their inspiration from Suprematism like Zaha Hadid and Constructivism like Rem Koolhaas (Straeten, 2017).

The Architecture of the 21st Century

The 21st century style of architecture, or contemporary architecture, is the description of today's buildings or construction style, which uses new technologies and the latest building materials. It creates products that influence and inspire by sourcing pieces from various eras and styles. Thinking outside of the box in order to not be under the limitations of the traditional style and its techniques (Hemeng, 2017). The new developments, the evolution of technology, and the tools required for construction gave the architects of this period the desire to give the real image of their time by reflecting it on their works and buildings, enabling the new

architecture to appear (Hattenstone, 2010). This current state is complex, not only in architecture but also in other fields like literature, fashion, and other human disciplines.

A huge variety of trends and styles can be included while reviewing the last decade of the architectural world; this variety helped produce undeniable riches. These products are the result of the efforts of individuals and groups. These people have fought to find aesthetic and functional solutions. The limitless concept the architects of this period follow helps open a clear and sincere dialog with architecture. They assisted in the construction of strange and isolated shapes due to their extensive experience. The greater the public's relationship with architecture, the greater the technological contribution provided by contemporary architecture. The values of a uniform community under the control of the international masses were gathered up in the architecture of the twenty-first century. A common feature running all through the architecture of this century is the variety and reflection of today's different tastes and trends. All the expressions are accepted as long as they help produce a well-thought-out result. Many factors, such as the context of the project and where it will be located, and the weight of history combined with the experience of the architect, are bound together to determine the outcome of any building (Cerver, 2000).

Architecture is defined as the goal of building things; it could be an ultimately nice-looking building or an easy-to-use building. Of course, the final product is a building, but in the twenty-first century, the final product should be a relationship between people. People live in a time when architects are using architecture to create these relationships (Kuma, 2016).

Sustainable Aspects of the 21st Century

Sustainability is the capability of meeting current requirements without affecting future generations' ability to fulfill their own. Reduce the negative effects of the outside environment and create a link between the building and its environment. A sustainable structure works like "skinning" the people inside of it and responding to their requirements (Vaughter et al, 2016). Sustainability in architecture is an ideology that seeks to design and construct eco-friendly buildings. New technologies and renewable materials are heavily used in this style. Kengo Kuma said architecture is something that touches the heart without words. Kengo has a talent for making decisions that defy accepted design conventions from the 20th century since he has a distinct ethos. His designs follow the principle of using natural materials from the area that promote healing and comfort. Instead of being interested in large structures, Kengo prefers low-rise structures that are near the earth and built of local materials. He believes that tall structures are icons of the 20th century, a reflection of people's desire to expand cities. He

claimed that architecture has the ability to inspire people and can affect us without saying anything. According to Kuma (2019), modern technology is stressful, and many people would rather not live in a concrete city.

Figure 1: Odunpazari Modern Museum by Kengo Kuma. (Ravenscroft, 2019)

In Kengo's opinion, sustainability is a necessary need for the future, because it not only helps the environment but also the people. Wishing that the principles of his architecture would make the world think in a different way regarding urban spaces (Kuma, 2019). The sustainable features in the buildings, like plants on facades, wrap the entire building on each level, providing natural shade to the functions behind. They can also lower the external temperatures, which is important for large cities. Also softens the urban landscape and provides passersby with a connection to nature. Strengthening the bond people have with nature will encourage them to be more environmentally conscious of their habits. Providing spaces where people can completely immerse themselves in nature can also benefit those who are simply walking by and admiring the building (Bingham, 2013).

Figure 2: PARKROYAL on Pickering. (Bingham, 2013)

In the project, even the concrete has been shaped to resemble natural forms; the designers at WOHA refer to this as "topographical architecture." The stratified, undulating layers of precast concrete wrap around the entire building and resemble the structure of the bedrock. This shows that nature can not only be used for practicality and efficiency but can also be used as a source of design inspiration (Bingham, 2013).

Styles of the 21st century

The architecture of the 21st century is an evolution in the world of architecture, including many styles, based on freedom in designing and limitless concepts. The new technologies and materials enable architects to make mysterious buildings full of life. Inspired by modern art's more freely philosophical approaches.

"Less is more"

This approach to architecture was coined by the star architect Ludwig Mies van der Rohe, one of the pioneers of the modern movement. "Less is More": focus on the essentials. The essentials, which reduce design to pure elements and discard everything, do not contribute to an object's original beauty (Markey, 2017). Van Der Rohe worked on a style that shows the beauty that existed in the fine details, reflects a culture of efficiency, and supports sustainability by using fewer building materials. One of the most famous works of Mies van der Rohe that embodied the "less is more" philosophy was the Farnsworth House, a well-designed white structure with glass walls all around the rectangular shape. This building influenced many architects and architectural students, clarifying Der Rohe's vision of modern architecture and his ideas of simplicity and clarity to express character. Van Der Rohe said, "Architecture is a language, and I think you have to have grammar in order to have a language. If you are good at that and you speak a wonderful language, if you are good, you can be a poet." Even he mentioned that he would not be for fashion in architecture, but rather he would look for more profound principles (Favre, 2016).

Figure 3: Farnsworth House. (Grigas, 2013)

Meis Van Der Rohe mastered the ideas and accepted them as duties. He used to ask himself, following Thomas Aquinas as a guide, who was an eminent philosopher who served as a Dominican friar and priest in Italy who said the key force of human life is reason (Williams, 2019). What the result was going to be and whether it was worth changing or not. Answering these questions gave Mies Van Der Rohe the direction that people can see today; he even mentioned that he did not follow what he liked but sought to find good ideas and clear reasons for applying them; without a reasonable cause, Mies Van Der Rohe used to throw everything out. He did not want to be interesting; he wanted to be good, he said (Favre, 2016).

"Less is bore"

Postmodernists believed that modernism had failed; when modernists attempted to shape the world through technology and science, they believed that less is more, whereas postmodernists were completely opposed to this ideology. To them, less was a bore. They worked on creating a new type of architecture that accepted more than a style or a method. An architecture, which says yes to many references while creating the individual's conclusions. To them, what is interesting is the pressure they apply on people to ask questions as a way to challenge them. In the mid-sixties, few critics questioned modernist principles. Robert Venturi In his book, "Complexity and Contradiction in Architecture," he called for more complexity and richness in architectural works because he said that simple architecture is boring and that minimalist buildings may not fit everyone. He prefers ebullient work approaches that spark the imagination to the coldness of "Less is More." This style of architecture believed that there was a need for many references to determine the individual subjective conclusions. Freedom of expression, meaning, and identity are central to postmodernism. It is about praising the marginalized, undervalued, or oppressed and about relishing in instability, contingency, and complexity (Alheswani, 2014).

Figure 4: Casa Wolf, Ridgeway. (Yigruzeltil, 2021)

This movement has met many critics; many people objected to the unnecessary ornamentation. For many architects, postmodernism was just a movement that had the desire to recycle the past and create something new out of it, which resulted in silliness. During the years of this movement, its architects were trying to compel society to wonder about things, like why things are added, why things are the way they are, and why they are not. The rise of the media has helped this movement appear more and more, and postmodernism proved that it is a power that cannot be reckoned with. In addition, it seems that architecture, philosophy, and other fields will not get enough of it. Modern times strip away decoration, and colors are simple; if you do not need it, do not put it in. Post-modernist architects had a little bit more fun and started to realize that they did not want a city full of boring gray and brown boxes; they wanted to play a little bit. Postmodernism is distinguished by the fact that it juts into space, whereas modern buildings often sit low or high on the ground, in some cases as skyscrapers (Mouton, 2013).

Deconstructivism Architecture

An architectural style appeared in late 1970; it is believed that the origin of this style is the Architectural Association of London, and that is where most of the well-known deconstructivist architects studied and got their degrees (Hadid, 2006). A new style full of excitement and life seeks to remove the linearity of modernism by employing chaotic forms and random angles (Muschamp, 2000). The absence of continuity and asymmetry are what differentiate this architectural style (Hussain, 2018). Zaha Hadid and Peter Eisenman are considered as the pioneers of this movement; the in-depth study of her architectural forms tells the project’s story and produces what Le Corbusier named "real architecture" in his book Toward New Architecture. Hadid's strong architecture incorporates human feelings and the quality of his life; she believes that architecture is more than just hosting various activities in one mass; architecture is about feelings and enhancing the calm (Youns, 2017).

Figure 5: Vitra Fire Station by Zaha Hadid. (Fiederer, 2016)

Another renowned architect in this style of architecture is Daniel Libeskind. This architect gives boldness and sharp faces to his architectural works, and this technique makes these architectural elements more eye-catching. The new creation of spaces that have never been or existed before that only people can enter into their minds and imaginations is what interests Libeskind. For him, this is the essence of architecture, the wonder, which is not based on elements like soil or steel. He believed that wonder was the reason behind the historic greatness of these cities. Architecture is the story of a struggling society that creates a better future; the driving force behind this creation is society, which has never been the same or neutral. That is why Libeskind is not a fan of neutrality in either his life or his architecture. He believed that neutrality gives no values or opinions to the realm and also misses the point of expression of the spaces, which gives architecture meaning. He said architecture should not be comfortable; it should disturb people because life is not aesthetic and architecture is a part of this life. "Radical" is something rooted, something deeply rooted in a tradition. That is what architecture is: radical. It is not just conservation in the formaldehyde of dead forms (Libeskind, 2009).

Figure 6: Denver Art Museum by Daniel Libeskind . (Bredt, 2010)

High-Tech Architecture

The high-technology style, also known as the "High-Tech" style, is an architectural style that appeared in the late 1970s. A new style came out of the intersection between architecture and the new industrial developments. The appearance of new building materials helps the development of this architectural style. This style of architecture encourages investment in material characteristics in order to achieve a more harmonious and transparent design. Buildings in this architecture became like machines working to show their functions. Building structure has become an important aesthetic factor (Alheswani, 2014).

Renzo Piano and Richard Rogers are two of the most well-known architects of this style. Architecture is an art form that exists at the intersection of art and science and is fed by real life. The force of necessity drives it. Architecture is the mirror of society's changes; societies have never been the same, and architecture, it turns out, is the built expression and artwork of these changes. The art that makes shelters for individuals and communities The Centre Georges Pompidou in Paris is an example of these changes, built in the heart of the city in 1977 by Piano and his friend Richard Rogers. They try in this building to show the power of architecture and to prove that this kind of cultural building should have a story that piques the curiosity of the people and should not be intimidating. Curiosity, from Piano's point of view, is the key factor in raising the cultural attitude, and pizzas are the essence of urban life (Piano, 2018). The oblique form is one of the things that characterizes these kinds of structural buildings. The high-tech architecture emphasizes the structural system and physical support of a building instead of hiding these elements like beams and columns (Miner, 2022).

Figure 7: Centre Georges Pompidou by Renzo Piano . (Perez, 2010)

Parametric Architecture

Parametric architecture, also known as parametric design, is a style and method of designing that relies on the relationship between shapes and elements, as well as the process of creating a model or a complicated design out of these multiple joint elements. The parametric design uses repeated math equations in order to create new shapes after each repetition. It is also used to create relations between the elements by manipulating them to get new complex geometries; many of the algorithms used in this style define these relationships. Coop Himmelb and his design of the BMW Welt in Germany represent one of the most successful examples of this style of design (Himmelb, 2009).

Figure 8: BMW welt by Coop Himmelb. (Himmelb, 2009)

In 1980, architects and designers started to use computers for architectural purposes. Greg Lynn is one of these architects who takes advantage of this feature and uses it to create his architectural parametric blobby shapes.Lynn uses the term "blob architecture" in his digital designs, which refers to amoebic shapes (Himmelb, 2009).

The development of Bjarke Ingels

The Danish State's Background

Denmark is a Nordic country located in the northern part of Europe. Copenhagen is the capital city. It spans a total area of 42.943 square kilometres with a population of 5.92 million in 2022 (Larsen, 2022). The geography in Denmark is characterized as flat, sandy coasts consisting of many islands, of which Zealand is the largest and has a temperate climate. It should be mentioned that it does have superior coastline resources, with many lakes and rivers. Oil exports are part of its dominant national economy, as are fisheries, agriculture, and the food processing industry. Denmark has high taxation (around 45% of taxes), but on the other hand, it has stable welfare policies, which make it one of the happiest countries in the world. It is a

developed country with high living standards. Denmark works on very high levels of sustainability; its top rating in the 2020 Environmental Performance Index demonstrates high-level emphasis and well-crafted government policies on the range of sustainability issues, with specific effort, focused on achieving deep decarbonization, said Daniel Esty, a director at the Yale Center for Environmental Law and Policy (State of Green, 2020).

Bjarke Ingels Early Background

Bjarke Ingle is a Danish architect born in October 1974 in Copenhagen. He was raised in a well-educated household; His mother is a dentist, and his father is an engineer. As a child, Bjarke Ingels wanted to become a cartoonist, but there was no academy that taught cartoon art. That is why Bjarke thought about entering a field of painting or drawing that might satisfy his interests. He started to study architecture in 1993 with the idea of improving his drawing skills, at the Royal Danish Academy of Fine Arts. He then relocated to Barcelona to continue his studies at the Tècnica Superior d'Arquitectura, before returning to his hometown to receive his diploma in 1999. One thing that he has always known is that he is very good at drawing, so he can always draw what he wants to draw. "The idea that you get positive feedback the first time you do something makes you more enticed to keep doing it, and then you will reach your 10,000 hours of practice quicker than anyone else will," he said. When he graduated from high school, he had several options, and he has also been involved in a lot of drama, which is exciting. A person can express things that captivate people and bring them into his or her world. He somehow knew that it would be a waste of time if he did not do something that had to do with drawing. He was 18 years old, it was unclear what that would be, and mostly he was thinking about graphic novels. For lack of a better plan, he enrolled in the Royal Danish Academy School of Architecture. It was an art school at the time it was streamlined with European and American standards, but back then, it was a liberal arts school, and the first two years were basic education, with a lot of it about drawing. He thought that at least by enrolling for two years and getting much better at drawing, he was in this environment where everybody wants to be an architect, so he had no preconceptions about architecture. "First I was frustrated, then I was curious, and eventually I became fascinated, then enamored by architecture, and I became an architect," Ingels explained (Wagner, 2017).

Figure 9: Bjarke Ingels. (Bailey, 2018)

Bjarke Ingels went to an architecture school in Barcelona. He wanted to use some of the first years where a person gets some basic education in drawing to become a better cartoonist. Therefore, he went through a sort of intellectual serial monogamy, falling in love with one architect. Then came the next, and the next, and it completely warped his idea of what architecture could be. The architect that he eventually became was significantly influenced by his early years of formal education in Barcelona. He got out of Copenhagen, lived in another city, spoke another language, dropped out of school, and started his own company in Barcelona with some friends. It was also clear that when he returned to Copenhagen a year later, with sort of a Spanish suntan, he was a completely different person and could somehow do things and be credible, making statements that would have been unimaginable the year before (Ingels, 2020).

Bjarke Ingels Careers

Bjarke Ingels started his practicing career working in Rem Koolhaas's office, OMA (Office for Metropolitan Architecture), from 1998 to 2001, until he decided to go back to Copenhagen to set up his first architectural practice firm called PLOT with his friend Julien De Smedt (OMA college). Ingels started his company without any clients. However, after a very long and winding road, he finally ended up designing and constructing a new building (Ingels, 2020). PLOT designs got national and international attention, winning a Golden Lion in 2004 and the Venice Biennale of Architecture for a proposal they submitted for a music house in Norway. PLOT completed a series of projects in Denmark, and one of the major achievements was VM House in Copenhagen in 2005, two blocks of residential structures inspired by the modernist residential housing typology concept of Le Corbusier (Ingels, 2020).

Despite the fact that the VM House and The Mountain Project, which is the building next to

the VM House, are collaborative works between Bjarke Ingels and his old partner in PLOT, they are more associated with Bjarke Ingels the mastermind. The world included Bjarke Ingels' talent for selling the business to his clients in his Netflix episode. Pen Hopfner, the client of these two projects, mentioned how Bjarke Ingels convinced him when they met in 2001 to be the architect of the VM house when Igels said that they are a new creative company and they build cheap buildings (Ingels, 2020). VM House is a residential building shaped like the letters M and V with balconies that look like spikes poking through one of the facades. The Mountain is the second generation of the VM House. Two-thirds are parking areas; the rest are living spaces on the same site as the same client. Bjarke Ingels believes any design he makes should be amazing; for example, an apartment house building should not be resampled as normal boring boxes; it could be a manmade mountain like the Mountain. Like realizing a dream and taking a step in the right direction, the master plan of this project (the mountain) called for a stack of balconies, which, rather than being stacked vertically, are transformed into houses with gardens, resembling a massive stairway covering a sort of parking mountain. There is a garden (a south-facing garden) in every house, and it is about the same size as the apartment. It is not about choosing one of the two things, Bjarke Ingels works on emphasizing the fact that the architect can force many mutually exclusive concepts together, like having a parking structure and an apartment, or having a penthouse view with a garden. For him, that is how any architect can end up looking different because he designs differently. A pragmatic utopia can be seen within this city block, which gives the opportunity of having a more pragmatic realization that leads to more utopia (Ingels, 2020).

Figure 10: VM House & the Mountain. (WBArchitectures, 2008).

At the end of 2005 and after the disbanding of PLOT, Bjarke Ingels launched his firm BIG (Bjarke Ingels Group) in Copenhagen, followed by another office in 2017 in New York City after taking on the Via 57 West project. Following in the footsteps of OMA, BIG won numerous

competitions across the United States and expanded its staff to take on large projects. BIG has involved itself in many projects around the world, like eco-cities and AI campuses, huge skyscrapers, and other types as well. And that's because BIG is open to working with anyone who wants to make some kind of association with its ideology. London in 2016, then Barcelona in 2019. BIG completed and was involved in more than 30 projects in more than 10 countries. We think that in order to address the problems of today, architecture may commercially enter a mostly untapped market. A pragmatic utopian design that shuns both the naive utopian ideals of digital formalism and the horrifying practicality of dull boxes. BIG develops architecture by combining common materials like living, leisure, working, parking, and retail, similar to a type of programmatic alchemy. "By striking the fertile overlap between pragmatism and utopia, we architects once again discover the freedom to alter the surface of our planet to better suit modern life forms," Bjarke Ingels said. When Bjarke Ingels re-identified after working at OMA, the biggest inspiration he got was an understanding of evolution, and life is always evolutionary. If architects can understand change, they can understand what to do now and whether things are feasible (BIG, 2022).

The influence of Rem Koolhaas' architectural view on Biark Ingels

Rem Koolhaas is a Dutch architect born in 1944. An architect, urbanist, and professor at Harvard University. The winner of the Pritzker Prize in 2000 and one of the leaders of the OMA firm, which was established in 1975, Koolhaas is a teacher and influencer of many well-known architects nowadays, like Zaha Hadid, Winy Maas, the partner in MVRDV, the Dutch firm, and Bjarke Ingels, the partner in BIG. Rem's ability to create reservoirs and endless ideas made him a star architect; architects and students around the world emulate him (Ouroussoff, 2012). In 1994, Rem Koolhas came up with the Bigness Manifesto, which in turn made him a modern figure; this manifesto represents the ability of architecture and what architecture can make at its maximum point (Jencks, 1997).

Bjarke Ingels was an apprentice of Rem Koolhaas at OMA in 1998, and this manifesto inspired Bjarke Ingels to become one of the most ambitious and creative young architects. With the help of social media, Ingels attributed his skills to using many platforms, which enabled Bjarke Ingels to win many awards and competitions that helped him get his international reputation (Sagdıc, 2016). Rem Koolhaas thought his apprentices and students should have freedom while designing and producing architecture. Ingels was inspired by Rem's philosophy, which ignores the context in which philosophy arose in opposition to previous architectural philosophies. Ingels, in turn, also wanted to create his own context with experience while proposing hedonic,

positive architectural forms (Knudsen, 2016). Metropolitan Magazine published an article with a diagram of the baby REMs in 2011. Rem Koolhaas has been credited with 46 of the global names, and with this phenomenon, Koolhaas dominated the world of architecture (MacLeod, 2015). Rem with his ability to create high-profile buildings and train his students to create such buildings. Ingles described the work environment in OMA as a "cult," where the freedom of doing things allowed each architect and every person to test things and ideas (Gupta, 2020). Moreover, that is what Bjarke Ingels follows in his architectural firm, BIG.

Architecture is a very paradoxical profession, where on one end you want to be precise, but on the other hand, ten years later, any position does not make any sense. What people ask at a given time provides an additional dimension that, whatever happens or changes in society occur, that additional dimension continues to stimulate (Koolhaas, 2018).

"You could almost describe my education, which was largely self-directed, as a form of serial monogamy. In the sense that I would fall madly in love with the work of an architect, and then I would find everything that I could find about that architect. Then I would read everything that the architect had written about him or herself, and then I would find the people writing about them, whom else they referenced. Like you hammer on the surface of certain concepts to see if there is anything underneath or if it is just a hollow shell. When you pursue almost any architect, you will eventually come to the fundamental assumptions, the underlying assumptions that, once questioned, cause everything to fall apart. At that point, you will often have found someone else who is the origin either of this architect or on a parallel track with this architect, and then that will be your new kind of passion. Then you would repeat this pattern until you began to question some of the fundamentals, or axioms, of this particular practice. I somehow repeated that until I discovered Rem Koolhaas. In my mind, he was fundamentally different in the sense that many other designers see architecture as a kind of autonomous art form. Architecture was always in direct dialogue with a society that was full of political, economic, geopolitical, social, and cultural issues, and they were writing about engineering, programming, and technology and all kinds of conflicts, so there was this almost journalistic attitude towards architecture" Ingels said (Porcini, 2020).

Design Ideologies of Bjarke Ingels

"Yes Is More"

"Yes is More" is an architectural inclusive approach; the essential idea of it is not to be radical by saying no but rather to be revolutionary and go beyond things by saying yes. Bjarke

Ingles and his group like to consider themselves evolutionary by saying yes. In the architecture of the 21st century, the research mentioned how Renzo Piano considers architecture as the mirror of the changes happening within societies. Ingles also stated that by viewing cities as an ongoing evolutionary process in which the architect's role is to create the future of its people in the way they want to see and live, a future that meets the needs of the societies that inhabit it (Ingels, 2013).

"Yes is More" is the result of an analysis that leads to a driving force in the design process. It is an answer to the questions that came out of this analysis. Understanding external concerns and demands, as well as identifying the most promising opportunities in any situation. BIG is attempting to make all of these key criteria the driving force behind its architecture. Ingles said, "As an architect, you have different collaborators within the architecture office, which is also why being big is a portrait of many different people in the office and their contributions to the process." The ability to transmit the idea to someone else and listen to what people need and say to be able to get a clear vision that as an architect you will transform into the design is "Yes is More" (Ingels, 2013).

According to Bjarke Ingels, a clear relationship between the architect and society leads to a better manifestation of today's society. Rather than saying no and being radical, BIG attempts to create a pleasing radical agenda by ignoring the budget and the gravity. Why not create opposing policies, ignore conflicts, and feed the design from them? What if the design integrates these differences, not by saying yes to one side, but by tying these differences together and generating new ideas? The essence of "yes is more" in such architecture is not found in choosing between public or private, closed or open, urban or suburban, atheist and Muslim, reasonably priced apartments, or football fields (Ingels, 2013). A design that allows acceptance of all aspects of human life, no matter how contradictory; a bigamy structure that allows you to have both partners without having to make a choice."YES IS MORE" is a pragmatic utopian design that views the building of socially, environmentally, and ecologically perfect places (Ingels, 2009).

Bjarke Ingels did not write his manifesto down; it appeared in the form of lectures and verbal tradition. "Yes Is More" is presented in the form of a comic book. It is not as if the text came first and then the pictures. Both connected the dots to make it more conversational. That feels quite logical because, in retrospect, Bjarke Ingels wanted to become a graphic novelist, and he rather deviated from that trajectory at some point; it is kind of a return home (Ingels, 2020).

Riffing on the aphorism of Meis Van der Rohe, "Less Is More," BIG released their manifesto "Yes Is More" and documented the firm's work as cartoonish graphics, following Bjarke Ingels'

childhood passion. With the aim of demonstrating the company's skills in simplifying diagrammatic representations and giving them form through the cartoon diagram (Koutsou, 2021). The book very rapidly gave Ingels the position of a rising star. He was suddenly there. In addition, Bjarke Ingels took up the idea of asking the Danes: What is it actually that they want to do after having had this spectacular tradition? "How can they be revolutionary in such a manner that a person would not forget his tradition?" said Kent Martinussen. In BIG's work, "yes is more," where they strive to develop an inclusive approach to design that incorporates everyone's ideas to the point that they suddenly become the driving force. Because it must function in so many different ways, this obsession with making everyone happy creates a prescription for creating something that is truly amazing. (Ingels, 2020).

Hedonistic Sustainability

At the beginning of Bjarke Ingels's work, his first project was the Copenhagen harbor bath. Essentially, the port of Copenhagen had become so clean that they could extend the life of the city into the water around it. Essentially, it became clear to Bjarke Ingels that an environmentally friendly city or port is not only good for the environment; it is also amazing for the lives of the people inhabiting it. Bjarke Ingles has called this hedonistic sustainability, the notion that sustainable buildings are not only good for the environment but are also actually better for the lives of the people living in them (Ingels, 2021).

Figure 11: Copenhagen harbor bath. (BIG, 2003).

In Copenhagen, 40% of the people commute by bicycle, so they are never stuck in a traffic jam, and they never have to look endlessly for a parking spot. They get very quickly from A to B, so the joy of the bike ride through the city actually increases their life quality and health, shortens the commute time, and is good for the environment. In a similar way, because Copenhagen is so clean, they can swim in the middle of the port in downtown Copenhagen.

Most of the time, when thinking about sustainability, it is a question of how much of the existing quality of life people are willing to sacrifice in order to be sustainable. However,

Bjarke Ingles's point of view is that what makes a city more sustainable also makes it more enjoyable (Ingels, 2020). People are often used to hearing the word "climate" in relation to climate change, which is invariably presented as a problem. In truth, the climate and its changes are an inherent part of life on a planet with an atmosphere. There are many climate zones with varying degrees of exposure to sunshine, temperatures, and precipitation or aridity. Therefore, it should come as no surprise that one of the causes of the current climate change, which manifests itself as global warming, is the built environment. It results from the fact that modern construction services have become more prevalent. With the development of ubiquitous electric lighting, a person is no longer dependent on natural light thanks to air conditioning, central heating, and orientation. The ability to simply pump fresh air into the building eliminated the need for window openings or natural circulation, thanks to mechanical ventilation. As a result, what was previously a deftly empirically evolved response to the local climate was abruptly transformed into a universal modernism style that appeared the same everywhere, transforming it into a dull box with a gas-guzzling machine room to pump quality light air into it to make it habitable.

BIG is attempting to reintroduce architecture to respond to the climate, which is one of their goals. Bernard Rudofsky, who designed the exhibition, served as one of Bjarke Ingels's major sources of inspiration. There, he observed how people from all over the world had developed empirical methods over many decades to use the materials that were readily available in their communities to adapt to their climate. By including components of natural insulation or thermal insulation in a way that would make the buildings as pleasantly inhabitable as possible, he called it "architecture without architects." (Ingels, 2018). What BIG is interested in is that the account is what they could call engineering without engines. The concept of using sophisticated engineering to make a building less dependent on machinery, to use the fact of calculating, simulating, and modeling a building's performance to make it less necessary to use active machinery to make it inhabitable once built (Ingels, 2018).

"Architects should develop into more than just the creators of two- or three-dimensional architectural products; they must learn how to create ecosystems. Systems of both ecology and economy direct the flow of resources like heat, energy, waste, and water into some form of perpetual motion machine, in addition to the flow of people across towns and structures. Stop considering a human presence on earth as something harmful to the ecosystem and work to integrate our consuming habits and waste into the national ecosystem," Ingels said (Ingels, 2011).

Vernacular 2.0 is not vernacular in the sense of repeating what is already there. However, it is

vernacular in the sense that it is adapted to the surroundings. The climate and the culture change. When getting new tools that allow simulating, calculating, predicting, and rapidly testing, they speed up evolution in theory by having parametric design models. In order to be able to test the feedback of certain forms, BIG actually goes way beyond the vernacular that already exists; they create something for new life forms and new lifestyles with available materials while still using the same idea of responding to the local climate. Ingels's Danish teacher in high school told him that if he does not speak clearly, it is because he does not think clearly (Ingels, 2018). When discussing cities, Bjarke Ingles, in his hedonistic sustainability ideology, asks if a sustainable city and building are about things that people can do rather than things they cannot do. He tried answering this question with a completely new mindset while thinking about sustainability, which, in his opinion, is going to be more exciting and fun to live in (Ingels, 2019).

CHAPTER III

Methodology

As a way of understating the architecture of the 21st century and relating it with Bjarke Ingels's ideas and way of thinking, qualitative research has been conducted to achieve the goal of this study. A wide study has been done related to Bjarke Ingels and his discourses, to grasp his techniques and ideologies. (Ayşenur. G; Ercan G) in their article Darwinian approach and mutations, Bjarke Ingels (BIG) and analysis of his stepped pixels buildings, focus on the public spaces alternatives in the 21st century through Ingels's stepped pixilated buildings. In another study made by a Chinese researcher under the name the study of architectural design philosophy and strategy of Bjarke Ingels, the writer focus on Ingels's ideologies as a way of solving their Chinese works, this study is an essential source for this thesis.

The research follows a descriptive-analytical approach through the study of the previous research that led to exploring and clarifying the architectural approach of Bjarke Ingels. The research method uses literature data articles, books, videos, interviews, and many websites like Archdaily, BIG main website and other architectural Magazines like Dezzen, Architect Magazine and Twenty-Two. Related materials to form a comprehensive and systematic understanding of Bjarke Ingels' architectural practice. Furthermore, to shed light on his technique for designing building forms. Ideas are the language and the narrative of any project, while the form is the vision for it. In the 21st century, architects are working to be visible. The landscaping and the contextual aspect are also very important features of this century.

Finally, sustainability is a common and important aspect in all fields, not just architecture. In this sense, this study will look at Bjarke Ingels by means of:

- Ideas
- Form giving
- Landscaping
- Sustainable aspects of his works.

Six projects have been selected in Europe including infrastructural projects, residential, commercial, cultural centers campuses, and factories. Six of the well-known and most of the awarded buildings in order to achieve the aim of this study. It is believed that this research would be useful to people who are interested in architectural design generally, and for architects and students particularly who are interested in Ingels's way of design.

Table 1. *General Information of the Projects selected (The Author, 2022).*

Projects	Project's Name	Year	Location	Typology	Features
Project 1	The Eight House	2010	Denmark	Mixed-use building	• A social tower binding the house together from basement to attic. • Layers of different functions • An awarded building.
Project 2	Lego House	2017	Denmark	Cultural centre	• Da Vinci code is rooted in the proportions of Lego bricks • Gradual stepped urban pixels • An awarded building.
Project 3	Copen Hill	2019	Denmark	Infrastructural project	• Energy plant landmark • Manmade mountain • Green roof and facades with a ski slope • Climbing wall • mind-set of the hedonistic sustainability • An awarded building.
Project 4	The Plus	2022	Norway	Furniture factory	• BREEAM - Highest rating
Project 5	City Life Milan	2023	Italy	Commercial	• Biggest glassing facing the north side • Mega power canopy and rain water collection • Lightweight canopy structure. Gift to the city

					• Expanded park area
Project 6	ESET Campus	2027	Slovakia	Campus	• Maximized amount of used mass timber • Photovoltaic roof surface and rain water collection • Air source heat pumps • Biodiversity and noise control • Technologies all around the campus

Bjarke Ingels Architectural Projects

First: The Eight House

A mixed-use building located in Copenhagen, Denmark. 10 thousand square meters of commercial offices, retail space, and three types of residential housing. Located in a vibrant neighborhood with many horizontal typologies. Eight House is a three-dimensional urban community, connected by a cycling path and a promenade up to the 10th floor, completed in 2010.

Figure 12: The Eight House. (Minner, 2010).

The Idea: BIG went on imagining little tweaks to the status quo that now form everyday reality in Copenhagen; beyond the Eight House is a neighborhood of townhouses where people can walk and bicycle from the street to the penthouse, turning a city block into a Mediterranean mountain town of paths and squares. Bjarke Ingles proposed asking the Danes what they wanted to do with this spectacular tradition and how they could be revolutionary in such a way that they would not forget their tradition The Eight House is actually a building that is under

merger. 500 homes, shops, offices, and kindergartens Classic apartments and more townhouses BIG created a giant mountain path with an accessible slope. It becomes like a three-dimensional community. One of the residents of The Eight House said, "I like big ideas and the BIG group when they build a big building just for me, we feel like we are living in a village, we have beautiful rooms in common, where we make parties and eat together, and a path that you can walk. The children out here really enjoy it, and I can see it from our balcony. It is just beautiful to see". In the big picture, architecture is the art and science of creating the framework of our lives. Moreover, the buildings that we built, either open possibilities or hinder encounters or connections (Ingels, 2020).

The Form: The Eight House is a Copenhagen neighborhood considered a modern version of an existing district called Fredrriksstaden. A brand new city was erected in a bare field. Where nothing exists, everything is possible. In the middle of the common, there are numerous opportunities to create new architectural species. The eight-story house is so big that it straddles the boundary between building and city planning. An entire neighborhood is conceived at once as one building (Ingels, 2011). Instead of simulating different houses next to each other, BIG stacks different functions like an urban layer cake, with each activity placed on top of the next. For example, shops and offices prefer direct contact with the customer at street level and on large interconnected floors; furthermore, they like daylight but hate direct sunlight in the eyes or on a computer screen. As a result, BIG places the entire commercial section at the bottom of the building; on the other hand, housing that lives in the sun but dislikes a ground-level location where people can look straight into apartments places all of the dwellings on top of the commercial functions. Shops and offices have deeper floors than housing. Along the bottom residences, a path, or roof garden, appears. Turning the bottom residences into two-story row houses with front gardens and connecting paths so kids can go visit each other. BIG adds a layer of apartments on top of the row houses; traditional apartments, however, were the lowest, located on the third or fourth level. Finally, on top, BIG added two floors with pent-row houses with both front gardens and roof gardens. Layers of cake where each function has found its optimal niche, concerning needs and wishes, as an architectonic symbiosis (Ingels, 2011).

Figure 13: Eight House functions layers. (Architizer, 2022).

Besides the café, located in the building's lowest southwestern corner, all the building's communal functions have been concentrated at the point, where Figure 8 crosses itself as a vertical focal point. BIG arranged all of the various social activities—a common room, guest apartments, lounges, a cinema, and a roof terrace—and linked them with a common stair that ricochets through the inner void (Ingels, 2011).

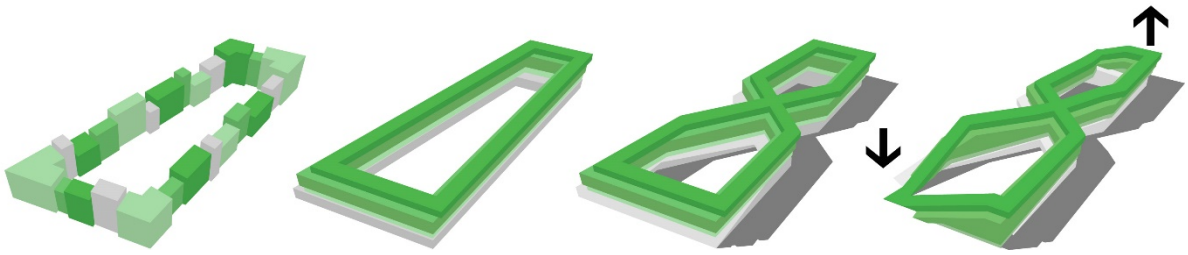

Figure 14: Eight House crosses itself as a vertical focal point. (Architizer, 2022).

The master plan asks for a direct passage all the way from Amager Common, through the building block, to Hein Heinsen's square. To create this east-west passage, BIG ties a knot on the block, converting the four-sided block into a figure 8. Creating two new plazas by extending the pavement into the building, as a direct connection between the two urban spaces in the east and west (Ingels, 2011).

Landscape: When creating a new neighborhood or a new building, BIG tries to recreate the variety found in the historic city by making something that resembles the historic city. BIG pushed the whole block almost to the ground to open up the southwestern courtyard and its apartments to the view of Amager Common and let the courtyard bathe in the afternoon sun. The two distortions of the block are necessary to optimize and provide each function with maximum view. Daylight and sunlight cause the walkway to rise and fall, but it is actually one continuous mountain path that moves all the way to the northeastern corner connected to the

upper part, continues all the way to the top of the block, and then all the way down again (Ingels, 2011).

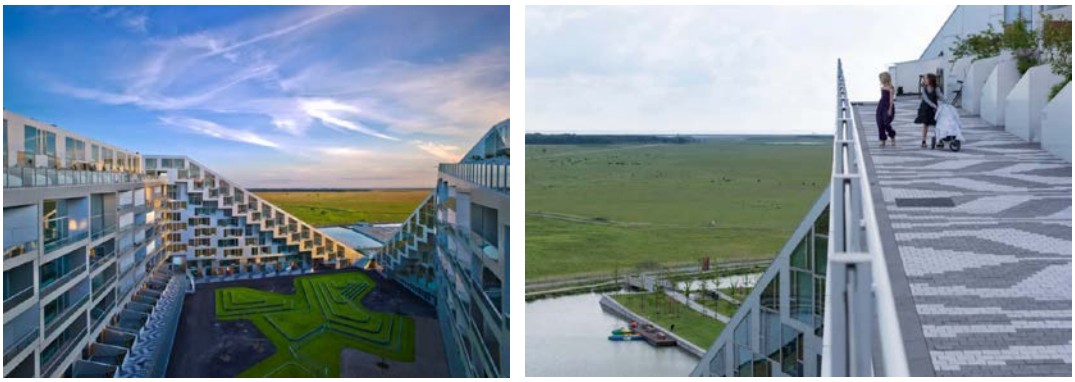

Figure 15: Eight House courtyard and walk path. (Minner, 2010).

Sustainability aspect: Where residences use energy to produce heating, offices use it for cooling, so in the two sun-facing corners, BIG pushes the office part all the way to the ground in the south and west. To compensate, they raise the commercial functions to a four-story office building while also raising the row houses and apartments on top. Changing the location from the dull northeast to the sunny southwest, where they have a fantastic view above their neighbours and the roofs cape all the way to Amager Common, A social tower binds the house together from the basement to the attic. from the urban shopping life to the row houses, to the inhabited balconies of the apartments, to the roof gardens of the penthouses, to the front gardens of the terrace houses. Eight House is a single architectural concept that results in an agglomeration of various specialties. Plazas, courtyards, steeped streets, and mountain paths, where public life is traditionally tied to the ground, flat as a pancake, with everything upward privatized. The Eight House allows the city's social life to invade the higher altitudes. Architecture is most appealing with simple lines and clear ideas. A city on the other hand becomes alive when it is rich with experiences and surprises, so the paradoxical challenge is to create simplicity and variety, diversity and coherence. In other words, to create a city in the building (Ingels, 2011).

Table 2. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of the Eight House (The Author, 2022).*

The Eight House	
The Idea	• Create simplicity and variety, diversity and coherence. • Status quo that form everyday reality in Copenhagen.

	• City block As a Mediterranean mountain town of paths and squares. • A framework of Copenhageners life.
The Form	• A modern version of Fredrriksstaden district. • The structure blurs the line between building and urban design. • An entire neighbourhood conceived as one building. • Layers of cake functions. • The building crosses itself as a vertical focal point.
Landscaping	• The Eight figures came with two Courtyards. • A walking path that rise and fall, like a mountain path.
Sustainable Aspect	• Invading the altitudes of the city social life, working with the essence of hedonistic sustainability.

Second: Lego House

Located in Billund, Denmark, which is the motherland of the Lego Group head office, a cultural center with an area of 12,000 square meters opened in 2017. The Lego House serves Lego fans of all ages and was built with the aim of making the city the capital for children. Conceived as a town for learning and enjoyment. An architectural and urban project at the same time.

Figure 16: Lego House. (BIG, 2017).

The Idea: In the beginning, a very important sentence to mention is when Bjarke Ingels said “if the company had been founded with the aim of designing only one building, this was going to be it”. (Ingels, 2017). The essential idea behind the Lego House is that BIG wanted to design a building that has to be a completely inviting, engaging, and public building, both on the outside and even on the inside. It is like a series of rooms, almost like Lego bricks, so that when looking at Google Earth, the observer can actually recognize the Lego building. The ones that are sitting on the ground contain all of the most public functions, and they actually surround a big square in the middle. BIG call it the Lego square. Two of the Lego blocks on the outside are melting. People are invited to climb up on the roof's cape and enjoy some of these interconnected playgrounds. Also, they can actually reach the summit of the Lego house and look out over the entire city of Billund. In a town that is incredibly flat, suddenly there is a manmade mountain that invites you to engage. (Ingels, 2021).

The Lego house is unique because this is going to be the only one; BIG had to make sure that this really is the home of the brick. "A home for the brick has been my dream for many years, a place where fans of all ages can come and see and enjoy all the possibilities that there are within our reach, making this dream come true," the owner of the Lego house said (Ingels, 2021).

The Form: BIG consolidated all the elements of the program that have an outward orientation: the café with a store, forum, offices, and loading dock have been grouped together around the central space, giving it an urbanistic character. People are able to enter from many directions, allowing the daylight to pass with the views when placed in a square. Above this square, the galleries have been placed with overlaps, creating a continuous line of exhibitions. A masterpiece, a suggestion from the owner of this structure himself, connected the corners of all the Lego exhibitions under it. This master Lego serves as a skylight for the building and as an art form. Two of the Legos, which are on the ground level, have melted in a pixilated way to form informal sitting places for people attending the public performances. (BIG, 2017).

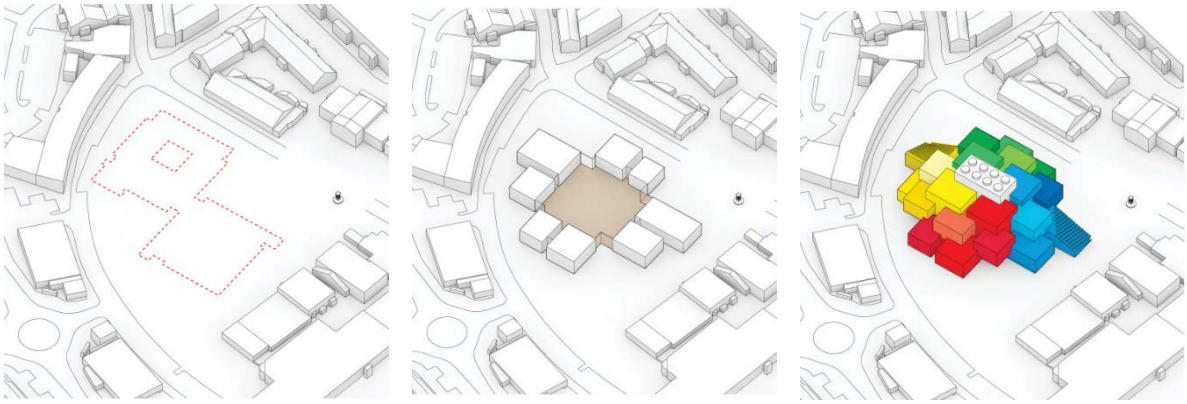

Figure 17: LEGO House Hierarchy. (BIG, 2017).

One thing that really inspired BIG was a saying that says it takes a village to raise a child rather than to bring one up. To become a citizen of the world, one needs not only love and care from its parents but also from everybody else in society. Thinking about how they could change all of the activities of the little house, such as the restaurant, kitchen, auditorium, and shop, BIG reframed a square, then hung all the galleries above the square floating above.Furthermore, they place the keystone gallery in the heart of it, where people can celebrate the art of building with Lego bricks (Ingels, 2017).

Landscape: This project moved the standards of Lego bricks to an architectural scale. There are 21 Lego blocks in this building, of different sizes and various heights, designed with the purpose of becoming a Lego experience center and an urban area at the same time. Two of the cubes or Legos melted in a pixilated way in order to become urban sitting elements for the people to enjoy the buildings and sitting places during public performances (Gürcan, D., Gürcan, E., 2020).

Figure 18: The LEGO House stepped pixels. (Weird UK, 2017).

When architecture is at its most interesting, that is exactly what BIG is trying to achieve. One of the things the group is working on, and it is something essential in their work, is imagining the kind of world that people would like to live in. Working with the idea that you don't have to accept the world as it is to truly build the world of your dreams. A mindset can be planted in the child's mind at the early ages, because instead of passively playing a game according to the rules, give them the tools instead and see what they create. One feature of Lego is that it reduces things to their bare minimum, showing how few bricks are needed to create something that could be described as identifiable. Lego House, placed at the heart of Billund, the hometown of Lego, symbolically replaced the formal city hall in the town that is very much about Lego, instead of the city hall, people will have the Lego House (Ingels, 2017). Designing some nice facades, which make things presentable, is not the only thing that the architect does, the main architect's job is to create the world that people would like to live in by realizing their demands and dreams (Ingels, 2021).

Sustainability aspect: Everything is like 90 degrees, and then the entire building is clad in ceramic tiles, beautiful ceramic tiles based on the proportions of 2 by 4. A practical ratio for cabinetry and construction supplies without removing the façade module from the complete interior and exterior façade, it is 30 cm or 60 cm. Da Vinci's code is rooted in the proportions of Lego bricks (Ingels, 2017). Minimizing the scale can make the masses less enormous than before; the downsizing of the mass allows for simple qualitative perception (Strauss, 2000).

Table 3. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of Lego House (The Author, 2022).*

The Lego House	
The Idea	• If the company had been founded with the aim of designing only one building, this was going to be it. • Completely inviting, engaging, and a public building, both on the outside and even on the inside
The Form	• Consolidated elements of the program that have an outward-oriented. • Two of the volumes seem to melt in a pixelated way. • Urban character around a central space. • A keystone gallery at the heart of the building.

Landscaping	• Lego bricks as an architectural scale. • Two of the cubes or Legos melted in a pixilated way in order to become urban sitting elements
Sustainable Aspect	• Everything is like 90 degrees only. • The entire building clad in ceramic tiles. • Da Vinci code is rooted in the proportions of Lego bricks, where all the bricks have 90 degree which make it more economic. • Creating the world they would like to live in

Third: Copen Hill

Located in Copenhagen, Denmark, Copen Hill, also known as Amager Bakke, is a 41,000-meter square building completed in 2019. Copen Hill is a waste-to-energy plant, one of the projects that well-embodied the notion of hedonistic sustainability.

Figure 19: Copen Hill. (BIG, 2019).

The Idea: When BIG entered the competition for this building, the aim was to make a miracle of modern engineering that will serve as the cleanest energy power plant, and that is the mesmerizing thing and the essential idea behind it. BIG constructs an actual mountain rather than a mountain of trash (Ingels, 2020). Combining three things at the same time in this building burning stuff to get rid of the waste, heating the city's houses, and powering them with electricity—three things in one are happening in this plant: waste disposal, heating, and

powering districts. The second the architect creates something new, it is almost like opening a door that others can walk through. As an example, in Copenhagen, they are skiing on the roofs of their power plants; waste management became their energy supplier, so these examples not only solve the little challenge of power in Copenhagen but also became a development model that others may follow and use as a motivational source to create their own work (Ingels, 2019).

The Form: The nearest ski slope to Copenhagen is Isabel Mountain in Sweden; Bjarke Ingels decided to bring two-thirds of Isabel's slope to the roof of this power plant. Following the concept, a trash mountain was converted into a man-made mountain (Ingels, 2020). The height order of the internal volume was determined by the machinery and equipment used inside this building. resulting in an efficient roof slope with a 9000-meter square ski space. The facade's primary purpose is to conceal the reality that manufacturers have a significant branding issue. The architect went on to do more than simply give the facility a lovely exterior. The desire to produce beauty does not conflict with the desire to add value through increased usefulness. As Bjarke Ingels (2011) stated, it can be both.

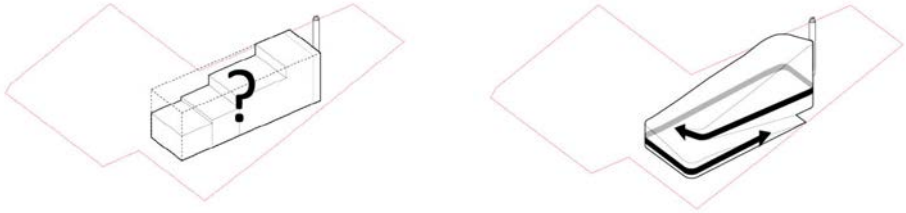

Figure 20: The Building mass. (BIG, 2019).

Landscape: A continuous aluminum façade gently wraps the structure of this building. The aluminum bricks not only cover the building but also function as planters, creating a green facade, which in turn makes a green mountain when looking from afar and a white mountain on top of the building. The roof of this power plant has been converted into an artificial ski slope, where Copenhagen residents can ski all year. A green area, such as a forest area, will be an ecological element of the building. BIG also proposed a hiking trail with a climbing wall on the façade, the tallest climbing wall in the world, and, lastly, a viewing plateau on the roof for people to enjoy the view of Copenhagen city (BIG, 2019).

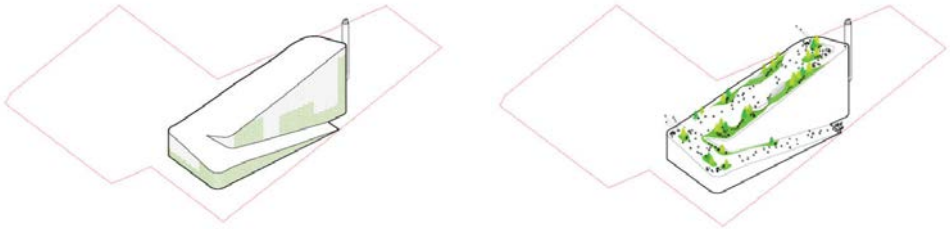

Figure 21: The green wall,roof of Copen Hill. (BIG, 2019).

A man-made mountain of activity that uses the trash of five district municipalities as fuel for generating heating and electricity Fifty percent of the facades are transparent. The fifth facade in this case is the roof, which is maybe the most exciting facade because it has skiing. Designed to be able to help spread vegetation to the surrounding area. Hiking paths, different kinds of activity zones, and vegetation that changes over the season. There are more than 400 different tree species; they are purely indigenous species if Denmark had mountains (Ingels, 2020; Baldwin, 2019; Pintos, 2019).

Sustainability aspect: Copen Hill is an architectural landmark that serves as a waste-to-energy plant, offering Copenhagen a brand new mountain with perfect settings for the community of Copenhagen and visitors from all around the world to have good moments there. Copen Hill became one of the main providers of electricity and heating for many households in Copenhagen and recovers up to 90 percent of the metals found in the treated waste, contributing to the circular economy. Copenhagen is the second-best city in Europe in terms of air quality; they follow a very well-planned program related to sustainability, and they aim to make Copenhagen the first carbon-neutral city by 2025, where Copen Hill is a part of this journey (ESWET, 2021).

Denmark has become a little bit of a pioneer in the sense of sustainability; only four percent of our waste goes into a landfill, 42 percent is recycled, and 54 percent is transformed into district heating and electricity. The mountain's cliff face is made of these massive, folded, raw aluminum bricks. The raw aluminum is tilted so that it actually reflects the surroundings, and the color of the building changes. Inside the mountain, the entire administration overlooks the city, they look at the city from one side, then they overview this marvel of modern engineering (Ingels, 2020; Baldwin, 2019; Pintos, 2019).

Architecture is such a world-changing force that, for example, Ingels's son will never think that there was a time when people in Copenhagen could not ski on the power plant. Therefore, for the entire new generation, that's going to be their normal, and that's going to be the starting point from where they start having crazy ideas. This project is a landmark for the idea of hedonistic sustainability. A sustainable city is not only good for the environment but also better for the people inhabiting it (Ingels, 2020).

A story from Ingels's childhood growing up in a beautiful garden overlooking a lake with a small cigar box from the 1960s. The modern house or the flat roof because his friends could actually reach the roof and walk around on it, as there was a small hill. When his father would yell at them, it was obvious that he was afraid they would fall down. But he was explaining that he was not supposed to walk on the roof because it is not designed for it. It was always a waste of opportunity, resources, and enjoyment for Bjarke Ingels that a person couldn't walk on the roof. So in that sense, it could be said that Bjake Ingels has been trying to build buildings where people can actually walk on the roof and where they are actually supposed to walk on the roof (Wagner, 2017). In this way, Bjarke Ingels and his office are building and changing the mindset of the people of Copenhagen to let them think differently and come up with more crazy ideas. They had been influenced by the people of Copenhagen before presenting the idea of a ski slope on top of the roof, so the idea was somewhat receptive. In addition, another way of influencing the people is the chimney of this building. Instead of being a pollution source, as usual, BIG worked with Realities United to make a new design for the chimney, where it puffs and becomes a celebration element in the building. No toxic materials are coming out of this chimney (Ingels, 2020).

Table 4. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of Copen Hill (The Author, 2022).*

Copen Hill	
The Idea	• Turning a mountain of trash into an actual mountain. • Bjarke Ingels decided to bring two-thirds of Isabel's slope to the roof of this power plant.
The Form	• The machineries and equipment used inside of this building determined the height order of the internal volume. • The facade primary purpose is to conceal the reality that manufacturers

	have a significant branding issue.
Landscaping	• A continuous façade made out of aluminium gently wrap the structure of this building, the aluminium bricks not only cover the building but also function as planters creating a green facades. • Real mountain with green forest areas, hike trail. • Tallest climbing wall in the world.
Sustainable Aspect	• Copen Hill is a waste to energy plant with an architectural landmark. • Hedonistic sustainability is rooted in the building.

Forth: The Plus

The plus is a 7,000-square-meter-square Norwegian furniture manufacturer. This factory will be the leader in high-efficiency production and manufacturing facilities for furniture. Opened in 2022, and it is the first project to achieve outstanding BREEM certification (Baldwin, 2020).

Figure 22: The Plus. (BIG, 2022).

The Idea: BIG had the tendency to divide the world into two halves, the front and back of the house. Nice places where people will gather are the front of the house; these are the things that deserve architecture, and it is the lobby and headquarters where the management sits. Then there is the back of the house, which is where all the real work happens. That is where all the furniture is made, BIG believes that the most exciting things happen when combining those

two things, and that is exactly what they have tried to do. The beauty of this building is summed up in the way it is organized, front and back of the house (Ingels, 2020).

The Form: The Plus was formed by arraying four main halls radially: a color factory, a wood and assembly hall, and a warehouse. These four halls have been connected through the center, which generates the plus shape. A rounded courtyard has been placed at the intersection point of this radical form, allowing for a more flexible and transparent workflow within this manufacturing layout. The visitors are invited to explore this factory, which in turn gives them the feeling of being on a colorful island thanks to its interior organization. The Plus is a manufacturing plant placed at an intersection of a road that also helps determine this kind of Plus. Bjarke Ingels described it as an architectural composition that came out of a logistical diagram, where a particular fashion is happening in each area. The radical shape of this factory allows for shorter distances between the production wings, giving an opportunity to extend them if needed. The logistical courtyard at the center helps the movement between the halls (Ingels, 2020).

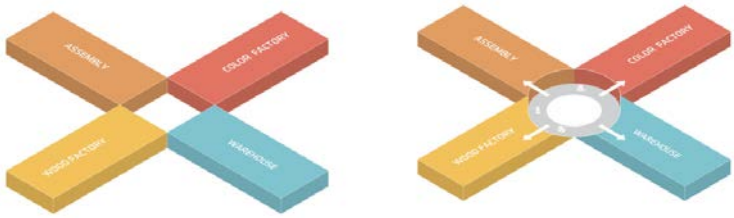

Figure 23: The program with the logistic roundabout. (BIG, 2022).

The office and display center are placed at the center of the building, above the logistic roundabout. The reason behind elevating them was to provide a wide-angle vision without interfering with the production process. Each wing of the plus features a lifted attic corner; as a result, these offices maintain their perspective on the outside green areas while obtaining access to manufacturing halls.

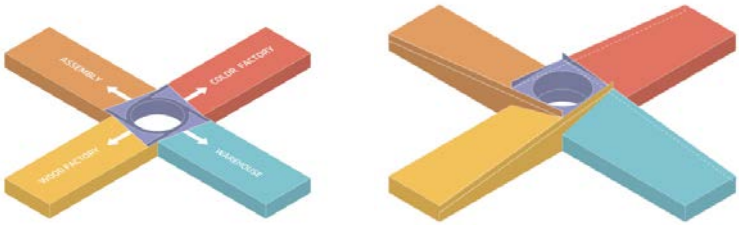

Figure 24: Reciprocal roof. (BIG, 2022).

Landscape: The Plus roof is accessible from all four sides. People are invited to walk up on the stepping façade while looking into the factory. A kind of wide invitation to enjoy the factory in many different ways from many different perspectives. The location of this central courtyard provides an outdoor space that serves as the focal point of the building. It became an urban green plaza used for exhibiting the latest products made inside the factory halls. The entire existing green forest floor was lifted up to the roof of the building and cultivated again, which created an accessible roof to obey a Norwegian rule called the right to roam.

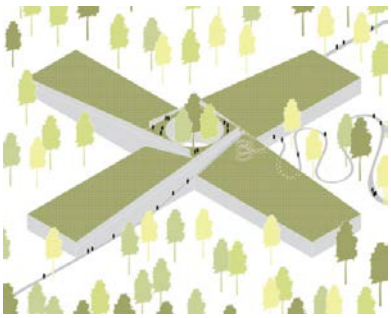

Figure 25: The green roof (BIG, 2022).

As a way of preserving the forest trees, BIG allowed the trees to grow as close as possible to the building, which the factory itself constructed out of the wood they cleared when preparing the ground for this building (Ingels, 2020).

Sustainability aspect: This project is one of the rare buildings of its kind that is going to get the highest BREEAM (the most comprehensive set of validation and certification procedures for a sustainable built environment, based on science) ratings with an outstanding class. According to the classifications of these ratings, this project will be defined as an international innovator. Only one percent of newly constructed non-domestic buildings will meet this high standard, and the fact that this is the first in the Nordic region is an added bonus. Vestra, as the owner of the Plus, aims to demonstrate that these kinds of industrial projects are able to be

leaders in environmental innovation on a worldwide scale. This project is one of the pioneers regarding the construction method and material used; it features a water collecting system, heat, and cooling, among many other factors that contribute to its demand for energy. Photovoltaic panels are used on the roof and positioned to maximize solar efficiency (Ingels, 2020).

Figure 26: The plus rooftop. (Ellie Stathaki, 2022).

This project is deeply rooted in hedonistic sustainability, a well-functioning explanation of the idea that sustainability is not only good for the environment but also for people, where they can have a more beautiful work environment and more fun visitors. All the materials used in this project were chosen according to their environmental impact, including the local wood material used to build the facades, recycled steel, and low-carbon concrete. The A+ efficiency rating and the good organization and clarity give this project its attractiveness. The central courtyard, which is the heart of the Plus project, is used as an outdoor display for the product of the Plus and also as a place to gather people and teach them things related to energy and circular design (Ingels, 2020).

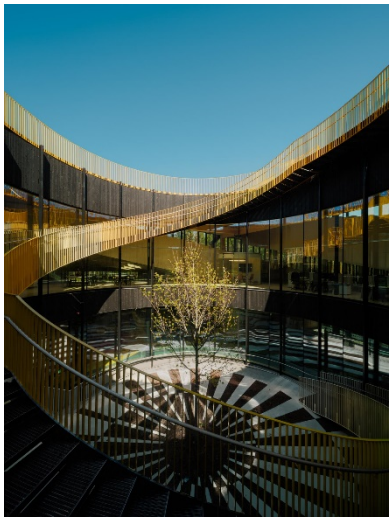

Figure 27: The Plus central courtyard. (Ellie Stathaki, 2022).

The Plus is the factory where the entire process of creating furniture is prominently displayed since one of the main functions of the Plus is to show and share knowledge with the people without fear of any industrial espionage. A way to help the global transition and accelerate it towards a hedonistic mindset (Architecture Magazine, 2020). Form giving is the Danish word for design, and according to Bjarke Ingels, the best way to explain architecture is to listen to their Danish word, because it leads to the meaning of giving the future a form that the people would like to see. As architects or shapers, we do have the power to shape this future. Now we can see many examples where sustainable cities and sustainable buildings are not just better for the environment, but they are also better for the lives of the people that inhabit them. "Rather than sustainability being about how much you are willing to compromise, it actually becomes about how great a life you want to have," he said. In addition, maybe our thinking and an investor's thinking become the same. This idea of sustainable manufacturing, as he calls it, means that you can actually make something that is socially, environmentally, and economically profitable all at the same time (Ingels, 2020).

Table 5. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of the Plus (The Author, 2022).*

The Plus	
The Idea	• A factory that combined the front of house and back of house, the front of house where all the nice places and the back where the real work happen.
The Form	• Four main halls arrayed in a radial way to meet each other at the center. • Flexible layout and transparent workflow. • The location of this central courtyard provides an outdoor space that serve as the focal point of the building.
Landscaping	• A roof accessible from all four sides. • The ability to walk up on the stepping façade.
Sustainable Aspect	• The highest environmental BREEAM rating. • Clear demonstration of industrial projects that are able to be leaders in the

environmental innovations.

- Photovoltaic panels at the roof, positioned for the optimal solar efficiency.
- A+ efficiency rating and the well organization and clarity.
- A clear example of Hedonistic Sustainability.

Fifth: City Life Milan

The portico was named and conceived to be the new gateway to Milan, Italy. The portico is a 53,000-square-meter commercial development comprised of two buildings linked by a 140-meter-long hanging roof structure that is currently under construction and scheduled to be completed in 2023.

Figure 28: City Life Milan, the Portico. (BIG, 2019).

The Idea: Two additional, smaller towers, in addition to the original three, provide the opportunity to avoid competing with the existing ones. In European city blocks where larger collaborations of floor plates are created where technology is prevalent, tenants would like to have larger spaces to have many people on the same floor with the possibility of maximizing the connectivity between the workers. The idea of unifying the two buildings with a kind of canopy that describes an inverted sphere Therefore, the two buildings are united not by being identical but by being shaped with the same gesture. Where this element became the main urban gesture that created a canopy for city life, a large covered outdoor space, shaded from the sun. Sheltered from the rain, you could imagine major public events. Moreover, this gesture is of course a part of the building's aesthetic (Ingels, 2019). This project is aimed at the two remaining plots from the master plan of Milan, which is composed of three towers, a residential

neighborhood, and a public realm. These existing towers open the opportunity to address new typologies that deal with the challenges of that site; one of the main inspirations was looking at the axis in the city of Milan and the urbanism of Italy. Usually, next to an axis, you have two buildings, for example, Piazza Piemonte (Milan) or Palazzo Dell'Arengario (Milan), so the idea of a gate and the idea of the axis came out. Another aspect is the height difference (Abbattista, 2021).

The Form: Instead of competing with the existing towers and being an obstacle, that blocks the view of the context, BIG went beyond the idea of completing this context and being a part of it.

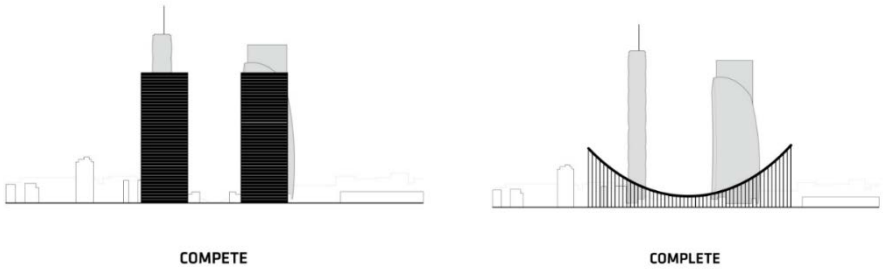

Figure 29: Building mass. (BIG, 2019).

Two remaining districts from the Milan master plan face each other with the names RE, and RD. After demarcating the two plots, BIG introduced courtyards that provide the buildings with abundant natural light and ventilation, providing a view of the gardens. Diverse internal office layouts work effectively thanks to their 18-meter depth. Open hallways that face an atrium surrounded by lush vegetation.

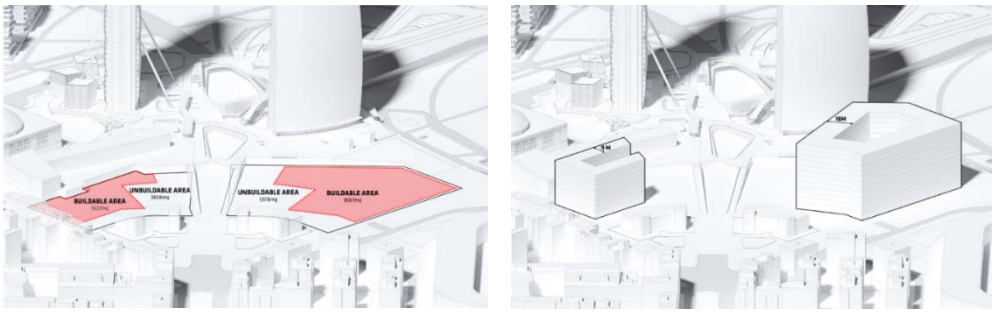

Figure 30: Site, Courtyards. (BIG, 2019).

As a way of unifying these two plots, which have an irregular shape, two curves were proposed out of clean circles. Later, the shape of the roof, which is the canopy of these towers, is generated from the bottom of an imaginary sphere. Rising some of the edges and dropping some of the other edges toward the middle highlighted the axis; as a result, two masses formed

a single gesture with two top heights of 105 m and 53 m, respectively. The resulting building mass maximizes the optimal orientation for each program. The widest facade of the office faces north, which is optimal for energy savings and yearly thermal comfort. The courtyards in turn act as a filter to dim the light reaching the south façade. BIG aims to make sure that the ground level has the most amenities and an effective vertical circulation to maximize the activations of both districts at their bottom levels, with some amenities spilling out onto the central plaza (BIG, 2019).

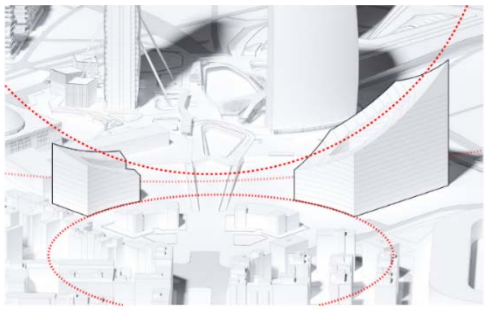

Figure 31: Relation to the axis. (BIG, 2019).

An outdoor terrace was made by removing a part of the offices' enclosed courtyard and adding another part to the other mass courtyard to secure the atrium. Creating outdoor areas, then connecting the two buildings in the non-buildable area with a canopy, joins two separated buildings into one unique solution. The result is a mix of uses and functions that together form a generous and spacious public realm for locals and visitors to enjoy being outdoors for more than nine months of the year, which BIG named the gift.

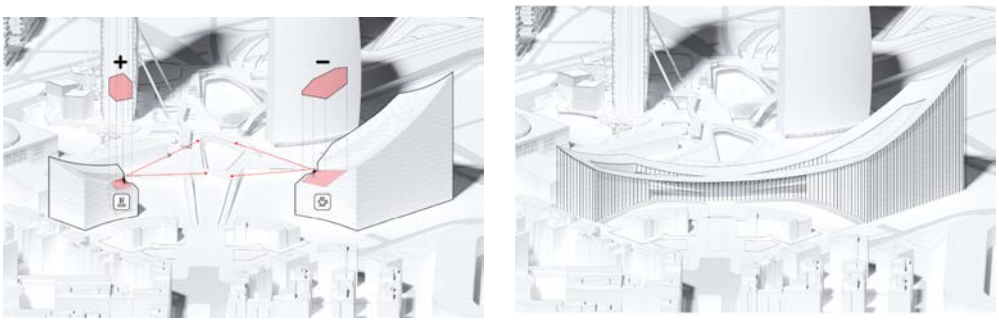

Figure 32: Terraces, the portico. (BIG, 2019).

Landscape: Allowing the existing park to enter the building, as well as the idea of permeability of the landscape inside the building and some of the space, blurring the boundaries between inside and outside as an extension of the inside and outside area. Using the concept of continuity, the existing park space will be transformed into something new that will transition from formal to informal, from monumental to interaction space where the green can be touched and then used directly (Abbattista, 2021).

Figure 33: Continuity with park-formal to informal, from monumental space to interaction (Abbattista, 2021).

Sustainability aspect: The way the building addresses sustainability has been done in two ways, both active and passive. From a passive point of view, the generation of the shape itself helped massively, where the biggest amount of glassing faces the north side for offices, which means it requires less cooling, and the same thing for the atrium, but at the same time the low sun in the winter allows it to get in. The canopy is a large solar surface that can deliver two megawatts of power, collect rainwater, and be used for green areas. The groundwater is for cooling purposes for the machinery that the building uses (Abbattista, 2021).

There is a point where the world needs examples of sustainability. That is not just a technical upgrade of a building; it becomes rooted in the bones of the building. which makes the building look beautiful and what makes it perform beautifully in terms of environment and city life. BIG used glass and natural stone combined with ultra-high performance concrete in the façade of this building, whereas the inverted roof is a wooden part, a lightweight construction made of solid wood together with the cables in the central part (Ingels, 2019).

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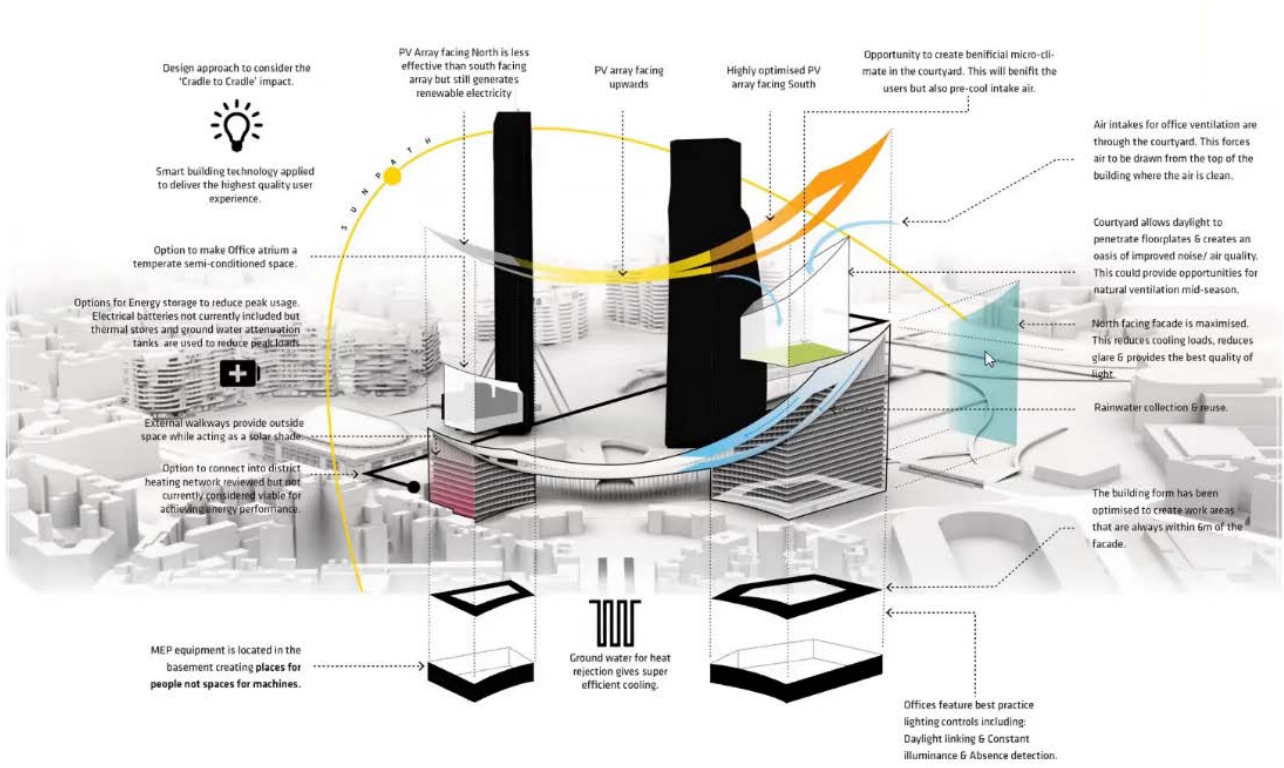

Figure 34: Sustainability overview. (Abbattista, 2021).

Table 6. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of City Life Milan (The Author, 2022).*

City life Milan	
The Idea	• Two more towers smaller than the original three, the opportunity not to compete with the existing ones. • The idea of unifying the two buildings with kind of a canopy that describe inverted sphere. • The two buildings united not by being identical but by being shaped with the same gesture. • These existing towers open the opportunity to address new typology that deal with the challenges of that site.
The Form	• Rather than compete with the existing context in the site BIG proposal seeks to complete it. • Introducing courtyards brings generous daylight and natural ventilation into the building.

	• The geometry of the roof is a generated as a wedge of a sphere, resulting massing reads as one single gesture.
Landscaping	• Letting the existing park to enter the building. • The idea of permeability of the landscape inside of the building and some of the space. • Playing on the concept of continuity and converting the existing park space into something different that will go from formal to informal.
Sustainable Aspect	• Sustainability has been done in two ways both active and passive. • Using the canopy as a large solar surface where it can deliver two megawatts of power. • In the façades of these buildings, glass and natural stone combined with ultra-high performance concrete used. • Collect the rainwater and using it for the green areas. The ground water for cooling down purposes for the machinery that the building use.

Sixth: ESET Campus

Located in the western part of Bratislava, the capital city of Slovakia, with an area of 90,000 m2 and a building size of 55,000 m2, the ESET campus is a tech neighborhood, that will be an AI and cybersecurity HUB, an urban hub of interconnected structures organized around a central courtyard.

Figure 35: ESET Campus. (BIG, 2021).

The Idea: The unique site of this project is that it is almost in the middle of nature and in the middle of the city at the same time, having both the feel of a campus while being somewhat centrally located in the middle of town. Moreover, it got to the point where it seemed to have seemingly contradictory elements, the ability to work with fully emerged nature in an urban setting to create a building for a company, but it could also feel and act like an entire neighborhood. Something that is a campus of buildings but also a single headquarters. An architecture that can grow organically over time in phases while also feeling like a single unified entity from the start, making it feel open, integrated, and accessible to the community while also feeling safe and secure. That was kind of a list of seemingly contradictory ideas that ended up becoming the way BIG thought about the ESET project. The seed of a future innovation district, a legacy project with the purpose of attracting and retaining the best within their field to come and be part of the team. A project on the campus of headquarters can turn in on itself or it can reach out and be part of transforming and elevating the entire community that it is part of, and that was the aspirational goal that BIG was given from ESET (Ingels, 2021).

Our approach to architecture is sort of like applying a global style or a global signature to a project, but it is much more about diving into that local relationship and trying to figure out what the specific thing will result in there creatively (ESET, 2022). It is more like trying to uncover the propensity, like, "What is the potential here and what can it become?" It was an ambition list item from ESET, this idea of creating a neighborhood rather than a fortress, creating a campus, and having something that is in nature but is also in the city. A list of dreams and desires BIG architects are trying to materialize in the design process (Ingels, 2021).

The Form: BIG won the ESET project competition with their proposal to replace the exciting military hospital, which kept their names as the architects of creative green designs and effective solutions. BIG's alternative suggests 12 individual masses that vary in size and are organized around a center focal point that will be the heart of this urban neighborhood. All the public amenities after that have been separated around this central courtyard; this public separation goes across the whole site, and then every structure has been organized and positioned to follow the urban fabric. The headquarters itself has a core function for all the different work environments of the company and then sort of a whole array of functions that, even if they support the performance of the headquarters, can also open themselves and be a

part of the community. A whole series of public amenities that benefit the ESET and the community. (Ingels, 2021).

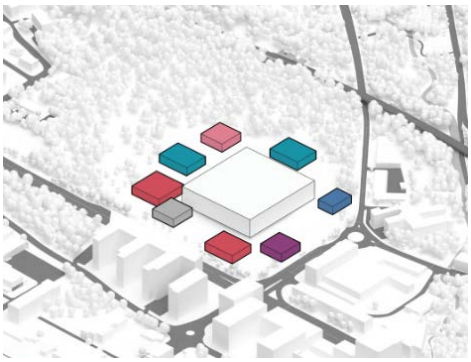

Figure 36: Perimeter of public amenities. (BIG, 2021).

The central cluster is broken up into four separate buildings, sort of framing an urban square and creating a public square at the heart of the campus itself, which in turn creates a permeable village that, when a person moves through the neighborhood, will have the feeling of being a new and vibrant part of Bratislava. BIG proposed dissolving the hematological campus with all of its functions to reach out to places where students could come and engage in various activities (Ingels, 2021). The flexibility in ESET was provided through the splitting of its cluster around the central courtyard, which allows access to public space and offers a permeable ground floor to each mass.

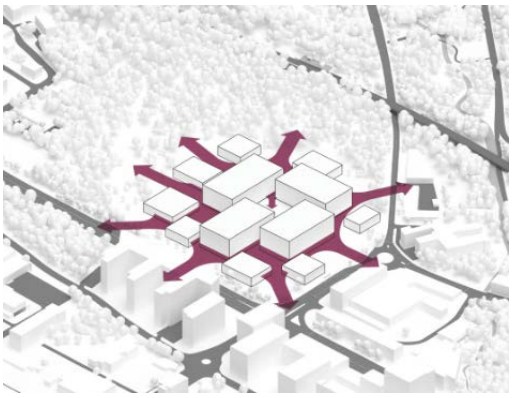

Figure 37: Permeable village. (BIG, 2021).

Looking at the overall plan, it is clear that the main ESET campus in the center engages the community through the tech plaza, the tech pavilion, and a venue that can be used for lectures, TED talks, and product lunches. The bicycle parking at the corner since the bicycle may take over the public realm. The central courtyard, where the ESTERS can move from building to building on the elevated connections, is an outdoor plaza, a cultural plaza, and a multi-functional venue (Ingels, 2021).

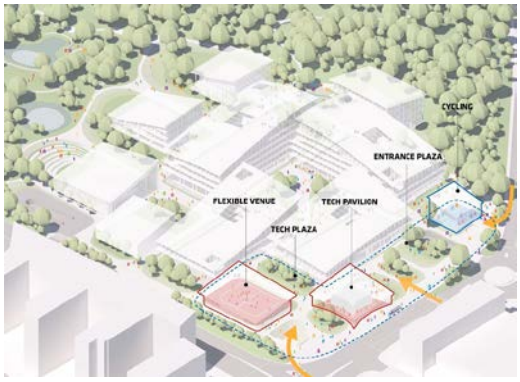

Figure 38: Functions. (Ingels, 2021).

Landscape: The ESET neighborhood was designed with a spatial hierarchy similar to that found in nature all around the project site. A replication of the Carpathian Mountains nearby the project while also lowering the public space part to meet the human scale and make it more easily accessible. The neighborhood merged with the existing topographic context, resulting in a park full of public areas and outdoor working spaces. The landscape will blend in with the adjoining natural topography on the campus's north-west side, which will be opened up into a park, and will include a biodiversity of plants as well as different areas for outdoor activities and public use. The rest of the park hosts the possibility of future expansion that will immediately turn it into a public park (Ingels, 2021).

Figure 39: Topography. (BIG, 2021).

The entire roofscape has been shaped to dive down and almost meet the ground, creating that inviting and informal human scale, and then rising up to become the tip of a hill, the first rolling hill where urbanity and nature meet, that ends up creating a series of invitations and a public plaza for events. Finally, the upper levels of the HQ have been connected with bridges that allow a very large contiguous work environment where a whole array of activities can happen and change over time (Ingels, 2021).

Sustainability aspect: One of the main ambitions of this project was to show not just social sustainability, like the campus becoming a neighborhood and a good citizen, but also environmental sustainability. When looking at the lifecycle of the amount of embodied energy or carbon that goes into a building, it goes through these different phases: First, the products that go into the building are sourced, and BIG focuses on selecting and sourcing materials as locally as possible. In the case of ESET, BIG is looking to maximize the amount of mass timber. In addition, when looking at the speed and energy required for both transportation and assembly, BIG is applying an approach that is resource-efficient and time-efficient. Moving on to the use scenario, the idea of future proofing the building itself so that, as time and habits changed, BIG could transform, modify, and accommodate that change in the building itself, was proposed. Furthermore, the material can be easily dismantled and recycled at the end (Ingels, 2021).

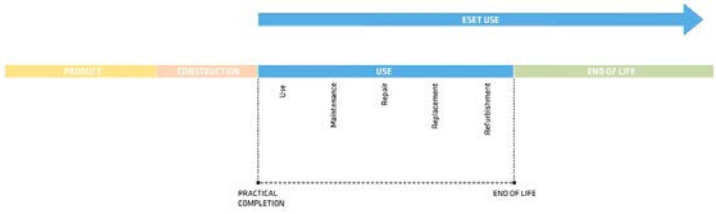

Figure 40: Future proof design. (Ingels, 2021).

A variety of materials will be used in the main structure, including a variety of uses of timber and different hybrid forms such as steel and concrete. The visual and tactile feel of the project is determined by the design intent to make the timber. Mass timber is going to play an important role in the future of the construction industry and in the world, and BIG loves this project for being one step in the right direction (ESET, 2022). The angulating roof constitutes one giant photovoltaic surface measuring 17000 square meters that can harvest the energy of the sun. which means that it is not only enough for the ESET project and its activities, but over the weekend, when the activities are slowed down in respect of the weekend, they will have enough power where they can help charge the people's cars who will come and park in their parking plots. The roof itself became a water collection surface that allows for sorting and filtering the water locally for different purposes (Ingels, 2021). Smart technology has been used throughout the whole project to only consume the needed parts, energy storage for the building performance and the backup of the structure, and energy piles that extract heat and cooling from the ground. ESET is a man-made hillside, similar to a wooden village, with welcoming squares where the pavilion opens up and shrinks to human scale, allowing people to enter and explore through the main square and beyond.

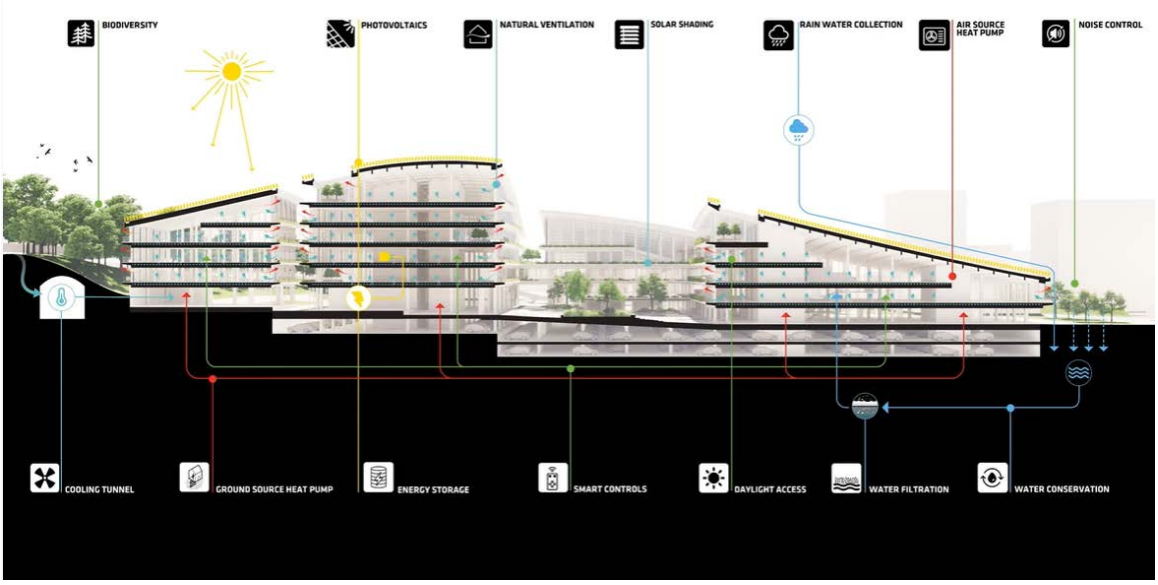

Figure 41: Sustainability overview. (Ingels, 2021).

One thing that is special about this site is the local climate. It is at a southern latitude, so there is actually a good amount of solar energy on this side, with cold winters. hot summers where a lot of cooling is needed. In this sense, the sustainability solution proposed by BIG for this building is a combination of extensive solar energy harvesting from the roof and the use of thermal heat piles. Those heat piles are actually just the foundations of the buildings, but water is running into them. Bjarke Ingels said this is to ensure that they can get a little warmer water up in the winter and reduce the amount of heating in the summer. A little cooler water will reduce the amount of cooling, so the heat piles combined with the solar roof are actually quite a special local sort of climate solution for this particular project (ESET, 2022).

Table 7. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of ESET Campus (The Author, 2022).*

ESET Campus	
The Idea	• A unique site allows creating the feeling of a campus that somewhat centrally located in the middle of town. • The possibility of working fully emerged the nature but in urban location. • Crating a building for a company but it could be also feel and act like an entire neighbourhood. • Integrated and accessible to the community.

The Form	• A perimeter of public amenities added around the central HQ as a means to connect to public life on the street. • The headquarter itself has a core function of all the different work environments of the company. • Central cluster that is broken up into four separate buildings.
Landscaping	• The new neighbourhood replicates the spatial hierarchy of nature. • The higher peak of the architectural mountain reminiscent of the Carpathian Mountains. • The landscape will blend in with the adjoining natural topography and include a biodiversity of plants. • The entire roof scape has shaped to dive down and almost meet the ground creating that inviting and informal human scale.
Sustainable Aspect	• One of the main ambitions of this project was to show not just social sustainability like the campus become a neighbourhood and a good citizen but also environmental sustainability. • Sourcing the material as locally as possible. • The angulating roof constitute one giant photovoltaic surface. • The roof itself became a water collection surface that allows for sorting and filtering the water locally for different purposes. • Heating pipes for the purpose of heating and cooling.

CHAPTER IV

Findings and Discussion

During the 20th century, a lot of styles and architectural schools appeared including schools that support minimal work, clean shapes, reason for each object will be implemented and working under the roof of the functional purpose of each building. On the other hand, schools that went against the first one, that call for work that is more complex, refused the linearity and called for more contradiction in the architectural work. Architecture of the 20th century with its different styles and movements is the base of today's architecture. The contemporary architects rely on the concepts and ideologies of the 20th century and try to add different tastes and trends to their work, which make a complex state not only in architecture but also in other fields.

"Less is More" as starting point focused on the original beauty and purity of the shapes. Looking for the reasons of things and trying to make a poet out of this language.

Followed by "Less is Bore" which is a philosophy that contradict the modernistic approach and goes all the way in the opposite direction. Call for more freedom of expression. It appeared in the form of a power that force the people to ask about things, ask why the shapes are the way they are and why they are not. "More is More" is another face of "Less is Bore" that also call for ransacking the popular imagery of "Less is More" architecture and building with different language vocabularies. Moving into more technological and fancy styles thanks to the developments happened in the construction techniques and material used. These styles consider the life as the main driving force for their shapes, trying to make more excitement free buildings. The absence of continuity and asymmetry are what differentiate these architectural styles.

Reaching to "Yes is More" manifesto as an inclusive approach that took all the contradictions of the previous and try to get the benefits from them by saying yes. Yes to the problems, yes to people and social issues, yes to the context with everything come in the way of architecture, this approach understand the external concerns and demands, as well as identifying the most promising opportunities in any situation. Architecture in this style always in direct dialogue with a society that was full of political, economic, geopolitical, social, and cultural issues.

Bjarke Ingels works on emphasizing the fact that the architect can force many mutually exclusive concepts together, "Yes is More" in turn is the result of an analysis of these concepts. Which lead to the hedonic approach that Ingels is trying to make a mindset out of it. A

completely new mindset while thinking about sustainability, which, in his opinion, is going to be more exciting and fun to live in. If documentary is to document our world as it already is, fiction is to fantasize about how it could be. In this sense architecture is the fiction of the real world, so turning dreams into concrete reality with bricks and mortar for the stories of our lives. Architecture is the canvas for the stories of our lives. The architects in the formal styles work on being “radical” and each one of them is looking at that radicalism from a different perspective. To definition of “radical”, even vary between the star architects of these movements while they are designing the future that people will live in it. Hedonistic sustainability is a notion created by Bjarke Ingels, this notion means that sustainable buildings are not only good for the environment but are also actually better for the lives of the people living in them. Bjarke Ingles, in his hedonistic sustainability ideology, asks if a sustainable city and building are about things that people can do rather than things they cannot do. He tried answering this question with a completely new mindset while thinking about sustainability, which, in his opinion, is going to be more exciting and fun to live in.

This study has been made related to the architecture of the 21st century in general and the architect Bjarke Ingels in particular. Also as a trial to answer the following questions what are the ideas of 21st-century architecture and what is Bjarke Ingels's rule “Yes is more” stand for? what are the standout features of 21st-century architecture and what is the distinct part of Bjarke Ingels that makes him so recognizable? how Ingels’s designs are influencing the field of contemporary architecture? As a way of getting the answers, the architectural style of architecture in the 21st century was studied, later six projects related to Bjarke Ingels were selected as case studies to be analysed under four main headings that are the ideas, form, landscape and sustainability aspect included in each project. These projects are first, the eight house, which is a mix use building, the architect tried to make a diverse and coherent building at the same time, benefiting from the life of Copenhagener's life since this project is located in Copenhagen, Denmark. The context of this project and its function help Bjarke to form the building like the number 8 created by those layers of cake functions as the architect described it. Two courtyards have been created out the shape with a walkway to rise and fall like one continuous mountain path creating a socially sustainable lifestyle and use for the inhabitants.

The second project the Lego house is a cultural centre, this project represents the identity of the Bjarke Ingels group. Once he said if BIG was founded to create only one building, this is the building going to be. The idea was to create an inviting and engaging cultural place, an accessible and public building. Taking the concept of Lego bricks and arranging the Lego boxes to serve the functions of the building made the form of it, also benefiting from melting two of these Lego bricks to create the pixilated urban setting elements. A socially sustainable way of

thinking enabled the people to enjoy and touch everything in the building with an economic one by choosing the 90-degree in all the Legos.

Copen hill as the third project is one of the most successful projects of Bjarke Ingels that embodied Hedonistic sustainability very well; it is waste to energy plant, which came from the idea of trying the mountain of trash into an actual mounting. Inspired by Isabel Mountain in Switzerland on the one hand, benefiting from the equipment used inside it to determine its height, and wrapping the mass gently to serve the roof function implemented on the other hand. Green façade and green forest area on the roof with a climbing wall on the face, the smoke that comes from the chimney is clean like the natural air, and a hiking trail existed on the roof of this building.

The fourth building is the Plus; it is one of the most sustainable factories in the world, a furniture factory that embodied the idea of the front house and back of the house to solve the function of it, which in the end also help determine the form. Four factory halls were arranged radially to meet each other at the centre. An accessible roof from all sides with the ability to walk up. This project got the highest BREEAM rating and is a clear example of hedonistic sustainability as the architect said.

City life Milan is the fifth project in this research, two towers next to three existing towers, and the architect followed the concept of completing not competing with the existing once. An idea of unifying the two buildings using a canopy that describe an inverted sphere, creating an opportunity to address new typology, which deals with the challenging of the site. Courtyards were introduced to bring the daylight and the permeability of the existing landscape, and the existing park was extended to the landscape of the project and merged together to play the concept of continuity and formal to informal. Active and passive sustainability has been done in this project, using the canopy as a large solar surface and a water-collecting element. A completely new urban social life was brought to the area by this canopy, which the architect described as a gift to the city.

The last one was the ESET campus, a unique site that allows the creation of a somewhat centrally located in the middle of town, an idea of allowing the people to work fully emerged with nature, an entire neighbourhood getting its shape from the topography of the site that replicates the spatial hierarchy of nature. One of the main ambitions of this project was to show not just social sustainability like the campus becoming a neighbourhood and a good citizen but also environmental sustainability. Sourcing the material as locally as possible with an angulating roof constitutes one giant photovoltaic surface.

A common feature in Bjarke Ingels's works that runs through all his projects is the compatibility between the four aspects mentioned in this study. Ingels is benefiting from one

aspect while promoting the other. Bjarke Ingels relies on the context of the site to support the form of the Eight House and created the Eight Figure, while he relies on the idea, which was a layer of cake, to support the project's passive sustainability. Another example is City Life Milan, where the architect took the risk of suggesting a new element that would complete the existing and even extend the contextual landscapes to promote the element he proposed. Giving an idea and enforcing it using the form of the buildings and supporting the form with the context that exists on the site while featuring this whole project with sustainable aspects. or by providing a form and enforcing it through the use of ideas and sustainable approaches such as the Copenhill while also working on the landscaping of this project under the wing of sustainability. Bjarke Ingels perfectly employs four aspects that serve the creation of any project. In other words, that’s how Bjarke Ingels is changing the existing mind-set of people and creating his own, he is saying yes to many variables and integrating the hedonistic sustainable features to support his "Yes is More."

Table 8. *Briefly the Ideas, Forms, Landscaping and Sustainable Aspects of the Selected Projects (The Author, 2022).*

The Eight House	
The Idea	• Create simplicity and variety, diversity and coherence. • Status quo that form everyday reality in Copenhagen. • City block As a Mediterranean mountain town of paths and squares. • A framework of Copenhageners life.
The Form	• A modern version of Fredrriksstaden district. • The structure blurs the line between building and urban design. • An entire neighbourhood conceived as one building. • Layers of cake functions. • The building crosses itself as a vertical focal point.
Landscaping	• The Eight figures came with two Courtyards. • A walking path that rise and fall, like a mountain path.
Sustainable Aspect	• Invading the altitudes of the city social life, working with the essence of

	hedonistic sustainability.
	The Lego House
The Idea	• If the company had founded with the aim of designing only one building, this was going to be it. • Completely inviting, engaging, and a public building, both on the outside and even on the inside
The Form	• Consolidated elements of the program that have an outward-oriented. • Two of the volumes seem to melt in a pixelated way. • Urban character around a central space. • A keystone gallery at the heart of the building.
Landscaping	• Lego bricks as an architectural scale. • Two of the cubes or Legos melted in a pixilated way in order to become urban sitting elements
Sustainable Aspect	• Everything is like 90 degrees only. • The entire building clad in ceramic tiles. • Da Vinci code is rooted in the proportions of Lego bricks. • Creating the world they would like to live in
	Copen Hill
The Idea	• Turning a mountain of trash into an actual mountain. • Bjarke Ingels decided to bring two-thirds of Isabel’s slope to the roof of this power plant.
The Form	• The machineries and equipment used inside of this building determined the height order of the internal volume. • The facade primary purpose is to conceal the reality that manufacturers have a significant branding issue.
Landscaping	• A continuous façade made out of aluminium gently wrap the structure of

	this building, the aluminium bricks not only cover the building but also function as planters creating a green facades. • Real mountain with green forest areas, hike trail. • Tallest climbing wall in the world.
Sustainable Aspect	• Copen Hill is a waste to energy plant with an architectural landmark. • . Hedonistic sustainability is rooted in the building.
	The Plus
The Idea	• A factory that combined the front of house and back of house, the front of house where all the nice places and the back where the real work happen.
The Form	• Four main halls arrayed in a radial way to meet each other at the center. • Flexible layout and transparent workflow. • The location of this central courtyard provides an outdoor space that serve as the focal point of the building.
Landscaping	• . A roof accessible from all four sides. • . The ability to walk up on the stepping façade.
Sustainable Aspect	• The highest environmental BREEAM rating. • Clear demonstration of industrial projects that are able to be leaders in the environmental innovations. • Photovoltaic panels at the roof, positioned for the optimal solar efficiency. • A+ efficiency rating and the well organization and clarity. • A clear example of Hedonistic Sustainability.
	City life Milan
The Idea	• Two more towers smaller than the original three, the opportunity not to compete with the existing. • The idea of unifying the two buildings with kind of a canopy that describe inverted sphere.

	• The two buildings united not by being identical but by being shaped with the same gesture. • These existing towers open the opportunity to address new typology that deal with the challenges of that site.
The Form	• Rather than compete with the existing context in the site BIG proposal seeks to complete it. • Introducing courtyards brings generous daylight and natural ventilation into the building. • The geometry of the roof is a generated as a wedge of a sphere, resulting massing reads as one single gesture.
Landscaping	• Letting the existing park to enter the building. • The idea of permeability of the landscape inside of the building and some of the space. • Playing on the concept of continuity and converting the existing park space into something different that will go from formal into informal.
Sustainable Aspect	• Sustainability has done in two ways both active and passive. • Using the canopy as a large solar surface where it can deliver two megawatts of power. • In the façades of these buildings, glass and natural stone combined with ultra-high performance concrete used. • Collect the rainwater and using it for the green areas. The ground water for cooling down purposes for the machinery that the building use.
	ESET Campus
The Idea	• A unique site allows creating the feeling of a campus that somewhat centrally located in the middle of town. • The possibility of working fully emerged the nature but in urban location. • Crating a building for a company but it could be also feel and act like an entire neighbourhood.

	• Integrated and accessible to the community.
The Form	• A perimeter of public amenities added around the central HQ as a means to connect to public life on the street. • The headquarter itself has a core function of all the different work environments of the company. • Central cluster that is broken up into four separate buildings.
Landscaping	• The new neighbourhood replicates the spatial hierarchy of nature. • The higher peak of the architectural mountain reminiscent of the Carpathian Mountains. • The landscape will blend in with the adjoining natural topography and include a biodiversity of plants. • The entire roof scape has shaped to dive down and almost meet the ground creating that inviting and informal human scale.
Sustainable Aspect	• One of the main ambitions of this project was to show not just social sustainability like the campus become a neighbourhood and a good citizen but also environmental sustainability. • Sourcing the material as locally as possible. • The angulating roof constitute one giant photovoltaic surface. • The roof itself became a water collection surface that allows for sorting and filtering the water locally for different purposes. • Heating pipes for the purpose of heating and cooling.

CHAPTER V

Conclusion and Recommendations

This dissertation attempts to combine background research regarding the architecture of the 21st century, the ideas and styles of this period moreover to recognize and explore the architecture of Bjarke Ingels as a young contemporary architect and a case study for this thesis. The research tries to explore the unique design strategies that the architect used by means of the ideas, form, landscape, and sustainability aspects of each project. In addition, exploring Bjarke Ingels's ideologies of "Yes is More" and hedonistic sustainability in architecture. Six projects have been selected in Europe including infrastructural projects, residential, commercial, cultural centers campuses, and factories. Creating a way that enables the reader to get to the root of the realization of Ingels's creative methods. Pursue the essential purpose of his creations, to have a more comprehensive and objective understanding of his design ideas and strategies. The architecture of the late 20th century was somehow affected by many architectural styles and schools that appeared and were established in the early years of this century, like the Bauhaus style in 1920 by Walter Gropius which promote the creation of functional shapes and simple designs. Moving to Le Corbusier and his theory about simplicity and functional spaces, which create his own white linear and clean shapes. Mies Van Der Rohe is also one of the most well-known architects and proponents of the modern style, his rule is Less Is More which embodied strict architecture that has no ornamentations and precise functions.

The 21st style of architecture or contemporary architecture is the description of today's buildings or construction style, which use new technologies and the latest building materials. Getting its pieces from different eras and styles, creating products that influence and inspire. The architecture of the 21st century gathered up the values of a uniform community under the control of the international masses. A common feature running all through the architecture of this century is the variety and the reflection of today's different tastes and trends. All the expressions are accepted as long as they help to produce well-thought-out results.

Bjarke Ingels seeks in his designs to create new scenarios for the architecture of the 21st century, by suggesting new ideologies and applying them as a way to enforce them. Also by suggesting new urban dialogues, questioning the need of the age, and constructing new positive solutions.

Bjarke’s way of thinking could be described as life-oriented mixed with an architectural purpose. In this way, Bjarke Ingels is trying and answering the question of how the world should be. Ingels could be considered a star architect of the 21st century by practing his own utopia and being a part of the culture. “Yes is More” is this idea of an inclusive approach to architecture, that instead of the typical sort of being radical by saying no, the idea of being a revolutionary where you go against something, Bjarke likes to consider himself evolutionary by saying yes. Our cities and buildings are the results of an ongoing evolution of cities, and the evolution of architecture, the art, and science of being an architect, is to make sure that our cities and buildings actually fit with the way that we want to live our lives.

Analyzing the architectural works of Bjarke Ingels and evaluating them is important to understand society. Studying Bjarke’s architectural approaches and the new proposals he suggested is also essential.

This study examined Bjarke Ingels’s works under four main headings of classification, which are ideas, forms, landscaping, and sustainable aspects of each project. It is recommended to apply the same method of analysis to other star architects and other architectural works in order to form a good architectural foundation that understands and concerns contemporary architectural work. This research recommends further studies on Bjarke Ingels's architecture and problem-solving methods, as well as his way of regenerating the discourse of architecture, while expecting to inspire the readers with Bjarke Ingels's ideologies in a way that changes the overall perception of architectural spaces. She also recommends studying the works of other contemporary architects to enrich the knowledge of architecture practitioners and to be a step in the right direction of building and designing more hedonistic ideas.

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Appendices

Appendix A

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Appendix X

The author's CV

Ismaeel Ghazaleheniya

Architect

Education

2017 - 2021
Architecture
Near East University

2021 2023
Master In Architecture
Near East University

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Profile

YES IS MORE
Architecture Means To Be Able To Make Somthing Out Of Nothing

Experience

2020 - 2021
Ahmet Akbel
Company
Architect
That Was During My Training Where i Made A Villa Project For The Client

2019 - Till Now
90Degree Design Studio
YouTuber, Trainer
Architectural Trainer, Including Architectural Programs And Projects Critiques. Youtube Channel Where I Make Architectural Tutorilas Related To Architectural Content

2021- Till Now
Part Time Instructor
At Near East University

Skills

Revit	●●●●	SketchUp	●●●○
Autocad	●●●●	3DSMAx	●●●○
Lumion	●●●●	TwinMotion	●●○○
Photoshop	●●●●	Vray	●●●●
Illustrator	●●●○	Camtasia	●●●○

Languages

Arabic	●●●●	English	●●●●
Turkish	●●○○		